

UNIVERSITY of
HOUSTON

STUDENT AFFAIRS & ENROLLMENT SERVICES
Office of the University Registrar

2020 – 2021 Graduate Catalog

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Publication Home

The Graduate Catalog is comprised of current academic policy and curriculum information pertinent to graduate and professional study at the University of Houston. The Graduate Catalog of the University is the document of authority for all students. Any academic unit may issue additional or more specific information that is consistent with approved policy. The information in the catalog supersedes that issued by any other unit if there is a conflict between the two. All graduate and professional students are responsible for observing the policies and regulations governing this institution as published in this catalog and in other official publications. Questions regarding current information should be addressed to The Graduate School.

The University of Houston reserves the right to change the provisions of this catalog, including, but not limited to, degree requirements, course offerings, fees, and listings in the calendar as necessitated by university or legislative action. Please see Publication Disclaimer and Publication Updates for more information.

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Catalog Definitions & Numbering

The information presented below will help the reader to interpret this catalog correctly. The "Definition of Terms" section provides a guide to the terminology of academic regulations and procedures and course descriptions. The sections entitled "Course Numbering" explains the significance of the course numbering system used at the University of Houston. This is generic information only; for specific course descriptions or degree requirements, see the appropriate department listing.

Catalog Definitions

Audit. To take a course without credit.

Class schedule. List of courses and sections for a specific semester, including names of instructors; day, hour, and place of class meetings; and detailed registration procedures.

College or school. One of 13 major divisions within the university that offers specialized curricula.

Corequisite. A course that must be taken at the same time as the course described.

Course load. The number of semester hours students schedule in a given term.

Credit (*see semester hour*). Certification given for completion of academic work.

Cumulative grade point average (*see grade points*). The cumulative grade point average is based upon work taken at the University of Houston, including courses that are repeated, for which grade point values are assigned. The cumulative grade point average indicates overall performance and is computed by dividing the total number of grade points earned by the number of semester hours attempted, excluding S/U hours.

Department. Division of instruction within a college, such as Department of English in the College of Liberal Arts and Social Sciences.

Drop. Official dropping of some of the courses for which students are registered. Usually initiated by students but can be done in certain instances by faculty or other campus personnel.

Elective. A course which is not required but which students choose to take as part of their degree plan.

Equivalent. In place of a course within the same discipline. Course equivalencies are established through formal action and are determined on the bases of content, prerequisites, writing requirements, and level.

Grade points (*see cumulative grade point average*). Points per semester hour assigned to a passing grade, indicating numerical value of the grade.

Graduate study. Academic work toward the master's or doctoral degree.

Laboratory. Descriptive of work other than classwork, such as experimentation and practical application.

Lecture. A class session in which an instructor speaks on a specific topic.

Major. Primary field of study.

Noncredit course. A course for which no credit is given

Overload. Course load of more semester hours than students are normally permitted to schedule in a given period.

Petition. A formal request to be filed at the appropriate office for a specific academic action, such as a waiver for a degree requirement.



Prerequisite. Requirement to be met before a certain course may be taken.

Records, permanent. Cumulative record of students' courses, grades, credits, classification, address, social security number, etc.

Registration. Enrollment for a semester, including selection of classes and payment of fees and tuition.

Section. A division of a course for instruction. A course may be taught in one or more sections or classes, depending on enrollment in the course.

Semester hour. (*see credit*). Unit of measurement of college work. One semester hour is normally equivalent to one hour of class work or from two to six hours of laboratory work per week for a semester.

Student I.D. number. A permanent number that is assigned when a student enrolls.

Summer Term and sessions. Length of study for courses offered during the summer will vary depending on the session in which the course is scheduled. Refer to the Academic Calendar for specific beginning and end dates per summer session.

Transcript. A copy of a student's academic record, mainly intended for communicating information from one institution to another. Unofficial transcripts may be obtained via the myUH Student Center. Official Transcripts must be requested from the Office of the University Registrar.

Tuition and fee statement. The fee bill printout of the course schedule and the tuition and fees for a given semester.

Withdrawal. Official withdrawal from all courses during a semester at the university. Usually initiated by students but may be done in certain instances by faculty or other campus personnel.

Numbering

All courses are identified by instructional area and number. The first digit of the four-digit number indicates course level (1-freshman, 2-sophomore, etc.). The second digit indicates the number of semester hours of credit given for the course (the number given exactly corresponds with the semester hours of credit given). The third and fourth digits are for departmental use.

Course numbers that begin with a "5" can be an upper-division undergraduate course, a graduate course, or a professional course. Please contact the department in which the course is offered to determine how a particular 5000-level course is classified.

Each course listed shows the semester hours of credit assigned to that specific course—for example, Cr. 3., may follow the course title. This information is usually followed by hyphenated numbers such as (2-3) that designate lecture-laboratory hours. The first digit indicates the number of class hours per week in the lecture portion of the course. The second digit indicates the number of class hours per week reserved for the laboratory portion of the course.



University Profile

Who We Are

Office of the President	713-743-8820
Senior Vice President for Academic Affairs and Provost	713-743-9101
Executive Vice President for Administration and Finance	713-743-5550
Vice President for Research and Technology Transfer	713-743-9104
Vice President for University Advancement	713-743-8165
Vice President for University Marketing, Communication and Media Relations	713-743-0945
Vice President for Student Affairs and Enrollment Services	713-743-5390
Vice President for Legal Affairs and General Counsel	832-842-0949
Vice President for Governmental Relations	832-842-9064

The **University of Houston**, founded in 1927, is Texas' premier public metropolitan research and teaching institution. Located in the fourth-largest city in the United States-Houston is ranked third in the number of Fortune 500 headquarters-we place our students in the midst of a vibrant, entrepreneurial, and economically diverse environment.

The **University of Houston** is the doctoral degree-granting and largest university of the University of Houston System, a public system of higher education that includes three other universities (UH-Clear Lake, UH-Downtown, and UH-Victoria). The system also offers six regional campuses (UHS at Cinco Ranch, UH System at Sugar Land, UHCL Pearland, UH Northwest, UH Northwood, UHS Texas Medical Center). We stand at the forefront of education, research, and service. Our students enjoy a combination of academic excellence in a mentoring environment, a vibrant community of stellar faculty and dynamic programs, and real-world experience.

Bright Students

We serve more than 40,600 students in twelve academic colleges and in the interdisciplinary Honors College. We offer 109 majors and minors, 105 master's, 41 doctoral, and three professional degree programs. We award nearly 8,000 degrees annually.

Our innovative curricula, nationally ranked programs and dynamic learning environment bring students face-to-face with award-winning faculty who have received honors including the Nobel Peace Prize, the Pulitzer Prize, the Tony Award, and the National Medal of Science, among others.

The quality of our students is reflected in the increasing average SAT scores of entering freshmen and in the growing enrollment of our Honors College. The average SAT score of current Honors College students is 1250. The Honors College draws on the talents of the finest UH faculty members to provide a wide range of special courses for some of the nation's most academically gifted students. (www.uh.edu/academics/hon)

We are the second most ethnically diverse research university in the United States. Our student body is 33.1 percent white, 19.6 percent Asian/Pacific Islander, 23.5 percent Hispanic, 12.1 percent African American, 8.5 percent International, 0.3 percent Native American, and 2.9 percent unspecified. UH students represent more than 137 nations. We have a 21:1 student-faculty ratio.



In an effort to make high-quality education available to all deserving students, we offer financial assistance programs that include scholarships, grants, and loans. (www.uh.edu/admissions/financial/)

We are home to more than 300 student organizations, including the Student Government Association, 26 national Greek fraternities and sororities, and 40 local and professional fraternities and sororities. Campus activities include film series, concerts, theatrical productions, art exhibits, and Division 1A NCAA representation.

About 6,000 students live on campus in traditional residence halls or apartment-style housing. Bayou Oaks offers townhomes and residence halls for students. Greek Park at Bayou Oaks also provides residential living for all students, including those in Greek organizations. All residence halls include study lounges, computer labs, laundry facilities, mail services, and parking options. Each room is furnished and includes basic cable and Ethernet.

The entire UH System contributes \$3.1 billion to the Houston-area economy every year and generates about 24,000 local jobs. Our impact includes more than 600 partnerships with community organizations and our students contribute nearly 1 million hours of volunteer and internship service to organizations in Houston every year.

Most of our students secure career-level jobs either just before or shortly after graduation. Over the past 85 years, we have awarded more than 268,000 degrees, and approximately 80 percent of our alumni remain in the Houston area up to ten years after graduation.

Our graduates can be found in leadership positions from Capitol Hill to community nonprofits. They are scientists, astronauts, researchers, professors, teachers, administrators, engineers, doctors, presidents/CEOs, entrepreneurs, legislators, attorneys, judges, authors, singers, songwriters, actors, actresses, Olympians, professional athletes-the career list is endless. Our alumni are making a significant impact in all areas of life and are helping to bring about a better tomorrow.

Top-Notch Programs

UH public service and community activities, such as cultural offerings, clinical services, policy studies, and small-business initiatives, serve a diverse metropolitan population. In turn, the resources of the Gulf Coast Region complement and enrich our academic programs, providing students with professional expertise, practical experience, and career opportunities.

A sampling of our academic and research distinctions further demonstrates our commitment to excellence.

- The **UH Law Center's Health Law and Policy Institute** and the Institute for Intellectual Property and Information are among the best in the nation-both ranking in the top 10, according to *U.S. News & World Report*. Our faculty includes nationally recognized experts who help students mesh legal theory with practical applications of the law. (www.law.uh.edu/)
- Our **Creative Writing Program** is one of the most competitive programs in the country as well as one of only two offering a Ph.D. Only 20 new students are admitted to the program each year. (www.uh.edu/cwp)
- The Conrad N. Hilton College of Hotel and Restaurant Management is one of the top hospitality programs in the world. Because of connections 40 years in the making, Hilton college graduates are sought after by industry locally, nationally and throughout the world. (www.hrm.uh.edu/)
- Students in the Moores School of Music consistently place first in regional and national competitions. With some 80 percent of its graduates remaining in the Houston area, the Moores School is infusing churches, schools, and professional performance organizations with superbly trained musicians and teachers.
- The **College of Education** uses pioneering technologies for teaching and learning and is recognized as one of the most innovative colleges in the country. Many education students who graduate with teaching certificates remain in the Houston/Galveston area, helping to ensure well-trained educators for local schools. (www.coe.uh.edu/)
- Students at the **Gerald D. Hines College of Architecture and Design** frequently earn top honors in regional, national, and international competitions. (www.arch.uh.edu/)
- The **Cullen College of Engineering's** chemical engineering, mechanical engineering, and civil engineering programs are ranked among the top programs in the nation. With our undergraduate program in biomedical engineering, combined with recent strides in nanoengineering,



we are poised to become one of the premier players in bionano research. Additionally, the Engineering Leadership and Entrepreneurship Program is one of the many ways we are preparing students to gain a competitive edge in the market place. (www.egr.uh.edu/)

- The **C.T. Bauer College of Business** is ranked nationally by *U.S. News & World Report* in the following programs: the Entrepreneurship program is 21st among entrepreneurship programs; the full-time MBA program is among the top 50. The Princeton Review/Entrepreneur magazine ranks our Center for Entrepreneurship as the #1 undergraduate program in the nation. Bauer College is one of only five U.S. schools with multiple members in the Academy of Management Hall of Fame and our marketing faculty is ranked number one in Houston and is in the top 5 percent worldwide. Our students also receive a world class education with real-world experience through the **C.T. Bauer College of Business** AIM Center for Investment Management. (www.bauer.uh.edu/)
- The College of Optometry's University Eye Institute is among the largest clinics in Houston- a city that is home to the world's largest medical center. We also are one of only 17 optometry colleges in the United States and the only one in the Southwest. We serve more than 40,000 patients annually through our community-based clinics. Our **College of Optometry**-equipped with the latest ophthalmic instruments and diagnostic systems-has education and training affiliations with more than 100 community health centers, outpatient surgical centers, Veterans Affairs hospitals, Air Force, Army and Navy hospitals, and public health/Indian health hospitals. (www.opt.uh.edu/)
- Our **College of Pharmacy** has partnered with the U.S. Food and Drug Administration. Unlike any other partnership in the nation, we will develop and exchange scientific resources and educational opportunities. Our faculty and students will be trained in various departments within the FDA and FDA representatives will conduct research at the university. Our facilities in the Texas Medical Center allow our students to train with physicians, medical students, and members of our clinical faculty. Faculty research and program initiatives include cardiovascular studies, transdermal drug delivery, neuropharmacology, signal transduction mechanisms, aging and exercise, infectious disease protocols, and patient counseling and compliance. Projects addressing asthma management, community wellness, high school outreach, and medication labeling earned our students top honors in a Texas Pharmacy Association competition. (www.uh.edu/pharmacy/)
- **The Anthropology Program** offers more field-based research opportunities for undergraduate students than any similar program in the state. (www.anthropology.uh.edu/)
- **Our Graduate College of Social Work** is the only school of social work in Houston. With more than 2,000 nonprofit organizations in the Greater Houston/Harris County area, our award-winning **NonProfit Leadership Alliance Program** prepares our students to meet the growing need for qualified professionals in nonprofits. Our advanced concentrations in gerontology, children and families, mental health, political social work, and healthcare are nationally recognized for preparing our students for real-world social work practice. We offer our students outstanding faculty, diversity of field practice education sites, and numerous community projects and cutting-edge research centers. (www.sw.uh.edu/)
- **Our College of Technology's emphasis** on practical technology and merchandising is partnered with training in practical business and leadership skills. We help our students make a smooth transition from the classroom to the workplace by giving them the skills that are valuable in an immediate way to the companies and institutions that hire them. This is one of the reasons why two thirds of our students are employed in their chosen field before graduation. (www.tech.uh.edu/)

Groundbreaking Research

We conduct research in every academic department and operate more than 40 research centers and institutes. Through these facilities, we maintain more than 300 creative partnerships with corporate, civic, and governmental entities. Our interdisciplinary research breaks new ground in vital and innovative areas including bionanotechnology, superconductivity, space commercialization, biomedical engineering, economics, education, petroleum exploration, and virtual technology.

With \$113.7 million in research expenditures in 2011, UH is a leading research institution. As a reflection of our commitment to excellence in education, research and service, the university anticipates continued support and growth in every major research arena.

A \$5.5 million grant was awarded to UH through the Texas Emerging Technology Fund (ETF). As a result of the ETF grant, UH has recruited top hormones researcher Jan-Åke Gustafsson and his team to carry out laboratory research and to create next-generation pharmaceuticals and medical technologies at a world-class center to be established by UH and The Methodist Hospital Research Institute (TMHRI).

World-Class Athletics



The University of Houston has a proud tradition of athletics as it continues to inspire excellence today while preparing leaders for life by fostering a culture which challenges student-athletes to achieve their highest academic, athletics and personal aspirations.

Its past speaks to the culture: 107 conference championships, 21 football bowl games, five men's basketball NCAA Final Four appearances, 18 NCAA tournament appearances, 16 NCAA golf championships, two trips to the NCAA College World Series and the only women's basketball team in Conference USA history to finish 16-0 in league play.

401 student-athletes earned 861 All-American honors in 14 sports.

In 2012, the Houston football team set a school record for wins with a final record of 13-1 and claimed the program's ninth bowl win in its 21st appearance including its sixth in the last seven years. The Houston Men's Track and Field program won its fourth straight Conference USA Outdoor Track and Field Championship while a record 164 student-athletes were named to the Conference USA Commissioner's Honor Roll for posting a cumulative grade-point average of 3.0 or higher, a 64-percent increase from 2008 and the third straight year for the department to set a record in the category.

On the international scene, 64 University of Houston student-athletes, coaches and administrators have competed in 14 Olympiads including three in the 2012 London Games. Jamaican Errol Nolan (Track & Field), Nigerian Seun Adigun (Track and Field) and Russian Anastasia Pozdniakova (Diving) all competed with Houston coaches Jane Figueiredo and Leroy Burrell both traveling across the Atlantic Ocean in coaching capacities.

Twenty-two competitors have won 39 medals (20 gold, 13 silver, 6 bronze) highlighted by Carl Lewis, who is the most decorated male Olympian in history with 10 medals including nine gold medals. Diver Yulia Pakhalina is the most decorated female Houston Olympian with five total medals; one gold, three silver and one bronze.

Renowned athletes Carl Lewis, Hakeem Olajuwon, Clyde Drexler, Elvin Hayes, Fred Couples, Andre Ware, and Leroy Burrell competed for UH under legendary coaches Guy V. Lewis, Bill Yeoman, Dave Williams, and Tom Tellez. Lewis is an inductee of the College Basketball Hall of Fame. Burrell, U.S. Olympian and alumnus, is the current men's and women's track and field head coach.

Stellar Facilities

Our 667-acre campus includes lush greenery, fountains, and sculptures. Our world-class facilities include high-tech laboratories, modern classrooms, and nationally renowned centers such as the Moores School of Music, the Athletics/Alumni Center; and the LeRoy and Lucille Melcher Center for Public Broadcasting, which houses the Houston Public Media Group of KUHT, the nation's first educational television station; KUHF, Houston's NPR station and KUHA, the classical music station. The **Center for Public Policy Polling** and television studio labs are also based in the Melcher Center.

Since 2008, we have completed \$219 million worth of construction projects and another \$219 million is funding current projects, including a new athletic complex to replace Jeppesen/Robertson Stadium. The new Health and Biomedical Sciences Center features an ambulatory surgical center, laser center, research laboratories, classrooms and seminar spaces. The new Cougar Woods Dining Hall seats 600, and includes a Cougar Xpress Mini Market for those who are on the go. Residential construction includes the new Cougar Place. Discover more at www.uh.edu/plantops/departments/fpc/.

Libraries at UH provide abundant resources for research with collection holdings of more than 4 million microform units and 20,000 research journal subscriptions. The M.D. Anderson Library offers more than 140 networked workstations accessing 180 electronic databases as well as Internet access to Web-based research resources. **The Honors College** is located on the second floor.

Our 264,000-square-foot Campus Recreation and Wellness Center offers:

- three gyms;
- fitness equipment;
- a 53-foot-high climbing wall;
- racquetball and squash courts;
- a 70-meter indoor competition pool with diving facilities;



- a dry sauna and hot tub;
- an outdoor leisure pool with hot tub;
- a sand volleyball court;
- an outdoor equipment rental shop;
- six multipurpose rooms;
- class/meeting rooms;
- office space;
- showers and dressing areas with lockers;
- and much more.

The center is recognized by the National Intramural-Sports Association as one of the most outstanding sports centers in the nation.

The 191,730-square-foot Science and Engineering Research and Classroom Complex promises unprecedented interdisciplinary cooperation within the sciences in cutting-edge facilities for research and teaching. The three-building complex includes a five-story research building, a two-story classroom building, and a two-story auditorium. This new facility—designed by internationally renowned architect Cesar Pelli—addresses the evolution and future direction of collaborative research and will facilitate cross-disciplinary interaction among UH scientists and engineers, the Texas Medical Center, and other universities and research centers. The \$81 million complex is the only academic facility of its kind in Houston.

The **Cynthia Woods Mitchell Center for the Arts** at the University of Houston hosts world-class artists, writers, performers, and scholars. We teach and inspire the next generation of creative visionaries through collaborative academic courses along with innovative public performances, exhibitions, and informative lectures. Funded by a \$20 million grant from George and Cynthia Woods Mitchell, the center, housed in the **School of Theatre and Dance**, is an alliance among the five arts units within our College of Liberal Arts and Social Sciences: the School of Art; the Creative Writing Program; the Moores School of Music; the School of Theatre and Dance; and Blaffer Gallery, the Art Museum of the University of Houston. Along with classes, educational outreach programs, exhibitions, and public performances, the center offers residencies to emerging artists, writers, and curators to expand their work through postgraduate studies in the arts.

The Welcome Center and parking garage offer convenient parking and easy access to student services including admissions and financial aid service centers and a visitor's center.

The Burdette Keeland Jr. Design Exploration Center at the **Gerald D. Hines College of Architecture** is rising from the skeleton of the World War II-era Band Annex, the last of its kind on campus, and provides a large, open space for student architects to test prototypes, gauge environmental effects on materials, and build full-scale models.

Our six regional campuses - UHS at Cinco Ranch, UH at Sugar Land, UHCL Pearland, UH Northwest, UHD Northwest, and The Texas Medical Center bring educational opportunities to students across Houston and the Gulf Coast, offering credit and continuing education programs to meet almost any need. Also, our instructional television and online programs provide degree opportunities for students at home, at work, or in their neighborhoods. (www.distance.uh.edu/)

Finally, we commissioned the development of a Master Plan to serve as our blueprint for growth for the next 20 years. The plan includes five distinct areas: Art District, Professional District, Undergraduate District, Core Academic District, and Stadium District. The framework is under way and new residential housing in the Professional District has been approved by the UH System Board of Regents. By 2020, UH will be a more pedestrian-focused campus. We will have more housing in all areas, improved academic buildings, and new "lifestyle" features such as stores, restaurants, and gathering areas—and this is just the beginning.



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Fall 2020 Term / Spring 2021 Term / Summer 2021 Term

EVENTS/DEADLINES	Fall 2020						Spring 2021						Summer 2021*					
	Regular Session 1	Session 2	Session 3	Session 4	Session 5	Session 6	Winter Mini	Regular Session 1	Session 2	Session 3	Session 4	Session 5	Session 6	Summer Mini	Session 1	Session 2	Session 3	Session 4
First day of classes <i>*Please also see notes below regarding college-specific dates days summer sessions meet</i>	August 24, 2020 Monday	August 24, 2020 Monday	August 24, 2020 Monday	September 28, 2020 Monday	October 19, 2020 Monday	November 2, 2020 Monday	December 21, 2020 Monday	January 19, 2021 Tuesday	January 19, 2021 Tuesday	January 19, 2021 Tuesday	February 22, 2021 Monday	March 22, 2021 Monday	April 5, 2021 Monday	May 17, 2021 Monday	June 7, 2021 Monday	June 7, 2021 Monday	June 7, 2021 Monday	July 12, 2021 Monday
<i>Labor Day holiday (Fall) Martin Luther King holiday (Spring) Memorial Day holiday (Summer)</i>	September 7, 2020 Monday						January 18, 2021 Monday						May 31, 2021 Monday					
Last day to add a class or be enrolled from the Wait List	***Extended*** September 1, 2020 Tuesday	August 26, 2020 Wednesday	August 26, 2020 Wednesday	September 30, 2020 Wednesday	October 21, 2020 Wednesday	November 4, 2020 Wednesday	December 22, 2020 Tuesday	January 26, 2021 Tuesday	January 21, 2021 Thursday	January 21, 2021 Thursday	February 24, 2021 Wednesday	March 24, 2021 Wednesday	April 7, 2021 Wednesday	May 18, 2021 Tuesday	June 8, 2021 Tuesday	June 8, 2021 Tuesday	June 8, 2021 Tuesday	July 13, 2021 Tuesday
ORD <u>Official Reporting Day</u> (12th/4th class day) drop a course or withdraw without receiving a grade Last day to drop a course without hours counting towards the Enrollment Cap for Texas Residents <i>NOTE: Tuition is higher for hours in excess of the cap</i>	September 9, 2020 Wednesday	***Extended*** August 31, 2020 Monday	***Extended*** August 31, 2020 Monday	October 1, 2020 Thursday	October 22, 2020 Thursday	November 5, 2020 Thursday	December 23, 2020 Wednesday	February 3, 2021 Wednesday	January 22, 2021 Friday	January 22, 2021 Friday	February 25, 2021 Thursday	March 25, 2021 Thursday	April 8, 2021 Thursday	May 19, 2021 Wednesday	June 10, 2021 Thursday	June 10, 2021 Thursday	June 10, 2021 Thursday	July 15, 2021 Thursday
<i>Spring holiday (Spring); Independence Day holiday (Summer)</i>							March 15-20, 2021 Monday-Saturday						July 4-5, 2021 Sunday-Monday					
Last day to drop a course or withdraw with a 'W'	***Extended*** November 17, 2020 Tuesday	September 14, 2020 Monday	September 28, 2020 Monday	October 19, 2020 Monday	November 23, 2020 Monday	November 23, 2020 Monday	January 11, 2021 Monday	April 6, 2021 Tuesday	February 8, 2021 Monday	February 22, 2021 Monday	March 22, 2021 Monday	April 26, 2021 Monday	April 26, 2021 Monday	June 1, 2021 Tuesday	July 20, 2021 Tuesday	June 28, 2021 Monday	July 7, 2021 Wednesday	August 2, 2021 Monday
<i>Thanksgiving holiday (Fall)</i>	November 25-28, 2020 Wednesday-Saturday																	



Last day of class	December 5, 2020 Saturday	September 24, 2020 Thursday	October 15, 2020 Thursday	October 29, 2020 Thursday	December 15, 2020 Tuesday	December 8, 2020 Tuesday	January 15, 2021 Friday	May 3, 2021 Monday	February 18, 2021 Thursday	March 11, 2021 Thursday	April 1, 2021 Thursday	May 12, 2021 Wednesday	May 6, 2021 Thursday	June 4, 2021 Friday	August 10, 2021 Tuesday	July 6, 2021 Tuesday	July 22, 2021 Thursday	August 9, 2021 Monday
Make up days for class days officially canceled by the university (if necessary) or Reading Period	December 7, 2020 Monday							May 4, 2021 Tuesday										
Final examination period <i>See: Current Final Exam Schedule</i>	December 8-16, 2020 Tuesday-Wednesday	September 25, 2020 Friday	October 16, 2020 Friday	October 30, 2020 Friday	December 16, 2020 Wednesday	December 9, 2020 Wednesday	January 16, 2021 Saturday	May TBD, 2021 day-day	February 19, 2021 Friday	March 12, 2021 Friday	April 2, 2021 Friday	May 13, 2021 Thursday	May 7, 2021 Friday	June 5, 2021 Saturday	August TBD, 2021 TBD	July TBD, 2021 TBD	July TBD, 2021 TBD	August TBD, 2021 TBD
Official closing of the session	December 16, 2020 Wednesday	September 25, 2020 Friday	October 16, 2020 Friday	October 30, 2020 Friday	December 16, 2020 Wednesday	December 9, 2020 Wednesday	January 16, 2021 Saturday	May 13, 2021 Thursday	February 19, 2021 Friday	March 12, 2021 Friday	April 2, 2021 Friday	May 13, 2021 Thursday	May 7, 2021 Friday	June 5, 2021 Saturday	August TBD, 2021 TBD	July TBD, 2021 TBD	July TBD, 2021 TBD	August TBD, 2021 TBD
Deadline for faculty to post Final Grades in myUH	December 21, 2020 Monday	September 29, 2020 Tuesday	October 20, 2020 Tuesday	November 3, 2020 Tuesday	December 21, 2020 Monday	December 15, 2020 Tuesday	January TBD, 2021 TBD	May TBD, 2021 TBD	February TBD, 2021 TBD	March TBD, 2021 TBD	April TBD, 2021 TBD	May TBD, 2021 TBD	May TBD, 2021 TBD	June TBD, 2021 TBD	August TBD, 2021 TBD	July TBD, 2021 TBD	July TBD, 2021 TBD	August TBD, 2021 TBD
Graduation Application: Regular Filing Period <i>Fee is Non-Refundable</i> <i>Go to myUH (Peoplesoft) to apply</i>	April 3, 2020, Friday, through October 2, 2020, Friday. <i>Fee is Non-Refundable</i>						November 13, 2020, Friday, through February 26, 2021, Friday. <i>Fee is Non-Refundable</i>						April 2, 2021, Friday, through July 9, 2021, Friday. <i>Fee is Non-Refundable</i>					
Late Filing Period <i>Fee is Non-Refundable</i> <i>Go to myUH (Peoplesoft) to apply</i>	October 3, 2020, Saturday, through October 30, 2020, Friday. <i>Fee is Non-Refundable</i>						February 27, 2021, Saturday, through March 26, 2021, Friday. <i>Fee is Non-Refundable</i>						July 10, 2021, Saturday, through July 23, 2021, Friday. <i>Fee is Non-Refundable</i>					
College Commencements <i>Please also *see notes below</i>	December 18-20, 2020 Friday-Sunday						May 14-16, 2021 Friday-Sunday						<i>For information about individual college ceremonies, visit the UH Commencement information page.</i>					

The following dates may vary by College; please check with your College as early as possible:

- Deadline for submitting final draft of master's thesis or dissertation to the committee
- Deadline for submitting signed original and two copies of approved master's thesis or dissertation for binding
- Deadline for master's and doctoral students to order caps and gowns.
- Commencements
 - Information for some Colleges may also be found by searching "commencement" in the UH Events Calendar.
 - See also: Graduation and Cap and Gown information in the Academic Regulations and Degree Requirements section of this catalog.

*Notes about 2021 Summer Session Meeting Days:

- Summer Session 1
 - Monday/Wednesday classes will also meet on Friday, June 11, and Friday, June 25.
 - Tuesday/Thursday classes will also meet on Friday, June 18, and Friday, July 2.
- Summer Session 2: Classes meet five days per week, Monday through Friday.
- Summer Session 3: Classes meet on Tuesday, Wednesday, and Thursday each week. **Finals will be scheduled TBD.**
- Summer Session 4: Classes meet five days per week, Monday through Friday



Fall Term Calendar General Information

Admission	Application deadlines can be found online at Admissions under the application process for your specific admission status: freshman, transfer, international, or graduate.
Enrollment	For enrollment periods by classification, please visit the Enrollment Schedule web page. Student-specific enrollment appointment will be posted to myUH when the course schedule is made available.
Financial aid applications	Information is available from the Costs and Financial Aid area of the UH website.
Payment and Refund Deadlines	Timing is critical to University payment and refund processes. Please review the information online at: Student Business Services.
Graduation Application Deadlines	Regular Filing Period Friday, April 3, 2020 - Friday, October 2, 2020 Must apply for graduation via <i>myUH</i> account. Late Filing Period Saturday, October 3, 2020 - Friday, October 30, 2020 Must apply for graduation via <i>myUH</i> account.
NOTE: College Commencements	Please see the current UH Commencement information. These events are ceremonies hosted separately by each College (or Department) and usually occur at the conclusion of the Fall and Spring terms. Dates for the commencement events vary by College. Please check with your College as early as possible. For information about individual college ceremonies, visit the College Commencements website.



Fall Term 2020 - Session 1 (Regular)

August 2020	24	Monday First day of classes.
September 2020	1	***Extended*** Tuesday Last day to add a class.
	7	Monday <i>Labor Day holiday</i>
	9	Wednesday ORD - Official Reporting Day Last day to drop a course or withdraw without receiving a grade. Last day to drop a course without hours counting towards the Enrollment Cap for Texas Residents. <i>NOTE: Tuition is higher for hours in excess of the cap.</i>
November 2020	17	***Extended*** Tuesday Last day to drop a course or withdraw with a "W".
	25-28	Wednesday-Saturday <i>Thanksgiving holiday.</i>
December 2020	5	Saturday Last day of class.
	7	Monday Make up day for class days officially canceled by the university or Reading Period.
	8-16	Tuesday-Wednesday Final examination period. <i>See: Current Final Exam Schedule</i>
	16	Wednesday Official closing of Session 1. <i>See notes above re: Commencements</i>
	21	Monday Deadline for faculty to post Final Grades in <i>myUH</i> .



Fall Term 2020 - Session 2

August 2020	24	Monday First day of classes.
	26	Wednesday Last day to add a class.
	31	***Extended*** Monday ORD - Official Reporting Day Last day to drop a course or withdraw without receiving a grade. Last day to drop a course without hours counting towards the Enrollment Cap for Texas Residents. <i>NOTE: Tuition is higher for hours in excess of the cap.</i>
September 2020	7	Monday <i>Labor Day holiday</i>
	14	Monday Last day to drop a course or withdraw with a "W".
	24	Thursday Last day of class.
	25	Friday Final examination period. <i>See: Current Final Exam Schedule</i> Official closing of Session 2. <i>See notes above re: commencements</i>
	29	Tuesday Deadline for faculty to post Final Grades in <i>myUH</i> .



Fall Term 2020 - Session 3

August 2020	24	Monday First day of classes.
	26	Wednesday Last day to add a class.
	31	***Extended*** Monday ORD - Official Reporting Day Last day to drop a course or withdraw without receiving a grade. Last day to drop a course without hours counting towards the Enrollment Cap for Texas Residents. <i>NOTE: Tuition is higher for hours in excess of the cap.</i>
September 2020	7	Monday <i>Labor Day holiday</i>
	28	Monday Last day to drop a course or withdraw with a "W".
October 2020	15	Thursday Last day of class.
	16	Friday Final examination period. <i>See: Current Final Exam Schedule</i> Official closing of Session 3. <i>See notes above re: commencements</i>
	20	Tuesday Deadline for faculty to post Final Grades in <i>myUH</i> .



Fall Term 2020 - Session 4

September 2020	28	Monday First day of classes.
	30	Wednesday Last day to add a class.
October 2020	1	Thursday ORD - Official Reporting Day Last day to drop a course or withdraw without receiving a grade. Last day to drop a course without hours counting towards the Enrollment Cap for Texas Residents. <i>NOTE: Tuition is higher for hours in excess of the cap.</i>
	19	Monday Last day to drop a course or withdraw with a "W".
	29	Thursday Last day of class.
	30	Friday Final examination period. See: Current Final Exam Schedule Official closing of Session 4. <i>See notes above re: commencements</i>
November 2020	3	Tuesday Deadline for faculty to post Final Grades in myUH.



Fall Term 2020 - Session 5

October 2020	19	Monday First day of classes.
	21	Wednesday Last day to add a class.
	22	Thursday ORD - Official Reporting Day Last day to drop a course or withdraw without receiving a grade. Last day to drop a course without hours counting towards the Enrollment Cap for Texas Residents. <i>NOTE: Tuition is higher for hours in excess of the cap.</i>
November 2020	23	Monday Last day to drop a course or withdraw with a "W".
	25-28	Wednesday-Saturday Thanksgiving holiday.
December 2020	15	Tuesday Last day of class.
	16	Wednesday Final examination period. <i>See: Current Final Exam Schedule</i> Official closing of Session 5. <i>See notes above re: commencements</i>
	21	Monday Deadline for faculty to post Final Grades in myUH.



Fall Term 2020 - Session 6

November 2020	2	Monday First day of classes.
	4	Wednesday Last day to add a class.
	5	Thursday ORD - Official Reporting Day Last day to drop a course or withdraw without receiving a grade. Last day to drop a course without hours counting towards the Enrollment Cap for Texas Residents. <i>NOTE: Tuition is higher for hours in excess of the cap.</i>
	23	Monday Last day to drop a course or withdraw with a "W".
	25-28	Wednesday-Saturday <i>Thanksgiving holiday.</i>
December 2020	8	Tuesday Last day of class.
	9	Wednesday Final examination period. <i>See: Current Final Exam Schedule</i> Official closing of Session 6. <i>See notes above re: commencements</i>
	15	Tuesday Deadline for faculty to post Final Grades in <i>myUH</i> .



Spring Term Calendar General Information

Admission	Application deadlines can be found online at Admissions under the application process for your specific admission status: freshman, transfer, international, or graduate.
Enrollment	<p>For enrollment periods by classification, please visit the Enrollment Schedule online.</p> <p>Student-specific enrollment appointment will be posted to myUH when the course schedule is made available.</p>
Financial Aid Applications	Information is available from the Costs and Financial Aid area of the UH website.
Payment and Refund Deadlines	Timing is critical to University payment and refund processes. Please review the information online at: Student Business Services.
Graduation Application Deadlines	<p>Regular Filing Period</p> <p>Friday, November 13, 2020 - Friday, February 26, 2021 Must apply for graduation via <i>myUH</i> account.</p> <p>Late Filing Period</p> <p>Saturday, February 27, 2021 - Friday, March 26, 2021 Must apply for graduation via <i>myUH</i> account.</p>
NOTE:	Please see the current UH Commencement information.
College Commencements	<p>These events are ceremonies hosted separately by each College (or Department) and usually occur at the conclusion of the Fall and Spring terms.</p> <p>Dates for the commencement events vary by College. Please check with your College as early as possible.</p> <p>For information about individual college ceremonies, visit the College Commencements website.</p>



Spring Term 2021 - Spring/Winter Mini Session

December 2020	21	Monday First day of classes.
	22	Tuesday Last day to add a class.
	23	Wednesday ORD - Official Reporting Day Last day to drop a course or withdraw without receiving a grade. Last day to drop a course without hours counting towards the Enrollment Cap for Texas Residents. <i>NOTE: Tuition is higher for hours in excess of the cap.</i>
January 2021	11	Monday Last day to drop a course or with a "W".
	15	Friday Last day of classes.
	16	Saturday Final examination period. See: Current Final Exam Schedule Official closing of the Winter Mini session. Deadline for faculty to post Final Grades in <i>myUH</i> .
May 2021		See notes above re: <i>commencements</i>



Spring Term 2021 - Session 1 (Regular)

January 2021	18	Monday <i>Martin Luther King, Jr. holiday.</i>
	19	Tuesday First day of classes.
	26	Tuesday Last day to add a class.
February 2021	3	Wednesday ORD - Official Reporting Day Last day to drop a course or withdraw without receiving a grade. Last day to drop a course without hours counting towards the Enrollment Cap for Texas Residents. <i>NOTE: Tuition is higher for hours in excess of the cap.</i>
March 2021	15-20	Monday-Saturday <i>Spring holiday.</i>
April 2021	6	Tuesday Last day to drop a course or withdraw with a "W".
May 2021	3	Monday Last day of classes.
	4	Tuesday Make up day for class days officially canceled by the university or Reading Period.
	TBD	TBD-TBD Final examination period. See: Current Final Exam Schedule
	13	Thursday Official closing of session 1.
	TBD	TBD Deadline for faculty to post Final Grades in <i>myUH</i> . See notes above re: commencements



Spring Term 2021 - Session 2

January 2021	18	Monday <i>Martin Luther King, Jr. holiday.</i>
	19	Tuesday First day of classes.
	21	Thursday Last day to add a class.
	22	Friday ORD - Official Reporting Day Last day to drop a course or withdraw without receiving a grade. Last day to drop a course without hours counting towards the Enrollment Cap for Texas Residents. <i>NOTE: Tuition is higher for hours in excess of the cap.</i>
February 2021	8	Monday Last day to drop a course or withdraw with a "W".
	18	Thursday Last day of classes.
	19	Friday Final examination period. See: Current Final Exam Schedule Official closing of the session.
	TBD	TBD Deadline for faculty to post Final Grades in <i>myUH</i> .
May 2021		See notes above re: commencements



Spring Term 2021 - Session 3

January 2021	18	Monday <i>Martin Luther King, Jr. holiday.</i>
	19	Tuesday First day of classes.
	21	Thursday Last day to add a class.
	22	Thursday ORD - Official Reporting Day Last day to drop a course or withdraw without receiving a grade. Last day to drop a course without hours counting towards the Enrollment Cap for Texas Residents. <i>NOTE: Tuition is higher for hours in excess of the cap.</i>
February 2021	22	Monday Last day to drop a course or withdraw with a "W".
March 2021	11	Thursday Last day of classes.
	12	Friday Final examination period. <i>See: Current Final Exam Schedule</i> Official closing of the session.
	TBD	TBD Deadline for faculty to post Final Grades in <i>myUH</i> .
May 2021		See notes above re: commencements



Spring Term 2021 - Session 4

February 2021	22	Monday First day of classes.
	24	Wednesday Last day to add a class.
	25	Thursday ORD - Official Reporting Day Last day to drop a course or withdraw without receiving a grade. Last day to drop a course without hours counting towards the Enrollment Cap for Texas Residents. <i>NOTE: Tuition is higher for hours in excess of the cap.</i>
March 2021	15-20	Monday-Saturday <i>Spring holiday.</i>
	22	Monday Last day to drop a course or withdraw with a "W".
April 2021	1	Thursday Last day of classes.
	2	Friday Final examination period. <i>See: Current Final Exam Schedule</i> Official closing of the session.
	TBD	TBD Deadline for faculty to post Final Grades in <i>myUH</i> .
May 2021		See notes above re: commencements



Spring Term 2021 - Session 5

March 2021	22	Monday First day of classes.
	24	Wednesday Last day to add a class.
	25	Thursday ORD - Official Reporting Day Last day to drop a course or withdraw without receiving a grade. Last day to drop a course without hours counting towards the Enrollment Cap for Texas Residents. <i>NOTE: Tuition is higher for hours in excess of the cap.</i>
April 2021	26	Monday Last day to drop a course or withdraw with a 'W'.
May 2021	12	Wednesday Last day of classes.
	13	Thursday Final examination period. See: Current Final Exam Schedule Official closing of the session.
	TBD	TBD Deadline for faculty to post Final Grades in myUH.
		<i>See notes above re: commencements</i>



Spring Term 2021 - Session 6

April 2021	5	Monday First day of classes.
	7	Wednesday Last day to add a class.
	8	Thursday ORD - Official Reporting Day Last day to drop a course or withdraw without receiving a grade. Last day to drop a course without hours counting towards the Enrollment Cap for Texas Residents. <i>NOTE: Tuition is higher for hours in excess of the cap.</i>
	26	Monday Last day to drop a course or withdraw with a "W".
May 2021	6	Thursday Last day of classes.
	7	Friday Final examination period. <i>See: Current Final Exam Schedule</i> Official closing of session 6.
	TBD	TBD Deadline for faculty to post final grades in myUH.
		<i>See notes above re: commencements</i>



Summer Term General Information

Admission	Application deadlines can be found online at Admissions under the application process for your specific admission status: freshman, transfer, international, or graduate.
Enrollment	For enrollment periods by classification, please visit the Enrollment Schedule online. Student-specific enrollment appointments will be posted in <i>myUH</i> when the course schedule is made available.
Financial aid applications	Information is available in the Costs and Financial Aid area of the UH website.
Payment and Refund Deadlines	Timing is critical to University payment and refund processes. Please review the information online at: Student Business Services.
Graduation Application Deadlines	Regular Filing Period Friday, April 2, 2021 - Friday, July 9, 2021 Must apply for graduation via <i>myUH</i> account. Late Filing Period Saturday, July 10, 2021 - Friday, July 23, 2021 Must apply for graduation via <i>myUH</i> account.
NOTE:	Please see the current UH Commencement information. These events are ceremonies hosted separately by each College (or Department) and usually occur at the conclusion of the Fall and Spring terms. Dates for the commencement events vary by College. Please check with your College as early as possible. For information about individual college ceremonies, visit the College Commencements website.
College Commencements	
Summer Sessions Meeting Information	Summer Session 1 Monday/Wednesday classes will also meet on Friday, June 11, and Friday, June 25. Tuesday/Thursday classes will also meet on Friday, June 18, and Friday, July 2. Summer Session 2 Classes meet five days per week, Monday through Friday. Summer Session 3 Classes meet on Tuesday, Wednesday, and Thursday each week. Finals will be scheduled TBD. Summer Session 4 Classes meet five days per week, Monday through Friday.



Summer Term 2021 - Summer Mini Session

May 2021	17	Monday First day of classes.
	18	Tuesday Last day to add a class.
	19	Wednesday ORD - Official Reporting Day Last day to drop a course or withdraw without receiving a grade. Last day to drop a course without hours counting towards the Enrollment Cap for Texas Residents. <i>NOTE: Tuition is higher for hours in excess of the cap.</i>
	31	Monday <i>Memorial Day holiday</i>
June 2021	1	Tuesday Last day to drop a course or withdraw with a "W".
	4	Friday Last day of classes.
	5	Saturday Final examination period. <i>See: Current Final Exam Schedule</i> Official closing of Summer Mini Session. Deadline for faculty to post final grades in myUH.
		<i>See notes above re: commencements</i>



Summer Term 2021 - Session 1

June 2021	7	Monday First day of classes.
	8	Tuesday Last day to add a class.
	10	Thursday ORD - Official Reporting Day Last day to drop a course or withdraw without receiving a grade. Last day to drop a course without hours counting towards the Enrollment Cap for Texas Residents. <i>NOTE: Tuition is higher for hours in excess of the cap.</i>
July 2021	4-5	Sunday-Monday <i>Independence Day holiday</i>
	20	Tuesday Last day to drop a course or with a "W".
August 2021	10	Tuesday Last day of classes
	TBD	TBD Final examination period. <i>See: Current Final Exam Schedule</i>
	TBD	TBD Official closing of Session 1.
	TBD	TBD Deadline for faculty to post final grades in myUH.
		<i>See notes above re: commencements</i>



Summer Term 2021 - Session 2

June 2021	7	Monday First day of classes.
	8	Tuesday Last day to add a class.
	10	Thursday ORD - Official Reporting Day Last day to drop a course or withdraw without receiving a grade. Last day to drop a course without hours counting towards the Enrollment Cap for Texas Residents. <i>NOTE: Tuition is higher for hours in excess of the cap.</i>
	28	Monday Last day to drop a course or with a "W".
July 2021	4-5	<i>Sunday-Monday</i> <i>Independence Day holiday</i>
	6	Tuesday Last day of classes.
	TBD	TBD Final examination period. <i>See: Current Final Exam Schedule</i>
	TBD	TBD Official closing of Session 2.
	TBD	Monday Deadline for faculty to post final grades in <i>myUH</i> .
		<i>See notes above re: commencements</i>



Summer Term 2021 - Session 3

June 2021	7	Monday First day of classes.
	8	Tuesday Last day to add a class.
	10	Thursday ORD - Official Reporting Day Last day to drop a course or withdraw without receiving a grade. Last day to drop a course without hours counting towards the Enrollment Cap for Texas Residents. <i>NOTE: Tuition is higher for hours in excess of the cap.</i>
July 2021	4-5	Sunday-Monday <i>Independence Day holiday</i>
	7	Wednesday Last day to drop a course or with a "W".
	22	Thursday Last day of classes.
	TBD	TBD Final examination period. <i>See: Current Final Exam Schedule</i>
	TBD	TBD Official closing of Session 3.
	TBD	TBD Deadline for faculty to post final grades in myUH.
		<i>See notes above re: commencements</i>



Summer Term 2021 - Session 4

July 2021	12	Monday First day of classes.
	13	Tuesday Last day to add a class.
	15	Thursday ORD - Official Reporting Day Last day to drop a course or withdraw without receiving a grade. Last day to drop a course without hours counting towards the Enrollment Cap for Texas Residents. <i>NOTE: Tuition is higher for hours in excess of the cap.</i>
August 2021	2	Monday Last day to drop a course or withdraw with a "W".
	9	Monday Last day of class.
	TBD	TBD Final examination period. <i>See: Current Final Exam Schedule</i>
	TBD	TBD Official closing of Session 4.
	TBD	TBD Deadline for faculty to post final grades in <i>myUH</i> . <i>See notes above re: commencements</i>



Tuition & Fees

General Information

Tuition and Fees

In accordance with Chapter 54 of the Texas Educational Code, the University of Houston may collect from students attending the institution any tuition, fee, or charge of any kind as permitted by law.

To assist you in estimating the cost of your tuition and fees, current rates and a tuition and fee calculator can be located on the Student Business Services website at: <http://www.uh.edu/financial/graduate/tuition-fees/>. This information is to be used for estimation purposes only. Tuition and fee charges are based upon the student's residency status, course of study, and number of hours taken. Students should be aware that other fees, such as laboratory fees, course fees, parking decals, etc., are not included in the tuition and fee calculator estimates. The university reserves the right to update rates for tuition, fees and other charges as approved by university board of regents or the Texas Legislature.

It is the student's responsibility to be aware of all respective payment due dates. Payment due dates can be found on the Student Business Services website at: <http://www.uh.edu/financial/payment/billing-due-dates/>. Prior to enrollment each term all students will be required to acknowledge the payment terms agreement.

University Fees

University Fees are listed for both undergraduate and graduate students on the Student Business Services website.

Depending upon your course of study, additional course/lab fees may be applicable. Please check with your advisor or the class listing to see if additional charges apply.

Miscellaneous Fees

"Miscellaneous Fees" may be viewed by accessing the Student Financial Services Web site at <http://www.uh.edu/financial/graduate/tuition-fees/required-fees>.

Course Auditing

Approval to audit must be approved by the dean of the college in which the course is offered. Students who choose to audit a class will pay the applicable rate for tuition and fees assessed to students enrolled in a for credit class.

Payment Plans

Installment Payment Plans

The University of Houston offers payment plans which allows students to pay tuition and fees in four installments. Students accept the installment plan through student self-service. In order to enroll students must pay a \$25.00 service fee and a minimum of 25% of current semester charges. Installment plan due dates are published at the following Web site: <http://www.uh.edu/financial/payment/> under the Billing Due Dates section. All installments are due by the published due dates. Installments not paid by the due date will be assessed a \$25.00 and late fee.

Deferred Payment Plan



The university offers two deferment plans to assist students in paying their tuition and fees. These plans are referred to as the Emergency Deferment Plan & Short Term Deferment Plan. The Emergency Deferment extends payment of the current semester's tuition and mandatory fees. The emergency deferment is due no later than either the 90th calendar day of the semester or by the last class day, whichever comes first. This deferment does not cover room and board fees.

The Short Term Tuition Deferment covers 100% of all current semester tuition and fees, as well as room and board charges. This short term deferment is due by the 45th calendar day of the semester or by the last class day, whichever comes first. Book loans are available each term and through the 20th class day and must be used during the first 20 calendar days of the semester. The Book Loan is \$400.00 during the fall or spring semester and \$200.00 during the summer session.

University Payment Plans and Book Loan are only available online through student self-service. For more information please visit the following web site: www.uh.edu/sbs or speak to a Customer Service Representative at the Welcome Center.

Students with a prior term balance will not be eligible to enter a new payment plan or qualify for a book loan until all past due amounts are paid in full.

Tuition and Fees Exemptions and Residency Waivers

The University of Houston extends to students any waivers and exemptions for which they qualify. The university reserves the right to evaluate each individual waiver and exemption for compliance with existing regulations and will base any decision on the merit of such review.

Effective fall 2014, all Texas public institutions of higher education must comply with new legislation passed by the Texas Legislature that has been added to the Texas Education Code Section 54.2001 Continued Receipt of Exemptions or Waivers. In order to continue receiving certain waivers and exemptions, graduate and undergraduate students must now meet the University's grade point average requirement for making satisfactory academic progress toward a degree or certificate, in accordance with the institution's policy regarding eligibility for financial aid. In addition, hours considered excessive under Texas Education Code, Section 54.014 Tuition for Repeated or Excessive Hours, may not be eligible for exemption.

A listing of the most common statutory waivers can be located on the Student Business Services website at: <http://www.uh.edu/financial/payment/Fee-Waivers/>.

Tuition and Fees Refunds Refund Policy

Dropped Courses

Students who drop courses but maintain enrollment for that academic term (i.e., do not drop all their courses) may be eligible for a refund for the dropped course(s) subject to refund guidelines established by the state legislature. Withdrawal after the first class day may result in the student owing money to the university. Students who have unpaid obligations under a payment plan may be liable for any unpaid obligations. Read Refunds Under Installment Payment Plans in this section for additional information.) Please visit: www.uh.edu/financial/payment/refunds/ for the University of Houston refund schedule.

Administrative offices are not open on weekends. If the percentage of refund due to withdrawal changes over a weekend, the student must submit his withdrawal to the Office of the University Registrar by 5 p.m. the Friday before that weekend in order to obtain the higher percentage of refund.

Any refund of charges calculated on dropped (or withdrawn) courses is determined by the drop (or withdrawn) dates on record. Refund percentages are found at: www.uh.edu/financial/payment/refunds/. Payments applied to an account will be subtracted from the total "remaining charges." When payments received exceed the "remaining charges," the excess will be returned to the student.

If a credit balance is the result of dropped or withdrawn courses, or an overpayment, or credit(s) issued on an account, and no financial aid has been received, refunds must be requested online by the student through *myUH*. If a credit balance is the result of the application of excess financial aid to an account, and eligibility for financial aid is maintained with the existing course load, then a refund will automatically be generated to the student. It is not necessary to access *myUH* in this situation to request a refund.

Optional fee refunds for such items as parking, yearbooks, etc., are processed in the respective offices or departments.



Students must withdraw from school or drop classes at the Office of the University Registrar, 128 Welcome Center, for these transactions to be recognized as valid. Students who have received financial aid may also be required to repay to the university a portion of their aid upon withdrawal.

Refunds Under Installment Payment Plans

Dropping courses or withdrawing from the university does not relieve a student of the responsibility for unmet financial obligations to the university. Students enrolled in installment payment plans must continue making payments until the nonrefundable portions of their accounts are paid in full.

Contact the Bursar's Office for more information.

99-Hour Doctoral Cap

The State of Texas subsidizes a large portion of the costs of doctoral education at its public universities, and the State Legislature has decided to limit the length of time the state will continue this subsidy for individual students. All doctoral students who accumulate more than ninety-nine doctoral semester credit hours at any Texas public institution of higher education will be charged the non-resident tuition rates irrespective of student residency status or any appointment, fellowship, or other circumstance that would normally entitle them to resident tuition rates.

See the catalog entry on the 99-Hour Doctoral Cap for full details.



Scholarships & Financial Aid

General Information

At the University of Houston, we realize the important role financial aid plays in funding your education. In order to have access to this valuable resource in a timely fashion, it is important for you to complete a Free Application for Federal Student Aid (FAFSA) as soon as possible after October 1 (prior to the academic year) to ensure you receive your award in time to pay tuition and fees. Since we know the financial aid process can be confusing, staff in the Office of Scholarships and Financial Aid are available to help answer your questions on a walk-in basis or by appointment.

How to Apply

To apply for federal, state or university funding, you must complete a Free Application for Federal Student Aid (FAFSA) at www.fafsa.ed.gov. The University of Houston Federal School Code is 003652.

Awards may range from scholarships and grants to student loans and student employment. Most, but not all, programs require a student to demonstrate financial need.

You must have your FAFSA and all required documents submitted to the Office of Scholarships and Financial Aid by the priority deadline of February 15, to receive the maximum consideration for limited financial aid resources.

Please visit our web site at <http://www.uh.edu/financial/graduate/> for details on all the financial aid programs available to graduate students at the University of Houston.

Disbursement of Aid

Each semester, financial aid disbursement begins no earlier than the first day of classes. Proceeds from loan funds will begin disbursing on the first day of class and proceeds from grant funding will begin paying after the 13th class day. If you have satisfied all application and disbursement requirements and met the conditions of your award, your financial aid will be automatically credited to your UH student account as payment. If you have a credit balance remaining after your tuition has been paid, you will receive a refund that will be processed by the Office of Student Business Services.

Revisions and Cancellations of Aid

The university reserves the right to review, revise, or cancel all financial aid at any time due to changes in your financial and/or academic status or failure to comply with federal or state laws and regulations, including financial verification, audit procedures, and university policies. In addition, financial aid may be subject to revision based on funding received by the university from the federal or state government, and any changes to federal or state laws, regulations or policies.

Aid Revisions After Drop/Add Period

If your financial aid is disbursed at the beginning of the semester and you reduce your number of enrolled hours within the drop/add period, your aid will be adjusted to reflect your semester enrollment (registration). If your reduced enrollment results in less eligibility for aid, you will be charged for the overpayment of financial aid - creating a balance due on your UH student account. If you have questions about the financial impact of dropping classes, please contact the Office of Scholarships and Financial Aid.

Maintaining Eligibility



The various federal and state regulations governing student financial assistance programs require that an institution develop a standard to measure students' reasonable progress towards a degree objective - Satisfactory Academic Progress. Academic progress is reviewed at the conclusion of each academic year. Failure to maintain satisfactory academic progress will result in the denial or cancellation of your financial aid.

The Office of Scholarships and Financial Aid may administratively grant one probationary semester of assistance for students whose academic progress has changed to "warning" at the conclusion of their first semester of enrollment at UH.

The following qualitative and quantitative standards must be met to remain eligible for financial aid at the University of Houston. Certain programs, including the Graduate Tuition Fellowship, may have higher standards than those listed below.

Qualitative Measures of Academic Progress

The qualitative measure of academic progress is a grading scale of 0.00 to 4.00, based on students' enrollment classification.

Classification	GPA Minimum Requirement
Undergraduate	2.00
Post-baccalaureate	2.00
Graduate	3.00
Law & Optometry	2.00

Quantitative Measures of Academic Progress

Students cannot receive financial aid beyond a specified total of attempted credit hours, and they must complete a certain percentage of the credit hours for which they are enrolled.

Classification	Maximum Attempted Hours Including Transfer Hours	Ratio of Passed Hours to Attempted to Hours
Undergraduate	180 credit hours	67%
Post-baccalaureate	100 hours beyond bachelor's	67%
Graduate and Professional	100 hours beyond bachelor's	67%
Law & Optometry	200 hours beyond bachelor's	67%

NOTE: Hours passed DO NOT include grades of: **I** (incomplete), **U** (unsatisfactory), **F** (failed), or **W** (withdrawal); however, these hours are included in hours attempted.

Withdrawal Policy

For any student who officially or unofficially withdraws from the university or fails to earn a passing grade in any class, federal regulations require a refund calculation for all students receiving Federal Title IV Funds. The calculation of the return of these funds may result in you owing a balance to the university. Also, any future aid will be canceled. For any withdrawal prior to the 12th class day, all state and institutional aid will be canceled. Withdrawing from classes will impact your Satisfactory Academic Progress and may cause you to be ineligible for future financial aid. All students should visit with a financial aid advisor prior to withdrawing.



Fraud Policy

Misconduct Involving the Administration and/or Receipt of Financial Aid

There are situations where students and/or parents may willfully falsify or misrepresent information or engage in other misconduct for the purpose of obtaining financial aid. As administrators of Title IV programs and funds, the university is obligated to ensure processes are in place to protect against fraud by applicants, staff, or third party servicers. When identifying actual or suspected cases of fraud and abuse, the university will follow the law [34 CFR 668.53(a)(5), 668.14(g)] and refer all cases to the appropriate law enforcement authorities.

The Office of Scholarships and Financial Aid must identify and resolve discrepancies in the information received from different sources with respect to a student's application for Title IV aid. These items include, but are not limited to:

- Student aid applications
- Need analysis documents (e.g., Institutional Student Information Records (ISIRs) and Student Aid Reports (SARs))
- Federal income tax returns
- Documents and information related to a student's citizenship
- School credentials (e.g., high school diploma)
- Documentation of the student's Social Security Number (SSN)
- Compliance with the Selective Service registration requirement and other factors related to students' eligibility for Title IV funds

Some forms of financial aid fraud include, but are not limited to, the following:

- False claims of independent student status;
- False claims of citizenship;
- Use of false identities;
- False statements of income;
- Forged signatures on an application, verification documentation or master promissory notes
- Falsified documents, including reporting members that are not part of your household
- Use of fictitious names, addresses, SSNs

Procedures for Fraud

If a financial aid officer suspects or determines misrepresentation of facts, false statements, or alteration of documents which resulted or could result in the awarding or disbursement of funds for which the student is not eligible, the information shall be reported to the Executive Director of Scholarships and Financial Aid. The Executive Director of Scholarships and Financial Aid shall consider the information, and if deemed advisable, refer the matter to university officials for further review.

If an employee of the Office of Scholarships and Financial Aid suspects a supervisor or a director of fraud, an anonymous complaint can be filed with Mysafecampus.com. The complaint will be reviewed and referred by an independent university official for further action.

Once university officials ascertain the possibility that suspicious activity or misconduct occurred, the university will refer the matter to the Office of Inspector General of the Department of Education, and/or other applicable federal or state regulatory or law enforcement authorities as necessary and without delay.

Students and/or university personnel who engage in or who are suspected of engaging in fraud or misconduct will be dealt with in accordance with university policies and may face disciplinary sanctions for their involvement, up to and including dismissal from the university.

Cases of fraud will be reported to the Office of Inspector General (OIG):

Inspector General's Hotline: 1-800-MIS-USED



<http://www.ed.gov/about/offices/list/oig/hotline.html>

*Office of Inspector General
U.S. Department of Education
400 Maryland Avenue, SW
Washington, DC 20202-1510*



Policies

General Academic Regulations and Requirements

The regulations and degree requirements outlined here have been approved by the Graduate and Professional Studies Committee (GPSC) of the Faculty Senate, and/or its predecessor organizations. Due to the very nature of graduate and professional education, students admitted to graduate and professional studies at the University of Houston should expect the coursework to be at a more advanced level. In addition, students are expected to display a greater level of maturity and self-learning skills.

Since each individual college within the University of Houston establishes and monitors its own graduate programs, these university regulations are established as minimal standards for graduate studies at UH. Each individual college or graduate and professional program may have entrance requirements and degree requirements that exceed these established by the University. Each prospective graduate student must contact the individual college or department for information concerning its graduate or professional requirements.

Admission and Registration

[General Admission Policy](#) | [Competitive Fellowship Factors](#) | [Certification of International Degrees as Bachelor Equivalent](#) | [Determining Residency for Tuition Purposes](#) | [Enrollment](#) | [Auditing Courses](#) | [Dropping Courses](#) | [Term Withdrawal](#) | [99-Hour Doctoral Cap](#)

Academic Policies and Procedures

[Academic Honesty](#) | [Academic Modifications for Students with Disabilities](#) | [Changes of Degree Objective](#) | [Classification](#) | [Examinations](#) | [Excused Absence for Military Service Policy](#) | [Excused Absence Policy](#) | [Grading Policies](#) | [Graduate Certificate Policies](#) | [Graduation](#) | [Grievance Policy](#) | [Intellectual Property](#) | [Religious Holy Days](#) | [Student Records](#)

Degree Requirements

[Ad Hoc Interdisciplinary Degree Option](#) | [Application for Candidacy](#) | [Continuous Enrollment](#) | [Course Load Policy](#) | [Dual-Degrees, Double Majors, and Minors](#) | [Foreign Language Requirement](#) | [Residency Requirement](#) | [Termination of Enrollment](#) | [Thesis/Dissertation](#) | [Time Limitations](#) | [Transfer Credit](#)

Graduate Student Assistantships

[Qualifications for Appointment](#) | [Types of Graduate Student Assistantships](#) | [Appointment Procedures](#) | [Student Contact](#) | [Mandatory Employment Discrimination Training](#) | [Duration of Appointment](#) | [Stipends](#) | [Conditions of Service](#) | [Insurance Coverage for Graduate Student Assistants](#) | [Reappointment of Graduate Student Assistantships](#)



General Admission Policy

General Admission Policy

The University of Houston complies with all federal and state statutes pertaining to the admission of graduate and professional students, including Texas H.B. 1641, regarding admissions policies for graduate and professional programs.

Competitive Fellowships Factors

Factors that may be considered in graduate admissions and the awarding of competitive fellowships may be viewed at the following link: [Competitive Fellowship Factors](#).

Admission to Graduate and Professional Studies and Eligibility for Competitive Fellowships

Decisions regarding admission to graduate and professional studies at the University of Houston are made by the specific program, department and/or college to which the applicant has applied. Oversight of all graduate and professional admissions policies and procedures is provided by The Graduate School. Similarly, the criteria utilized for the award of competitive fellowships from the University of Houston are determined by the granting unit (e.g., department, college) but the process must also meet the University Policy stated above.

All applicants to graduate or professional programs at the University of Houston are required to submit the following:

1. Completed and signed UH application for admission including non-refundable application fee.
2. Official transcripts from each college or university attended previously, including the degree(s) earned and date(s) awarded.
3. Officially reported standardized test scores (e.g., GRE, GMAT, LSAT) as required by the desired program. Applicants should consult with the program or college to determine the specific test requirements.
4. Letters of recommendation.
5. Personal resume or curriculum vita as required by the desired program.
6. Personal statement as required by the desired program.
7. International applicants must submit all of the above, plus submit proof of compliance with the English Language Proficiency Requirement (see below).

If admitted, international applicants must also provide additional documentation required to apply for a student visa. Such documentation may include, but is not limited to:

1. Letter of financial backing.
2. Financial backing documents, such as bank statements
3. International address
4. A scan of biometrics page of applicant's passport

Note: Transfer students must meet regular admission requirements.

Admission Reviews and Decisions

Each program is responsible for determining application deadlines and internal review processes. All program and college admissions policies and procedures include consideration of the total application - i.e., no single criterion will determine admission to any graduate or professional program at the University of Houston, nor will any single criterion be the determining factor in a decision to deny admission.

Note: Most academic programs, departments and/or colleges have additional admissions requirements. Applicants need to consult with the specific programs, departments and/or colleges to obtain this information.

For further information regarding specific college and department admission requirements, procedures, regulations and deadlines please contact the relevant academic program of interest.

Minimum Qualifications for Admission to Masters and Doctoral Programs



The University of Houston requires the following minimal qualifications for admission to its master's and doctoral programs. Additional requirements for admission to specific programs may be imposed by the colleges and departments. Applicants should write directly to the department for specific information, as well as consult the appropriate college section of the graduate catalog. For more information on application and admission policies, contact the Graduate School.

Note: The University of Houston does not accept experiential learning for graduate or professional transfer credit. In addition, the University of Houston does not accept non-credit work for transfer credit.

Applicants to a graduate program who hold a terminal doctoral degree, including MD, JD, or PhD, from this or any other regionally-accredited domestic institution are not required to submit GRE/GMAT results as a part of an application packet to the University of Houston, though individual programs may still choose to require them.

Applicants holding a terminal doctoral degree earned outside the United States are subject to review by the Graduate School before a waiver of the GRE/GMAT will be granted. The Graduate School must certify whether a doctoral degree earned outside the United States meets the same academic standards as a domestic MD, JD, or PhD.

Master's Programs

Applicants must have earned a bachelor's degree from an institution accredited by one of the six regional accrediting associations. Foreign institutions not accredited by U.S. accrediting agencies must be recognized by the Ministry of Education or another appropriate agency of the country in which the institution is located. The university reserves the right to evaluate foreign credentials. In general, these evaluations will follow nationally accepted standard practices and will rely on standard references such as the World Education Series published by the American Association of Collegiate Registrars and Admissions Offices. Students who transfer from another graduate school must have at least a 3.00 (A=4.00) grade point average on all graduate work attempted.

Doctoral Programs

Applicants must have earned a bachelor's degree or a master's degree as specified by individual programs. Students may obtain specific requirements for admission to doctoral programs by writing directly to the department they wish to enter.

English Proficiency Requirement

All graduate applicants, regardless of citizenship status, must demonstrate proficiency in English to obtain admission to the university. To fulfill this requirement, applicants must satisfy one of the following criteria:

- Baccalaureate degree (or higher) earned from a regionally accredited U.S. institution or at an institution at which English is the medium of instruction in the following countries: Antigua and Barbuda, Australia, the Bahamas, Barbados, Dominica, Canada (English-speaking provinces), Grenada, Ireland, Jamaica, Liberia, New Zealand, Saint Lucia, Saint Vincent and the Grenadines, South Africa, Trinidad and Tobago, Turks and Caicos, the United Kingdom, and the Virgin Islands.
- Officially-reported test scores from one of the following:
 - Test of English as a Foreign Language (TOEFL).
 - Internet based Test (iBT): An overall score of 79 or higher.
 - Paper based Test (pBT): An overall score of 550 or higher.
 - International English Language Testing Systems (IELTS)
 - An overall score of 6.5 or higher
 - Duolingo English Test
 - An overall score of 105 or higher.
 - Pearson Test of English (PTE)
 - An overall score of 53 or higher.
- Successful completion of level six in the University of Houston Language and Culture Center.



Departments may require a higher minimum test score where previous experience and demands of the discipline warrant it. Admission materials contain details on this requirement.

Graduate students whose English proficiency is judged inadequate by the department or college may be denied permission to continue work on graduate degrees.

Admission Categories

Unconditional Admission

Students unconditionally admitted to the university are granted full status in a graduate program.

Conditional Admission

Conditional admission status is sometimes granted to students who fail to meet all admissions requirements. These students will have specific requirements to meet within the first one or two terms in the graduate program. Assuming all requirements are met, the student is awarded an unconditional admissions status.

Special Admission

Students who do not meet all criteria to be admitted into the University of Houston may request to be admitted through a Special Admissions Review Process:

1. A faculty member wishing to sponsor a student for special admission must submit a written request to the graduate program's Admissions Committee to admit the student with a justification for admitting the student who does not meet all of the university's admissions criteria.
2. If the graduate program's Admissions Committee supports the request of the faculty sponsor to admit the student, the committee chair will forward a recommendation and all documentation to the Associate Dean for Graduate Studies of the college, who will make a recommendation to the College Dean. If the Dean approves the special admission request, the Dean will forward the recommendation and all documentation to the Dean of the Graduate School for final approval.
3. All documentation listed below must accompany the request to the Dean of the Graduate School:
 - The written faculty sponsor request,
 - The graduate program's Admissions committee recommendation with noted Associate Dean and Dean support,
 - The student's initial application to the Graduate Program,
 - All letters of recommendation submitted for the student, and
 - Any additional evidence of superior qualifications, such as publications in peer reviewed journals or presentations at conferences. Failure to submit all required documentation with the request to the Dean of the Graduate School will delay the approval process.

This process is not applicable for failure to meet the English Language Proficiency requirement. Minimum test scores in the English Language Proficiency requirement cannot be appealed. Examples of admissions criteria which could be appealed include, but are not limited to: standardized test scores or certification of an international degree as equivalent to a US Bachelor's degree.

Transfer Admission

Transfer students must meet regular admission requirements. See the catalog section on Transfer Credit for details regarding the transfer of graduate credit.

Non-Degree Seeking Graduate Admission



A college may grant, under special circumstances, non-degree seeking (NDO) graduate status to applicants who have earned bachelor's degrees and wish to take a limited number of graduate classes to further their education (note: applicants who have earned a bachelor's degree and wish to take undergraduate classes should apply as a postbaccalaureate undergraduate). Such applicants might be candidates for licensure, professional certification, or transient students, who are currently graduate students in good standing at another regionally-accredited institution wishing to pursue courses at the University of Houston for one term. The admissions procedures and basic criteria are the same as those for degree-seeking students. Applicants for NDO graduate status must submit a graduate application, and submit transcripts, and examination scores to the Graduate School. Students given NDO graduate status may apply to a graduate degree program at a later date by submitting a new application. Except in programs receiving pre-approval by the Graduate and Professional Studies Committee (GPSC) of the Faculty Senate, no more than nine credit hours earned under NDO graduate status may be applied toward a graduate degree if the credits are no more than five years old at the time of graduation and the courses are applicable to that degree. For more information concerning NDO graduate status, students should contact the specific college.

Postbaccalaureate Status

A student who has earned one or more undergraduate degrees at a regionally-accredited institution(s) and is seeking to pursue additional coursework or degrees at the undergraduate level is classified as a postbaccalaureate student. An applicant seeking this classification (rather than graduate status) must apply to the Office of Undergraduate Admissions.

International Students (Non-U.S. Citizens)

Any student who is on a non-immigrant visa is classified as an international student by the university. Non-immigrant international students must carry medical and hospitalization insurance. Visas issued for the purpose of study do not normally carry employment privileges. New students on non-immigrant visas are required to enroll for an orientation program, which takes place at the beginning of the term. Holders of non-immigrant visas (F-1 or J-1) must enroll in a full course load each term.



Competitive Fellowship Factors

Factors that may be considered in graduate admissions & the awarding of competitive fellowships

The faculty of the individual graduate programs has the primary responsibility for the selection of candidates for admission to these programs and the nomination of individuals for competitive fellowships. Typically the criteria utilized for these decisions focus on the prior educational attainment of the applicant, demonstrated interest in and preparation for the course of study, and evidence of the applicant's ability to successfully matriculate in the program. These decisions, by their very nature, require a comprehensive review of multiple factors by the faculty charged with selecting students for admission and/or the awarding of competitive fellowships

The actual procedures utilized by graduate program faculty to admit students and/or nominate them for competitive fellowships will differ according to the volume of applicants, the materials requested from applicants, and the specific criteria developed by the disciplinary faculty. The Texas Legislature has authorized graduate and professional programs to also consider various factors in the decision process and to prohibit the use of single measures as the sole factor in determining the outcomes of these decisions. This list is not exhaustive and programs are urged to utilize multiple relevant factors in making admission decisions.

The additional factors that may be considered during the admission/competitive award process are:

1. An applicant's academic record as a high school student;
2. The socioeconomic background of the applicant while the applicant attended elementary and secondary school and was an undergraduate student, including any change in that background;
3. Whether the applicant would be the first generation of the applicant's family to attend or graduate from an undergraduate program or from a graduate or professional program;
4. Whether the applicant has multilingual proficiency;
5. The applicant's responsibilities while attending elementary and secondary school and as an undergraduate student, including whether the applicant was employed, whether the applicant helped to raise children, and other similar factors;
6. To achieve geographic diversity, the applicant's region of residence at the time of application and, if the applicant graduated from a public high school in this state within the preceding 20 years, the region in which the applicant's school district is located;
7. The applicant's involvement in community activities;
8. For admission into a professional program, the current comparative availability of members of that profession in the applicant's region of residence while the applicant attended elementary and secondary school;
9. Whether the applicant was automatically admitted to a general academic teaching institution as an undergraduate student under Section 51.803 (the 10% rule); and
10. The applicant's personal interview.

In addition, the Texas Legislature has prohibited the use of scores from standardized admission tests as the sole criterion for consideration of an applicant for admission or awarding of a competitive fellowship, or as the primary criterion to end consideration of an applicant.

Applicants for admission to a graduate or professional program or applicants for competitive graduate fellowships are directed to the individual graduate/professional program of their choice to get complete information on the application process for that specific program.



Certification of International Degrees as Bachelor Equivalent

Final approval for certification of US baccalaureate degree equivalency lies with The Graduate School. The approval relates to both admission to, and student classification in, UH graduate programs. Information concerning certification recommendations for a particular country can be found in publications from the American Association of Collegiate Registrars and Admissions Officers (AACRAO).



Determining Residency for Tuition Purposes

According to the Texas Higher Education Coordinating Board Bulletin and Pursuant to Title 3, Texas Education Code Effective Fall 2006:

Your status as a resident, nonresident or international (foreign) student will be determined prior to your enrollment (registration). The determination is based on state statutes and rules and regulations promulgated by the Texas Higher Education Coordinating Board. You must be prepared to pay tuition and other required fees by specified due dates.

If you have knowledge of an error in your residency status for tuition purposes, it is your responsibility to notify the Residence Determination Officer immediately. You may do so by submitting a Residency Questionnaire. [<http://www.uh.edu/academics/forms/#residencyquestionnaire>]

Any questions should be directed to the Residency Determination Officer at (713) 743-1010. You may also find the complete rules and regulations on the College for All Texans web site. [<http://www.collegeforalltexas.com>]

Additional information may be found in the UH Admissions information website: <http://www.uh.edu/admissions/admitted/residency-requirements/>.



Enrollment

Overview

The university's online enrollment services system, myUH, provides a convenient option to simplify the enrollment process. Specific dates, detailed instructions, and a listing of the courses offered each term are included in the UH Self Service Center, also available online after logging in to myUH.

In order to qualify for financial aid students must have an approved degree objective posted in their student information system (myUH) prior to the first day of the semester in which they are enrolling. Students must be advised by their academic advisor prior to enrollment (registration).

Cancellation

Prior to the first day of classes, students may cancel their enrollment (registration) by dropping courses through the myUH system. Students may also receive assistance through the Office of the University Registrar, 128 Welcome Center.

Students who cancel classes prior to the first day of classes are entitled to a full refund minus a small matriculation fee and are regarded as never having officially enrolled in that semester.

Class Membership

Students may not attend a class unless properly enrolled. Failure to follow proper enrollment (registration) procedures may jeopardize a student's good standing at the university and result in a loss of credit. Class rosters are comprised solely from the official enrollment records of the Office of the University Registrar. Students whose names do not appear on the official class roster in each of their classes should immediately verify enrollment (registration) in myUH.

Discontinued Classes

The university reserves the right, whenever necessary, to discontinue classes or to alter the schedule otherwise. Should a class be discontinued, students will be notified at the first class meeting, or before, so they may enroll for alternate courses. Students who are enrolled in a discontinued class will be automatically dropped from that course. If they wish to enroll in another section they must go through the official procedure to add the course, whether online or through the department offering the course.

Schedule of Classes

A listing of courses for the university may be accessed well in advance of the beginning of each term, including the summer sessions. Information is provided on the Web site at myUH.

Section or Course Changes

Students may make changes to their course schedule only during the dates indicated in the Academic and Enrollment calendars using myUH.

Generally, the last day to add courses is determined by the length of the session.

Session Name	Session length	Last day for students to add courses
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Session 1 (Regular)	16 weeks	6 th class day (M-F)
Session 2	5 weeks	3 rd class day (M-F)
Session 3	8 weeks	3 rd class day (M-F)
Session 4	5 weeks	3 rd class day (M-F)
Session 5	8 weeks	3 rd class day (M-F)
Session 6	5 weeks	3 rd class day (M-F)
Mini Session	3-4 weeks	2 nd class day (any)

After the last day to drop without a grade students may drop or withdraw from a class(es) online by completing a Student-Initiated Drop Form, gaining their instructor's signature, and submitting the completed form to the Office of the University Registrar in the Welcome Center. See the policy on Dropping Courses for more information.

99-Hour Doctoral Cap

All doctoral students who accumulate more than ninety-nine doctoral semester credit hours at any Texas public institution of higher education will be charged the nonresident tuition rates irrespective of student residency status or any appointment, fellowship, or other circumstance that would normally entitle them to resident tuition rates.

For more details, visit the section on the 99-Hour Doctoral Cap.

Course Cap

The Texas Higher Education Coordinating Board Rules (under Chapter 13) authorizes institutions to charge out of state tuition for students who enroll in a course for the third or more time.

Students may be charged for semester credit hours or contact hours attempted in any course, other than a non-degree-credit developmental course, containing the same content for a third or more times at their institutions. Attempted hours are calculated for courses in which a student is enrolled on the Official Reporting Day (ORD) (typically twelfth class day or fourth class day in summer), not by the courses in which a student receives a grade (passing, failing, or **W**).

Semester credit hours or contact hours attempted by students for the following types of coursework are exempt from the provisions of this section:

- thesis and dissertation courses.
- courses that may be repeated for credit because they involve different or more advanced content each time they are taken, including but not limited to, individual music lessons, Workforce Education Course Manual Special Topics courses (when the topic changes), theater practicum, music performance, applied music lessons, music ensembles, certain physical education and kinesiology courses, and studio art.
- independent study courses.
- special topics and seminar courses.



Auditing Courses

Approval to audit, or visit, a course is sometimes granted to qualified students by the dean of the college in which the course is offered. Such approval conveys only the privilege of observing and does not include submitting papers, taking tests, or participating in laboratories or fieldwork.

Students auditing courses will pay regular tuition and fees. Students 65 years of age or older may audit any course offered by the university without payment of a fee if space is available. These students should contact the Student Business Services Office, in the Welcome Center, for a fee waiver application.

Students may obtain audit application forms from the office of the appropriate dean. Student Business Services will assess the fees. Students wishing to audit may enroll only after late registration. Credit is not given for an audited course, nor may a change to credit status be made after students have enrolled.



Dropping Courses

Note: The university publishes the dates for dropping and withdrawing in the Academic Calendar listed in each semester class schedule.

Graduate students who are on GPA Warning status because they failed to maintain a 3.00-grade point average may not drop a course without the recommendation of the graduate advisor and the approval of the department chair.

Enrollment in a course may be terminated in any one of the following ways:

1. Before the first class day and until the official report date for the term (12th class day in Fall or Spring terms; 4th class day in the summer term), students who wish to drop a course may do so by going online to myUH without signature of the instructor. International students and student-athletes must consult their appropriate office if trying to drop a course after the first day of classes.
2. After the official reporting date, and until the last day to drop courses, graduate students who wish to drop a course must submit a drop form with the instructor's signature to the Office of the University Registrar by the deadline. The student is then assigned the grade of "W". Business, Engineering, and Law majors also must obtain permission from the dean of the college. The University Registrar publishes all possible methods for submitting Student-Initiated Drop Forms, including but not limited to: in person at the Welcome Center, by fax, and/or via electronic means.
3. An instructor may drop students only through the last day for dropping courses for the following reasons: excessive absences; if the prerequisites or co-requisites for the course listed in the current catalog have not been met; or for causes which tend to disrupt the academic process (except those actions involving academic honesty which come under the jurisdiction of the Academic Honesty policy). Students may make a timely appeal through the office of the dean of the college in which the course is taught. Students are responsible for keeping copies of their drop forms and for verifying whether they have been dropped from a course with the Office of the University Registrar, located in the Welcome Center.
4. After the last day for dropping courses, graduate students may drop or be dropped by their instructor from a course with a "W", as determined by the instructor, only with the approval of the dean of the college in which the course is offered and only for rare, urgent, and substantiated nonacademic reasons. All such requests are reviewed and ultimately approved by the Graduate School. Students are expected to commit themselves as early as possible (at least by mid-semester) to courses for the remainder of the semester.

The effective date of the dropped course will be the date that the requests has been processed by the Office of the University Registrar.

Reinstatement

Students wishing to seek reinstatement should discuss the request with the instructor and departmental advisor. If both agree, the student and advisor should complete a general petition requesting the reinstatement. The petition must be signed by the instructor, department chair, college dean (or his/her designee), and The Graduate School.



Term Withdrawal

The phrase 'term withdrawal' applies to the dropping of all courses in all sessions of a term for which a student is registered at the University of Houston. A term withdrawal may be initiated by a student after consultation with the departmental graduate advisor.

Student Initiated Withdrawal

In addition to following the procedure for dropping a course, students must return all library books and laboratory equipment and have their UH record clear in every respect. Students who wish to withdraw must submit their request by following the process outlined on the Graduate School website: <http://www.uh.edu/graduate-school/forms>. All students must notify their academic unit of their intention to withdraw from all classes.

A student whose enrollment in a course is terminated on or before the last day to drop or withdraw without receiving a grade (as posted in the Academic Calendar) will not have the course(s) appear on the permanent record, and grade(s) will not be assigned. When terminations are made after this date, grades of 'W' (withdrawal, either passing or with no evaluative data available at the time of drop) or 'F' (withdrawal, failing) will be assigned by the instructor at the close of the semester, and the courses and grades will appear on the permanent records. A graduate student must file a student-initiated term withdrawal request, in addition to instructor-signed course drop forms for all enrolled classes, if completing a term withdrawal after the last day to drop or withdraw without receiving a grade.

Deadline

- Generally
 - Students are responsible for initiating action to drop or withdraw from classes on or before the last day to drop a course or withdraw, as posted in the Academic Calendar.
 - Students who fail to do so will be retained on the class rolls even though they may be absent for the remainder of the semester. In such instances, grades of 'F' (or 'U' in S/U graded courses) will be given unless mitigating circumstances warrant grades of 'I' (incomplete).
- Exceptions
 - Military withdrawal situations use a different process and deadline. Please consult with UH Veteran Services for more information.
 - Medical and personal emergency situations use a different process and deadline. Please consult with the Graduate School for more information.

Procedure

- Domestic Students
 - Prior to ORD - *two ways to submit a request*
 1. *myUH*
 - May submit a request through *myUH* prior to the official reporting day (ORD) for the term
 - To initiate the term withdrawal process, the student must log on to their *myUH* account and select the **Academic Records** tile for the **Request Term Withdrawal** link.
 2. Fax or In-Person
 - Fax number: (713) 743-8342
 - Drop-off location is the Office of the University Registrar in the UH Welcome Center
 - Required document(s):
 1. the pdf version of the Term Withdrawal Form
 - After ORD - *one way to submit a request*
 1. Fax or In-Person



- Drop-off location: Office of the University Registrar in the UH Welcome Center
- Fax number: (713) 743-8342
 - Required document(s):
 1. the pdf version of the Term Withdrawal Form
 2. a Student-Initiated Drop Form for every class that includes all required signatures.
- International Students holding F1 or J1 Visas - *one way to submit a request*
 - All International Students holding F1 or J1 Visas must meet with a representative of the Office of International Student and Scholar Services (OISSS).
 - *myUH* - Due to strict Visa requirements, all international students ARE NOT able to initiate the withdrawal process via *myUH*.
 1. Fax or In-Person
 - Fax number: (713) 743-8342
 - Drop-off location: Office of the University Registrar in the UH Welcome Center
 - Required document(s)
 1. the pdf version of the Term Withdrawal Form
 2. Reduce Course Load form (required for Fall or Spring term)
 3. Early Withdraw form (for OISSS)

Medical Withdrawal

A student may request withdrawals from all courses in which the student is enrolled in cases where the student experiences a medical situation that impedes academic progress.

Policy

The Graduate School may approve medical withdrawal requests from graduate and professional students who have supporting documentation from a licensed physician justifying withdrawal from all courses for which they are registered at the University of Houston. Such requests must be initiated within 140 days of the official closing date (last day of final exams) of the term. Medical withdrawals are effective for all enrolled classes in a given term. The only exception to this policy is granted if a student has already completed, and received official grades, in classes which met during sessions which have already finished by the time of the withdrawal (pre-term mini session, sessions 2 or 3 in summer, or session 2, 3, or 4 in fall/spring).

Students who receive medical withdrawals after the last day to withdraw without receiving a grade shall receive a 'W' grade, in each course for which they were registered.

Graduate and professional students who receive medical withdrawals must obtain permission from the university to enroll again at the University of Houston. Students wishing to return to study following a medical withdrawal must file a petition requesting reinstatement, including a written return-to-school statement from their physician. Under extenuating circumstances, this policy may be applied retroactively.

Procedures

- Graduate and professional students (or their appointed representatives bearing power-of-attorney, if they are unable to act for themselves) who seek to withdraw for medical reasons from all courses for which they are registered at the University shall request a medical withdrawal using the Graduate School Medical/Administrative Withdrawal Form (PDF). The forms must be accompanied by all appropriate documentation, which must include a statement from a licensed physician or licensed psychologist. Details of the required statement are included on the form.
- The medical withdrawal request should be filed at the department/college level. Note: International students should notify the Office of International Student Services of their intent to withdraw.
- If the medical withdrawal is requested with an effective date after the last day for a student to withdraw from classes without receiving a grade, the dean shall, in making inquiries and seeking recommendations from each instructor of record, notify each that if approved, the withdrawal will result in a grade of 'W'.
- The dean of the college will determine a recommendation on the withdrawal and forward it to The Graduate School.



- The Graduate School shall
 - review each request and its accompanying documentation,
 - decide whether to make inquiries and seek recommendations from appropriate sources of information,
 - decide whether to approve or deny the request and determine the effective date of the withdrawal, and
 - notify the Office of the University Registrar process the withdrawal, and the college of the student's major.
 - If the request is approved, a medical withdrawal enrollment hold will be placed on the student record.
- The dean of the college of the student's major shall communicate the final decision to the student.

Reinstatement

Graduate and professional students who receive medical withdrawals and later seek to return to the university shall submit a Graduate/Professional Student Petition (PDF) requesting reinstatement, including a return-to-school statement from their licensed physician to the college of their major justifying their readiness to resume their studies.

The college shall review each request to resume study at the university, decide whether to make inquiries and seek recommendations as appropriate, and forward to The Graduate School for university review.

Once approved, The Graduate School will remove the medical withdrawal enrollment "stop" from the student's record. (This action does not remove any other "stops" that may have been placed on the student's record by other university officials)

The University may grant a leave of absence to a student who requests and receives a medical withdrawal. This leave grants the student readmission into the program at a specified time and under specified circumstances.

Financial Withdrawal

Students who make payment on their account with checks which are returned to the university for insufficient funds or who fail to pay by designated deadlines may be withdrawn from the university without refund. Students who are financially withdrawn after the last day to drop or withdraw without a grade will receive 'W' or 'F' grades for the semester.

Students with two or more returned checks must make payment on their account by cash, cashier's check, money order, or credit card. No checks - personal or otherwise - will be accepted.



99-Hour Doctoral Cap

The State of Texas subsidizes a large portion of the costs of doctoral education at its public universities, and the State Legislature has decided to limit the length of time the state will continue this subsidy for individual students. The Legislature has voted to stop providing state money for educating graduate students who have 100 or more semester credit hours of doctoral work. This law has come to be called the "99-hour doctoral cap."

All doctoral students who accumulate more than ninety-nine doctoral semester credit hours at any Texas public institution of higher education will be charged the nonresident tuition rates irrespective of student residency status or any appointment, fellowship, or other circumstance that would normally entitle them to resident tuition rates.

Exemptions The Texas Higher Education Coordinating Board has approved the following programs for exemption to the 99-hour limit:

- Clinical Psychology
- Counseling Psychology
- Vision Science/Physiological Optics

Note: Students in these programs are governed by an absolute limit of 130 doctoral semester credit hours. Any hours beyond this limit will be charged at the non-resident tuition rate. It is important that doctoral students continue to work closely with their advisors to monitor progress through the degree program so that studies are concluded within the "99-hour doctoral cap" to avoid having to pay significantly higher tuition. Furthermore, students on graduate student appointments who go beyond the 99-hour doctoral cap will be charged at the non-resident tuition rate.



Academic Honesty

Article 1. General Provisions

- 1.01 Rationale.** The University of Houston can best function and accomplish its objectives in an atmosphere of high ethical standards. It expects and encourages all students, faculty and staff to contribute to such an atmosphere in every way possible and especially by observing all accepted principles of academic honesty. It is recognized, however, that a large university will include a few students who do not understand, appreciate, and practice these principles. As a consequence, alleged cases of academic dishonesty will inevitably occur, and students will be accused. The following procedures are designed to handle these cases in fairness to all concerned: the accused student, the faculty, and the University of Houston.
- 1.02 General Jurisdiction.** Matters relating to academic honesty are within the general jurisdiction of the senior vice president for academic affairs and provost. Allegations of scientific misconduct against students engaged in research supported by funding from the University of Houston or other sources will be handled according to the University of Houston Ethical Conduct in Academic Research and Scholarship Policy (To obtain a paper copy, contact the Division of Research at 713-743-9222 or at www.research.uh.edu).
- 1.03 College with Jurisdiction.** Specific jurisdiction in academic honesty matters rests in each college of the University of Houston. The college with jurisdiction is determined by the course in which dishonesty occurs. If the student involved majors in a college other than that offering the course, the college offering the course has jurisdiction. If the college with jurisdiction cannot be determined from the relationship between the alleged actions of a student or group of students and a particular course, then the provost will designate which has jurisdiction.
- 1.04 Colleges to which the Policy Applies.** The policy on academic honesty applies to all colleges within the university. However, any college may present to the provost a code separate from this university policy. After approval by the provost, and after such publication as the provost shall direct, academic honesty matters over which that college has jurisdiction shall be governed by that code. Honor systems within the professional colleges are especially encouraged.
- 1.05 Questions Regarding Applicability of Policies.** All questions regarding the applicability of college codes or University of Houston policy or special provisions of either shall be determined finally by the provost.
- 1.06 Compass of Actions Taken Against Students.** Actions taken against students are university-wide in their effect, unless otherwise specified.
- 1.07 Faculty or Instructor of Record Responsibility.** Faculty or instructor of record shall have the responsibility of reporting incidents of alleged academic dishonesty through their departmental hearing officer to their college hearing officer.
- 1.08 Proctor or Teaching Assistant Responsibility.** Proctors or Teaching Assistants shall have the responsibility of reporting incidents of alleged academic dishonesty to the instructor of record involved, or to the appropriate authority if the alleged act is not associated with a specific class.
- 1.09 Student Responsibility.** Students shall have the responsibility of reporting incidents of alleged academic dishonesty to the instructor of record involved, or to the appropriate authority if the alleged act is not associated with a specific class.
- 1.10 Purpose of Procedures.** The purpose of these procedures is to provide for the orderly administration of the Academic Honesty Policy consistent with the principles of due process of law. Reasonable deviations from these procedures will not invalidate a decision or proceeding unless the provost determines, upon written appeal from the accusing and/or accused parties, that the deviation will result in prejudice to one or more of the parties involved.
- 1.11 Amendment of Policy.** The academic honesty policy shall be reviewed every two years by a joint sub-committee comprised of representatives of both the Undergraduate Committee and the Graduate and Professional Studies Committee. Any amendments to the academic honesty policy must be approved by both Committees.
- 1.12 Definitions.**



- 1.12.01 *Class Day*. Class days, for purposes of this policy, are defined as days the University of Houston is open and classes are meeting (excluding Saturdays) as posted in the university academic calendar, excluding professional colleges and programs.
- 1.12.02 *Internal Use*. Internal use defines who has access to a student's records. Records for internal use will be released only to University of Houston officials who have an educational purpose to know the information included in the student's records.
- 1.12.03 *Academic Record*. Academic record includes documents, forms, copies, reports, statements, recordings, etc. that are acquired while a student attends the University of Houston. The information is available to outside sources according to the procedures established by the Family Education Rights and Privacy Act.
- 1.12.04 *Sanction*. Sanction means the penalty assessed for a violation of the Academic Honesty Policy.
- 1.12.05 *Instructor*. Instructor refers to a faculty member, lecturer, teaching assistant, or teaching fellow in charge of the section in which an alleged violation of this Academic Honesty Policy has occurred. Such individuals will typically be the instructor of record of the course section in question. In instances where this is not the case, instances of alleged cheating should be reported to the instructor of record.
- 1.12.06 *Departmental Hearing Officer*.
- Departmental hearing officer refers to the person responsible for facilitating the departmental procedures related to the alleged violation(s) of the academic honesty policy. Typically the department chair serves in the role or an individual designated by the department chair.
- If the college responsible for the course in question does not have individual departments for the course, departmental hearing officer as used below shall refer to the individual designated by the dean of the college to act as the initial hearing officer in academic honesty cases (see Article 5.02).
- 1.12.07 *College Hearing Officer*. The college hearing officer is designated by the dean of the college in which the alleged violation of the academic honesty policy occurs and is responsible for facilitating the college procedures related to the alleged violation of the academic honesty policy.
- 1.12.08 *Student*. Student refers to any individual who has ever registered and paid (made a complete payment or has made at least one installment payment) for a course, or courses at the University of Houston. This definition would normally include undergraduate students, graduate students, postbaccalaureates, professional school students and individuals auditing courses.
- 1.12.09 *Waiver of Departmental Hearing*. Students with no academic honesty violations on record may have the option to waive a departmental hearing under agreement with the instructor and departmental hearing officer. Waiver of departmental hearing is not an option for cases involving sanctions of disciplinary probation or that require a college hearing [see Article 5.01a].
- 1.12.10 *Waiver of Automatic College Hearing*. Departmental sanctions of suspension or expulsion require an automatic college hearing. Students wishing to waive the college hearing and thereby accept such sanctions must review and sign a waiver form issued by the Dean of Students Office (see Article 5.04).
- 1.13 Notification.** All required written notices shall be addressed to the student via their UH email. It is the responsibility of the student to keep his/her destination email address up to date on his/her student record (my.uh.edu). A notice properly addressed and so sent shall be presumed to have been received by the student.
- 1.14 Retaliation.** The University of Houston prohibits retaliatory action against persons who report incidents of alleged academic dishonesty under this policy, are suspected of having reported incidents of alleged academic dishonesty under this policy, who are identified to serve or have served as witnesses in any academic honesty proceeding, or who are identified to serve or have served on an Academic Honesty Panel. Any acts of retaliation will be referred to the appropriate office for review and response.

Article 2. Preventive Practices



2.01 Preventive Measures. Instructors can help students comply with the academic honesty policy by minimizing temptation to act dishonestly. Measures instructors should consider are:

- a. Maintaining adequate security precautions in the preparation and handling of tests;
- b. Structuring the type and sequence of examination questions so as to discourage dishonesty;
- c. Providing ample room for proper spacing of students during examinations, when possible;
- d. Monitoring examinations, especially in large classes and in classes where not all students are known to the instructor or the assistant;
- e. Making clear to their students the rules concerning the use of electronic devices;
- f. Making clear to their students, in writing, what constitutes academic dishonesty, particularly in those classes where group activities (laboratory exercises, generation of field reports, etc.) are part of the instructional process;
- g. Requiring students to submit their own work and defining for their students particular aspects of dishonesty, such as plagiarism and self-plagiarism;
- h. Requiring students to show a picture ID and sign major assignments and exams; and
- i. Helping raise consciousness of the issue of academic honesty by asking students to sign an honor pledge in the first week of class and to write a short honor pledge in their own hand on their major assignments.

Article 3. Categories of Academic Dishonesty

3.01 Application of the Academic Honesty Policy. This policy applies to those acts of dishonesty committed by a student while enrolled at the University of Houston.

3.02 Academic Dishonesty Prohibited. "Academic dishonesty" means employing a method or technique or engaging in conduct in an academic endeavor that contravenes the standards of ethical integrity expected at the University of Houston or by a course instructor to fulfill any and all academic requirements. Academic dishonesty includes, but is not limited to, the following:

Plagiarism

- a. Representing as one's own work the work of another without acknowledging the source (plagiarism). This would include submitting substantially identical laboratory reports or other materials in fulfillment of an assignment by two or more individuals, whether or not these used common data or other information, unless this has been specifically permitted by the instructor. Plagiarism includes copying verbatim text from the literature, whether printed or electronic, in written assignments, candidacy exams, and theses/dissertations;

Cheating and Unauthorized Group Work

- b. Openly cheating in an examination, as copying from another's paper;
- c. Being able to view during an examination, quiz or any in-class assignment an electronic device that allows communication with another person, access to unauthorized material, access to the internet, or the ability to capture an image, unless expressly permitted by the instructor;
- d. Using and/or possessing "crib notes," as unauthorized use of notes or the like to aid in answering questions during an examination;
- e. Giving or receiving unauthorized aid during an examination, such as trading examinations, whispering answers, and passing notes, and using electronic devices to transmit or receive information;



- f. Securing another to take a test in the student's place. Both the student taking the test for another and the student registered in the course are at fault;

Fabrication, Falsification, and Misrepresentation

- g. Changing answers or grades on a test that has been returned to a student in an attempt to claim instructor error;
- h. Using another's laboratory results as one's own, whether with or without the permission of the owner;
- i. Falsifying results in laboratory experiments;
- j. Misrepresenting academic records or achievements as they pertain to course prerequisites or corequisites for the purpose of enrolling or remaining in a course for which one is not eligible;
- k. Representing oneself as a person who has earned a degree without having earned that particular degree

Stealing and Abuse of Academic Materials

- l. Stealing, as theft of tests or grade books, from faculty offices or elsewhere, or knowingly using stolen tests or materials in satisfaction of exams, papers, or other assignments; this includes the removal of items posted for use by the students;
- m. Mutilating or stealing library materials; misshelving materials with the intent to reduce accessibility to other students;

Complicity in Academic Dishonesty

- n. Failing to report to the instructor or departmental hearing officer an incident which the student believes to be a violation of the academic honesty policy;

Academic Misconduct

- o. Any other conduct which a reasonable person in the same or similar circumstances would recognize as dishonest or improper in an academic setting.

Article 4. Sanctions

4.01 Sanctions. The sanctions for confirmed violations of this policy shall be commensurate with the nature of the offense and with the record of the student regarding any previous infractions.

Sanctions may include, but are not limited to: a lowered grade, failure on the examination or assignment in question, failure in the course, probation, suspension, or expulsion from the University of Houston, or a combination of these.

If a sanction of probation or suspension is assigned, it must have a specified starting and ending date, unless the sanction is expulsion, in which case, an end date is not specified. Students are not permitted enrollment under sanctions of suspension and expulsion.

A student who is found to have violated the Academic Honesty Policy at the departmental or college level before the end of an academic term may remain enrolled in the course at issue while any appeal provided for under this policy is pending. Sanctions do not become final and may not be applied while any appeal provided for under this policy is pending. Once a sanction becomes final, if the case occurs in a college outside of the student's college, the department hearing officer/college hearing officer will notify the dean of the student's college.

A doctoral student receiving a sanction of suspension must file a leave of absence for the duration of the suspension, in accordance with the continuous enrollment policy as specified in the Graduate Catalog.

Students may not receive a W for courses in which they have been found guilty of a violation of the Academic Honesty Policy. If a W is received prior to a guilty finding, the student will become liable for the Academic Honesty penalty, including F grades.



- 4.02 Probation, Suspension, and Expulsion.** The terms probation, suspension and expulsion as used herein refer to these sanctions only as they are imposed as a result of violations of this Academic Honesty Policy. All policies and procedures for the imposition and appeal of these sanctions are contained within this policy.

Article 5. Departmental Hearing

- 5.01 Departmental Hearing.** When an instructor has reasonable grounds to believe that a student has committed an act of academic dishonesty, the instructor shall notify the departmental hearing officer of the concerned department, in writing, within five class days of discovery.

Students who believe they have observed an act of academic dishonesty shall report the incident to the instructor, as soon as possible, who shall then report the incident in writing to the departmental hearing officer within five class days.

The Departmental Hearing Officer will check to see if the accused student has any prior violations of academic honesty listed with the Provost Office. A student is eligible for a waiver of departmental hearing only if he/she has no prior waiver of departmental hearing and no previous findings of violation of the Academic Honesty Policy.

a. Waiver of Departmental Hearing.

Upon notifying the departmental hearing officer of the alleged violation, the faculty member shall have the option of suggesting to the departmental hearing officer a sanction for the alleged violation of the Academic Honesty Policy that would, if acceptable to the student, instructor, and departmental hearing officer, preclude a departmental hearing. Such sanctions would normally include reduced or zero credit for a test assignment, a grade of "F" in a course, or other such agreed upon sanctions. Sanctions involving disciplinary probation or sanctions requiring a college level hearing cannot be used.

In cases for which the instructor suggests a sanction so as to preclude the departmental hearing, within five class days of receiving the instructor's report the accused shall be notified, in writing, by the departmental hearing officer informing the accused student of the nature of violation, the recommended sanction, and ask the student to select between the choice of: (1) admitting the alleged academic honesty violation, waiving the formal departmental hearing, and accepting the associated sanction; or (2) proceeding to a formal departmental hearing.

The waiver of a departmental hearing must be agreed to by the instructor, the student, and the departmental hearing officer. In the event that all three cannot agree to a waiver, the case must be moved to a formal departmental hearing.

The waiver of a departmental hearing is agreed to by completing a Departmental Hearing Waiver form that must be signed by the student, instructor and departmental hearing officer. Upon agreement of the waiver of departmental hearing, a copy of the completed waiver form will be shared with the college dean's office and the Provost Office to be included on a list of recorded cases of academic honesty violations. Following graduation, the student can request that his/her name be removed from these lists. An agreement to settle an academic honesty infraction via a waiver of the formal departmental hearing will not result in any record being kept that is reflected on the student's transcript.

If the departmental hearing officer has not received a response from the student within 10 class days of the notification of these options, the departmental hearing officer shall, within the next five class days, schedule a departmental hearing.

b. Departmental Hearing Procedures.

In case a waiver of a departmental hearing is not an option, the departmental hearing officer shall, within 10 class days of receiving the instructor's report, schedule a departmental hearing. To schedule a departmental hearing, the departmental hearing officer shall notify the instructor, the accused student and the accusing party, if other than the instructor, of the nature of the alleged violation and the time and date of the hearing as provided in Article 1.13. Should any of the parties fail to appear, without good cause, at the departmental hearing, the departmental hearing officer may render a decision in their absence.

Both the instructor and the student shall have an opportunity to present their cases during the above hearing. This may include the introduction of documents and/or physical evidence as well as statements from individuals who have knowledge of the circumstances. If either party intends to have individuals appear at the hearing for such statements, the departmental hearing officer must be notified at least three class days before the hearing. Both parties have an opportunity to examine the documents



pertaining to the alleged violations during the hearing.

If either party intends to have legal counsel attend the hearing, the departmental hearing officer must be notified at least three class days before the hearing. The hearing cannot be held with such counsel in attendance unless a representative from University of Houston legal counsel is also present. If either party will be advised by legal counsel, this individual may attend the hearing but shall not directly participate in the hearing or enter into discussion with the parties present.

If physical evidence or witness testimony is presented in a departmental hearing, and if either party needs reasonable time to review the evidence and/or consider the witness testimony, either party may request a postponement of the departmental hearing. Decisions on postponement of the hearing will be made at the discretion of the departmental hearing officer.

The departmental hearing officer shall render a decision within three class days after the hearing and forward copies of the decision to the student, instructor, and college hearing officer of the college responsible for the course in which the alleged violation occurred. Both the accused student and the instructor have equal option of appeal if the decision of the departmental hearing officer is not acceptable.

If a written appeal is not received by the college hearing officer of the college within ten class days of the decision at the departmental level, the action recommended by the departmental hearing officer shall be implemented and the Provost Office shall be notified of the outcome of the case [see Article 8.02]. A departmentally recommended sanction involving suspension or expulsion shall be reviewed in a college hearing unless such hearing is waived as provided in Article 5.04 below.

- 5.02 Colleges Without Departments.** For colleges that do not have individual departments, the decision of the initial hearing officer designated by the dean of the college shall constitute the equivalent of a departmental decision. Only if this decision is reviewed and upheld by the college by virtue of appeal or automatic review would a college decision be rendered. The hearing officer for the college appeal or review shall not be the initial hearing officer.
- 5.03 Group Violations of the Academic Honesty Policy.** At the discretion of the departmental hearing officer, in instances where two or more students are alleged to be involved in the same infraction of the academic honesty policy, the case against the whole group will be dealt with at a single hearing. The facts common to all cases will be presented with all students allegedly involved in attendance. Each student shall be allowed to present his/her statement to the departmental hearing officer separately. If requested by the presenting student, such statements shall be presented outside the hearing of the other students.
- 5.04 Waiver of Automatic College Hearing.** If a student wishes to accept a departmentally recommended sanction of suspension or expulsion, he or she may submit a written waiver form to the college hearing officer no later than 10 class days after being notified of the departmental decision. The waiver form is issued from the Office of the Dean of Students only after the student has met with the dean of students (or his/her designated representative), who will ensure that the student is aware of his/her rights in the appeal process. The college hearing officer shall then implement the departmental decision and notify the appropriate parties of the disposition of the case within five class days of receipt of the waiver request. The sanction is considered a college level decision.
- 5.05 Conflict of Interest.** When departmental or college hearing officers are themselves party to a case, they shall in no way participate in the administration of the policy in that case. Such responsibilities shall pass to faculty and administrators not directly involved in the case.

Article 6. College Hearing

- 6.01 College Hearing.** If either the student or the instructor wishes to appeal the decision of the departmental hearing officer, he or she must file a written request for a hearing with the college hearing officer within 10 class days of the departmental hearing officer's decision. Within 10 class days of receipt of such a request, the college hearing officer will set a time, date and place for the hearing. The college hearing is a de novo hearing in which the Panel must consider all the evidence on all the issues presented in the appeal as though no previous action has been taken.
- 6.02 College Hearing Officer.** The college hearing officer shall be appointed by the dean. Typically the college hearing officer will be appointed for a full academic year. Correspondence with the college hearing officer should be addressed to the office of the dean of the college.
- 6.03 Duties of the College Hearing Officer.** It shall be the duty of the college hearing officer to:



- a. Select a college academic honesty panel;
- b. Set and give notice of the time and place of the college hearing;
- c. Conduct the hearing in an orderly manner so that both sides are given an opportunity to state their case;
- d. Rule on procedural matters;
- e. Leave the hearing room during the panel's deliberations but remain available to answer questions on procedural matters; and
- f. Prepare and submit one copy of the decision to the dean, one copy to the provost, and one copy to the dean of the Graduate School for matters involving graduate students. The college hearing officer shall not take part in the vote or otherwise participate in the deliberations of the panel.

6.04 Academic Honesty Panel. The college academic honesty panel shall consist of two faculty members and three students. The panel will be selected by the college hearing officer from faculty and currently enrolled students from the accused student's academic peer group in the college. Faculty and students serving on the panel should be from the college in which the alleged violation occurred, and preferably from departments outside of either parties' academic department or program, where possible. The chair of the panel shall be a student appointed by the college hearing officer.

6.05 The Dean of Students. The dean of students, or his or her designee, shall be required to attend all college hearings to serve as a University of Houston resource person. This individual shall not have a vote at a college hearing or be present during the deliberations of the panel.

6.06 College Hearing Procedure.

- a. The date of the hearing must be adhered to. Any delay must be approved by the college hearing officer. Only documented, extenuating circumstances will be considered.
- b. Three class days prior to the hearing, all parties notify the college hearing officer in writing of the names of their witnesses, if any, and the subject of their testimonies. At that time, the parties will also submit a copy of the documents they intend to present during the hearing. Upon request, the college hearing officer will make available to the parties the information and documents referenced in this section.
- c. The hearing shall have an audio recording. The parties involved may obtain a copy of the recording from the college hearing officer at the expense of the requesting party.
- d. The hearing shall be held in two phases. The first phase is the determination of violation, followed, if necessary, by the sanction phase.
- e. All parties shall be afforded the opportunity to present statements, pertinent documentation and witnesses and have an opportunity to examine the documents pertaining to the alleged violations during the hearing.
- f. All parties shall have the right to advice of counsel of choice. If either party intends to have legal counsel attend the hearing, the college hearing officer must be notified at least three class days before the hearing. The hearing cannot be held with such counsel in attendance unless a representative from University of Houston legal counsel is also present. If either party will be advised by legal counsel, this individual may attend the hearing but shall not directly participate in the hearing or enter into discussion with the parties present.
- g. The cases presented to the panel must be made by the accusing individual and the accused student. The instructor or other individuals who reported the alleged misconduct shall present the relevant information, including statements by witnesses. The accused student shall then present his/her statement and relevant information, including statements by witnesses. Neither party shall ask questions of or solicit answers directly from the other party or its witnesses. Where it appears that there are matters of disputed fact, the college hearing officer shall request the panel to ask appropriate questions of either or both parties and/or their respective witnesses so as to clarify the points in dispute.



- h. The panel shall have the right to question any and all witnesses and to examine documentation presented.
- i. At the conclusion of each phase of the hearing, the panel shall meet in a closed session to render a decision. A student is found in violation of the academic honesty policy by a vote of four or more members of the panel, and the sanction has to be agreed to by three or more members of the panel. Upon reaching a decision in either phase, the panel shall reconvene with all parties present and inform all parties of its judgment.
- j. The college hearing officer shall notify in writing all parties, including the dean of the college and the provost, of the disposition of the case within five class days of receipt of the panel's judgment.

6.07 Group Violations of the Academic Honesty Policy. In instances where two or more students are alleged to be involved in the same infraction of the academic honesty policy, at the discretion of the college hearing officer, the case against the whole group will be heard by a single academic honesty panel. The facts common to all cases will be presented with all students allegedly involved in attendance. Each student shall be allowed to present his/her case and/or statements to the panel separately. If requested by the presenting student, such statements shall be presented outside the hearing of the other students.

Article 7. Senior Vice President for Academic Affairs and Provost Appeal

7.01 Appeal of the Panel's Decision. Within five class days of the panel's decision, either party may file an appeal for review with the provost or that officer designated by the provost. The appeal shall be in writing and shall specifically address the issues to be reviewed.

7.02 Senior Vice President for Academic Affairs and Provost Procedural Review. The provost shall review the appeal within 15 class days of the receipt of the appeal. If either party has requested an appearance or is requested to appear by the provost, then both parties must be informed. Because the case was heard by a peer group, the intent of the provost's review is not to modify the sanction nor to substitute the judgment of the provost for that of the peer panel which heard the case, or hear new or additional facts on the case. The intent of this review is to ensure that the college hearing and judgment were not arbitrary, capricious or discriminatory, did not violate the due process of the accused, and did not violate the concepts of fair play to both parties. The provost shall notify all parties of the decision within three class days of the completion of the review.

7.03 Actions Which the Senior Vice President for Academic Affairs and Provost May Take.

The provost may conclude that one or more of the basic concepts involved in a fair hearing at the college level were violated and may subsequently pursue one of the following actions:

- a. For undergraduate students, return the case to the college for another hearing with a different panel in accordance with Article 6 and resubmission for provost procedural review; or
- b. For undergraduate students, if, in a rare case, the provost deems that another hearing in the same college would not result in a fair hearing, the provost may send the case to another college with the disciplinary expertise to hold a fair hearing, for a new hearing there in accordance with Article 6 and resubmission for provost procedural review; or
- c. For undergraduate students, if, in a rare case, the provost independently deems that the sanction assessed in the college hearing is not commensurate with the violation, then the provost may send the case back to the college as described above; and
- d. For graduate students, refer the case to the Vice Provost/Dean of the Graduate School for review. Review by the Dean of the Graduate School shall be for the purpose of determining: (i) Whether the appealing party was given a reasonable opportunity to be heard at the departmental and college levels and (ii) whether the college's decision was reasonably reached. Procedural violations which would not affect the substantive result or are not substantially prejudicial to either party are not grounds for appeal.

Upon receiving a referral from the provost for review the Vice Provost/Dean of the Graduate School will review the appeal and will, within 10 working days, return the case to the college for another hearing with a different panel in accordance with Article 6 and resubmission for provost procedural review, reject the appeal, or refer the case to a committee. If the dean decides to refer the case to a committee, the dean will notify the chairperson of the Graduate and Professional Studies Council (GPSC), who will



appoint a Graduate and Professional Studies Grievance Committee (GPSGC) within 10 working days of receiving such notification.

The GPSGC will consist of one graduate/professional student and three faculty members, none of whom will be from any respondent's department or program or from the department or program in which the student is enrolled. The faculty members will be appointed by the chair of GPSC on an ad hoc basis. The chair of GPSC will also select the student member from a pool of graduate students provided by each of the colleges. The chair of the committee will be elected by the committee members. All members of the committee will have voting privileges. The GPSGC will review the appeal file and may also request other documents as it sees fit.

Within 30 calendar days of being formed, the GPSGC should schedule an appeal hearing with the interested parties. This deadline may be extended at the GPSGC's discretion upon written request of a party or upon stipulation of all parties. The hearing shall have an audio recording. The parties involved may obtain a copy of the recording at the request and expense of the requesting party. Counsel for each of the parties involved may be present with that person, but will not be allowed to speak at the hearing. Expert resources should be available to the committee in an advisory capacity as needed. The GPSGC will report its recommendations in writing to the Vice Provost/Dean of the Graduate School within 10 working days of the hearing, who will make a decision within 10 working days following their receipt. The Vice Provost/Dean of the Graduate School will forward a copy and this decision in writing to the parties, to the dean of the college in the event he/she is not a party, to the GPSGC and resubmission to the provost for final procedural review.

- e. The provost may approve the actions and conclusions of the college academic honesty panel and see that the judgment is enforced. The provost's procedural review is the final institutional step in matters of academic integrity.

Article 8. Records

- 8.01 Records of Academic Honesty Proceedings.** Records of proceedings under this Policy are considered a student's education records in accordance with the University of Houston's Student Records: Family Educational Rights and Privacy Act Policy. Records relating to departmental proceedings under this policy, including waivers, will be maintained by the department. Records relating to college proceedings under this policy, including waivers, will be maintained by the college.
- 8.02 Provost's Office.** The Office of the Provost shall maintain a record of those students found in violation of the policy at any level, including those students who have elected a waiver of the departmental hearing (See Article 5.01a).
- 8.03 Notations on a Student's Transcript.** A sanction of probation, suspension or expulsion under this policy will be expressly noted as such on the student's transcript, unless specified in the sanction that it should not be noted. When the specified period of time for a sanction of probation or suspension has elapsed, the student may petition the college placing the notation of academic honesty violation to request that the Office of the University Registrar remove the notation from the transcript. It is the student's responsibility to initiate any petition to remove the notation from the transcript. Notations of expulsion because of academic dishonesty are a permanent part of a student's transcript.

For additional guidance regarding this policy, please refer to the UH Provost's website:

<http://www.uh.edu/provost/shared-interest/policy-guidelines/honesty-policy/>



Academic Modifications for Students with Disabilities

Students with disabilities needing modification to existing academic requirements should contact the Center for Students with DisABILITIES to file an Americans with Disabilities Act petition form. Modifications that do not fundamentally alter the nature of the program and are not unduly burdensome will be considered. See the Center for Students with Disabilities for more information.



Changes of Degree Objective

Students who have previously enrolled and who wish to change their field of study and/or degree objective, should consult with the graduate program advisor for the program in which they are interested in pursuing. Students must meet the admission and/or academic standards of the new area of study. Students admitted at the master's level may transfer to a different master's degree objective by submitting a graduate petition signed by both the current and new units and associate deans. Students must submit an application to begin a new doctoral degree objective.

Study Beyond a Master's Degree

Students who complete a master's degree program (or equivalent, if permitted by the department) and wish to continue graduate study without applying to a new degree program, must file a petition prior to commencement to record a request to change to non-degree objective status and, if applicable, to a new academic field. Students wishing to begin doctoral-level study must submit an application.



Classification

Graduate Classification

The University classifies a student as a graduate student when an admission application and the required credentials have been submitted, the student has been approved for admission, and has registered for classes as a graduate student at the University of Houston. All graduate students must go through the formal application process in order to obtain the graduate student classification.

Masters:

In order to be classified as a master's degree-seeking student at the University of Houston, the student must:

1. Be officially admitted to a master's degree program at UH **and**
2. Possess a baccalaureate degree from a regionally accredited institution (or the equivalent). Students must provide proof of these credentials by submitting official transcript(s) from all prior institutions attended.

Doctoral:

In order to be classified as a doctoral degree-seeking student at the University of Houston, the student must:

1. Be officially admitted to a doctoral degree program at UH **and**
2. Have completed a master's degree from an accredited institution, in which the degree is recognized by UH as the equivalent of one year's work toward the doctoral degree in the student's proposed discipline (or the equivalent), **or**
3. Have earned at least 30 semester credit hours at an accredited institution toward the proposed doctoral degree (or the equivalent). Students must provide proof of the above by submitting official transcript(s) from all prior institutions attended.

Non-Degree Seeking Graduate:

In order to be classified as a non-degree-seeking graduate student at the University of Houston, the student must:

1. Be officially admitted by a college or department as a non-degree-seeking (NDO) student to take a limited number of graduate classes to further their education.
2. Possess a baccalaureate degree from a regionally accredited institution (or the equivalent). Students must provide proof of these credentials by submitting official transcript(s) from all prior institutions attended.

Post-baccalaureate Status

The post-baccalaureate status is designed for applicants who have earned one or more degrees at an accredited institution and seek another undergraduate degree, wish to enter a non-degree undergraduate program, or wish to further their education by taking undergraduate courses in varying fields of study.

Students who would like more information on post-baccalaureate status should consult the Undergraduate Studies Catalog, and complete the undergraduate application on the online application web site.



Examinations

Final Examinations

Final examinations shall be given during the time and date designated in the class schedule. Any exceptions to this policy must be approved in writing by the dean of the college and announced no later than the last day to drop a course.

In recognition of students' needs to prepare for final examinations, it is contrary to campus policy to assign previously unscheduled work in the form of tests, papers, or reports during the 14 calendar days prior to the examination period of each term or five calendar days prior to the examination period of each summer session. There will be no final examinations during the reading period.

Classroom and Laboratory Examination

For purposes of security, and to ensure that assistance is available, it is expected that someone familiar with the examination being administered, either the instructor or a designate, will be present in the room during the examination period. It is recognized that such an expectation is not always appropriate, for example, when an honor code is in effect, when the class is a graduate seminar, or when the format of the examination makes it unnecessary.

Final Comprehensive Examination

In some departments, the program for the master's degree may not include a thesis but may require a final comprehensive examination. Graduate students are expected to enroll each term until completion of the degree program and award of the degree. During the term in which the final comprehensive examination is taken, graduate students in non-thesis programs are considered to be full-time students and are expected to comply with the enrollment requirements as set forth in the section entitled Course Load for Graduate Students.



Excused Absence for Military Service Policy

In accordance with section 51.9111 of the Texas Education Code and the General Provisions under Chapter 4 of the Texas Administrative Code, a student is excused from attending classes or engaging in other required activities, including exams, if he or she is called to active military service of a reasonably brief duration.

A student who has been called to active military service after a term begins should immediately initiate the request for excused absence by providing the course faculty a copy of the military orders.

The student shall be excused from attending class and be allowed to complete an assignment or take an examination from which the student is excused within a reasonable time after the absence, as determined by the faculty member, with consideration of the date of the student's return from active duty and within one academic term from the date of the student's return from active duty.

An excused absence granted under this policy is designed to cover a period of time no longer than the equivalent of 25% of the overall class content (i.e., in-class hours, assignments), excluding the final exam period. Students with an absence longer than the equivalent of 25% of the overall class content may request military withdrawal under a separate policy.

Further guidelines include:

1. Students enrolled in distance learning, hybrid, and other asynchronous courses are to receive equivalent consideration for granting of an absence under this policy.
2. Faculty must retain a student's completed course work and the course syllabus or other instructional plan, to ensure that the student is able to complete the course under the same course requirements as when they initially registered for the class.
3. If an excused absence is granted under this policy, faculty are encouraged to outline and document the parameters and deadlines for completing make-up requirements and the consequences of a student's failure to meet these requirements by the agreed-upon deadlines.
4. Disputes arising as a consequence of a student failing to meet such parameters and deadlines for make-up requirements should be resolved according to the Excused Absence policy appeal process.



Excused Absence Policy

Regular class attendance, participation, and engagement in coursework are important contributors to student success. Absences may be excused as provided in the present University of Houston Excused Absence Policy, which applies to all graduate courses in all delivery modes (in person and online). Graduate and professional students are expected to comply with their program's attendance and excused absence policies and those requirements supersede this policy.

1. EXCUSED ABSENCES

Absences from class, including exams and submission of assignments or other course requirements, may be excused for the following reasons:

- a. Medical
 - i. Injury or illness that is too severe or contagious for a student to attend class or participate in course requirements. Students should not come to class, campus, or participate in campus activities if they are sick and possibly contagious and should contact the Student Health Center or their health care provider as necessary.
 - ii. Illness of a dependent family member.
 - iii. Serious illness of a close family member (parent, sibling, grandparents spouse, cohabitating partner, child, cohabitating partner/spouse's child, cohabitating partner/spouse's parent, cohabitating partner/spouse's grandparent, step-parent, step-siblings step-grandparent, grandchild, step-grandchild, legal guardian, and others as approved by course instructor, college dean, or dean's designee).
- b. Death in the Family - Death of a close family member (parent, sibling, grandparents house, child, cohabitating partner, cohabitating partner/spouse's child, cohabitating partner/spouse's parent, cohabitating partner/spouse's grandparent, step-parent, step-siblings step-grandparent, grandchild, step-grandchild, legal guardian, and others as approved by course instructor, college dean, or dean's designee).
- c. Legal or Government Proceeding - Participation in legal or government proceeding that can not be rescheduled.
- d. Professional and Educational Activities
 - i. Mandatory interviews for graduate or professional school that cannot be rescheduled (*maximum of 1 per class each term*).
 - ii. Mandatory interviews for full-time employment or internships that are related to the student's academic program and cannot be rescheduled (*maximum of 1 per class each term*).
 - iii. Presentation of research or scholarship at a professional conference that is related to the student's academic program (*maximum of 1 per class each term*).
- e. University Sponsored Activity - Absences caused by participation in a campus-sponsored activity are considered official if the sponsor of the activity has received approval from the appropriate University administrator.
- f. Athletic Competition - Mandatory participation as a student athlete in an NCAA-sanctioned competition.
- g. Other - Additional compelling reasons as approved by instructor or college dean, or dean's designee.

2. EXCUSED ABSENCE APPROVAL

- a. Notification
 - i. Students are required to submit an excused absence request in writing (email is acceptable) to the instructor(s) of the course(s) in which absences occur. Students should contact their instructor(s) by phone if written or email communication is not possible.
 - ii. When possible, requests for planned absences should be submitted to instructors as soon as possible but no later than 5 business days before the anticipated absence.
 - iii. Unexpected absences should be communicated to the instructor before the next class meeting or as soon as possible afterwards with an explanation as to why the notice could not be sent before the next class meeting.
- b. Documentation
 - i. Documentation to support requests for excused absences may include but is not limited to the following:
 - Written confirmation from the student's medical provider if medical professionals are involved in the care of the student. Confirmation should include the date and time of the medical assessment and the date at which the student may return to classes. Students cannot be required to provide detailed medical information.
 - Written confirmation from the medical provider involved in the care of the student's close family member or dependent if medical professionals are involved in the care of the family member or dependent. Students cannot be required to provide detailed medical information.



- Death notice, obituary, or death certificate for a student's immediate family member.
 - Copy of appropriate legal documentation related to legal activities that may be redacted for privacy
 - Confirmation of mandatory athletic participation from an appropriate UH Athletics administrator.
 - Confirmation of mandatory interviews from employers or appropriate officials at institutions of higher education.
 - Conference program including documentation confirming that the student will be a presenter of scholarly work.
 - Confirmation of participation in a University-sponsored activity from an appropriate administrator.
 - A number of reasons for absence are not documentable, and instructors are encouraged to use their best judgment in evaluating student requests.
- ii. Providing false information or documentation is unacceptable and may be considered as prohibited conduct under the Student Code of Conduct or an act of academic dishonesty under the Academic Honesty Policy.
- c. Verification and Decision
 - i. An instructor may verify a student's absence documentation or defer verification and decision, including cases when documentation is not available, to the college dean or dean's designee.
 - ii. The instructor, dean, or dean's designee must provide the student with a decision regarding whether the excused absence is approved within three business days of receiving the student's request. Decisions must be made irrespective of the grade the student is currently earning in the class.
 - d. Appeal
 - i. A student may appeal an instructor's decision regarding an excused absence request within 3 business days of receiving the decision. The appeal should be submitted in writing (email is acceptable) to the college dean or dean's designee who must provide a decision to the student within 3 business days of receiving the appeal. Unexcused absences cannot be appealed. Instructors are encouraged to use their best judgment in evaluating unexcused and no-fault student requests.
 - ii. A student may appeal the decision of a dean or dean's designee within 3 business days of receiving the decision. The appeal should be submitted in writing (email is acceptable) to the Vice Provost and Dean of the Graduate School (gradschool@uh.edu) who must provide a decision to the student within 3 business days of receiving the appeal.
 - iii. The decision of the Office of the Provost is final and further appeal is not permitted.
3. MAKE UP WORK
If a student's absence is excused, the instructor must either provide the student an opportunity to make up any quiz, exam, or other work that contributes to the course grade, or provide a satisfactory alternative by a date agreed upon by the student and instructor.
 4. EXTENDED ABSENCES
Extended Absence Alternatives - Students with excessive or extended absences are encouraged to consult their instructor to seek potential alternative options provided in other policies including Dropping Courses, Withdrawals, and temporary grades of Incomplete. Through the last day to drop a course with a grade of W, an instructor may also drop students for excessive absences.
 5. OTHER EXCUSED ABSENCES
Additional policies address excused absences for reasons that are not covered in this policy including the following:
 - a. Military Service: Excused Absence for Military Service Policy
 - b. Religious Holy Days: Religious Holy Days
 - c. Pregnancy and Related Conditions: University of Houston System Anti-Discrimination Policy
 - d. Disability: University of Houston System Student Academic Adjustments/Auxiliary



Grading Policies

Grade Assignment

Grades are awarded in courses in which students are officially enrolled after the last day to drop or withdraw from a course without receiving a grade. This date is indicated in the Academic Calendar for each enrollment period.

Grade points are assigned as follows: four for each semester hour of A, three for B, two for C, one for D, and zero for F. Plus or minus grades may be assigned at the discretion of the instructor with corresponding grade points as follows:

A	4.00	B-	2.67	D+	1.33
A-	3.67	C+	2.33	D	1.00
B+	3.33	C	2.00	D-	0.67
B	3.00	C-	1.67	F	0.00

In computing the grade point average, decimals beyond two places are truncated, not rounded. For example, a term with 3 hours of grade A and 3 hours of grade B- will display a GPA of 3.335 in the student center. But the GPA is truncated to 3.33 for scholastic requirements (see below).

Grade Explanations

1. Passing grades for which semester hours of credit are awarded are A, A-, B+, B, B-, C+, C, C-, and S. (Professional students in the colleges of Law, Optometry, and Pharmacy students should refer to those sections of the catalog for relevant grading policy variations.)
2. Although grades of D+ and lower are included in the computed grade point average, the university awards no credit toward the degree for courses in which the student receives a grade below C-. If such courses are required for the degree, the student will be required to take the courses again.
3. Certain graduate courses, as specified annually by the department, may be graded as S (satisfactory), U (unsatisfactory), or I (incomplete). In the catalog, these courses are referred to as S-U graded courses. Such grades will not be included in computing a grade point average as grades of S, U, I, and W are not assigned grade point values.
4. The temporary grade of I (incomplete) is a conditional and temporary grade assigned when students for non-academic reasons beyond their control have not completed a relatively small part of all requirements for a course. The student must:
 - a. be currently passing the course or have a reasonable chance of passing the course, in the judgment of the instructor;
 - b. contact the instructor immediately regarding the reasons that prevent the student from completing the course, final assignment and/or final examination, and initiate the request for an I grade as soon as possible, preferentially before the end of the term. However, students have 90 days from the posting of the course grade to request an I grade;
 - c. not re-enroll for the courses in which their grade is currently recorded as an I. Even when the conditions for fulfilling the course requirements include participation in all or part of the same course in another semester, the student must not re-enroll for the course;
 - d. make arrangements with the instructor to complete the course requirements, if assigned;
 - e. understand that the only way to have an I grade changed to a passing grade is to fulfill course requirements in accordance with the conditions specified by the instructor;
 - f. understand that the grade of I (incomplete) must be changed by fulfillment of course requirements within 12 months of the end of the term or session in which the I grade was received, or it will be converted automatically to an F or U (in S-U graded courses); and



- g. understand that the grade of I may be changed only to another letter grade. If the student does not complete the course requirements in the time allotted (see point f. above) the I grade will convert to an F grade and will be noted as a lapsed incomplete on the student's transcript. An I grade, once lapsed to an F grade or changed to another letter grade, may not be changed back to an I grade or to a grade of W.

After the course work is completed by the student, the instructor will submit an electronic grade change form to change the I grade to the grade earned. Incomplete grades must be resolved before graduation. In the case of a student enrolled in the graduating semester, a grade of I which has not been changed by the date of graduation will have the effect of an F or U.

5. The grade of W is assigned to a course only after the last day to drop or withdraw without receiving a grade by the official census date (see Academic Calendar), and no later than the final day to drop or withdraw. Students are responsible for initiating action to drop or withdraw from classes. See the Dropping Courses section for further details. Students who fail to do so will be retained on the class rolls even though they may be absent for the remainder of the semester. In such instances, a grade of F (or U in S-U graded courses) will be awarded unless the conditions for a grade of I have been met.

Cumulative Grade Point Average

The cumulative grade point average and the Low-Grade Policy are based upon all of the student's work taken as a graduate student at the University of Houston, including repeated courses and undergraduate courses, for which grade point values are assigned.

Grade Changes

Questions or disagreements regarding course grades must be resolved in a timely manner. If warranted, with the exception of thesis/dissertation coursework, any change to a final grade must occur before the official closing date of session 1 of the academic term immediately following the posting of an S/U or letter grade. With the exceptions of resolving grades of Incomplete (see above) and thesis/dissertation grades (see Thesis/Dissertation), grade changes are approved only for the correction of errors in computing the posted grade. Students may not submit additional work after the end of the term for the purposes of changing a grade, unless resolving a grade of Incomplete (I) within the standard one-year time frame for incomplete grade resolution. Thesis and dissertation S/U grades may be changed to letter grades in accordance with the policy found here: Thesis/Dissertation.

Final Grade Reports

Instructors submit final grades through myUH. Students may view and/or print grades by logging into their myUH account at <https://accessUH.uh.edu>. Grades which are not reported by the faculty grading deadline are shown as NR on the transcript until a final grade is entered. NR grades will lapse to an F or U grade (as appropriate) 90 days after the closing date of term.

Scholastic Requirements and GPA Warning

Graduate students cannot graduate with a less than 3.00 cumulative grade point average (GPA) calculated as described above. Students whose cumulative GPA is below 3.00 will be classified as on GPA Warning. Students on GPA Warning are not eligible for graduation. When a GPA Warning student raises their cumulative GPA to 3.00 or above, they will return to Good Academic Standing. Failure to maintain a 3.00 GPA may also result in academic probation, suspension, loss of financial support, or dismissal, according to college/departmental policy. Students should review and be familiar with degree requirements and academic policies of their academic unit.

Low Grade Policy



A graduate student who receives a grade of C+ or lower and/or a grade of U in 12 semester hours of credit attempted at this institution, whether or not in repeated courses or undergrad courses, is ineligible for any graduate degree at this institution and will not be permitted to re-enroll for graduate study. The Termination of Enrollment section specifies other regulations.

Conditional Admission

In order to be admitted unconditionally, students with a conditional admission status must earn a minimum GPA of 3.00 during the first 12 hours of graduate-level course work attempted at the University of Houston, otherwise, they are dismissed from their degree program.

(Also see information on Transfer Credit)



Graduate Certificate Policies

Unless otherwise clarified below, all policies pertaining to the admission, registration, finances, grading, and academic progress of students pursuing master's or doctoral degree shall be the same for students applying to or pursuing a graduate certificate program at the University of Houston.

Graduate Certificate Admission

Applicants for admission to a graduate certificate program must meet the same admissions standards and requirements as other applicants for graduate study, with the exception of officially reported standardized exam scores (e.g., GRE, GMAT), unless otherwise stated in the admission policies for that certificate.

See the General Admission Policy for full details and the certificate program page for any additional requirements.

Scholastic Requirements

Graduate certificate students cannot be awarded a certificate if they have less than a 3.00 cumulative grade point average (GPA) on their certificate coursework. If a graduate certificate student is also a degree-seeking student, the GPA earned on the certificate courses shall be considered separate. Failure to maintain a cumulative 3.00 GPA may also result in academic probation, suspension, or dismissal according to college/departmental policy. Student should review and be familiar with degree requirements and academic policies of their academic unit.

Low Grade Policy

A graduate certificate student who receives a grade of C+ or lower and/or a grade of U in 12 semester hours of credit attempted at this institution, whether or not in repeated courses, will be dismissed from the certificate program and shall be ineligible to re-enroll for pursuit of that graduate certificate. The Termination of Enrollment section specifies other regulations.

Transfer Credit

Graduate students admitted to a graduate certificate program are not permitted to transfer credit toward their certificate.

Credit earned while in pursuit of a graduate certificate may be applied toward the completion of a future or concurrent graduate degree if approved by college faculty and eligible under the degree time limitation policy.

Certification and Certification Application (Application to Graduate)

The online Apply-to-Graduate process used by the University of Houston for the awarding of degrees also serves as the application for certification process for graduate certificates. Graduate Certificate recipients do not participate in graduation/commencement exercises.

Certificates are not awarded automatically upon completion of all scholastic requirements. To be considered as a candidate for a certificate:

- The student who expects to be certified in a given term must be enrolled for that term.
- An official transcript showing that a prior bachelor's degree, or its equivalent, has been conferred must be on file prior to enrollment at the university.
- The student must submit an application for certification by logging in to myUH and completing the Apply to Graduate module.

Applications should be filed during the publicized graduation filing period as listed in the Academic Calendar. A non-refundable application fee will be assessed for each certificate application filed during the regular graduation filing period. There will be an additional non-refundable application fee assessed for each graduation application filed during the late graduation application period.



Candidates for certification who have missed the final deadline for late filing of application must petition with their college. If such request is approved by the college, students will be assessed the non-refundable late application fee.

A student, who has been disapproved for their certificate, must submit a new application in a future term that they expect to meet the requirements to be considered for certificate completion. Each subsequent application submitted will be assessed the appropriate application fee according to the filing period during which the application is submitted.

Certification of certificate completion is performed by the dean's office of the student's college and a decision of approved or disapproved is rendered within 3 weeks after the close of the term. Certificates are typically mailed within 1-2 weeks from the time the approvals for graduation are processed.



Graduation

Graduation and Graduation Application

The application for graduation should not be confused with the application for candidacy.

Degrees are not awarded automatically upon completion of all scholastic requirements. To be considered a candidate for a degree:

- The student who expects to graduate in a given term must be enrolled for that term. This regulation applies to students who have not submitted a thesis or dissertation by the deadline of the previous term.
- An official transcript showing that a prior bachelor's degree, or its equivalent, has been conferred must be on file prior to graduation from UH with a graduate degree.
- The student must submit an application for graduation by logging in to *myUH*.

Applications should be filed during the graduation filing period as listed in the Academic Calendar. Effective with the Fall 2009 graduation application, a non-refundable application fee will be assessed for each graduation application filed during the regular graduation filing period. There will be a non-refundable graduation application fee assessed for each graduation application filed during the **late** graduation application period.

Candidates for graduation who have missed the final deadline for late filing of application must petition with their college. If such request is approved by the college, students will be assessed the non-refundable graduation application fee.

A student, who has been disapproved for their degree, must submit a new graduation application in a future term that they expect to meet the requirements to be considered a candidate for the degree. Each subsequent graduation application submitted will be assessed the appropriate graduation application fee according to the filing period during which the application is submitted.

Certification for graduation is performed by the dean's office in the college of the student's major and a decision of approved or disapproved is rendered within 4-6 weeks after the close of the term. Diplomas are typically mailed within 1-2 weeks from the time the approved certifications for graduation are processed.

Regalia

Students are responsible for ordering and paying for graduation regalia at the University Bookstore for all commencement exercises.

Graduation Under a Particular Catalog

A student normally is entitled to graduate under the degree provisions of the catalog in effect at the time of the first completed term of enrollment. The following exceptions apply:

1. A catalog more than seven years old will not be used.
2. The program of the student who interrupts enrollment (for reasons other than involuntary military service) for more than 13 months will be governed by the catalog in effect at the time the student re-enters the university. For these purposes, enrollment shall be defined as registration for and successful completion of at least one course during an academic term. A student forced to withdraw for adequate cause before completing a course may petition for a waiver of this provision at the time of withdrawal.
3. The program of the student who changes a major from one college to another within the university will be governed by the degree requirements in effect at the time the change of major becomes effective.
4. With the exception of programs for which another termination date has been specified, no degree will be granted for a graduate program not completed within five years after it has been deleted from the catalog.
5. Students may choose to meet the degree provisions of a catalog published later than that which is in effect at the time of the first completed term of enrollment. The University of Houston reserves the right to change the provisions of this catalog, including, but not limited to, degree requirements, course offerings, fees, and listings in the calendar as necessitated by university or legislative action.
6. Students must meet requirements specified in the section on Time Limitations on completion of degree requirements.



Grievance Policy

Grievance Policy and Procedure for Graduate, Professional Students

To ensure that students understand how to pursue a grievance at the University of Houston, students are encouraged to seek clarification regarding procedures and information for individual grievance policies through their respective college before initiating a grievance. Please refer to the college Web site grievance policy links below. If your respective college does not have an additional link, refer to the university policy below.

Hines College of Architecture and Design

College of the Arts

Bauer College of Business

College of Education

Cullen College of Engineering

Grievance Policy: Conrad N. Hilton College of Hotel and Restaurant Management

University of Houston Law Center

College of Liberal Arts and Social Sciences

College of Natural Sciences & Mathematics

College of Nursing

College of Optometry

College of Pharmacy (Professional Program)

College of Pharmacy (Graduate Programs)

Graduate College of Social Work

College of Technology

The following university-wide policy and procedure, for graduate, professional students, apply to the redress of grievances concerning academic and instructional matters and other issues for which there are no other existing grievance procedures.

1. Every effort shall be made by the graduate/professional student and the members involved to settle their differences amicably and informally to redress grievance. If appropriate or necessary, the department chair shall participate in this informal effort to resolve the grievance. **Students in colleges and schools where graduate programs are not administered by a department shall have an alternative person (i.e. Associate Dean, program director or an appropriate designee) to resolve the grievance.**
2. In the event that an informal resolution is not possible, the graduate/professional student may petition the department chair or the alternative (Associate Dean, program director or an appropriate designee) by filing a formal written complaint within 10 working days after the decision is mutually made that the grievance cannot be settled informally. The letter should provide details regarding the complaint and redress sought. After receipt of the letter, the department chair or alternative must respond in writing within the time specified according to the department's or program's established procedures for dealing with such matters.
3. In the event that either the grievant or the respondent is unsatisfied with the outcome of the departmental level process or alternative (items 1 and 2 above), that party may petition the dean of the college against which the grievance is held or the dean's designee by filing a formal written petition. The dean of the college must respond in writing within the specified time according to the college's established procedures for dealing with such matters. The dean's response must include an explanation for his/her decision.



4. If either the grievant or the respondent is unsatisfied with the outcome of the college level process, that party may file an appeal seeking university level review which is under the purview of the Vice Provost/Dean of The Graduate School. This appeal must be in writing explaining the party's position, and filed with the Graduate School within 30 calendar days of the final disposition at the college level. The appeal may designate as respondents any of the following persons: (i) the college dean or designee who issued the decision at the college level; (ii) the departmental chair who issued the department's decision or the alternative; and (iii) the original faculty member or committee members giving rise to the grievance. In the absence of a designation, only the faculty member or committee members will be respondents. The appeal must include a concise statement of the outcome desired by the appellant.

Review at the university appeal level shall be for the purpose of determining:

- i. Whether the appealing party was given a reasonable opportunity to be heard at the departmental and college levels and
- ii. whether the college's decision was reasonably reached. Procedural violations which would not affect the substantive result or are not substantially prejudicial to either party are not grounds for appeal.

Upon receiving a written appeal, the Vice Provost/Dean of the Graduate School will review the reports from the department and college grievance processes and will, within 10 working days, determine whether to:

- a. return the grievance to the department or college for reconsideration,
- b. reject the appeal, or
- c. refer the appeal to a committee for review.

If the dean decides to refer the appeal to a committee, the dean will notify the chairperson of the Graduate and Professional Studies Committee (GPSC) of the Faculty Senate, who will appoint a Graduate/Professional Student Grievance Committee (GPSGC) within 10 working days of receiving such notification.

The GPSGC will review the appeal file and may also request other documents as it sees fit. Within 30 calendar days of being formed, the GPSGC should schedule an appeal hearing with the interested parties. This deadline may be extended at the GPSGC's discretion upon written request of a party or upon stipulation of all parties. No record of the hearing will be required and the deliberations will be completed with reasonable speed. If a recording is made (at the discretion of the committee), it should be made available to all parties. Counsel for each of the parties involved may be present with that person, but will not be allowed to speak at the hearing. Expert resources should be available to the committee in an advisory capacity as needed.

The GPSGC will report its recommendations in writing to the Vice Provost/Dean of the Graduate School within 10 working days of the hearing. The Vice Provost/Dean will make a final decision within 10 working days following their receipt. The Vice Provost/Dean of the Graduate School will forward a copy & this decision in writing to the parties, to the dean of the college in the event he/she is not a party, and to the GPSGC.

Any party may file, within 10 working days of notification, a written appeal of the decision to the Senior Vice President for Academic Affairs and Provost. The Provost may conduct a plenary review. The Provost's decision, presented within 30 working days, will be final.

5. A graduate or professional student with a pending grievance regarding academic issues, if employed in a graduate student appointment, will retain privileges and salary, subject to a review of the individual situation by the department or college.

*In cases where the college does not have departments, the college level grievance policy and procedure replaces that of the department or program.

Guidelines for GPSGC Formation & Grievance Hearings

A GPSGC will consist of two graduate/professional students and three faculty members, none of whom will be from any respondent's department or program or from the department or program in which the grievant is enrolled. The faculty members will be appointed by the chair of GPSC on an ad hoc basis. The chair of GPSC will also select the student members from a pool of graduate students provided by each of the colleges. The chair of the committee will be elected by the committee members. All members of the committee will have voting privileges.

1. The GPSGC may set time limits for each party to present its position.
2. The GPSGC may request a representative from the university's General Counsel's office to attend as an observer.
3. Notification of the hearing schedule to all parties must be done in writing. The hearing schedule may be revised by the chairperson in her discretion, upon motion of a party or on the committee's own motion.



4. Any information provided to the GPSGC by a party will be provided by that party to all other parties prior to or simultaneously with providing it to the GPSGC.



Intellectual Property

Intellectual Property Policy

Definitions, processes, and protections regarding ownership of intellectual property conceived of or developed at the University of Houston is subject to the UHS Board of Regents policy 21.08 on Intellectual Property. [Read the full policy here.](#)



Religious Holy Days

The University of Houston respects the religious observances of students even though they may conflict with university class meetings, assignments, or examinations.

The University of Houston excuses a student from classes or other required activities, including examinations, for the observance of a religious holy day, including travel for that purpose.

A student whose absence is excused under this policy shall be treated consistently with the instructor's policies and procedures relating to other excused absences, except that no instructor's policy may deny the opportunity for make-up work and examinations, as described below.

Students are encouraged to inform instructors about upcoming religious holy days early in the term to enable better planning and coordination of work assignments (and examinations).

Instructors are encouraged to announce reasonable time periods for make-up work (and exams) in the course syllabus and to make clear the consequences of a student's failure to meet such time requirements.

If a student and an instructor disagree about whether the absence is for the observance of a religious holy day, or if they disagree about whether the student has been given a reasonable time to complete any missed assignments or examinations, either the student or the instructor may appeal to The Graduate School. All parties must abide by the decision of that office.

Eligible religions are those whose places of worship are exempt from property taxation. For further information about state law, please see the Texas Higher Education Coordinating Board Texas Administrative Code §4.4 Student Absences on Religious Holy Days; or contact the Office of Undergraduate Academic Affairs, the Dean of Students, and/or the A.D. Bruce Religion Center to review the policy.



Student Records

Note: Most requests or change of information forms are available at department Web sites (e.g., Office of the University Registrar). Go to www.uh.edu/our for further information.

Change of Address

Students can update and review their address online through their myUH account at <https://my.uh.edu>.

Students will not be excused from penalties on the grounds that communications mailed from the University of Houston were not received if they have failed to report a new address. Students may update and review their address online through their myUH account at <https://my.uh.edu>.

- The University of Houston recognizes e-mail as an official medium for communication to its students. While U.S. Postal Service mail may also be used in some instances, fee bills, account statements and other critical documents will be delivered to currently enrolled students via e-mail correspondence only.
- Each student is assigned an e-mail alias at the time of admission.
- It is the responsibility of the student to ensure the UH e-mail alias points to a working e-mail address at all times. Students may update their e-mail address information by logging on to their myUH account at <https://my.uh.edu>.
- Any student may request an e-mail account from the University of Houston, to which the assigned alias may be pointed. Aliases may also be pointed to accounts outside the University. If a student chooses to have the alias point to a nonuniversity account, the university cannot be responsible for the service.
- Enrolled students who do not have the capability to access e-mail off campus will be able to access it on campus in locations such as the library, college service centers, campus kiosks, etc.
- It is the student's responsibility to read e-mail correspondence frequently and consistently. The University recommends students read e-mails at least once a day.
- Faculty may require the use of e-mail for completion of course work.
- E-mail aliases are classified as directory information and may be listed in University of Houston directories unless students have set FERPA/Directory restrictions in their myUH account or they have a valid Request to Withhold or Release Public Information form on file in the Office of the University Registrar. Distribution of e-mail addresses both within the University and outside the University will follow the same guidelines that apply to other directory information.
- Official university communications sent by e-mail are subject to the same privacy and records retention requirements and policies as other official university communications.
- Responsibility for implementation and administration of this policy rests with the Senior Vice President for Academic Affairs.

Change of Name

University records of a name are based upon applications for admission. Subsequent name changes, along with copies of documentation, should be promptly reported to the Office of the University Registrar, 128 Welcome Center.

Confidentiality

Student Records: Family Educational Rights and Privacy Act Notice of Student's Rights

The Family Educational Rights and Privacy Act (FERPA) affords students certain rights with respect to their education records. These rights are as follows:

1. Students have the right to inspect and review their education records within 45 days of the day the University receives the request.



2. Students have the right to request amendment of their education records that they believe are inaccurate or misleading. If the University denies a student requested amendment, the student has the right to a hearing regarding the requested amendment to his/her education record.
3. Students have the right to consent to disclosures of personally identifiable information in their education records, except to the extent that FERPA authorizes disclosure without consent.
4. Students have the right to file a complaint with the U.S. Department of Education concerning alleged failures by the University to comply with the requirements of FERPA. Such complaints may be sent to:

Family Compliance Office
U.S. Department of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202- 4605

Directory Information

At its discretion the University of Houston may provide "directory information" to the general public without student consent. "Directory information" is defined by FERPA as follows:

- Name
- Address
- University assigned E-mail address
- Telephone listing
- Major field of study
- Date and place of birth
- Dates of attendance
- Degrees, awards, and honors received
- Most recent previous education institution attended
- Classification
- Participation in officially recognized sports and activities
- Height/weight (athletes only)
- Enrollment status (undergraduate or graduate, full-time or part-time)

If a student does not want "directory information" regarding him or her to be released, the student must set FERPA/Directory restrictions in their myUH account or notify the Office of the University Registrar, 128 Welcome Center, Houston, TX 77204 in writing or by completing the Request to Withhold Public Information form, during the first week of class to ensure that information is not released by the university or published in the Student Directory. Students are responsible for requesting the release of their information once a request for withholding "directory information" has been placed on record.

Disclosure of Education Records

The University of Houston will not disclose information from a student's education records without the written consent of the student (PDF) except in the following instances in which FERPA authorizes disclosure without prior student consent:

1. To school officials who have a legitimate educational or administrative interest in the records. A school official is defined as a person employed by the University in an administrative, supervisory, academic, or support staff position (including the University's police department and health care staff); a person or company with whom the University has contracted (such as an attorney, auditor, or collection agent); a person serving on the Board of Regents; or a person assisting another school official in performing his or her official duties. A school official has a legitimate education interest if the official needs to review an education record in order to fulfill his or her professional responsibilities.
2. To other schools in which the student seeks to enroll.
3. To authorized representatives of the U.S. Secretary of Education, the U.S. Comptroller General, and state and local educational authorities, in connection with certain state or federally supported education programs; and the U.S. Attorney General for law enforcement purposes.



4. In connection with a student's request for or receipt of financial aid, as necessary to determine the eligibility, amount or conditions of the financial aid, or to enforce the terms and conditions of the aid.
5. To state and local officials or authorities in accordance with state law.
6. To organizations conducting studies for or on behalf of the University to develop, validate, or administer predictive tests; administer student aid programs; or improve instruction.
7. To accrediting organizations to carry out their functions.
8. To parents of "dependent" student as defined under the federal tax laws.
9. To comply with a judicial order or a lawfully issued subpoena.
10. To appropriate parties in connection with a health or safety emergency.
11. As it relates to "directory information" unless the student restricts "directory information".
12. To alleged victim of any crime of violence or non-forcible sex offense regarding the final results of any disciplinary proceeding conducted against the alleged perpetrator of that crime or offense with respect to that crime or offense, regardless of whether the student was found to have committed the violation.
13. To the public regarding the final results of any disciplinary proceeding in which the student was alleged to have committed a crime of violence or non-forcible sex offense and pursuant to the disciplinary proceeding the student was found to have violated a University disciplinary rule or policy.
14. To parents of a student who is under the age of 21 regarding the student's violation of federal, state, or local law, or any University rule or policy, governing the use or possession of alcohol or a controlled substance.
15. To the court where the student has initiated legal action against the University or the University has initiated legal action against the student.

Procedure to Inspect Education Records

A student has the right to inspect his or her educational records and to challenge the contents. To review records, a student must make a request in writing to the Custodian of those records. (See Custodians of Records below.) The written request must identify as precisely as possible the record or records he or she wishes to inspect.

Procedure to Amend Education Records

If a student believes the information in his or her education record contains information that is inaccurate, misleading, or in violation of the student's rights of privacy, the student should submit a written request for amendment to the appropriate custodian of the record (See the list of Custodians of Records below). The written request should clearly identify the part of the record the student wants changed and specify why it is inaccurate, misleading, or in violation of the student's rights of privacy. The University will notify the student within a reasonable time regarding whether or not the record will be amended. If the University denies the student's request for amendment of his or her record, the student has the right to a hearing regarding the requested amendment.

** Note: This procedure does not govern grade appeals.

Procedures for a Hearing Under FERPA

1. To request a hearing pursuant to the University's denial of a student's request to amend information in his or her education record that the student believes is inaccurate, misleading, or in violation of the student's rights of privacy the student should submit a written request for a hearing that clearly identifies the part of the record the student wants changed and specifying why it is inaccurate, misleading, or in violation of the student's rights of privacy to the custodian of the record that the student seeks to challenge.
2. The University will hold a hearing within a reasonable time after receiving the student's written request for a hearing.
3. The University will give the student notice of the date, time, and place of the hearing reasonably in advance of the hearing.
4. The hearing will be conducted by an individual who does not have a direct interest in the outcome of the hearing. The hearing official will be appointed by the vice president to whom the custodian of the records in question reports.
5. The student will be provided the opportunity to present evidence supporting his or her allegation that his or her education record contains information that is inaccurate, misleading, or in violation of the student's rights of privacy. The student may, at his or her own expense, be



assisted during the hearing by one individual, including legal counsel. The student must notify the hearing official no later than three (3) business days before the hearing that he or she will have legal counsel present at the hearing.

6. The custodian of the record in question and the author of that record (if appropriate) will also be provided an opportunity to respond to the student's allegations.
7. Upon hearing all of the evidence, the hearing official will render a written determination within a reasonable time after the hearing. The written determination will include a summary of the evidence and the reasons for the hearing official's determination.
8. Any information in the student's education record that is determined to be inaccurate, misleading, or a violation of the student's rights of privacy will be amended with the correct information and the student will be notified in writing of the change.
9. If it is determined that the student record is correct and does not merit amendment, the University will notify the student of his or her right to place a statement in the education record commenting on the information in the record, and/or presenting any reasons for disagreeing with the University's decision.
10. Any statement placed by the student in his or her education record shall remain a part of the record for as long as the record is maintained by the University.

Custodians of Records

- Office of the University Registrar
The Welcome Center
- Director of Scholarships and Financial Aid
The Welcome Center
- Director of Student Financial Services
The Welcome Center
- Director of the Student Health Center
100 Health Center
- Director of Learning and Assessment
210 Student Service Center
- Director of University Career Services
106 Student Service Center
- Dean of Students
252 Student Center
- Dean of the appropriate college



Ad Hoc Interdisciplinary Degree Option

Departments granting graduate degrees are authorized to modify their regularly established graduate course requirements in individual cases to permit a larger component of course work outside the department. In these instances, the dean of the college in which the sponsoring department is located must approve the design of the ad hoc interdisciplinary curriculum. The dean also approves the names of the faculty drawn from both the sponsoring department and supporting departments responsible for directing the student's progress through the curriculum and thesis/dissertation. A copy of the form indicating the dean's approval is forwarded to The Graduate School for final approval. Graduate-level students interested in this option should consult the director of graduate studies in the appropriate department about its availability.



Application for Candidacy

Graduate students must be approved for candidacy for a degree in accordance with the procedures approved by the individual college or department.

In general, master's students should file applications for admission to candidacy with the college office as soon as the following have been completed:

- at least 12 credit hours of graduate work at this institution
- the department's qualifying examination, if required
- all special requirements of the college and the department of the student's major.

After the college office has verified completion of these requirements, the student will be sent a formal notice of admission to candidacy for the degree.

Doctoral students should file for candidacy after completing the department's comprehensive qualifying or proposal examination. Doctoral candidates must file for candidacy at least one term prior to graduation (e.g., in the summer for fall graduates).

Candidacy application forms for graduate students are available in the college offices. Not all colleges or departments have a formal candidacy procedure. Students should check with the office of the dean of their college or their departmental advisor to determine their requirements.



Continuous Enrollment

In general, graduate students are expected to be enrolled in consecutive long terms (i.e., Fall and Spring terms) until the degree program is completed and the degree is awarded.

A graduate student who is not enrolled should not expect to be able to use the facilities of the University of Houston campus. Students who cannot enroll in a given term must apply to their college for a leave of absence in order to remain in good standing. Students should contact the office of the dean for individual college regulations on enrollment. A student who does not return to enrolled status at the end of an approved period of leave is no longer considered to be pursuing an advanced degree.

A student who leaves the university without obtaining a formal leave of absence from graduate study is not automatically readmitted. The recommendation of the department and the approval of the college dean, based on the academic merits of the student's request, are required. If readmitted, the student will be subject to all of the current requirements for the degree in effect at the time of readmission.

Doctoral students who have begun their graduate research must be continuously enrolled in each long term unless they have an approved leave of absence. A doctoral student not on campus, and who is not using university resources, may be permitted by the Dean of the College and the Dean of the Graduate School to carry a reduced course load.

Leaves of Absence

Any doctoral or professional students who cannot enroll in a given term must apply for a leave of absence using a Graduate and Professional Student Petition to remain in good standing.

Leaves of absence may only be granted by the college dean for exceptional circumstances such as educational opportunities which will not require the use of university resources, personal problems which temporarily interfere with the student's ability to continue in the program, or other such circumstances as the dean determines are extenuating.

Leaves of absence shall be granted for specific periods of time, e.g. one term, one year, etc. and may contain requirements for readmission into the program. A student who requests an extension of a current leave of absence shall have that request considered as a new request.



Course Load Policy

The graduate course load requirements and regulations apply to all graduate students with the exception of those students specified under special course load requirements shown below. Graduate student assistants should also consult the section entitled Graduate Student Assistantships.

Full-time enrollment is defined as:

- Fall Semester - 9 Credit Hours Minimum
- Spring Semester - 9 Credit Hours Minimum
- Summer Semester - 6 Credit Hours Minimum

A full-time graduate student is a student who has full time enrollment in consecutive Fall and Spring semesters.

Nine semester hours is considered a full-time course load for doctoral students enrolled during any Fall or Spring semester, unless they are required to enroll for more than nine hours under the Special Course Load Requirements (see below).

Students on fellowships or assistantships, or receiving financial aid, should verify the conditions of their awards with respect to required enrollment.

Students failing to meet the full-time enrollment requirements may forfeit financial assistance and other privileges.

Special Course Load Requirements

Students shall be required to enroll in more than nine hours if they are in the following categories:

- a. Professional students;
- b. Doctoral students enrolled in programs with core curricula requiring 12 hours of organized classes during long semesters;
- c. Doctoral students enrolled in nine credit hours of organized classes who are conducting research related to their dissertation. These students may be required to enroll in up to three hours of research or dissertation for a total of 12 credit hours during each Fall and Spring term.

Graduate Students in their Last Semester of Enrollment

Students who are in their final graduating semester, and need fewer than nine (9) credit hours to complete their degree program, may hold an assistantship during that semester upon the approval of the dean of the college or their designee. These students must meet any minimum enrollment requirements in the Graduate Catalog. International students must complete a Reduced Course Load request prior to any such approval. Students who fail to complete their degree requirements in that graduating semester will be required to take nine (9) credit hours in the subsequent Fall and Spring semesters in order to hold an assistantship.

Reduced Course Load

1. There are certain situations where F-1 nonimmigrant graduate or professional students may request approval for a reduced course load. These situations are defined by federal laws and regulations and are consistent with the Graduate Catalog.
2. When unusual circumstances exist, the dean of the college may, upon recommendation of the department chair, certify full-time equivalency for a master's student taking fewer than nine semester hours, or a doctoral student taking fewer than nine semester hours, in a Fall or Spring semester. This certification will require notification to the UH Graduate School.
3. Requests for a reduction in course load or medical leave requires prior approval. The International Student and Scholar Services Office (ISSSO) cannot authorize a student for reduced course load or medical withdrawal retroactively. Students who complete a reduced course load without a prior authorization from ISSSO will have to apply to the Department of Homeland Security (DHS) through ISSSO for reinstatement.



4. A doctoral student not on campus, and who is not using university resources, may be permitted by the Dean of the College and the Dean of the UH Graduate School, under certain circumstances, to enroll in as few as one credit hour.

Maximum Course Load

Each college will determine the maximum course load for a graduate and/or professional student in that college.



Dual-Degrees, Double Majors, and Minors

Dual Degrees

Several colleges have approved dual-degree programs and accelerated pathway programs. Students interested in these opportunities should talk with their departmental graduate advisors to learn more about such options. Each dual degree program has specific admissions procedures and provides a pathway to pursue both degrees.

Minors

While many graduate and professional programs provide students the opportunity to have a minor field of study or specialization within the degree program, the University of Houston does not universally require completion of a minor. Individual degree programs may also encourage completion of course work outside the department. Doctoral students should read the section entitled Ad Hoc Interdisciplinary Degree Option for other options.

Double Majors

In general, double majors (concurrent degrees) are not permitted for graduate students, unless they are admitted into an approved dual degree program. Students also may be approved to pursue a second concurrent degree within their existing academic field with permission of the Associate Dean for Graduate Studies and the Dean of the college. A current student who wishes to pursue a concurrent degree in a different college may file a petition to request the approval of the Graduate School to do so. Such a petition should include:

- an academic petition showing the support of the student's current faculty advisor and Associate Dean for Graduate Studies
- a letter offering admission from the secondary college
- a written degree plan showing the combined course of study for both degrees which has been approved by the academic advisors of both programs, and
- a statement of understanding, signed by the student and representatives of both colleges, addressing the student's funding considerations (assistantships, fellowships, scholarships, etc.).

The approval of this petition by the Graduate School is required before the student begins taking coursework toward the secondary degree.



Foreign Language Requirement

There is no uniform foreign language requirement for graduate degree programs. This requirement is determined by the appropriate college or department. Further information may be obtained from the respective colleges and departments.



Residency Requirement

In a graduate program that requires a thesis, at least 21 semester hours of credit is required for the master's degree and must be earned in residence at the University of Houston. For programs of 36 semester hours, at least 27 semester hours must be earned in residence.

Doctoral programs set their own minimum residence requirements in consultation with department/college policy. In traditional programs, residency is satisfied over a period of 2-3 consecutive terms of fulltime study. Programs are required to maintain records documenting the means by which individual students met the program's minimum residency requirements. A variety of experiences can be used to help a doctoral student meet residency requirements, including

1. Significant, sustained, and regular interaction between program faculty and the student
2. Completion of academic courses that serve as the core foundation of the student's degree program
3. Exploration and engagement of educational resources related to the degree program and associated fields of study
4. Broadening the student's educational and cultural perspectives within the field of study
5. In depth faculty evaluation and mentoring of the student

(Also see information on Transfer Credit.)



Termination of Enrollment

A satisfactory rate of progress toward the degree is required throughout a student's enrollment. A department may terminate enrollment at any time if the rate of progress is not satisfactory. A student whose enrollment is terminated will be notified, with an explanation, in writing by the chair of the department of the major. Copies of this notice and explanation will be sent to the dean of the student's college.



Thesis/Dissertation

Continuous Registration

Students who have achieved candidacy and are working on a thesis or dissertation are expected to comply with the enrollment requirements as set forth in the sections entitled Course Load and Continuous Enrollment. Advice or assistance from a member of the faculty in the preparation of the thesis or dissertation should not be expected unless the student is officially enrolled.

Students are required to be continuously enrolled (i.e., each Fall and Spring semester), including the semester in which the thesis or dissertation is submitted to, and accepted by, the university. Failure to enroll in thesis/dissertation courses may delay graduation and may result in the loss of financial assistance and other privileges. A student not enrolled in a Fall or Spring term is not eligible for a teaching or research assistantship during that term. The student should consult the individual college requirements regarding summer registration for thesis or dissertation credit hours.

Students may enroll in absentia for thesis/dissertation courses if arrangements are made through the department of their major at least two weeks before the registration period. Registration for all other students must be completed in the prescribed manner during the announced registration period. The thesis or dissertation course is considered part of a student's current course load.

Grading

A student enrolled in a thesis/dissertation course should receive a grade of S/U each semester until the semester in which the thesis/dissertation is defended and finalized. Upon completion of the thesis/dissertation, the student is awarded a letter grade commensurate with performance in that course. A final grade of B or better is required on the completed thesis/dissertation in order for the student to graduate. Colleges will ensure that the thesis or dissertation has been submitted and approved, and a letter grade of B or better assigned to the thesis/dissertation course, prior to certifying the student's graduation.

This letter grade may be applied to thesis/dissertation course hours up to a maximum of 12 cumulative total letter-graded credit hours of Dissertation coursework for a Doctoral degree and a maximum of 6 cumulative total letter-graded credit hours of Master's Thesis coursework for a Master's degree. Once students are enrolled in thesis/dissertation courses, they must continuously enroll in them until a degree is conferred. (Also see section on the 99-Hour Doctoral Cap.)

Preparation of Document

The University of Houston uses an electronic thesis/dissertation submission process for submission of the final, official version of the document to the university. Please check with your specific department or college for details regarding the steps for submitting a thesis or dissertation to your college and the university.

Approval of Document Proposal

Students must receive approval of their thesis or dissertation proposal from their thesis or dissertation committee. In some departments, students may not begin research prior to admission to candidacy without the approval of an advisor. The committee is approved by the dean of the college upon the advice of the appropriate department chair or in accordance with college policies. Students must check with their departments or programs for deadlines regarding the submission of the thesis or dissertation proposal.

The thesis or dissertation must present evidence of a mastery of the literature in an area of study, a significant contribution to knowledge, and the ability to conduct independent research.

Every thesis, dissertation or other research project involving the use of Human subjects must be approved by the Committee for the Protection of Human Subjects before research is started. Students should consult their faculty advisors for information. For additional information or an application form, contact the Office of Research Policies, Compliance and Committees, 316 Ezekiel W. Cullen Building, (713) 743-9104.



Suggested Form

As a general rule, the format and style of presentation should conform to the most acceptable standards of scientific and scholarly writing in the discipline. For instances in which this general rule is an inadequate guide, reference should be made to a style manual approved by the college or department.

Before preparing the thesis or dissertation, the student should obtain a copy of the guide for the preparation and submission of theses and dissertations from the appropriate college office.

Approval of the Final Draft

The final draft of the thesis or dissertation must be completed and submitted to the advisory committee as early as stipulated by the committee, but no later than the deadlines specified by the college. After students have received approval of the final draft from their advisory committee, they must submit it to the college for approval no later than the deadline specified by the college.

Electronic Submission

Once they have received approval from the college, students must submit the college-approved thesis or dissertation electronically for archiving by the University. Students will submit the work and faculty will approve it using Vireo, following the instructions found at the following link: <http://www.uh.edu/graduate-school/thesis/>. Students must submit their documents in Portable Document Format (PDF) per the guidelines on the web site, following all program, department, and/or college-specific requirements. Students may have hard copies of their theses or dissertations bound for personal use, and they should check whether their specific program, department, college, or library requires a bound copy as well.

After your thesis/dissertation has been approved by your advisor and college in Vireo, your document's content is considered finalized and you are not allowed to make any changes.

Deadline for Completed Submission

All student, department, and college approval processes for submission of thesis or dissertation-including college approval of defended thesis or dissertation, assignment of final grade(s) for thesis or dissertation courses by the faculty advisor, and all components of electronic submission to the university for archiving-must be completed no later than the final grading deadline for faculty for session 1 (regular academic session) of the academic term, as published in the graduate Academic Calendar.

Early Submission

If a student meets all of the requirements described above for completed submission of thesis or dissertation prior to the last day to add a class in session 1 (regular academic session) of the academic term, they are eligible to request via petition to have their minimum required enrollment reduced to one credit hour. Such petitions are approved at the discretion of the Associate Dean for graduate studies of the respective college and filed with the Graduate School. Such petitions must be submitted to and approved by the Associate Dean for graduate studies no later than the last day to add classes in session 1 (regular academic session) of the academic term, as published in the graduate Academic Calendar. Students who meet this early submission deadline and do not submit a petition to request a reduced minimum required enrollment by the last day to add a class in session 1 (regular academic session) for the academic term are required to remain in the required three credit hours of enrollment.

Previous Publication of Materials

Students who have previously published portions of their electronic thesis or dissertation in professional journals or in books must demonstrate who ultimately retains the copyright to the published works before material can be made publicly available in UH Libraries' Vireo repository. It is the



student's responsibility to determine copyright ownership; he/she should consult the contracts signed between the corresponding author and the publisher to determine the copyright holder.

Future Publication of Materials

It is recommended that any future publication (article or book) include a note indicating that the material is, or is based upon, a thesis or dissertation submitted in partial fulfillment of the requirements for the designated degree at the University of Houston.

Take Down Policy

The University of Houston Institutional Repository (UH IR) is intended to be a permanent archive of, and provide persistent access to, deposited theses and dissertations, among other materials. When authors submit their thesis or dissertation to the Vireo system, it will be deposited in the UH IR pending any embargo, and will only be removed under special circumstances, including **copyright violations, plagiarism, or falsification of data**. When authors leave the University, their material will remain in the repository. Authors who wish to request the removal of items that they, or others, have submitted to UH IR should contact the Library by emailing cougarroar@uh.edu. The requesters should provide a full statement of the rationale for removing the item, which will be reviewed by UH Libraries and the Graduate School. In cases where material is removed, the citation/metadata information will remain displayed.



Time Limitations

Students who are enrolled as graduate students at the University of Houston must complete the usual master's degree program within five years of the date of enrollment with a master's degree objective at the University of Houston. Students pursuing a Master of Business Administration may qualify under certain circumstances for a time limit of seven years to complete the degree requirements (See the program page for details). Any exceptions to this policy will require a petition approved by the department advisor, chair, college dean, and The Graduate School. Transfer credit may not apply to any master's degree if the course credit is more than five years old at the time of commencement.

Students who enroll as doctoral candidates must complete their degree requirements within 10 years of the date of first enrollment with a doctoral degree objective. Failure to comply will result in the candidate being ineligible for that doctoral degree.

Doctoral students who fail to complete their dissertation within five years after completion of the comprehensive examination must retake the examination.

Students admitted to the university for the purpose of pursuing a graduate certificate must complete the certificate requirements within 3 years of the date of first enrollment with that objective. If a student who is already admitted to a graduate degree program is subsequently also admitted to pursue a graduate certificate, the time limit for completing the certificate requirements shall be the same as the student's existing degree objective.

With the exception of programs for which another termination date has been specified, no degree will be granted for a graduate program not completed within five years of its deletion from an issue of the University of Houston catalog.



Transfer Credit

Ordinarily, all work for graduate degrees must be completed at the University of Houston. Under some circumstances, graduate coursework in which the grade is B or higher may be transferred. Except in the case of coordinated inter-institutional programs approved in advance by the Graduate and Professional Studies Committee of the Faculty Senate, not more than nine semester hours of transfer credit from another institution may be applied to a graduate degree. In cases where credit is transferred from more than one institution, including from prior incomplete degree programs or hours taken in a non-degree capacity at the University of Houston, no more than a combined maximum of 9 credit hours is allowed. A transfer credit request is subject to faculty evaluation and must be consistent with the degree requirements and/or research plan as approved by the student's graduate program faculty advisor. Only graduate-level courses may be transferred. Courses graded on a pass/fail basis are ineligible for transfer, except in cases where the equivalent UH course is graded on a pass/fail (S/U) bases, and upon faculty review and approval of the course curriculum. Advanced work completed at another institution prior to the time that institution offered graduate credit may not be transferred. Individual colleges, departments or academic units may elect to have transfer credit policies allowing for less than nine hours of transfer credit.

Exceptions to the nine-hour maximum may be granted with approval of the dean of the college and the dean of the Graduate School; however, exceptions are unusual and under no circumstances may more than one-half of the semester credit hours necessary for any graduate degree within the jurisdiction of the Graduate School be represented by credit transferred from other institutions.

Requesting Transfer Credit

A student seeking transfer credit must provide the graduate program faculty advisor in their academic unit with an official syllabus, catalog, calendar and/or bulletin with detailed course description, in addition to an official transcript including official explanation of the course numbering and grading systems at the school at which the credit was earned. The graduate program faculty advisor may request additional documentation to complete the transfer credit determination. If approved by the department and the college, a Graduate and Professional Student Petition is submitted to the Graduate School to have the credit posted to the transcript. All transfer credit petitions must be approved by department/college faculty and submitted to the Graduate School no less than sixty (60) calendar days prior to the end of the term in which the student is graduating. Students may not request transfer credit for courses taken during the same term in which they apply to graduate.

Grades earned for transferred courses from another institution are not calculated into, nor are they part of, the graduate or professional student's grade point average at the University of Houston. The student bears the final responsibility for securing the department's acceptance of transfer credit.

International Transfer Credit

For coursework completed outside of the United States, transfer credit may be awarded only for graduate courses completed with a grade equivalent of B or higher, as determined in a transcript evaluation by the Graduate School. For evaluation of a transfer credit request, the student must provide the graduate program faculty advisor with an official syllabus, catalog, calendar and/or bulletin, which must be submitted with a certified translation into English, if needed.

Time Limitations

Regulations concerning time limitations for graduate and professional degrees also apply to transfer credit. Transfer credit will not be awarded in situations where the original date the student took the courses at another institution will be older than five years at the time of the awarding of a master's degree or ten years for a doctoral or professional degree. These time limitations also pertain to courses taken at the University of Houston by a student prior to being admitted to the graduate program for which the transfer credit is requested.

Transient UH Students



Current graduate students are encouraged to seek approval before taking any coursework at another institution as a transient student, which they ultimately wish to then transfer back to UH. Students may not transfer courses taken at another institution during the term they apply to graduate.

Previously Earned Degrees

Work taken while in pursuit of an earned degree at the University of Houston or another institution cannot be transferred. This includes graduate work taken while the student was pursuing an undergraduate degree, except in the case of an accelerated pathway dual-degree program (Bachelor/Master's) at the University of Houston where there is a pre-approved agreement to apply specific graduate-level classes taken during the senior year for use by the Master's degree.

Course Waivers

Colleges and departments have the option to waive required courses and allow students to substitute alternate courses of equal credit to those that are waived. Please refer to individual degree program policies for more information.

Colleges and departments granting masters degrees requiring more than 30 credit hours may waive up to 6 credit hours for students with especially strong academic backgrounds in subject areas covered in the degree program. In this instance, students are not required to substitute alternate courses for those waived. The remaining credit hours required for degree completion after such waivers cannot be less than 30. If a student being granted such a waiver is also a recipient of transfer credit, the combined total number of waived credit hours and transfer credit hours cannot exceed 9.

Waivers of both types are subject to the policies of individual degree programs, and must be approved by the program director or department chair and the associate dean or dean of the college.

Credit Earned as a Non-Degree Objective Student

Students who took graduate classes at the University of Houston in a non-degree seeking status (NDO or postbaccalaureate) and were later accepted into a graduate program, are allowed to apply nine semester hours from the NDO or PB status to the graduate degree, if the courses are applicable to that degree. Students in those colleges which have pre-grad programs may apply twelve semester hours taken in a pre-grad program to a future graduate degree.

Concurrent Degrees

Dual degree programs have established curricula which state if coursework can be counted toward both degrees. Enrolled doctoral students who are permitted to pursue a concurrent master's degree must have an approved academic plan regarding coursework shared by the two degrees. Each college will determine how many credit hours earned at UH can be applied to a concurrent graduate degree within the academic department. A maximum of 9 approved credit hours may be applied to a concurrent degrees in this manner. Students must begin such discussions prior to their enrollment in the second graduate degree program.

Summary Table

	Master's degree at UH	Doctoral degree at UH
Incomplete graduate degree at UH - concurrent	9 credit hours ¹	9 credit hours ¹
Incomplete Master's degree at UH - prior	9 credit hours	9 credit hours



Incomplete Master's degree at other institution	9 credit hours	9 credit hours
Incomplete doctoral degree at other institution	9 credit hours	9 credit hours
Completed Undergraduate degree	0 credit hours ²	0 credit hours
Completed Master's degree at UH	0 credit hours	0 credit hours
Completed Master's degree at other institution	0 credit hours	0 credit hours
Completed doctoral degree at UH	0 credit hours	0 credit hours
Completed doctoral degree at other institution	0 credit hours	0 credit hours
Graduate work taken as PB at UH	9 credit hours	9 credit hours
Graduate work taken as NDO at UH	9 credit hours	9 credit hours
Graduate work taken as pre-grad at UH ³	12 credit hours	12 credit hours

¹ if concurrently enrolled in both programs

² applies to hours at the graduate or undergraduate level; exceptions are made for preapproved accelerated pathway dual degree programs (Bachelor/Master's).

³ only applicable for colleges with such programs



Qualifications for Appointment

To be eligible for a graduate student assistantship, students must have an undergraduate degree or its equivalent, be admitted to a graduate program, and be prepared to devote full-time efforts toward the degree. Students seeking Graduate Student Appointments to serve as classroom instructors or in other roles that require communicating with students in English (primarily Teaching Assistants or Teaching Fellows) must meet one of the following requirements before teaching begins:

1. Completion of baccalaureate degree requirements at a regionally accredited U.S. institution or an institution in Australia, Canada, New Zealand, South Africa, or the United Kingdom at which English is the medium of instruction.
2. There are three ways to demonstrate proficiency in the English language: Test of Spoken English (TSE) (passing score of 50); Spoken Proficiency English Assessment Kit (SPEAK) Test (passing score of 50); or the internet Based Test (iBT) (passing score of 25). The TSE is administered at TOEFL test centers on TOEFL test dates. The SPEAK Test administration may be arranged with the UH Testing Center.
3. Provide evidence of spoken English language proficiency using an alternate method to satisfy spoken English fluency requirements. Departments and colleges are permitted to develop alternative methods to assess spoken English language ability for those who do not pass the SPEAK test. Alternative methods must be approved by The Graduate School. The college of Natural Science and Mathematics currently has an approved alternative procedure to verify spoken English fluency. Please refer to policies and procedures developed by NSM for more details.

Students scoring below the required minimums should enroll in LCC 6034, English for International Teaching Assistants and Faculty. This semester-long, noncredit course, offered through the Language and Culture Center, focuses on English pronunciation, including individual sounds, stress, intonation, fluency, and overall comprehensibility; orientation to U.S. academic culture; and teaching skills, including non-verbal communication, explaining, presenting, fielding questions, and leading a discussion. Students will sit for the SPEAK examination at the conclusion of the course and the same minimum score as above (50) will be required to meet the English language proficiency requirement at that time.

As it is not always possible for an applicant to demonstrate proficiency in English prior to arriving on campus, conditional appointment as a graduate student assistant may be extended to allow demonstration of proficiency upon arrival. Such authorization requires the written consent and support of the student's academic advisor and approval by the dean of the college of the student's major as well as the Dean of the Graduate School. Until proof of proficiency is presented, the student may not be assigned to an instructional role.



Types of Graduate Student Assistantships

Teaching Fellow

Teaching fellows (TF) have direct student contact in a formal instructional setting and are charged with the primary responsibility for teaching a course for credit under the direct supervision of a faculty member experienced in the teaching discipline, regular in-service training and planned and periodic evaluations. Teaching fellows are listed as the instructor of record. Appointments at this level normally imply advanced academic status and substantial prior college or university experience. For SACS compliance, TFs should possess at least a master's degree in the teaching discipline or 18 graduate semester hours in the teaching discipline, direct supervision by a faculty member experienced in the teaching discipline, regular in-service training, and planned and periodic evaluations. Graduate students employed as TFs are not allowed to be instructors of record for courses that carry graduate credit. Examples of duties may include, but are not limited to: classroom/laboratory teaching; recitations, lectures, developing syllabi and lesson plans; holding office hours; consulting on group projects, counseling students; tutoring; and leading student tours and field trips.

Teaching Assistant

Teaching assistants (TA) are graduate students who have direct student contact in a formal instructional setting but who do not have primary responsibility for teaching a course for credit; they perform under the instructor's direct supervision and provide general assistance to the instructional process. Teaching assistants may not be listed as instructor of record though they may lecture.

Instructional Assistant (IA)

Instruction assistants (IA) are graduate students who do not have direct instructional duties but assist employing departments with academic courses, programs, projects, or other activities in support of the instructional process.

Research Assistants (RA)

Research Assistants are graduate students who are engaged in research activities (including but not limited to work in the lab or computer work) that support the research mission of the employing unit.

Graduate Assistants

- **Graduate assistants (GA)**
 - Graduate students whose responsibilities may be administrative in nature or consist of other activities that do not generally fit within the RA, TF, TA, or IA job responsibilities. Please note that students employed in this category are considered part-time staff employees under the university personnel system and are thus not eligible for the same benefits as students employed in the TA, TF, and IA categories.
- **Graduate assistant non-exempt (GA-NE)**
 - Graduate students employed in an hourly position and whose job responsibilities may be administrative in nature or consist of other activities that do not generally fit within the RA, RA-TE, TF, TA, or IA job responsibilities.

(The support of teaching represented by Teaching Fellows, Teaching Assistants, and Instructional Assistants is intended to assist faculty instruction. The primary teaching responsibility of the university is vested in the faculty. Students are not allowed to enroll in courses for which they are assigned assistantship responsibilities.)

A graduate or professional student employed in a position with student contact is required to meet the English language proficiency requirement described in the graduate assistantship Qualifications for Appointment.



Appointment Procedures

The appointment of graduate students in graduate student appointment positions is the responsibility of the deans of the colleges and is based upon the recommendations of the departments. The specific offer and all related conditions are the responsibility of the department.

The University of Houston has a standard form that must be used in assigning these appointments. This form is available in each department. Any conditions of appointment beyond those stipulated in the agreement will be specified by the appropriate departmental office.



Definition of Student Contact

An individual who teaches a course for academic credit is engaged in student contact. In addition, any individual who carries out the following within a formal instructional setting -- talks extensively with students about class, course, or lab materials, helps explain course material, leads discussion sections, or holds office hours as part of his/her assigned job duties -- is engaged in student contact.

NOTE: The Academic Support Assistant (ASA) title is only to be used for undergraduate students. ASA are employed by academic support programs (whether in an academic or administrative unit) whose primary duties involve either training or tutoring UH students enrolled in academic degree programs or research activities under the direction and supervision of a faculty member in areas related to the student assistant's degree program. Graduate students may not be hired as Academic Support Assistants.

The following policies applying to all graduate student appointment positions are inclusive, but not exhaustive. Departments and colleges may develop additional policies and procedures.



Mandatory Employment Discrimination Training

All Texas State agencies are required to provide employment discrimination training to employees. The University of Houston is a State agency, and graduate students who are employed by UH in graduate student appointment categories (TA, TF, IA, RA, RA-TE, GA, and GA-NE) must complete all mandatory employment training courses not later than 30 days after they are hired and every year thereafter. These courses are completed through T.A.P. Employee Online Training via AccessUH.



Duration of Appointment

The appointment of a graduate assistant is normally for the full academic year (Fall and Spring terms), although a one-term appointment is possible. Summer employment is not guaranteed and will be based on departmental needs.

A graduate student may be employed in a graduate student appointment position for no more than six long terms (3 years) while classified as a master's student.

A graduate student may be employed in a graduate student appointment position for no more than 10 long terms (5 years) while classified as a doctoral student. Graduate students who pursue both master and doctoral studies at the University of Houston may be employed in a graduate assistantship for no more than twelve terms (6 years).

For those who are employed in graduate student appointment positions and who are pursuing two graduate degrees at the same level (i.e. two master's degrees) consecutively at the University of Houston, the time limitation starts over with the second degree. Therefore, a student who graduates with one master's degree and then pursues a second master's degree is eligible for up to 12 long terms (or six years) while classified as a master's student.



Stipends

The minimum stipend for graduate student assistants pursuing a masters degree is \$600 per month for a 50 percent appointment. For graduate student assistants who have completed a master's program or its equivalent and are enrolled in a doctoral program, the minimum stipend is \$700 per month for a 50 percent appointment. Monthly rates are established each term.



Conditions of Service

The following policies are applicable to all graduate student assistants; departments and colleges may prescribe additional conditions of employment.

1. Satisfactory progress, as defined by the college or department, must be made toward the degree.
2. Graduate student assistants must maintain a full-time course load throughout the term. The minimum full-time course load per semester is nine credit hours for master's students and nine credit hours for doctoral students.
3. Enrollment during the summer semester is not required for graduate student assistants who had full time enrollment during the preceding consecutive fall and spring semesters. If required to be enrolled in the summer semester, six credit hours is considered full time.
4. Graduate student assistants must maintain a cumulative grade point average of 3.00 (A=4.00).
5. Graduate student assistants are normally not allowed to teach courses which carry graduate credit and are not permitted to enroll in courses for which they are assigned assistantship responsibilities.
6. International graduate student assistants must successfully complete and achieve a satisfactory score on a speaking test of English before assuming actual teaching duties. (See section on Qualifications for Appointment.)
7. Graduate student assistants will not be assigned as instructors of record (i.e., having full responsibility for a course) until they have earned a master's degree or its equivalent, have completed 18 graduate semester credit hours in their teaching field, or are enrolled in a doctoral program.
8. While graduate student assistants need to have access to space and facilities to carry out their assignments effectively, it must be recognized that from department to department, there will be constraints that limit these privileges. The following privileges, however, can be listed:
 - a. In addition to the services and facilities available to them as students, graduate student assistants will be issued specific documentation or a faculty/staff identification card entitling them to appropriate parking, library and computer privileges, bookstore discounts, and access to any other privileges that might accrue in the future, and
 - b. Graduate student assistants will have access to a desk and chair, file space, mailbox, and appropriate supplies for the duties assigned. Department conditions allowing, they should have access to a computer, duplicating equipment, and a telephone.
9. Students who are in their final graduating semester, and need fewer than nine (9) credit hours to complete their degree program, may hold an assistantship during that semester upon the approval of the dean of the college or their designee. These students must meet any minimum enrollment requirements in the Graduate Catalog. International students must complete a Reduced Course Load request prior to any such approval. Students who fail to complete their degree requirements in that graduating semester will be required to take nine (9) credit hours in the subsequent Fall and Spring semesters in order to hold an assistantship.
10. If student has applied to graduate, they cannot work past last day of the month for the official closing of the term.
11. Students are expected to be in compliance of these university policies through the duration of their assignment.
12. Exceptions to any of these conditions of service must have the approval of the Dean of the Graduate School.



Insurance Coverage for Graduate Student Assistants

State legislation allows the University of Houston to extend to qualified students holding graduate student appointment positions the option to enroll in the university's group medical insurance programs. All coverage plans are identical to the plans offered to regular benefits-eligible faculty and staff of the University. Students holding graduate student appointment positions are not eligible to participate in state retirement programs and other benefits extended to regular benefits-eligible employees.



Reappointment of Graduate Student Assistantships

Priority for reappointment is to be given to those graduate student assistants making satisfactory progress toward completion of an advanced degree and is based on the quality of performance of assigned duties. The criteria to be used in making reappointments are to include, but not be limited to:

1. A 3.00 minimum cumulative grade point average.
2. The report of the graduate advisor or coordinator.
3. A formal evaluation by the faculty mentor supervising the graduate student assistant's work.
4. The length of time in an assistantship position.
5. The length of time in the degree program. Reappointments are not automatic for assistants; final decisions will be based on departmental needs and availability.



Libraries

The University of Houston libraries include:

- the M.D. Anderson Library (the main library),
- the William R. Jenkins Architecture and Art Library,
- the O'Quinn Law Center Library,
- the Music Library,
- the Health Sciences Library, and
- the Hospitality Industry Archives

These libraries constitute a premier research facility with large collections in both print and electronic formats. These collections consist of over 3.2 million volumes, 170,000 journals, as well as access to manuscripts, maps, electronic datasets and tens of thousands of digitized images of unique items.

The M.D. Anderson Library is open more than 100 hours a week. Reference service, available more than 70 hours a week, provides users with assistance in locating information and resources. Subject librarians in all major disciplines offer specialized reference and research assistance, conduct classes for undergraduate and graduate students, and develop the library collections in their subject areas.

The Academic Research Center (ARC) is a computer lab located on the first floor of the MD Anderson Library focusing on the research and study needs of students, faculty, and staff at the University of Houston. The lab contains a mix of Apple and Windows machines, loaded with basic productivity software including MS Office. These computers are available on a first-come, first-served basis.

The Learning Commons is a computer lab in the first floor of MD Anderson Library that caters to high-end multimedia and collaborative needs. This space is intended for group work and collaboration. These computers may be reserved up to a week in advance via the library's website or the reservation station in the lab. Assistance with software and hardware questions is available in the Technology Consultation Room.

The Learning Commons also contains 2 multimedia studios for producing professional audio, and a Makerspace with available in-library oscilloscope, multimeter and power supply. Additional Makerspace kits and equipment are available for checkout from the Service Desk.

The Digital Research Commons (DRC), located on the second floor of the MD Anderson Library, cultivates digital research projects and exposes the campus community to new and emerging digital methodologies, including digital humanities, GIS, and other digital scholarship topics.

A valid CougarNet account is required to use computers in the labs.

The library's Technology Training Program offers free instructor-led technology courses to current UH students, staff and faculty. Topics include Microsoft Office, Adobe Creative Suite, numerical software (i.e. SPSS and MATLAB) and web design, among others. Classes are offered year-round and are held in room 106-P on the first floor of MD Anderson Library. Please visit the library's training page at info.lib.uh.edu/training for more information or to enroll in classes.

The UH Libraries Instruction Program supports the student success goals of the University by developing and strengthening students' research and information skills through a combination of instruction methods. Librarians can provide course-related instruction classes, collaborate on research assignment design, and develop online learning tools to teach research skills. A wide-variety of online research guides are readily available from the libraries' website (libraries.uh.edu/guides). Subject librarians also offer an ever expanding range of instruction support on research topics including data management, data visualization, citation management tools, information about impact factors, and more.

The M.D. Anderson Library contains a collection with particular strengths in science, engineering, education, psychology, and business. The library is a depository for both United States and Texas state documents.

The Special Collections Department of the Library houses rare books, University Archives, and strong collections including:

- Architecture & Planning Research Collection
- Carey Shuart Women's Research Collection
- Contemporary Literature Research Collection
- Energy & Sustainability Research Collection



- Hispanic Research Collection
- Houston Hip Hop Research Collection
- Houston & Texas History Research Collection
- LGLBT Research Collection
- Performing & Visual Arts Research Collection

An online library catalog provides information about the collections of the University of Houston libraries as well as those of the UH Law Library, the UH-Downtown Library, and the UH-Clear Lake Library. The online catalog may be searched from remote sites through the campus network or the Internet. University of Houston students may borrow materials from all University of Houston System libraries. The online catalog provides information about the collections of the University of Houston libraries as well as those of the UH Law Library, the UH-Downtown Library, and the UH-Clear Lake Library. The online catalog may be searched from remote sites through the campus network or the Internet. University of Houston students may borrow materials from all University of Houston System libraries.

In addition to this large size and scope, the university libraries extends its collection by participating in a number of resource sharing networks. On the state level, the university's membership in the TexShare cooperative program provides access to some of the most popular databases. Traditional collections of books and journals are available through the TexShare library card program. This allows students, faculty, and staff of the university to borrow items at over 130 libraries statewide. At a national and international level, the university's membership in the Center for Research Libraries provides shared ownership of more than three million research materials. Online access to the cataloging records of more than 32 million items in 30,000 libraries worldwide is also available. Students may borrow materials from other research libraries in the United States and abroad through the Interlibrary loan program. The library is one of 120 membership partners of the HathiTrust Digital Library providing access to a digital collection of over 15 million volumes.

The Health Sciences Library opened in the spring of 2018. The Health Sciences Library supports the Colleges of Nursing, Pharmacy and Optometry. The library occupies 5,941 square feet on the second floor of a new health and biomedical sciences building. It also has four group study rooms, a computer lab, computer classroom and a reading room. The majority of the collection is online, however there is space for reserve materials, reference books and anatomical models. The faculty and graduate students in health science fields have access to the Houston Academy of Medicine-Texas Medical Center Library with a collection of more than 359,000 books and journals, 100 electronic databases and over 4,000 electronic journals.

M.D. Anderson Library

Click the M.D. Anderson Library link for more information.

Dean of the Libraries: Lisa German

Associate Dean for Resource Management: John Lehner

Associate Dean for Academic and Research Services: Marilyn Myers

Click here for a full list of librarians.

William R. Jenkins Architecture and Art Library

Click the William R. Jenkins Architecture and Art Library link for more information.

Coordinator: Catherine Essinger

John M. O'Quinn Law Library

Click the John M. O'Quinn Law Library link for more information.

Director: Amanda Watson



Music Library

Click the Music Library link for more information.

Coordinator: Stephanie Lewin-Lane

Conrad N. Hilton Library

Click the Conrad N. Hilton Library link for more information.

Click the Hospitality Industry Archives link for more information.

Health Sciences Library

Click the Health Sciences Library link for more information.

Director: Rachel Helbing



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The Graduate School

The Graduate School cultivates and supports academic excellence in graduate and professional education at the University of Houston.

The University of Houston is a Carnegie Tier One Research University hosting an array of graduate and professional degrees in the Colleges of Architecture & Design, the Arts, Business, Education, Engineering, Hotel & Restaurant Management, Law, Liberal Arts & Social Sciences, Natural Sciences & Mathematics, Nursing, Optometry, Pharmacy, Social Work, and Technology. These colleges and schools offer over 150 masters, doctoral and professional degrees.

For more information about The Graduate School, please visit their website.

Office of the Dean:

(713) 743-5284
102 Ezekiel W. Cullen Bldg

Vice Provost and Dean of the Graduate School:

Sarah C. Larsen, BA, Bowdoin College; PhD, Harvard University

Director:

Shari Corprew, BA, Florida State University

Assistant Director, Graduate Programs and Student Records:

Tashemia V. Jones, MLA, Texas Christian University; Ed.D., Texas Tech University

Assistant Director for Graduate & International Admissions:

Shawn Washington, BA, Baylor University; MBA, University of Phoenix



Architecture & Design

Programs

Master

- Architectural Studies, MA
- Architecture, MArch - Level I
- Architecture, MArch - Level II
- Architecture, MS
- Industrial Design, MS



About the College of Architecture and Design

Office of the Dean

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Student Services Office

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William R. Jenkins Architecture and Art Library

(713) 743-2340

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Fax: (713) 743-2358

Dean:

Patricia Belton Oliver, FAIA. B.A., University of California, Los Angeles; M. Arch., University of California, Los Angeles.

Associate Dean:

Lannis Kirkland. B.Arch., Auburn University; M.Arch., Rice University.

Assistant Dean/Director of Student Affairs & International Programs:

Trang Phan. B.A., University of Houston; M.Ed., University of Houston. tphan@central.uh.edu

Director of Graduate Studies:

Gail Peter Borden, FAIA, B.A., Rice University; B.Arch., Rice University., M.Arch., Harvard University Graduate School of Design.

Advising:

Students seeking assistance with specific admissions or programmatic questions may contact an Academic Advisor by calling (713) 743-3463.

General Information

The Gerald D. Hines College of Architecture and Design at the University of Houston seeks applicants who are curious, committed, and creative. Dedication and inventiveness are necessary to undertake the challenges of architectural practice in a changing world where diminishing



natural resources, rapid urbanization, and changing economic conditions need to be addressed. We strive to educate students to become critical thinkers.

The college offers professional, post-professional and advanced study degree programs in architecture and industrial design. Advanced study concentrations are available in Urban/Suburban Design, Sustainable Design, Digital Fabrication, Digital Media, Sustainable Urban Systems and History/Theory. International summer study programs are available in Asia, Europe and Latin America. A student exchange program with the Technical University Graz, Austria, is in place.

We are located just southwest of downtown Houston, the fourth largest city in the United States with a diverse and vibrant international economy. Houston provides a fertile environment to understand the challenges of designing in a contemporary city.

Accreditation

In the United States, most state registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit U.S. professional degree programs in architecture, recognizes three types of degrees: the Bachelor of Architecture, the Master of Architecture, and the Doctor of Architecture. A program may be granted a four and eight year term of accreditation, depending on the extent of its conformance with established educational standards. The College of Architecture and Design program has earned an eight year accreditation term.

Doctor of Architecture and Master of Architecture degree programs may consist of a pre-professional undergraduate degree and a professional graduate degree that, when earned sequentially, constitute an accredited professional education. However, the pre-professional degree is not, by itself, recognized as an accredited degree. The Gerald D. Hines College of Architecture and Design graduate program at the University of Houston offers the following NAAB-accredited degree programs:

- **M.Arch. (pre-professional degree + 60 graduate credits)**
- **M.Arch. (non-pre-professional degree + 97 credits)**



Admission Requirements: College of Architecture

Each person seeking admission to the graduate programs in the Gerald D. Hines College of Architecture and Design must meet the general requirements for graduate study at the University of Houston, and must submit an application for graduate studies, two copies of all official transcripts, GRE scores, and three letters of recommendation, as well as a resume and a completed Applicant Questionnaire. The applicant should refer to the University of Houston and College of Architecture and Design website for detailed information.

Application Fee

In addition to the general requirements outlined above, the applicant should refer to the specific application requirements for the entrance level appropriate to his or her background. The College of Architecture and Design requires a \$50 graduate application fee. International applicants must submit an additional \$75 in addition to the \$50 graduate application fee.



Scholastic Requirements: College of Architecture and Design

In addition to maintaining a cumulative grade point average at or above the minimum of 3.0, graduate students are normally expected to complete all course requirements, or the approved equivalents, in each term of each level before proceeding to the next term of the design studio sequence. Deviations from the normal course sequence must be approved by the Director of Graduate Studies.

Students who do not maintain satisfactory academic progress are at risk of being placed on academic probation for up to two consecutive terms, and termination from the graduate program.

In addition, the University of Houston and the College of Architecture and Design require that graduate students in the College of Architecture and Design maintain the following standard with respect to grades of C+ or lower:

- For Master of Science and Master of Arts entrants, a maximum of 12 hours of grades of C+ or lower are allowed.
- For Level II Master of Architecture entrants, a maximum of 12 hours of grades of C+ or lower are allowed.
- For Level I Master of Architecture entrants, a maximum of 12 hours of grades of C+ or lower are allowed.

Any student exceeding these limits will be dropped from the program and will not be allowed to re-enroll for a graduate degree at the University of Houston.



Gerald D. Hines College of Architecture and Design

Gerald D. Hines College of Architecture and Design

Master of Architecture

Architecture, MArch - Level I

Program Requirements

Course of Study:

All Level I entrants must earn a minimum of 99 credit hours of approved study that include the course work described below. Some students may have already taken university courses meeting or exceeding the requirements described below. For such students, the curriculum may be modified by substitution of electives for courses previously taken at another institution. The appropriate area coordinator and the Director of Graduate Studies must approve any petitions for substitutions in the degree plan. Students with deficiencies may be required to undertake additional course work.

Students must obtain approval of their individual degree plan before the conclusion of the first term of enrollment.

Admission Requirements

- See Also: University Admission and Registration

Applicants should complete the online graduate application process found at How to Apply, including a non-refundable application fee. Additionally, applicants should submit a portfolio directly by mail to the College of Architecture & Design Graduate Admissions Office.

- **Portfolio Requirements**

- **Purpose**

- The portfolio allows reviewers to determine an applicant's potential for success in a studio based design curriculum. Evidence of creative work is not limited to Architecture, Interior Architecture, or Industrial Design work. Examples of creative work may include designs, drawings, photographs, paintings, sculpture, writing, or other creative pursuits. Please include a brief explanation of work submitted.

- **Portfolio Content - Master of Architecture Level I**

- The portfolio is not expected to show architectural skills. Rather, it should contain work that demonstrates facility with a variety of media and illustrates three-dimensional understanding. Applicants may demonstrate their creative, artistic, and perceptual skills through painting, sculpture, or other three-dimensional explorations. Photography as an example of creative work must demonstrate intention in composition, color/light, or other critical points of view.

- **Portfolio Format**

- The current requirements for the design and format of the admissions portfolio are found on the College of Architecture & Design website: <http://www.uh.edu/architecture/future-students/graduate/domestic/#portfolio>

Level I Curriculum

99 Credit Hours

Year One

Fall, Level I



- [Pre-Term] ARCH 6301 - Visual Studies I Credit Hours: 3.00
- ARCH 6340 - Architectural History Survey I Credit Hours: 3.0
- ARCH 6A20 - Environmental Technology 1 Credit Hours: 1.5
- ARCH 6A22 - Construction Technology I Credit Hours: 1.5
- ARCH 6302 - Visual Studies II Credit Hours: 3.00
- ARCH 6600 - Architecture Design Studio I Credit Hours: 6.0

Spring, Level I

- ARCH 6341 - Architectural History Survey II Credit Hours: 3.0
- ARCH 6A21 - Environmental Technology 2 Credit Hours: 1.5
- ARCH 6A23 - Construction Technology 2 Credit Hours: 1.5
- ARCH 6357 - Contemporary Theory and Critical Practice Credit Hours: 3.0
- ARCH 6601 - Architecture Design Studio II Credit Hours: 6.0

Summer, Level I

- ARCH 6303 - Visual Studies III Credit Hours: 3.0
- ARCH 6602 - Arch Design/Build Workshop Credit Hours: 6.0

Year Two

Fall, Level II

- ARCH 6304 - Visual Studies IV Credit Hours: 3.0
- ARCH 6A48 - Environmental Technology 3 Credit Hours: 1.5
- ARCH 6A50 - Construction Technology 3 Credit Hours: 1.5
- ARCH 6359 - Modern Architecture & Urbanism Credit Hours: 3.0
- ARCH 6603 - Architecture Design Studio III Credit Hours: 6.0

Spring, Level II

- ARCH 6376 - Urban Determinants Credit Hours: 3.0
- Architectural Seminar Elective I *
- ARCH 6A49 - Environmental Technology 4 Credit Hours: 1.5
- ARCH 6A51 - Construction Technology 4 Credit Hours: 1.5
- ARCH 6604 - Architecture Design Studio IV Credit Hours: 6.0

Year Three

Fall, Level III

- ARCH 6360 - Practice of Arch Credit Hours: 3.0
- ARCH 6393 - Master's Project Preparation Credit Hours: 3.0
- ARCH 6361 - Integrated Practice: Material Representation and Detailing Credit Hours: 3.00
- ARCH 7600 - Architecture Design Studio V Credit Hours: 6.0



Spring, Level III

- Architectural Seminar Elective II *
- Elective/Independent Research *
- Elective/Independent Research *
- ARCH 7601 - Architecture Design Studio VI Credit Hours: 6.0

Note(s):

*Courses to be selected with graduate advisor and with approval of the Director of Graduate Studies.

Academic Policies

- University of Houston Academic Policies
- Scholastic Requirements: College of Architecture and Design

Architecture, MArch - Level II

Program Requirements

Course of Study:

All Level II entrants must earn a minimum of 60 credit hours of approved study that include the course work described below. Since students entering the program at Level II already hold a degree in architecture or environmental design, some of the requirements described below may have been met in advance. For such students, the curriculum may be modified by substitution of electives for courses previously taken at another university. The appropriate area coordinator and the Director of Graduate Studies must approve any petitions for substitutions in the degree plan. Students with deficiencies may be required to undertake additional course work.

Students must obtain approval of their individual degree plan before the conclusion of the first term of enrollment.

Admission Requirements

- See Also: University Admission and Registration

Applicants should complete the online graduate application process found at How to Apply, including a non-refundable application fee. Additionally, applicants should submit a portfolio directly by mail to the College of Architecture & Design Graduate Admissions Office.

- **Portfolio Requirements**
 - **Purpose**
 - The portfolio allows reviewers to determine an applicant's potential for success in a studio based design curriculum. Evidence of creative work is not limited to Architecture, Interior Architecture, or Industrial Design work. Examples of creative work may include designs, drawings, photographs, paintings, sculpture, writing, or other creative pursuits. Please include a brief explanation of work submitted.
 - **Portfolio Content - Master of Architecture Level II**
 - Applicants should submit examples of work demonstrating an ability to pursue study at an advanced level. The portfolio should be of high quality and provide evidence of well-developed graphic skills, a sense of design, and an understanding of space, form, and volume at different scales. The review committee assumes the portfolio represents the applicant's best abilities in design.
 - **Portfolio Format**



- The current requirements for the design and format of the admissions portfolio are found on the College of Architecture & Design website at <http://www.uh.edu/architecture/students/prospective-students/graduate/>

Level II Curriculum

60 Credit Hours

Year One

Fall, Level II

- ARCH 6376 - Urban Determinants Credit Hours: 3.0
- ARCH 6359 - Modern Architecture & Urbanism Credit Hours: 3.0
- ARCH 6603 - Architecture Design Studio III Credit Hours: 6.0

Spring, Level II

- ARCH 6604 - Architecture Design Studio IV Credit Hours: 6.0

Year Two

Fall, Level III

- ARCH 6360 - Practice of Arch Credit Hours: 3.0
- Architecture History Elective
- ARCH 6393 - Master's Project Preparation Credit Hours: 3.0
- ARCH 7600 - Architecture Design Studio V Credit Hours: 6.0

Spring, Level III

- Architectural Seminar Elective II *
- Elective/Independent Research *
- Elective/Independent Research *
- ARCH 7601 - Architecture Design Studio VI Credit Hours: 6.0

Note(s):

*Courses to be selected with graduate advisor and with approval of the Director of Graduate Studies

Academic Policies

- University of Houston Academic Policies
- Scholastic Requirements: College of Architecture and Design

Master of Arts



Architectural Studies, MA

Students pursuing the Master of Arts in Architectural Studies must have earned a four-year Bachelor's degree from an accredited university. Students must also select one of the areas of advanced study as listed. The Master of Arts in Architectural Studies is an advanced degree. It is not a post-professional degree.

- For more information please view Master of Arts in Architectural Studies.

Admission Requirements

- See Also: University Admission and Registration

Applicants should complete the online graduate application process found at How to Apply, including a non-refundable application fee. Additionally, applicants should submit a portfolio directly by mail to the College of Architecture & Design Graduate Admissions Office.

- **Portfolio Requirements**

- **Purpose**

- The portfolio allows reviewers to determine an applicant's potential for success in a studio based design curriculum. Evidence of creative work is not limited to Architecture, Interior Architecture, or Industrial Design work. Examples of creative work may include designs, drawings, photographs, paintings, sculpture, writing, or other creative pursuits. Please include a brief explanation of work submitted.

- **Portfolio Content - Architectural Studies**

- Applicants should submit examples of work demonstrating an ability to pursue study at an advanced level. The portfolio should be of high quality and provide evidence of well-developed graphic skills, a sense of design, and an understanding of space, form, and volume at different scales. The review committee assumes the portfolio represents the applicant's best abilities in design.

- **Portfolio Format**

- The current requirements for the design and format of the admissions portfolio are found on the College of Architecture & Design website at <http://www.uh.edu/architecture/students/prospective-students/graduate/>.

Degree Requirements

Course of Study:

Students must have a minimum of 30 credit hours of approved study that include the following:

- 15 credit hours in advanced, prescribed courses as described below.
- 15 credit hours of elective study approved by the Director of Graduate Studies.

Students must obtain approval of their degree plans, including electives, before the conclusion of the first term of enrollment.

Some prerequisites may be required.

Year One

Fall

- ARCH 6393 - Master's Project Preparation Credit Hours: 3.0
- ARCH X3XX: Elective/Independent Research*
- ARCH X3XX: Elective/Independent Research*
- ARCH 7600 - Architecture Design Studio V Credit Hours: 6.0



*Courses must be selected with a graduate academic advisor and with the approval of the director of Graduate Studies.

Spring

- ARCH X3XX: Elective/Independent Research*
- ARCH X3XX: Elective/Independent Research*
- ARCH X3XX: Elective/Independent Research*
- **ARCH 7603 - Master's Project Credit Hours: 6.0**

*Courses must be selected with a graduate academic advisor and with the approval of the director of Graduate Studies.

Academic Policies

- University of Houston Academic Policies
- Scholastic Requirements: College of Architecture and Design

Master of Science

Architecture, MS

Students pursuing the Master's of Science in Architecture must have earned a Bachelor of Architecture or equivalent professional degree from an accredited university. Students must also select on of the areas of advanced study as listed. The Master of Science in Architecture is a post-professional degree.

For more information, please view Master of Science in Architecture.

Admission Requirements

Applicants should complete the online graduate application process found at www.uh.edu/graduate-school/admissions/how-to-apply, including a non-refundable application fee (\$50 domestic/\$125 international). Additionally, applicants should submit a portfolio directly by mail to the College of Architecture & Design Graduate Admissions office.

Portfolio Requirement

Purpose

The portfolio allows reviewers to determine an applicant's potential for success in a studio based design curriculum. Evidence of creative work is not limited to Architecture, Interior Architecture, or Industrial Design work. Examples of creative work may include designs, drawings, photographs, paintings, sculpture, writing, or other creative pursuits. Please include a brief explanation of work submitted.

Portfolio Content

Applicants should submit examples of work demonstrating an ability to pursue study at an advanced level. The portfolio should be of high quality and provide evidence of well-developed graphic skills, a sense of design, and an understanding of space, form, and volume at different scales. The review committee assumes the portfolio represents the applicant's best abilities in design.

Portfolio Format

The current requirements for the design and format of the admissions portfolio is found on the College of Architecture & Design website at Graduate Studies.



Degree Requirements

Credit hours required for this degree: 36.0

Students must have a minimum of 36 credit hours of approved study that include the following:

- 15 credit hours in advanced, prescribed courses as described below.
- 21 credit hours of elective study approved by the Director of Graduate Studies. Students must obtain approval of their degree plans, including electives, before the conclusion of the first semester of enrollment.

Some prerequisites may be required. Entering students must obtain approval of their degree plans before the ends of the first semester.

Fall

- **ARCH 6393 - Master's Project Preparation Credit Hours: 3.0**
ARCH X3XX: Elective/Independent Research*
ARCH X3XX: Elective/Independent Research*
ARCH X3XX: Elective/Independent Research*
- **ARCH 7600 - Architecture Design Studio V Credit Hours: 6.0**

Spring

- ARCH X3XX: Elective/Independent Research*
- ARCH X3XX: Elective/Independent Research*
- ARCH X3XX: Elective/Independent Research*
- ARCH X3XX: Elective/Independent Research*
- **ARCH 7603 - Master's Project Credit Hours: 6.0**

Academic Policies

- University of Houston Academic Policies
- Scholastic Requirements: College of Architecture and Design

Industrial Design, MS

The program for the Master of Science in Industrial Design degree is a two-year curriculum of 36 term hours.

The graduate program offers a new perspective on creativity, product and system development, services and environment with an emphasis on interdisciplinary studies: design for health, design for sustainability, and design for the world community. Before the first term of graduate study, a personalized curriculum is developed to meet a student's research topic and interdisciplinary study plan. In conjunction with the required courses, elective courses may be taken in the College of Architecture, Bauer College of Business, College of Engineering, College of Hotel Restaurant and Management or other departments and colleges of the university in order to complete a personalized program of study.

Students can achieve Entrepreneurship Certificate from the Bauer College of Business.

The Entrepreneurship Certificate is a joint endeavor between the Industrial Design program at the College of Architecture and the Department of Marketing & Entrepreneurship at the Bauer College of Business, ranked as one of the top entrepreneurship programs in the nation. This certificate program provides a series of courses in entrepreneurship and the business skills necessary to commercialize new design opportunities. Students have additional business content that is not typically offered in Master of Industrial Design studies and more start up content than a traditional MBA.



Degree Plan: Personalized Program of Study

The personalized graduate degree plan will be developed in consultation with the Director of the Industrial Design program in order to meet students' individual research goals.

Admission Requirements

- See Also: University Admission and Registration

Applicants should complete the online graduate application process found at How to Apply, including a non-refundable application fee. Additionally, applicants should submit a portfolio directly by mail to the College of Architecture & Design Graduate Admissions Office.

- **Portfolio Requirements**
 - **Purpose**
 - The portfolio allows reviewers to determine an applicant's potential for success in a studio based design curriculum. Evidence of creative work is not limited to Architecture, Interior Architecture, or Industrial Design work. Examples of creative work may include designs, drawings, photographs, paintings, sculpture, writing, or other creative pursuits. Please include a brief explanation of work submitted.
 - **Portfolio Content - Industrial Design**
 - Applicants should submit examples of work demonstrating an ability to pursue study at an advanced level. The portfolio should be of high quality and provide evidence of well-developed graphic skills, a sense of design, and an understanding of space, form, and volume at different scales. The review committee assumes the portfolio represents the applicant's best abilities in design.
 - **Portfolio Format**
 - The current requirements for the design and format of the admissions portfolio are found on the College of Architecture & Design website at <http://www.uh.edu/architecture/students/prospective-students/graduate/>.

Degree Requirements

Prior Degree Information:

Candidates who do not have an undergraduate degree in industrial design are advised to take an additional 17 credits focusing on the development of fundamental design thinking and visualization skills. The Director of Industrial Design program and instructors will advise and approve appropriate courses including undergraduate industrial design studios.

Prospective Degree Plan, Entrepreneurial Design and Technology (MS in Industrial Design with Entrepreneurship Certificate)

First Year

Fall

- INDS 6340 - Advanced Design Materials Credit Hours: 3.0
- INDS 6350 - Design Studies Credit Hours: 3.0
- INDS 6360 - Industrial Design Studio Credit Hours: 3.0
- ENTR 7336 - Entrepreneurship Overview Credit Hours: 3.0 *

Spring



- INDS 6345 - Advanced Human Factors Credit Hours: 3.0
- INDS 6355 - Integrated Design Research Credit Hours: 3.0
- ENTR 7337 - Entrepreneurship Capital & Legal Forms Credit Hours: 3.0 *

Second Year

Fall

- INDS 7300 - Design Thesis I Credit Hours: 3.0
- INDS 6330 - Computer Aided Industrial Design II Credit Hours: 3
- ENTR 7381 - Technology Commercialization Credit Hours: 3.0 *

Spring

- INDS 7301 - Design Thesis II Credit Hours: 3.0
- ENTR 7383 - Technology Commercialization Projects Credit Hours: 3.0 *

Program Concentration Notes

*Students can achieve a Certificate of Entrepreneurship from C.T. Bauer College of Business with 3 courses:

1. Entrepreneurship Overview
2. and ANY TWO of
 - ENTR 7337 - Entrepreneurship Capital & Legal Forms,
 - ENTR 7381, ENTR 7383 - Technology Commercialization Projects,
 - FINA 7326 - Private Equity and Investment Banking.

Prospective Degree Plan, Design Research and Development

First Year

Fall

- INDS 6350 - Design Studies Credit Hours: 3.0
- INDS 6360 - Industrial Design Studio Credit Hours: 3.0
- INDS 6330 - Computer Aided Industrial Design II Credit Hours: 3
- INDS 6340 - Advanced Design Materials Credit Hours: 3.0

Spring

- INDS 6345 - Advanced Human Factors Credit Hours: 3.0
- INDS 6355 - Integrated Design Research Credit Hours: 3.0

Second Year

Fall

- INDS 7300 - Design Thesis I Credit Hours: 3.0



- Architectural Seminar Elective*

Spring

- INDS 7301 - Design Thesis II Credit Hours: 3.0
- INDS 6397 - Selected Topics Credit Hours: 3

Program Concentration Notes

**Students can expand design research in the context of space architecture and extreme environment from Master of Science in Space Architecture program:*

- ARCH 6201 - Main Systems Integration I ,
- ARCH 6203 - Spacecraft and Habitat Design I ,
- ARCH 6204 - Spacecraft and Habitat Design II .

Academic Policies

- University of Houston Academic Policies
- Scholastic Requirements: College of Architecture and Design



International Programs

The Gerald D. Hines College of Architecture and Design offers its students the opportunity to study in various countries in Asia, Europe and Latin America. Students participating in one of our study abroad programs can expect to be immersed in the local culture, on-site visits and studio experience to further their studies in architecture design.

The College offers both faculty-led and exchange programs for students to participate.

Study abroad programs include travel and studies in Chile, Argentina, Italy, Austria, Spain, China and other international destinations such as Brazil, Costa Rica, India and Vietnam.

Exchange programs are also offered for students to study for up to one year in another country. Past exchanges have been offered through partner institutions in France, Chile, Russia and Austria. These programs are ideal for students who are self-directed, motivated and can quickly adapt to diverse and unfamiliar settings. Foreign language proficiency is recommended.

International Internships

The College has an established, long-standing internship available through the sponsorship of Gerald D. Hines. Named the Hines Internship, students selected to participate have the opportunity to work in Barcelona, Spain for Enric Miralles-Benedetta Tagliabue Arquitectes (EMBT).

Additional information may be found at the College of Architecture website.



Architecture Library & Research Centers

William R. Jenkins Architecture and Art Library

The Architecture and Art Library, located within the college, houses a collection of more than 70,000 books and periodical volumes in the disciplines of architecture and art. The library's online catalog provides easy access to the collection of the Architecture and Art Library, as well as the holdings of the campus and system libraries. Subject access to articles in the last 20 years of architecture journals is available through the Avery Index on CD-ROM. The Architecture and Art Library Special Collections include the personal libraries of architects John F. Staub and Kenneth Franzheim, FAIA.

The Burdette Keeland Jr. Design Exploration Lab

The Keeland Jr. Design Exploration Lab houses an extensive collection of the latest digital fabrication equipment, including 3D printers, laser cutters, computer-controlled routers and vacuum molding equipment. It also contains areas for the more conventional processes of steel cutting and welding, and an exceptionally well-equipped woodshop. This extraordinary facility is emblematic of the Colleges' commitment to the craft and the processes of making as cornerstones of design exploration and the art of construction.

Research Centers and Institutes

The Gerald D. Hines College of Architecture and Design offers many opportunities for students to be involved in classes and research programs which are of special significance to the community and the profession. These activities are found within the resource areas of the College and include:

1. Design LAB generates preliminary design studies and research and development work across the disciplines of architecture, planning, and industrial design.
2. The Community Design Resource Center works to address issues of community development, design, planning, affordable housing and civic projects in partnership with communities.
3. University of Houston Green Building Components (UHGBC) seeks to advance the design and implementation of sustainable, renewable, green building components and technologies across the architecture, engineering, and construction industries, increasing the presence of sustainable technology in the built environment.
4. The Computer Design Laboratory, established in 1983, extends its mission beyond teaching computer literacy to include academic research and practical investigation of the computer as an architectural design tool, with emphasis placed on modeling, visualization and animation. The Materials Research Collaborative (MRC) serves as a materials resource for material discovery, innovation, instruction, and research. The MRC has developed a web-based database that catalogs the physical samples, and researching and inputting data regarding the specific extrinsic and intrinsic properties of these materials. The MRC is also engaged in specific material research projects such as a database of local materials, LEED v 4 consulting, and carbon emissions analysis of buildings.



Faculty: College of Architecture

Professors:

Leonard Bachman, Larry Bell, Geoffrey Brune, Gail Peter Borden, Joseph Colaco, Donna Kacmar, EunSook Kwon, Rafael Longoria, Patricia Oliver, Patrick Peters, Bruce Race, Shafik Rifaat, Ronnie Self, Peter Zweig

Associate Professors:

Alan Bruton, Tom Diehl, Dietmar Froehlich, Matthew Johnson, Susan Rogers, William Truitt

Assistant Professors:

Jorge Dorribo-Camba, George Chow, Feng Feng, Saleh Kalantari, Lannis Kirkland, Michael Kubo, Ziad Qureshi, Marta Rodriguez

Lecturers:

Adams, Vera A., Ahmadi, Nooshin, Bellian, John, Burrow, Robert W., Chapman, Sharon, Chlebus, David, Dean, Amanda H., deVega, Jim, Dudley, Drew, Fleshman, Fredric J., Fong, Joseph C., Fonseca, Sofia Y, Fox, Stephen, Gonzales, Michael A., Hager, Jesse, Huynh, Chan Q., Jackson, Megan H., Kimbrough, Mark S., Kweton, Paul, Laos, Nora, Logan, Jason, Marrin, Elizabeth, Martinez, Marcus, Noldt, Peter, Oliver, Christopher N., Orta, Luisa, Plauché, Roya, Robbins, Joshua D., Robertson, Christopher N., Sarai, Jasleen, Skaggs, Paul, Smith, Joshua, Story, Kevin J., Taylor, Rives, Thomas, James, B., Tsai, John H., Tucker de Vazquez, Sheryl, Turner, Drexel, Vanlandingham, Joshua J., Vos, Gordon A., Wells, Adam C, Yu, Maria H.



Kathrine G. McGovern College of the Arts

Office of the Dean:
120 Moores School of Music
www.uh.edu/cota
713-743-0867

Acting Dean

Andrew Davis, Ph.D.

Acting Associate Dean

David Bertman, M.M.

College Business Administrator

Ornela Santee, M.B.A.

Manager of Cohort Relations

Nicholas Fox, B.S.

The College of the Arts (CotA) comprises the performing and visual arts schools at the University of Houston, including the Schools of Art, Music, and Theatre & Dance. The College is also home to the interdepartmental Master of Arts in Arts Leadership program as well as to the Cynthia Woods Mitchell Center for the Arts, the Blaffer Art Museum, and the Center for Arts Leadership.

The College of the Arts provides training in the classical traditions across the visual and performing arts; cross-disciplinary training through collaborations between the College and other academic units on campus; and professional, social, and entrepreneurial training through collaborations with arts and cultural organizations in the City of Houston—America's fourth largest city and one of America's great arts destination cities for the twenty-first century.

The College of the Arts is responsible for numerous cultural, professional, professional-development, and leadership programs every year, among them the Texas Music Festival, the Houston Shakespeare Festival, the CounterCurrent Festival, The Contemporary Project, and the Leadership in the Arts Summit, all on top of year-round exhibitions and performances on the University of Houston campus—one of Houston's most active, dynamic, and innovative arts neighborhoods.



Admissions Requirements: College of the Arts

The College of the Arts requires a bachelor's degree from an accredited institution and an appropriate background in the subject to be studied for entry into any of its graduate programs. Applicants must satisfy all University of Houston Admission Requirements as specified in this catalog. These include the submission of a graduate application, transcripts from every institution of higher education attended, letters of recommendation, and a statement of interest. While many fine arts degree do not require GRE scores, some Master of Arts and Master of Music degree tracks do; please consult the pages for the individual programs in this catalog for more information on the GRE requirement. Creative and performing arts programs, in addition, require an audition and/or an artistic portfolio as part of the application process.

International applicants must, in addition, provide scores on the Test of English as a Foreign Language (TOEFL) or the International English Testing System (IELTS) or the Pearson Test of English (PTE). Minimum TOEFL score for international applicants is 79 (internet-based test), including a minimum writing score of 20; minimum IELTS score is 6.5, including a minimum writing score of 6.5; and minimum PTE is 53.

Unconditional and Conditional Admission Requirements

- **Unconditional**
 - To be eligible for unconditional admission, students must have a grade point average of at least 3.00 (A=4.00) during the last 60 semester hours of graduate and/or undergraduate work attempted.
- **Conditional**
 - Conditional admission may be granted to students who have a grade point average of at least 2.60 (A=4.00) and whose test scores in combination with other elements of the application materials indicate probable success in the graduate program. To remain in a graduate studies program, conditionally admitted students must earn a grade point average of at least 3.00 (A=4.00) on the first 12 semester hours of graduate work attempted at the University of Houston. Applicants without a strong background for graduate study in the discipline may be requested to take leveling courses as a condition of admission.
 - The conditional admission category applies only at the master's level. Conditional admission may not be granted to doctoral-level applicants.

Please refer to the departmental sections of this catalog for specific information on admission requirements for particular programs, as some programs may have higher requirements than the minimum standards listed above. Applicants should contact the individual departments to determine what additional materials may be required to accompany the application for admission.

Continuation

Any student's continuation in the graduate programs of the College of the Arts is at the discretion of the college, the major department, and the major advisor. A satisfactory rate of progress toward the degree is required throughout a student's enrollment. A department or program may terminate enrollment at any time if the rate of progress is not satisfactory or if the student falls out of good standing.

The college requires a cumulative grade point average of 3.00 or better for good standing and graduation; some departments and programs require a higher minimum GPA. In addition, the college requires adherence to the university's low grade policy.



Academic Policies: College of the Arts

Continuous Enrollment

A graduate student who cannot enroll in a given semester must apply to the College of the Arts for a leave of absence in order to remain in good standing.

A student who interrupts enrollment in a graduate program in the college for more than 13 months and does not have a pre-approved leave of absence petition for that time period must petition to re-enter the program for the appropriate semester. The program of the student who is accepted will be governed by the catalog in effect at the time of the student's reentrance to the graduate program.

Postbaccalaureate Course Work

A postbaccalaureate student is a student who has earned one or more baccalaureate or higher degrees at an accredited institution. An applicant seeking this classification rather than graduate status must apply to the Office of Admissions.

Individual schools and programs set policies regarding postbaccalaureate study. Students are responsible for contacting the unit in which they wish to take courses prior to registration in order to determine whether that school or program allows postbaccalaureate students to enroll in graduate courses; how many such courses the students may take; and whether advanced courses taken while students are classified as postbaccalaureates may be applied toward a graduate degree. Some units do not allow courses taken by postbaccalaureate students to be credited toward a graduate degree. The maximum number of semester hours that a school or program may approve for credit toward a graduate degree is 9.

Academic Grievance Policy

In the normal conduct of education at the University of Houston, justifiable grievances may arise concerning the violation of university, college, or school academic policies or procedures. The College of the Arts is committed to resolving these grievances in a fair, orderly, and expeditious manner. To that end, the college has established informal and formal procedures beginning at the school level for settling academic grievances.

An academic grievance refers to an action taken against a student by a member of the faculty (including part-time instructors and teaching assistants), staff, or administration that either violates a university, college, or department academic policy or procedure or prejudicially treats the student on the basis of race, color, national origin, religion, sex, age, handicap, veteran status, or any other non-academic status or characteristic.

Because assigning a grade or evaluating a student's work performance involves the faculty's professional judgment and is an integral part of the faculty's teaching responsibilities, disagreement with an instructor concerning a grade or evaluation is not a justifiable grievance to be considered under this policy unless factors such as those mentioned in the previous paragraph can be shown to have affected that grade or evaluation. A student with a justifiable grievance that can be substantiated should initiate academic grievance proceedings as soon as possible after the action in dispute occurs.

Any student who believes he or she has an academic grievance involving the College of the Arts should first try to resolve the grievance informally with the faculty member or other involved parties. In some cases, the student may have to discuss the grievance with the director of the relevant school or program, the college officer designated by the dean, or both before obtaining a satisfactory resolution.

If the informal discussions do not resolve the academic grievance, the aggrieved student may initiate a formal grievance by submitting a written complaint to the director of the school or program involved (or the college officer designated by the dean if the director is the focus of the grievance) within 60 days of initiating informal proceedings.

The aggrieved student who does not obtain a satisfactory resolution at the school or program level may file a formal appeal first with the office of the dean and then, failing to obtain satisfaction, with the Graduate and Professional Studies Committee and the office of the senior vice president for academic affairs.



For further information contact the Office of the Dean of the College of the Arts.

Incomplete Grades

The grade of I (incomplete) is a conditional and temporary grade given when students are passing a course but, for reasons beyond their control, have not completed a relatively small part of all requirements. Students are responsible for informing the instructor immediately of their reason for not submitting an assignment on time or for not taking an examination. The grade of I must be changed by fulfilling the course requirements within one year of the date awarded, or, in conformity with university policy, the grade will be changed automatically to F or U (in S-U graded courses).

Residency

In a 30-hour degree, at least 24 semester hours of credit must be earned in residence at the University of Houston campus. In a 36-hour degree, at least 30 semester hours must be earned in residence. Students enrolled in doctoral programs must have a minimum of one academic year of continuous enrollment to satisfy the college's residence requirement.

Time Limits

A master's degree program must be completed within the period specified by the department, but under no circumstances in more than five years of the date of enrollment in the master's program.

Students who enroll as doctoral candidates must complete their degree requirements within the length of time specified by the department, but in no circumstances more than ten years of the date of first enrollment with a doctoral degree objective. Failure to comply will result in the candidate being ineligible for that doctoral degree.

Doctoral students who fail to complete the dissertation within five years after passing the comprehensive examination must retake the examination. Leaves of absence that have been granted do not extend the above time limits.

Transferred Courses

No more than nine semester hours of transferred courses may be applied to a master's degree. Determination of course equivalency of transferred work resides with the proposed major department. Refer to the university's Transferred Courses rule for more information.



Degree Requirements - College of the Arts

The College of the Arts offers degrees at the master's and doctoral levels. Due to the variety of degrees offered, students are advised to consult the listing for all degrees offered in College of the Arts and also the departmental sections of this catalog for specific information on degree requirements of particular degrees.

General requirements for master's degrees:

All schools in the college offer master's degrees, which provide in-depth instruction and preparation, beyond the bachelor's level, in a particular field. All master's degrees require a significant amount of coursework, and all also require a master's thesis, comprehensive examination, recital, exhibit, or other capstone project or experience to attain the degree. For program tracks requiring a thesis, the thesis committee must consist of at least three faculty members, at least two of whom must come from the major department. After these minimum requirements for committee members are satisfied, additional committee members may be approved.

Master of Arts (M.A.)

- Requires a minimum of 30-36 graduate hours in the field, depending on program and track.

Master of Fine Arts (M.F.A.)

- Requires a minimum of 45-60 graduate hours, depending on program and track.

Master of Music (M.M.)

- Requires a minimum of 30-36 graduate hours, depending on program and track.

General Requirements for doctoral degrees:

Doctor of Musical Arts (D.M.A.)

Awarding of the D.M.A. degree signifies that the recipient has acquired a broad knowledge of music in all its aspects-practical, historical, and theoretical-and has demonstrated, by successful completion of recitals and a doctoral research project, performance and scholarly competence meeting the discipline's national standards. The D.M.A. requires at least 60 hours of doctoral-level work and successful completion of language requirements and disciplinary examinations, at the discretion of the Moores School of Music.



College of The Arts

Programs

Arts Leadership Program

Arts Leadership, MA

The Master of Arts program in Arts Leadership in the College of Liberal Arts and Social Sciences at the University of Houston takes an entrepreneurial approach to preparing creative professionals to launch, administer and maintain arts organizations of all sizes. The degree program provides advanced study in the management and promotions of arts organizations across artistic disciplines.

Students enrolled full-time can complete the degree requirements in two years. Those who wish to continue full-time or part-time employment during the day may complete this program as courses will be offered during evening hours.

All students will be required to complete internships with established, professional, arts organizations in the greater Houston area. They will have access - through guest lecturers, workshop and panels both in class, and through the Center for Arts Leadership - to interact with local and national leaders of distinction in the fields of arts, entertainment and culture.

The Master of Arts program in Arts Leadership develops and cultivates the next generation of influential leaders in the fields of arts and entertainment.

For further information, please see the MA in Arts Leadership website.

Faculty

Fleurette S. Fernando: Director and Adjunct Professor, Arts Leadership. MFA, York University, Toronto, Canada.

Gwendolyn H. Goffe: Adjunct Professor, Arts Leadership. B.A., Connecticut College; M.B.A., Wharton School of Business.

Terri Golas: Adjunct Professor, Arts Leadership. B.A., University of Houston; M.B.A, University of St. Thomas.

Andrea Lazar: Adjunct Professor, Arts Leadership. B.A., University of Texas at Austin; M.A./M.B.A., Southern Methodist University.

Douglas Newman: Adjunct Professor, Arts Leadership. B.A., Brandeis University; M.P.A., New York University.

James Thurman: Director and Clinical Professor, Master of Public Administration. B.A., Texas A&M University; M.P.A., LBJ School of Public Affairs, University of Texas, Austin; Ph.D., University of Houston.

Joseph Wilson: Adjunct Professor, Arts Leadership. B.A., Regis University, Denver; M.A., University of Connecticut, Storrs.

Admission Requirements

Applicants must meet the following minimum requirements for unconditional admission to the Master of Arts in Arts Leadership program:

- Bachelor's degree from a regionally-accredited institution for admission to the master's programs
- 3.00 graduate point average in the last 60 hours of undergraduate and/or graduate course work

Applicant Checklist:

- A complete online graduate application including the non-refundable application fee (25 for domestic applications/\$125 for international applicants). Full details can be found at www.uh.edu/graduate-school/admissions/how-to-apply/.



- Official transcripts from each college or university attended since high school sent to the UH Graduate School
- 3 letters of recommendation from those who are familiar with your work and educational preparation (part of the online application)
- A statement of intent on interest in attending the Arts Leadership program (submitted with the online application)
- A resume of academic and work experience (submitted with the online application)
- International students have additional paperwork and/or testing requirements. Full information is found at www.uh.edu/graduate-school/admissions/international-students/.

Degree Requirements

Credit hours required for this degree: 36.0

The M.A. in Arts Leadership will provide advanced study in the management and promotion of arts organizations across artistic disciplines.

The degree requires 36 semester credit hours of coursework and internship. It consists of:

- 15 hours of required specialty courses, including some specific to the arts and others in areas of public administration and public sector business more generally
- 15 hours of electives
- 6 credit hours of internship in an arts organization or program, providing vital real-world experience to students

Core Curriculum

15 credit hours must be chosen from the following:

- ARLD 6300 - Fundamentals & Strategic Planning for the Arts Credit Hours: 3.0
- ARLD 6310 - Fundraising for the Arts Credit Hours: 3.0
- ARLD 6315 - Public Relations & Marketing in the Arts Credit Hours: 3.0
- ARLD 6320 - Financial Management for Arts Credit Hours: 3.0
- ARLD 6395 - Selected Topics in Arts Leadership Credit Hours: 3.0
Topic(s):
 - Leading the Turnaround
- PUBL 6310 - Administrative Theory Credit Hours: 3.0
- PUBL 6349 - Seminar in Non-Profit Management Credit Hours: 3.0

Electives

15 credit hours may be chosen from the following:

- ARLD 6330 - Arts and Technology Credit Hours: 3.0
- ARLD 6340 - Law and the Arts Credit Hours: 3.0
- ARLD 6350 - Cultural Commerce: Business Models for Arts Entrepreneurship Credit Hours: 3.0
- ARLD 6360 - Arts & Community Engagement Credit Hours: 3.0
- ARLD 6395 - Selected Topics in Arts Leadership Credit Hours: 3.0
- ARLD 6398 - Special Problems in Arts Leadership Credit Hours: 3.0
- PUBL 6342 - Budgeting For Public Agencies Credit Hours: 3.0
- PUBL 6350 - Public Management Credit Hours: 3.0

Students may also get permission to take an elective course from departments outside of the Arts Leadership Program.



Practicum

- **ARLD 6691 - Internship in Arts Organization Credit Hours: 6.0**

Practicum Requirements

All students will be required to complete a Practicum within an established, professional, arts organization in the greater Houston area. The Practicum Program, provides the student with a meaningful and intensive on-the-job training experience in preparation for a leadership position while maintaining a student role, and provides the host organization with the opportunity to train and utilize future professionals in the non-profit and for-profit arts sector.

During the Practicum, the student is expected work 300 hours on the identified project in total. Time spent on the project should be divided however it works best for the student and the organization. Practicum projects can be completed at any time during the academic semesters of the MA Program or during the summer/winter breaks. A minimum of 15 core credit hours must be completed within the MA in Arts Leadership Program before the student undertakes the actual fieldwork, although the planning phase may begin earlier.

Museum and Gallery Management, Certificate

The Graduate Certificate in Museum and Gallery Management, offered through the MA in Arts Leadership Program, is an exclusive 12-credit, non-degree program at the University of Houston. The program can be completed in one to three years and provides concentrated study in the business and administrative aspects of museum and gallery spaces. It is intended to serve as an addition to master's and doctoral degrees for students who are interested in pursuing a career in the field. The program will combine academic and professional training for students preparing to be the next generation of museum and gallery leaders.

For more information, please visit the program page: <http://www.uh.edu/kgmca/arts-leadership/academics/museum-gallery-management/>.

Admission Requirements

Students applying for the Graduate Certificate in Museum and Gallery Management Program should be current University of Houston students who have completed a minimum of 9 graduate credit hours with a minimum GPA of 3.2 in a related field which can include (but is not limited to) art, art history, arts leadership, architecture, anthropology, education, history, music, theatre, dance, Spanish, social work, sociology, world cultures and literature. A background in fine art is not required to enroll in the certificate program as the process of museum management is transferable across various types of museums, including children's museums, history museums, natural science museums, etc.

Visit the program's application process page for more information: http://www.uh.edu/kgmca/arts-leadership/academics/museum-gallery-management/mgm_application.

Certificate Requirements

Credit hours required for this certificate: 12.0

In order to receive the Graduate Certificate in Museum and Gallery Management, certificate courses cannot double count between the certificate and any other graduate program on or off the UH campus. Individual courses can, however, be taken as elective courses in any UH graduate degree program. 12 credit hours from the following must be completed: (It is highly recommended that students take ARLD 6310 - Fundraising for the Arts and ARLD 6320 - Financial Management for the Arts if they have not already taken them in a previous degree or certificate track. All students must take the ARLD 6395 - Introduction to Museum and Gallery Management).

Required Course

- **ARLD 6395 - Selected Topics in Arts Leadership Credit Hours: 3.0**
Topic:



- Introduction to Museum and Gallery Management

Recommended Courses

It is recommended that students take the following courses if they have not already taken them in a previous degree or certificate track.

Required for students who have not completed previous coursework in fundraising.

- ARLD 6310 - Fundraising for the Arts Credit Hours: 3.0

Required for students who have not completed previous coursework in financial management.

- ARLD 6320 - Financial Management for Arts Credit Hours: 3.0

Course Electives

Other courses include:

- ARLD 6395 - Selected Topics in Arts Leadership Credit Hours: 3.0
Topic(s):
 - Museum Education and Community Engagement
 - Museum Programming
- ARLD 6315 - Public Relations & Marketing in the Arts Credit Hours: 3.0
- ARTH 6301 - Critical Theory Credit Hours: 3.0
- ARTH 6303 - After Theory Credit Hours: 3.0
- ARTH 6380 - Museums and the Problem of Display Credit Hours: 3.0
- ARLD 6391 - Internship in Arts Organization Credit Hours: 3.0

School of Art

Art History, MA

A core principle of the University of Houston's Art History graduate program is flexibility, making it both dynamic and interdisciplinary. The M.A. in Art History at the University of Houston provides the graduate student with a firm grounding in the discipline of art history coupled with the riches of major art institutions in a dynamic urban art world. The program is designed with a minimal number of required courses to give students the opportunity to design a program that best suits their individual needs and aspirations. In addition to art history, specializations are also available in Curatorial and Theoretical Perspectives or in Art Criticism and Writing, with thesis and non-thesis tracks in each.

Through its uniquely wide-ranging and diverse options for coursework and internships, the UH program enables students to pursue a large number of career options. Graduates of the UH Master's program in art history will be well-prepared to go on to seek the Ph.D. in art history, or, alternatively, to pursue careers not requiring the Ph.D. in art museums, collections, or galleries; in art criticism and writing; or to combine additional credentials for a career in arts librarianship, arts management or art education.

Our expansive view of art history leads us to seek candidates with a variety of interests and backgrounds. Though applicants must demonstrate an understanding of art historical research and writing practices through a writing sample, an undergraduate degree in Art History is not required

For further information, please see the MA in Art History web page.

Admission Requirements

Applicants to the MA Program must submit the following:



- A completed online application available at <http://www.uh.edu/graduate-school/admissions/how-to-apply/> including upload of documents and application fee payment.
- Non-refundable application fee (\$75 domestic applicants/\$150 international applicants)
- Official transcript from each college or university attended since high school (sent directly to the Graduate School)
- GRE Scores, less than 5 years old (sent electronically to the University of Houston - code 6870)
- 3 recommendations from those who are familiar with your academic work, at least one of which should concern your work in art history.
- A resume of academic and work experience
- Statement of intent stating academic interests within the field of art history and career goals
- One sample of academic writing (7-20 pages) can be attached during the online application process. It should be formatted as a pdf.
- International student have additional documentation and/or test score requirements. Full details can be found at www.uh.edu/graduate-school/admissions/international-students/

Degree Requirements

Credit hours required for this degree: 36.0

There are two plans under which graduate students can earn a Master of Arts in Art History.

- MA Plan I: 30 hours of coursework and 6 hours of approved thesis hours and written and defended thesis.
- MA Plan II: 33 hours of coursework and 3 hours of capstone examination preparation and satisfaction.

PLAN I: THESIS TRACK

The Plan I thesis track requires the completion of a thesis approved by three faculty committee members. The thesis advisor is chosen during the Spring Semester of the first year. The thesis may take the form of a written thesis or a curatorial project.

PLAN II: CAPSTONE EXAMINATION

The Plan II track student will take a series of exams over the course of two days which will be evaluated by a committee of three faculty members approved by the Graduate Program Director in Art History. This examination will normally be taken during the last semester of coursework. The decision to pursue this path will be made by the First Semester of the Second Year.

Required Courses

A minimum of 36 graduate-level credits are required for the MA degree II. All MA students are strongly encouraged to pursue a broad background in art history outside of their thesis concentration area.

- ARTH 7380 - Graduate Art History Methods I **Credit Hours: 3.0**
- ARTH 7381 - Graduate Art History Methods II **Credit Hours: 3.0**

Art History (12.0 hours)

- Six hours in Art History Pre-1400 (chosen from Ancient, Pre-Columbian, Medieval)
- Three hours in Art History 1400-1850
- Three hours in Art History 1850-present

Related Arts (18.0 hours)

These courses may be a combination of art-history and non-art history courses to enrich their their understanding of the period, including possible relevant graduate work in Philosophy, Literature, History, Women's Studies, Anthropology, Latino Studies, etc.



If a student is writing a thesis, 6 hours (ARTH 6399 & ARTH 7399) will be applied to 'Related Arts'. Non-thesis track students will apply 3 hours of independent study (ARTH 7398) in preparation of question area topics and in-depth directed study with a faculty member. Internship hours are applied as hours in related arts.

Academic Policies

FOREIGN LANGUAGE REQUIREMENT

A student must demonstrate reading proficiency in a foreign language. There are several methods by which this can be satisfied:

- Score of 550 or higher on the Graduate Student Foreign Language Test (GSFLT)
- A grade of B or better in two graduate (6000-level) readings courses in the foreign language. A grade of B- will not be accepted.
- Completion of beginning and intermediate college levels (four semesters) of foreign language with a grade of B or better in the last five years. (Placing out of beginning courses may be considered as fulfilling part of the requirement.) Two undergraduate courses plus a 300-word passage translation can also meet this requirement.
- Certification of competency by the Art History Faculty through an translation examination of a discipline-specific text in the language 300 word translation.
- For students whose native language is something other than English, a native speaker certification may be possible.

GENERAL COMPREHENSIVE QUALIFICATION EXAMS

At the end of the First Semester, all MA students will be required to take an objective exam, based on images and information covered in the Western Survey courses from Ancient through Modern (ARTH1380/1381). The students will be required to provide thorough identification and informed discussion on canonical works drawn from a textbook used in our classes.

Art, MFA

The graduate program leading to the M.F.A. degree is a 60 term-hour degree program comprised of 18 hours in the concentration, 12 hours in art history, 24 hours of related arts, and six hours of graduate seminar. MFA Degree Concentrations:

- Graphic Design
- IPEF
- Painting
- Photography and Digital Media
- Sculpture

For further information, please see MFA Programs web page.

Admission Requirements

The following are the basic requirements for unconditional admission to the graduate program for the MFA degree:

- BA, BFA or BS in any field from a US accredited institution with a minimum of 3.0 (B) GPA earned in the last 60 hours of coursework.
- The School of Art evaluates and admits MFA candidates primarily on the basis of work completed in the major area of concentration to which the application is made. Therefore, the portfolio and artist's statement, as described below, are the most important parts of the application.

Applicant Checklist

- A completed online application available at <http://www.uh.edu/graduate-school/admissions/how-to-apply/>, including document upload and fee payment
- Non-refundable application fee (\$75 domestic applicants/\$150 international applicants) collected online during application process
- Official transcript from each college or university attended since high school (sent directly to the Graduate School)



- During the applications process, you will be asked to provide names and email addresses of 3 people to serve as your references. At least one of these should be familiar with your work in your art area.
- A brief statement of intent expressing your reasons for pursuing graduate study in your area of interest. Indicate on the statement the concentration to which you are applying. A resume or CV is required and will be uploaded during the application process in PDF form.
- Portfolio (see <http://www.uh.edu/cota/art/Graduate-Programs/MFA%20in%20Studio%20Art/Apply/> for details on specific concentrations)
- International students have additional documentation and/or test score submission requirements. For full details, visit www.uh.edu/graduate-school/admissions/international-students/.

Degree Requirements

Credit hours required for this degree: 60.0

The MFA degree is a sixty term-hour program.

- Studio Courses in Design: 18 hours
- Related Arts: 24 hours
- Art History: 12 hours
- Seminar: 6 hours

SPECIFIC CONCENTRATION REQUIREMENTS (within the 18 hours of required coursework): *note: the specifics listed below are IN ADDITION to hours needed to satisfy the 18 hour requirement of coursework in the area of concentration. These hours may NOT be satisfied with Independent Study.

- **GRAPHIC COMMUNICATION:** EVERY term students are required to enroll in Graphic Communication Studio (ART 6330). This will total 12 hours of coursework. They are encouraged to also enroll in (ART 7330) whenever possible.
- **IPEF** (Interdisciplinary Practices in Emerging Forms): IPEF students are required to take Interdisciplinary Studio (ART 6385) a minimum of three times. It is suggested that this be taken once per year.
- **PAINTING:** The Graduate Painting Program requires that all first year graduate students take both the Graduate Drawing section (ART 6300) and the Graduate Painting section (ART 6305) in BOTH the FALL and the SPRING of the First year in conjunction with First Year Graduate Seminar (ART 6380). It is strongly recommended that they take no more than 9 hours in the Fall term. After the First Year, they are no longer required to enroll in (ART 6305) Graduate Painting or (ART 6300) Graduate Drawing. They may take other graduate level drawing and painting courses. (Beyond the remaining 6 hours required to satisfy the 18 hours in Concentration distribution). Painting students MUST take History of Contemporary Painting (ARTH 6331) to satisfy one of their Art History requirements.
- **PHOTO/DIGITAL MEDIA:** Photography Studio (ART 6370) is required a minimum of four times as follows: BOTH terms of the first year, one term of the second year and the SPRING term of the third year. Photography Students are required to take Readings in 20th and 21st Century Photography (ARTH 6320) to satisfy one of their Art History requirements.
- **SCULPTURE:** EVERY term students are required to enroll in Sculpture Studio (ART 6360). This will total 12 hours of coursework.

Academic Policies

Graduate Reviews

First-year student Initial Reviews: At the end of the fall and spring semesters, each first year student will meet with their committee. During this meeting the committee and the student will discuss the student's work, progress in the program, and plans for future study.

Second Year Review: Prior to the end of the spring semester of the second year students must arrange a meeting of their faculty committee as a group to review their work and progress toward the degree, and discuss plans for the final year.

A student will be permitted to graduate upon completion of their course requirements, Thesis Exhibition, Oral Examination, and MFA Thesis Catalog.

Graduate Writing Course ART 6381: During the fall of the final year, the student is required to enroll in Art 6381, the Graduate Writing Seminar.



MFA Thesis Catalog: The MFA Thesis Catalog will include the long artist's statement from the Graduate Writing Course, documentation of the student's work, and any additional supporting materials. The work in the Thesis Exhibition must be included in the MFA Catalog. On or before a designated date in the spring (which will be posted at the fall meeting of MFA candidates), the student will submit a copy of the MFA Thesis Catalog to the Graduate Advisor, in PDF Format (viewable by Adobe Reader) on a CD or DVD, for final approval.

Thesis Exhibition: A representative from the Blaffer Gallery will meet with the graduating MFA students approximately 6 months prior to the exhibition. At this time each student will receive a copy of the schedule of the deadlines for the exhibition. At this meeting the student must be prepared to give the Blaffer Gallery a preliminary estimate of the scope of their work for the exhibition. Students must consult with the Blaffer Gallery regarding work that requires unusual or specific accommodations in installation.

Oral Examination: The student will schedule a meeting with their committee for the oral examination, the final and comprehensive discussion of their work. The oral examination may be held at any time during the spring semester, but must be held prior to the closing of the student's MFA Thesis Exhibition (exceptions to this time constraint may be arranged with the approval of the Graduate Advisor). At least two weeks prior to the oral examination, the student will deliver a printed copy of their long artist's statement to all members of the committee. For oral examinations held in the Blaffer Gallery, the student will schedule the oral examination in the Blaffer Gallery after the installation of the exhibition. No more than one week after the completion of the oral examination the Committee Chair will deliver the signed MFA Candidate Report Form to the Graduate Advisor.

Moore School of Music

The Moore School of Music is a full member of the National Association of Schools of Music and a member of the Texas Association of Music Schools. The school offers the Master of Music and Doctor of Musical Arts degrees, as well as a non-degree professional Certificate in Music Performance. Students majoring in other disciplines may elect courses in music and may participate in the ensembles. Instruction in applied music will be provided for students majoring in other departments at the University of Houston as long as teaching time and practice facilities are available after the requirements for music majors are met.

- Master of Music Programs
- Doctor of Musical Arts Programs
- Certificate Program in Music Performance

Music Performance, Certificate

Purpose:

The Certificate in Music Performance is an exclusive non-degree program providing an intensive, two-year period of concentrated study in music performance at the graduate level. It is intended as an alternative to master's and doctoral degrees for exceptionally gifted and accomplished students who show the potential and the motivation to achieve a successful performing career, but who do not wish to engage in the complete curriculum required in standard graduate degree programs.

Available Areas of Study

- Strings
- Brass
- Woodwinds
- Percussion
- Harp
- Piano
- Collaborative Piano



- Organ
- Voice

Admission

Application Deadline

Complete applications must be received by December 1 prior to the year in which Fall term entrance is anticipated.

Auditions

All applications require a high-quality video recording, which will be pre-screened by at least three faculty from the student's area of study. Students approved in the pre-screening will be invited for a live audition on one of the school's designated audition dates. Recorded auditions or auditions in any other form are not accepted. Applicants should consult "Graduate Auditions" on the Moores School of Music website for audition dates and procedures.

Other Information

Recitals

Recitals are adjudicated by a committee of at least four faculty from the student's area of study (or from another suitable area if four area faculty are unavailable). Each student's committee is appointed by the area coordinator when the student enters the program and is approved by the Director of the School of Music. The committee will remain in place for the duration of the student's certificate program.

Certificate students will present a pre-recital jury consistent with those required of graduate degree-seeking students.

Recitals are graded individually by each committee member, with standard letter grades. A student's recital grade comprises the average of the grades submitted privately to the Graduate Office by each committee member. Students earning less than composite B- for any recital will be dismissed from the certificate program.

Faculty have the option to award an incomplete grade for a recital. Students may not accumulate more than one incomplete recital grade during their certificate program.

Two of the four required certificate recitals must be performed on campus. The venue and program for any off-campus recital must be approved by the student's committee in advance of the event, and students must provide their committees with a high-quality video recording of any off-campus recital.

Certain professional engagements equal in importance and depth to a doctoral-level recital may be substituted for two of the required certificate recitals. The substitution must be approved by the student's certificate committee.

Scholarship Support

- Scholarship support will be awarded to certificate students according to the same criteria applied to degree-seeking students.
- the minimum credit-hour requirement per term for scholarship support for certificate students will be 6, not 9, as for degree-seeking students.
- The Moores School of Music will also define 6 credits as full-time enrollment for international certificate-seeking students. (International students may be required to enroll in additional hours to fulfill visa requirements, as determined by the Department of Homeland Security.)



Certificate Requirements

- Certificate students who earn less than a B- in any term in applied music will be dismissed from the certificate program, with no probationary period.
- Certificate enrollment is for fall and spring terms only; no summer enrollment is permitted for certificate students.
- No transfer credit will be applied toward the certificate. No credit earned while in a degree program will be accepted for credit toward the certificate. No credit earned in the certificate program will be awarded for credit toward another degree at this institution.
- Recital Requirement: Students are required to present four full solo recitals.
- Residency Requirement: Students must complete the program by enrolling in a maximum of four long (fall or spring) terms in a total period of three years from the date of enrollment.

Courses

Complete 16.0 Credit Hours from:

- MUSA 64XX- Applied Music. **Credit Hours: 4.0**

Complete 4.0 Credit Hours from:

- MUSI 6106 - Grad Large Ensemble **Credit Hours: 1.0**
- MUSI 6101 - Opera Role Performance **Credit Hours: 1.0**

Complete 4.0 Credit Hours from:

- Chamber music or other Graduate Electives

Complete 4.0 Credit Hours from:

- MUSA 6140 - Graduate Recital I **Credit Hours: 1.0**
- MUSA 6141 - Graduate Recital II **Credit Hours: 1.0**
- MUSA 6142 - Graduate Recital III **Credit Hours: 1.0**
- MUSA 6143 - Graduate Recital IV **Credit Hours: 1.0**

Program Total: 28.0 Credit Hours

Music, DMA - Programs List

Please select from the following plans offered:

- Doctor of Musical Arts - Specialization in Collaborative Piano
- Doctor of Musical Arts - Specialization in Composition
- Doctor of Musical Arts - Specialization in Conducting
- Doctor of Musical Arts - Specialization in Music Education
- Specialization in Performance:
 - Instrumental Track
 - Keyboard Track



- Vocal Track

Music, MM - Programs List

Please select from the following plans offered:

- Master of Music - Specialization in Collaborative Piano
- Master of Music - Specialization in Composition
- Master of Music - Specialization in Conducting
- Master of Music - Specialization in Music Education
- Master of Music - Specialization in Music Theory
- Master of Music - Specialization in Musicology
- Specialization in Performance:
 - Instrumental Track
 - Organ Track
 - Piano Track
 - Vocal Track
- Performance and Pedagogy:
 - Piano Track
 - Strings Track
 - Vocal Track
- Sacred Music:
 - Choral Conducting Track
 - Organ Track

School of Theatre and Dance

The School of Theatre offers the Master of Arts and the Master of Fine Arts degrees. Graduate courses in dance may be applied toward either the Master of Arts or the Master of Fine Arts degrees. No more than nine semester hours in 6000-level and higher courses outside the School of Theatre will be allowed.

Theatre, MA

The MA degree program in Theatre Studies at UH is recommended for individuals with a strong interest in the scholarly aspects of theatre—particularly dramaturgy, theatre history, and performance studies. The program is ideal for students interested in going on to pursue the PhD or working as a professional dramaturg. This program constitutes Options I and II of the program (Thesis vs Non-thesis options).

Option III of the program is the summer program, MA for Theatre Educators. The summer MA program is an affordable and convenient path for busy theatre educators to accomplish a graduate degree in three short summer sessions. Coursework in the summer MA is developed keeping in mind that students want to further develop their theatre education programs and classes.

For further information, please visit Theatre Studies MA and Summer MA for Theatre Educators program page.

Admission Requirements

Full details on applying for graduate study at the University of Houston is found at www.uh.edu/graduate-school/admissions/how-to-apply/. International applicants have additional documentation and English language proficiency requirements. Please visit www.uh.edu/graduate-school/admissions/international/students/ for more information.



In addition to meeting the college graduate admission requirements, students must have an undergraduate degree or have completed at least 24 semester hours in theatre at the undergraduate or postbaccalaureate level with a grade point average of at least 3.00 (A=4.00). Conditional admission may be granted to domestic applicants whose overall grade point average in the last 60 hours of course credit is at least 2.67 (A=4.00), whose grade point average in the discipline is at least 3.00, and whose score on the Graduate Record Examination is high enough to indicate probable success in the program.

Degree Requirements

Credit hours required for this degree: Thesis, 30.0/Non-Thesis, 36.0

Plan I: Thesis Option

Students must complete at least 30 semester hours which include:

Required courses (18 hours):

- THEA 6336 - Technical Production Credit Hours: 3.0
- THEA 6362 - Dramatic Thry&Criticism Credit Hours: 3.0
- THEA 6397 - Sel Prds-His of Theatre Credit Hours: 3.0
- THEA 6353 - Scenic, Costume,& Lighting Design I Credit Hours: 3.0
- THEA 6399 - Masters Thesis Credit Hours: 3
- THEA 7399 - Masters Thesis Credit Hours: 3

Electives (12 hours):

THEA electives at the 6000-level chosen with advisor approval.

Note(s): The school requires an oral defense of the student's thesis and also may require the student's proficiency in a foreign language if the student's area of specialization warrants it.

Plan II: Non-Thesis Option

Students must complete at least 36 semester hours which include:

Required courses (6 hours):

- THEA 6362 - Dramatic Thry&Criticism Credit Hours: 3.0
- THEA 6397 - Sel Prds-His of Theatre Credit Hours: 3.0

Topic(s):

- History of Theatre
- THEA 6353 - Scenic, Costume,& Lighting Design I Credit Hours: 3.0

Electives (27 hours):

THEA electives at the 6000-level chosen with advisor approval.

Plan III: Non-Thesis Option for Theatre Educators

The option is offered completely during summer terms and is designed for working theatre educators. Students must complete at least 36 semester hours including:

First Summer Term

- THEA 6280 - The teaching of Acting Credit Hours: 2.0
- THEA 6281 - The teaching of Voice Credit Hours: 2.0



- THEA 6282 - Field Work in Applied Performance London Credit Hours: 2.0
- THEA 6381 - Scenic Design for the High School Director Credit Hours: 3.0
- THEA 6382 - Dramaturgy for High School Director Credit Hours: 3.0

Second Summer Term

- THEA 6180 - Applying Methods Acting/Voice Credit Hours: 1.0
- THEA 6181 - Applying Methods Design/Dramaturgy Credit Hours: 1.0
- THEA 6286 - Field Work in Applied Performance Chicago Credit Hours: 2.0
- THEA 6383 - Lighting/Costume Design for High School Director Credit Hours: 3.0
- THEA 6384 - Directing Credit Hours: 3.0

Third Summer Term

- THEA 6182 - Applying Methods Lighting/Costume Design Credit Hours: 1.0
- THEA 6183 - Applying Methods Program Management Credit Hours: 1.0
- THEA 6284 - Program Management Credit Hours: 2.0
- THEA 6285 - Field Work in Applied Performance Study New York Credit Hours: 2.0
- THEA 6385 - Technical Direction/Shop Maintenance Credit Hours: 3.0
- THEA 6386 - Drama in Context Credit Hours: 3.0
- THEA 6287 - Acting Styles Credit Hours: 2.0

Theatre, MFA

The University of Houston Master of Fine Arts (MFA) in Theatre program is a 45 credit hour program which has four primary areas of study:

- Acting
- Design
- Technical Direction
- Costume Technology

MFA in Theatre - Acting

The MFA Professional Actor Training Program challenges talent and hones skills through a progressive arc of training in rigorous studio work and in full productions; professional connections are forged through auditions for work with Shakespeare festivals and other regional theater. The combination of rigorous studio training, diverse production experience, and professional networking will provide a launch for a career like no other program in the country.

The artists coming out of this program will be notable for combining five inter-locking qualities: Imagination, Agility, Precision, Passion, and Speed. UH's Professional Actor Training Program is a rigorous two-year program designed to prepare actors to work for leading regional theatres in major markets. Acting, voice, speech, stage combat, and movement skills are honed through extensive studio work and performances in UH productions. The program keeps a constant eye on the profession, bringing in outside artistic directors and sending the actors to group auditions to win the jobs that build a resume and a career.

MFA in Theatre - Design

Design students specialize and train in one or more discipline: scenic design, costume design or lighting design. All students enter the program together, and remain together for three years. Only one class is trained at a time. Collaboration is the heart and soul of the program. Students will develop a solid working knowledge of the elements and principles of their discipline in order to create a close collaborative working environment. In addition to the design and collaboration classes, the curriculum includes the study of dramaturgy, literature and theatre history. Upon successful completion of the program, a UH graduate will be exceptionally well suited and qualified for a career in the theatre and the related entertainment industry.

For further information, please view <http://www.uh.edu/cota/theatre-and-dance/theatre/graduate/>.



Admission Requirements

Full details on applying for graduate study at the University of Houston is found at www.uh.edu/graduate-school/admissions/how-to-apply/. International applicants have additional documentation and English language proficiency requirements. Please visit www.uh.edu/graduate-school/admissions/international/students/ for more information.

In addition to meeting the McGovern College of the Arts graduate admission requirements, prospective students must undergo assessment/audition by MFA faculty member in their area.

Degree Requirements

MFA in Theatre - Technical Direction Track

FALL - First Term (9.0 Credit Hours)

- THEA 6353 - Scenic, Costume, & Lighting Design I Credit Hours: 3.0
- THEA 6309 - CAD I for Theatre Design Credit Hours: 3.0 or Flat Pattern
- THEA 6185 - Scenic Methods & Materials Credit Hours: 1.0
- THEA 6294 - Design and Production Studio Credit Hours: 2.0

SPRING - Second Term (9.0 Credit Hours)

- THEA 6307 - Theatrical Project Planning Credit Hours: 3.0
- THEA 6303 - Scenic Structures Credit Hours: 3.0
- THEA 6185 - Scenic Methods & Materials Credit Hours: 1.0
- THEA 6294 - Design and Production Studio Credit Hours: 2.0

FALL - Third Term (9.0 Credit Hours)

- THEA 6327 - Digital Rendering Techniques Credit Hours: 3.0
- THEA 6306 - Rigging Credit Hours: 3.0
- THEA 6185 - Scenic Methods & Materials Credit Hours: 1.0
- THEA 6294 - Design and Production Studio Credit Hours: 2.0

SPRING - Fourth Term (9.0 Credit Hours)

- THEA 6329 - Digital Media Arts Credit Hours: 3.0
- THEA 6302 - Stage Machinery Credit Hours: 3.0
- THEA 7141 - Graduate Directing/Designer Collaboration Credit Hours: 1.0
- THEA 6294 - Design and Production Studio Credit Hours: 2.0

FALL - Fifth Term (9.0 Credit Hours)

- THEA 6310 - CAD II for Theatre Design Credit Hours: 3.0 OR
- THEA 6304 - Mask Theory and Practice Credit hours: 3.0
- Dramatic Theory & Crit or Selected Periods Credit Hours: 3.0
- THEA 6185 - Scenic Methods & Materials Credit Hours: 1.0
- THEA 6294 - Design and Production Studio Credit Hours: 2.0

SPRING - Sixth Term (9.0 Credit Hours)

- THEA 6294 - Design and Production Studio Credit Hours: 2.0
- Dramatic Theory & Crit or Selected Periods Credit Hours: 3.0
- THEA 6185 - Scenic Methods & Materials Credit Hours: 1.0



MFA in Theatre - Acting Track

First Term (12.0 Credit Hours)

- Acting -Personalization
- Voice 1
- Speech 1
- Movement
- Dramaturgy
- Ensemble Training: Suzuki and Viewpoints

Second Term (12.0 Credit Hours)

- Acting II -Action/Objective and Characterization
- Voice II
- Speech II
- Movement II
- Dramatic Theory & Criticism
- Ensemble Training: Suzuki and Viewpoints

Third Term (9.0 Credit Hours)

- Acting III -Shakespeare
- Voice/Speech III
- Movement III
- Ensemble Training: Suzuki and Viewpoints

Fourth Term (12.0 Credit Hours)

- Acting IV -Greek/Ritual Theatre and Comedy
- Voice/Speech IV
- Movement IV
- Ensemble Training: Suzuki and Viewpoints
- Creative Project

MFA in Theatre - Costume Technology Track

FALL - First Term (9.0 Credit Hours)

- THEA 6359 - Flat Patterning **Credit Hours: 3.0**
- THEA 6171 - Techniques and Styles **Credit Hours: 1.0**
- THEA 6294 - Design and Production Studio **Credit Hours: 2.0**

SPRING - Second Term (9.0 Credit Hours)

- THEA 6315 - Fabric Dyeing and Painting **Credit Hours: 3.0**
- THEA 6389 - Textile & Couture Techniques **Credit Hours: 3.0**
- THEA 6171 - Techniques and Styles **Credit Hours 1.0**
- THEA 6294 - Design and Production Studio **Credit Hours 2.0**

FALL - Third Term (9.0 Credit Hours)

- THEA 6356 - Tailoring Techniques for Menswear I **Credit Hours: 3.0**
- THEA 6171 - Techniques and Styles **Credit Hours: 1.0**
- THEA 6294 - Design and Production Studio **Credit Hours: 2.0**



SPRING - Fourth Term (9.0 Credit Hours)

- THEA 6358 - Tailoring Techniques for Menswear II Credit Hours: 3.0
- THEA 6171 - Techniques and Styles Credit Hours: 1.0
- THEA 6294 - Design and Production Studio Credit Hours: 2.0

FALL - Fifth Term (9.0 Credit Hours)

- THEA 6294 - Design and Production Studio Credit Hours: 2.0
- THEA - Theory/Crit or Selected Periods Credit Hours: 3.0
- THEA 6171 - Techniques and Styles Credit Hours: 1.0

SPRING - Sixth Term (9.0 Credit Hours)

- THEA 6171 - Techniques and Styles Credit Hours: 1.0
- THEA - Theory/Crit or Selected Periods Credit Hours: 3.0
- THEA 6294 - Design and Production Studio Credit Hours: 2.0

MFA in Theatre - Design Track

- THEA 6353 - Scenic, Costume, & Lighting Design I Credit Hours: 3.0
 - THEA 6309 - CAD I for Theatre Design Credit Hours: 3.0
- or

Flat Pattern

- THEA 7141 - Graduate Directing/Designer Collaboration Credit Hours: 1.0
- THEA 6294 - Design and Production Studio Credit Hours: 2.0

SPRING - Second Term (9.0 Credit Hours)

- THEA 7353 - Period Styles Credit Hours: 3.0
 - THEA 6307 - Theatrical Project Planning Credit Hours: 3.0
- or
- THEA 6315 - Fabric Dyeing and Painting Credit Hours: 3.0
 - THEA 7141 - Graduate Directing/Designer Collaboration Credit Hours: 1.0
 - THEA 6294 - Design and Production Studio Credit Hours: 2.0

FALL - Third Term (9.0 Credit Hours)

- THEA 6327 - Digital Rendering Techniques Credit Hours: 3.0
- THEA 6342 - Drawing and Rendering Credit Hours: 3.0
- THEA 7141 - Graduate Directing/Designer Collaboration Credit Hours: 1.0
- THEA 6294 - Design and Production Studio Credit Hours: 2.0

SPRING - Fourth Term (9.0 Credit Hours)

- THEA 6329 - Digital Media Arts Credit Hours: 3.0
- THEA 6354 - Scenic, Costume, & Lighting Design II Credit Hours: 3.0
- THEA 7141 - Graduate Directing/Designer Collaboration Credit Hours 1.0
- THEA 6294 - Design and Production Studio Credit Hours 2.0

FALL - First Term (9.0 Credit Hours)

- THEA 6310 - CAD II for Theatre Design Credit Hours: 3.0
- THEA 6304 - Mask Theory and Practice Credit Hours: 3.0



- THEA 7141 - Graduate Directing/Designer Collaboration **Credit Hours: 1.0**
- THEA 6294 - Design and Production Studio **Credit Hours: 2.0**
- Dramatic Theory/Crit or Selected Periods **Credit Hours: 3.0**

SPRING - Sixth Term (9.0 Credit Hours)

- THEA 7141 - Graduate Directing/Designer Collaboration **Credit Hours: 1.0**
- THEA 6294 - Design and Production Studio **Credit Hours: 2.0**
- Dramatic Theory/Crit or Selected Periods **Credit Hours: 3.0**



School of Theatre and Dance

Edward Albee. Distinguished University Professor of Theatre.

Carolyn Houston Boone. Associate Professor of Theatre. B.A., Louisiana Polytechnical Institute; M.A., Sam Houston State University; M.F.A., University of Houston.

Brian Byrnes. Associate Professor of Theatre. B.A., University of Iowa; M.F.A., University of Pittsburgh.

Sara Becker. Assistant Professor of Theatre. B.A., Fordham; M.F.A., University of Wisconsin.

Teresa Chapman. Assistant Professor of Theatre. B.F.A., University of Southern California, Santa Barbara; M.F.A., California State University, Long Beach.

Jackie DeMontmollin. Clinical Assistant Professor. M.Ed., Concordia University.

Jim Johnson Assistant Professor of Theatre. B.A., Buena Vista College; M.F.A., University of Nebraska/Lincoln

Jonathan M. Middents. Associate Professor of Theatre. B.A., Rice University; M.F.A., Florida State University.

Stuart Ostrow. Distinguished University Professor of Theatre.

Kevin Ridgon. Professor of Theatre. Member of United Scenic Artists.

Robert Shimko. Assistant Professor of Theatre. B.A., Hartwick College; M.A. University of Minnesota; Ph.D., University of Minnesota.

Karen Stokes. Head of Dance Division-School of Theatre and Professor of Dance. B.F.A., Ohio State University; M.F.A., University of California, Los Angeles.

Claremarie Verheyen. Associate Professor of Theatre. B.A, St. Norbert College; B.F.A., University of Wisconsin; M.A., Illinois State University; M.F.A., California Institute of the Arts.

Paige Willson. Clinical Assistant Professor. B.F.A., University of Louisiana Lafayette; M.F.A., University of Houston.

Jack Young. Head of Professional Actor Training Program. Associate Professor of Theatre. B.A., Virginia Tech; M.F.A., University of Washington.



Certificate in Music Performance Program

Purpose

The Certificate in Music Performance is an exclusive non-degree program providing an intensive, two-year period of concentrated study in music performance at the post-baccalaureate level. It is intended as an alternative to master's and doctoral degrees for exceptionally gifted and accomplished students who show the potential and the motivation to achieve a successful performing career, but who do not wish to engage in the complete curriculum required in standard graduate degree programs.

Available Areas of Study

- Strings
- brass
- woodwinds
- percussion
- harp
- piano
- collaborative piano
- organ
- voice

Application Deadline

Complete applications must be received by December 1 prior to the year in which Fall-term entrance is anticipated.

Auditions

All applications require a high-quality video recording, which will be pre-screened by at least three faculty from the student's area of study. Students approved in the pre-screening will be invited for a live audition.

A live audition adjudicated by a six-member Certificate Audition Committee is required of all students seeking admission to the certificate program. Recorded auditions or auditions in any other form are not accepted. Live auditions will take place on the Friday afternoon prior to the final regular Moores School of Music audition weekend, in Dudley Recital Hall on the University of Houston campus. Specific times and schedules will be coordinated by the Moores School director of admissions. An accompanist will be provided; prospective students should provide scores for the accompanist as soon as they receive notification of their being accepted for the live audition.

Other Information

1. Certificate students who earn less than a B- in any term in applied music will be dismissed from the certificate program, with no probationary period.
2. Certificate enrollment is for fall and spring terms only; no summer enrollment is permitted for certificate students.
3. Residency requirement: Students must complete the program by enrolling in a maximum of four long (fall or spring) terms in a total period of three years from the date of enrollment.
4. No transfer credit will be applied toward the certificate. No credit earned while in a degree program will be accepted for credit toward the certificate. No credit earned in the certificate program will be awarded for credit toward another degree at this institution.



Recitals

Recitals are adjudicated by a committee of at least four faculty from the student's area of study (or from another suitable area if four area faculty are unavailable). Each student's committee is appointed by the area coordinator when the student enters the program and is approved by the Director of the School of Music. The committee will remain in place for the duration of the student's certificate program.

Certificate students will present a pre-recital jury consistent with those required of graduate degree-seeking students.

Recitals are graded individually by each committee member, with standard letter grades. A student's recital grade comprises the average of the grades submitted privately to the Graduate Office by each committee member. Students earning less than composite B- for any recital will be dismissed from the certificate program.

Faculty have the option to award an incomplete grade for a recital. Students may not accumulate more than one incomplete recital grade during their certificate program.

Two of the four required certificate recitals must be performed on campus. The venue and program for any off-campus recital must be approved by the student's committee in advance of the event, and students must provide their committees with a high-quality video recording of any off-campus recital.

Certain professional engagements equal in importance and depth to a doctoral-level recital may be substituted for two of the required certificate recitals. The substitution must be approved by the student's certificate committee.

Scholarship Support

Scholarship support will be awarded to certificate students according to the same criteria applied to degree-seeking students; the minimum credit-hour requirement per term for scholarship support for certificate students will be 6, not 9, as for degree-seeking students. The Moores School of Music will also define 6 credits as full-time enrollment for international certificate-seeking students.

Note that the Director of the School of Music has final authority on scholarship awards; consideration will be given to recruiting issues, overall benefit to and impact on the school, and other criteria, as appropriate.



Master of Music Programs

Admissions

Auditions

Prospective Master of Music students must audition before a faculty committee; a live audition is an integral part of the application process and should be arranged as early as possible with both the Graduate Office and the appropriate area coordinator. An acceptable graduate-level performance is required at the audition. The audition will ideally be arranged within the published scholarship audition dates (available online at www.music.uh.edu, or contact the Graduate Office at gradmusic@uh.edu); a recorded audition may be arranged only under extenuating circumstances and at the discretion of the Director of Graduate Studies, as well as the appropriate area faculty.

Auditions will be conducted by a committee of at least three faculty members. In all cases, auditions should consist of three (four for voice auditions) representative works in different styles, with at least one work performed from memory. For voice and piano applicants, all works must be memorized. If an accompanist is needed, the applicant should supply scores well in advance. Prospective Master of Music students in voice must perform selections in four languages, including English, and must demonstrate proficiency in the four major singing languages: English, Italian, German, and French.

Specific audition requirements by area of study are available on the auditions section of the website. If you have additional questions, please contact the appropriate area coordinator, or the graduate office.

Diagnostic Exams

- All students entering MM programs must take Moores School of Music diagnostic exams in music history and music theory prior to the start of their first term.
 - Students who complete an MM degree at the Moores School of Music and who are immediately accepted - in their first term after completion of their previous degree - to another MM program or a DMA program may be exempt from the diagnostic exams.)
 - Students who do not take diagnostic exams prior to the start of their first term will automatically be enrolled in the appropriate remedial course(s) (MUSI 6340 and/or MUSI 6341).
- Scheduling
 - Diagnostic exams in music theory are given on scheduled audition days.
 - diagnostic exams in music theory and musicology are given on the Thursday before the first week of classes in fall and spring terms.
 - More information on diagnostic exam scheduling, as well as information on registering for appropriate history and theory review courses, is available from the Moores School of Music Graduate Advisor.
See below for specific information on what students can expect with regard to diagnostic exam content.
- Exams are evaluated by the musicology and music theory faculty.
- All students are allowed one opportunity to take the diagnostic exams
 - the full exam must be completed to be considered (i.e., students may not elect to take portions of exams).
- If remedial coursework is required after the exam (as determined by the exam results), students must enroll in these courses in the earliest term such courses are available (in most cases this will be during the first term of graduate study, and in all cases this will be during the first year of graduate study).
- Passing scores on the diagnostic exams, or passing grades in the appropriate history or theory review courses (where a passing grade is C- or better for MM students) will be required before students may enroll in graduate-level history and theory courses (including MUSI 6300: Introduction to Research Methods in Musicology).
- Credit for review courses will not be applied toward the degree.
- Voice majors at the graduate level are required to take a diagnostic exam in diction.



- The exam includes:
 - oral recitation of selected prosaic and poetic passages in English, Italian, German, and French, as well as
 - a written test that will include International Phonetic Alphabet (IPA) symbol recognition and transliteration of passages of songs in each language.
- This exam is administered shortly before the start of classes every term and evaluated by the voice faculty.
- Students who do not receive a passing score on the exam must take Advanced Lyric Diction (MUSI 6103) at their earliest opportunity (their first term, unless granted special dispensation by the Voice Division Coordinator or the Director of Graduate Studies).
- Those students required to take Advanced Lyric Diction must successfully complete the course before they will be permitted to perform their degree recital.

Specific information regarding diagnostic exam content:

Diagnostic exam in music history and literature:

The diagnostic exam in music history and literature comprises three sections:

1. Short answer identification of terms and names. This section involves important terms and names in Western music, from early medieval times to the present (e.g., organum, fauxbourdon, basso continuo, the Art of the Fugue, Modeste Mussorgsky, tone cluster, Louis Armstrong, metric modulation, Peter Grimes). Students can prepare for this by studying the glossary and marginalia in such texts as J. Peter Burkholder, Donald Grout, and Claude Palisca, *A History of Western Music*.
2. Short essays. This section largely involves questions about some of the prominent genres of music history, such as motet, mass, art song, symphony, opera, or ballet; or some prominent movement in music, such as Ars Nova, Romanticism, Neoclassicism, modern jazz, or minimalism. Students can prepare for this by consulting either a history of music as mentioned above, or a shorter handbook that gives an overview of Western music.
3. Listening examples. This section asks students to attempt to identify the composer and approximate year of various musical examples from the Middle Ages to the present. The readers of this portion are not so concerned with the student's ability to actually identify such pieces as to make educated guesses as to the likely composer and century of composition. The student can prepare for this by consulting the recorded examples for one of the major textbooks on Western music history, such as the Burkholder-Grout-Palisca-Burkholder text.

For a sample exam see, http://www.uh.edu/cota/music/_docs/sample%20diagnostic%20exam--musicology.pdf

Diagnostic exam in music theory:

The diagnostic exam in music theory comprises four sections:

1. Exercises in common-practice chromatic voice-leading, i.e., 4-part SATB writing with chromatic harmony and/or modulations. Students should be able to realize a figured bass and/or harmonize a melody line (given no bass line and no other harmonic indicators), using in both cases standard procedures of common-practice voice leading (logical harmonic progressions, avoidance of motion in prohibited parallel intervals, and the like). Any and all of the exercises may require the use of standard elements of chromatic harmony, including modulations, augmented sixth chords, and Neapolitan chords. Students should be able to demonstrate understanding of how such elements function in harmonic progressions and how to employ them in a voice-leading exercised.
2. 18th-century counterpoint analysis. This will involve analysis of a fugue, in which students are expected to know the names of, and be able to identify in score, the major components of standard Baroque fugues. Relevant terms may include: subject, countersubject, answer (real or tonal), exposition, bridge, episode, middle entry, etc.
3. Formal analysis of a large common-practice movement or portion thereof. This will involve score analysis in which students are expected to identify sections and characteristics of a standard sonata form. This will include analysis of the exposition and its constituent theme groups, transition, and coda sections, and may include analysis of a development (or portion thereof) and/or recapitulation. Harmonic analysis (i.e., Roman-numeral and figured bass analysis) of any section of the piece may be required.
4. Analysis of post-common-practice, 20th-century materials. This will require students to recognize, given scores or score excerpts, compositional procedures such as 12-tone serialism; polymeter, metric shifts, or other metric procedures; harmonic resources such as extended tertian harmony or non-tertian harmony; and scalar and collectional resources such as diatonic modes, non-diatonic scales, pandiatonicism, or others.



Other information: Students will not be permitted to use a piano for assistance on any part of the exam. In preparing for the exam, students may use for study and reference the latest editions of these widely-available theory texts: Benjamin, Horvit, KOOZIN and Nelson, *Techniques and Materials of Music: From the Common Practice through the Twentieth Century*, (on voice-leading theory and practice and twentieth-century materials); Aldwell and Schachter, *Harmony and Voice Leading* (on voice leading theory and practice); Robert Gauldin, *A Practical Approach to 18th-Century Counterpoint*; Douglass Green, *Form in Tonal Music*; Stefan Kostka, *Materials and Techniques of Twentieth-Century Music*. For more information and a sample exam, see <http://www.uh.edu/~tkoozin/theory/diagnostic-exams.html>

Standardized Testing Requirements

- GRE
 - Only applicants with specializations in Music Education, Musicology, and Music Theory are required to submit scores from the Graduate Record Examination (General Exam) as part of their applications for admission.
 - The GRE is a prerequisite for admission in these majors and may not be taken after a student has been admitted for graduate study.
- IELTS
 - International applicants for graduate admission may submit passing scores from the International English Language Testing System as a substitute for TOEFL scores.
 - The minimum acceptable IELTS score for graduate admission at the University of Houston is 6.5, including a minimum writing score of 6.5.
- LCC
 - International applicants for graduate admission may submit, in lieu of the minimum passing scores on the TOEFL or IELTS, a passing grade in Level 6 of the intensive English program at the Language and Culture Center (LCC) at the University of Houston (administered by the University of Houston Department of English).

Foreign Language Proficiency

MM students with majors in Music Theory and Musicology must demonstrate reading proficiency in French or German before completion of their degree program. Proficiency may be demonstrated in one of the following ways:

1. Satisfactory completion of fourth-term level undergraduate French or German.
2. Satisfactory completion of the second-term level of the graduate reading courses in French or German.
3. Satisfactory completion of a departmental translation exam in French or German. Translation exams are administered by the musicology faculty toward the ends of the fall and spring terms; specific dates will be published during each term (contact the Graduate Office for more information).

Postbaccalaureate Status

Applicants holding a baccalaureate degree who do not meet the specific standards for admission to a graduate program in music but who are otherwise qualified for graduate study may be permitted to correct deficiencies while enrolled as postbaccalaureate (PB) students. PB students will be admitted at the discretion of the Director of Graduate Studies, and PB admissions will be granted according to University of Houston admissions policies and procedures as specified in the university's undergraduate catalog.

Conditional Versus Unconditional Admission

If there are impediments to a graduate student's normal (unconditional) admission (a low grade point average, GRE scores slightly below the minimum, etc.), in certain circumstances it may be possible for a student to be admitted conditionally before being granted full, non-probationary academic standing. Conditions on such admissions may include, but are not limited to:



1. the student must enroll in 9-12 credit hours in the first term of enrollment and include among those credit hours at least two graduate-level academic music courses worth 3 credits each; and
2. earn a grade of B- or better in all academic courses in the first term of enrollment.

Conditional status will be lifted upon satisfaction of the conditions and the student will be granted non-probationary academic standing. Failure to satisfy the conditions of the admission will result in dismissal from the graduate program.

International students (those holding either F-1 or J-1 visas) are not eligible for conditional admission.

Academic Policies

University Academic Regulations and Requirements

Students must satisfy all the university academic regulations and degree requirements. See the Policies and Degree Requirements sections of the Graduate Catalog.

Orientation

An orientation and information session for all new Moores School of Music students occurs during the week prior to the start of classes. There is a general meeting of all students on the Tuesday of the first week of classes in the Fall term, at 1:00 p.m. Contact the graduate office for more specific information.

An orientation session for graduate students with Teaching Assistantship positions occurs on the Friday before the start of the Fall term. Contact the graduate office for more specific information.

Advising

Students must schedule an advising appointment with the Graduate Advisor (gradmusic@uh.edu) before registering for courses in every term in which they are enrolled for graduate study. Students must come prepared for advising appointments: Students should carefully review their degree requirements, courses they have completed, progress toward their degree, and course offerings in the upcoming term.

Posting of Previous Degrees Earned

Each student who enters a graduate degree program at the University of Houston must be certain that their transcript on file reflects the posting of any previous degrees earned. Students may be accepted for admission to the MM program with the submission of a transcript showing a degree in progress, but once that degree has been completed, the student must submit to the Graduate Office an updated transcript that reflects that degree's completion.

Scholarships and Teaching Assistantships

Students with scholarship or teaching assistantship support are responsible for meeting the terms of their Acceptance Agreement-including enrollment at the appropriate credit-hour load and any other stipulations-and must renew their support each spring following initial acceptance of the award. Students will be notified of the renewal requirement as appropriate.

Semester Credit Hours

The Moores School of Music further defines a credit hour as representing at least 15 not more than 30 minutes of private music instruction per week per 15-week term.



Grades and Point Average (GPA)

No course in which an MM student earns a grade of D+ or lower will be accepted for credit toward the degree. All graduate students must maintain a minimum term and cumulative grade point average of 3.00 for all graduate courses attempted. Failure to do so may result in a warning, probation, suspension, loss of financial support, or dismissal from the program.

Graduation

Graduation is not automatic upon completion of degree requirements. Students must apply for graduation by the deadline listed in the University of Houston Academic Calendar. Payment of a \$25.00 fee (\$50 if filed late) is required; students also must be enrolled in the term in which they plan to graduate. Contact the Office of the University Registrar (128 Welcome Center; 713-743-1010; <http://www.uh.edu/about/offices/enrollment-services/registrar/>) for more information.

If a student is unable to graduate in the term during which application for graduation is made, the student will be required to complete another application for graduation and pay another fee in order to graduate in a subsequent term.

Academic Requirements

Master's Comprehensive Examination

All Master of Music students must take a written comprehensive examination covering their major field of study, musicology, music theory, and score identification. Exam topics will derive from coursework completed during the degree program as well as from information pertinent to the student's field of study; the score identification portion is independent of specific coursework. Comprehensive exams take place at the end of the Fall and Spring terms, and students should take the exam in or after their final term of coursework; specific dates for the exam will be published by the graduate office during each term (contact the Graduate Office for more information). Students wishing to take the comprehensive exam must submit an application form (available in the Graduate Office) and a completed degree plan (available on this web site) to the graduate office by the published deadline in the term in which they wish to take the comprehensive exam.

Students will appoint a comprehensive exam committee to administer their exam. This committee will comprise three faculty members, as follows:

1. the student's major professor,
2. one music theory faculty member, and
3. one musicology faculty member.

Because the comprehensive exam at the master's level covers coursework completed for the degree as well as information pertinent to the student's field of study, students generally are advised to appoint theory and musicology faculty with whom they have previously studied. In exceptional cases, such as those in which a student has not studied with any member of the theory or musicology faculty or the faculty with whom the student studied is on leave or otherwise unavailable to sit on the committee, the student may either choose another faculty member from that area (perhaps after consulting with them personally) or allow the Graduate Office to make that committee appointment for them. These faculty members then write their portion of the comprehensive exam in consultation with other members of the student's committee.

Committee members will submit comprehensive exam questions, including scores if necessary, to the Graduate Office at least two weeks prior to the examination. The Graduate Office will notify committee members of the date of the exam and the deadline for submitting questions.

The four-hour exam is administered by the Graduate Office in one sitting. Students are required to take the exam on campus, on the designated day, at the scheduled time. At the conclusion of the exam, the Graduate Office circulates the entire exam as a package to each committee member for evaluation. Each committee member will evaluate the exam within three working days and forward it to the next member. Committee members grade each portion of the exam independently and have four grade options for each section: pass, fail, oral exam required, or abstain.

If one or more committee members chooses a grade of "fail" on one or more portions of the exam, the full committee will meet to consider the exam. If the committee then determines by majority vote that the student has failed any portion of the exam, the student may retake (in written



form) that particular portion of the exam within six months. The committee will then evaluate the student's rewritten exam according to the same procedures and criteria as the first exam. A second failure will result in the student's dismissal from the graduate program.

In evaluating the exams, committee members also have the option of requiring-before issuing a pass or fail grade-the student to submit to an oral follow-up exam if aspects of the written exam remain in need of clarification. The oral exam will take place if one or more committee members chooses a grade of "oral exam required" on one or more portions of the exam. The oral exam will take place within three weeks of the written exam and will be graded pass or fail by a majority vote of the committee. If the student fails the oral exam, a second oral exam may be scheduled within six months, or the student may complete another course of action at the committee's discretion (another written exam, for example). A second failure will result in the student's dismissal from the graduate program.

Large Ensemble Enrollment and other Co-Enrollment Requirements

All students enrolled in applied music must enroll concurrently in an appropriate large ensemble, even if all degree requirements have been met. The new-music ensemble (AURA, MUSI 6104) may count for large-ensemble credit for a limited number of terms (one term for master's students and two terms for doctoral students).

Piano majors enrolled in applied music are assigned two hours per week of studio accompanying. (Piano majors with scholarship support must either [1] schedule an additional two hours per week of accompanying, or [2] enroll in an appropriate large ensemble during each term of enrollment in applied study.) Organ majors will have other concurrent enrollment requirements, as determined by the department. For other co-enrollment requirements specific to their major area of study, students should contact their division head.

Recitals

Recitals are scheduled during Fall and Spring terms, only between the first and last day of classes. Students must be enrolled for private applied study during the term in which the recital occurs. MM students required to perform a recital must appoint a three-member recital committee comprising at least two faculty from their major area of study, including their major professor; if not from the student's major area, the third committee member may be an academic faculty member. Recital committees should be chosen in consultation with the student's major professor, the coordinator of the student's major area, and the Director of Graduate Studies. Programs for degree recitals must be approved by, and students must present a pre-recital jury to, the full recital committee at least two weeks prior to the recital. The committee has the option to not permit the recital to proceed as scheduled on the basis of either the program or the student's performance at the pre-recital jury. For the purposes of degree plans, a "full recital" is generally defined as 60 minutes of music. Recitals must fulfill all area-specific requirements specific to the student's degree plan or area of study, including requirements for memorization (voice and piano, for example, are required to perform recitals entirely from memory).

Committee members should submit recital grades to the Graduate Office within 24 hours after the recital (or within 10 days if viewing a recorded recital). Graduate Recital Evaluation Forms are available from the Graduate Office or from the front office in the School of Music; committee chairs should distribute a copy of the form to each committee member individually at the time of the recital. Committees may meet at the conclusion of the recital to discuss the student's performance and grade, but in any case each committee member should submit their own confidential grade form. The student's final recital grade will be the average of the grades submitted by each committee member (including the committee chair).

Juries

Unless a student performs a major recital during a term, that student is expected to perform a term jury.

Music 6300: Introduction to Research Methods in Musicology

Introduction to Research Methods in Musicology is a prerequisite for graduate-level music history and literature courses. (Note that the prerequisite for MUSI 6300 is satisfaction of deficiencies in music history, either by successfully completing the diagnostic exam in music history or by passing MUSI 6340; see above, under "Diagnostic Exams.") MM students must complete MUSI 6300 at the first available opportunity; MM students are required to complete MUSI 6300 before enrolling in graduate-level coursework in music history.



Electives

Some MM degree programs allow for electives. Electives may be satisfied with graduate-level (6000-level or above) music courses or, pending approval of the Director of Graduate Studies, other courses in a different university department that may be considered an enhancement of a student's degree objective. Only one credit hour of any ensemble will satisfy a free elective requirement; additional hours of applied study in the major area will not satisfy a free elective requirement or any other degree requirement.

Early Degree Completion

Students who wish to complete their Master's degree in three term may petition to do so. This petition must be approved by the student's applied instructor and division head, and the Director of Graduate Studies, and must be made before the start of the third term of study. If approved, the student will be required take three credits of free elective in lieu of a fourth term of applied instruction (these credits are in addition to any electives already part of the student's degree requirements). Students may fulfill these credit hours with either an additional elective taken in the third term or with one taken in a previous term that was not already counted toward the degree requirements (see "Electives" for a description of eligible courses).



Doctor of Musical Arts Programs

Admissions

Auditions

Prospective Doctor of Musical Arts students must audition before a faculty committee; a live audition is an integral part of the application process and should be arranged as early as possible with both the Graduate Office and the appropriate area coordinator. An acceptable graduate-level performance is required at the audition. The audition should be arranged within the published scholarship audition dates (available online at www.music.uh.edu, or contact the Graduate Office at gradmusic@uh.edu); a recorded audition may be arranged only under extenuating circumstances and at the discretion of the Director of Graduate Studies, as well as the appropriate area faculty.

Auditions will be conducted by a committee of at least three faculty members. Prospective students should consult the audition requirements specific to the area in which they are auditioning; generally all DMA auditions will require that prospective students prepare at least three representative works in different styles and at least one work that will be performed from memory at the audition (for voice and piano applicants, all works must be performed from memory). Prospective DMA students in voice performance should plan to perform selections in four languages, including English, and proficiency in the four major singing languages: English, Italian, German, and French. If an accompanist is needed for the audition, the applicant should supply scores to the Graduate Office well in advance.

If you have additional questions, please contact the appropriate area coordinator or the Graduate Office.

Diagnostic Exams

All students entering DMA programs must take Moores School of Music diagnostic exams in music history and music theory prior to the start of their first term. (Students who complete an MM degree at the Moores School of Music and who are immediately accepted—in their first term after completion of their previous degree—to another MM program or a DMA program may be exempt from the diagnostic exams.) Students who do not take diagnostic exams prior to the start of their first term will automatically be enrolled in the appropriate remedial course(s) (MUSI 6340 and/or MUSI 6341).

Diagnostic exams in music theory are given on scheduled audition days; diagnostic exams in music theory and musicology are given on the Thursday before the first week of classes in fall and spring terms. More information on diagnostic exam scheduling, as well as information on registering for appropriate history and theory review courses, is available from the Moores School of Music Graduate Advisor. See below for specific information on what students can expect with regard to diagnostic exam content.

Exams are evaluated by the musicology and music theory faculty. All students are allowed one opportunity to take the diagnostic exams, and the full exam must be completed to be considered (i.e., students may not elect to take portions of exams). If remedial coursework is required after the exam (as determined by the exam results), students must enroll in these courses in the earliest term such courses are available (in most cases this will be during the first term of graduate study).

Passing scores on the diagnostic exams, or passing grades in the appropriate history or theory review courses (where a passing grade is B- or better for DMA students) will be required before students may enroll in graduate-level history and theory courses (including MUSI 6300: Introduction to Research Methods in Musicology). Credit for review courses will not be applied toward the degree.

Voice majors at the graduate level are required to take a diagnostic exam in diction that will include oral recitation of selected prosaic and poetic passages in English, Italian, German, and French, as well as a written test that will include International Phonetic Alphabet (IPA) symbol recognition and transliteration of passages of songs in each language. This exam is administered shortly before the start of classes every term and evaluated by the voice faculty. Students who do not receive a passing score on the exam must take Advanced Lyric Diction (MUSI 6103) at their earliest opportunity (their first term, unless granted special dispensation by the Voice Division Coordinator or the Director of Graduate Studies). Those students required to take Advanced Lyric Diction must successfully complete the course before they will be permitted to perform their degree recital.



Specific information regarding diagnostic exam content:

Diagnostic exam in music history and literature:

The diagnostic exam in music history and literature comprises three sections:

1. Short answer identification of terms and names. This section involves important terms and names in Western music, from early medieval times to the present (e.g., organum, fauxbourdon, basso continuo, the Art of the Fugue, Modest Mussorgsky, tone cluster, Louis Armstrong, metric modulation, Peter Grimes). Students can prepare for this by studying the glossary and marginalia in such texts as J. Peter Burkholder, Donald Grout, and Claude Palisca, *A History of Western Music*.
2. Short essays. This section largely involves questions about some of the prominent genres of music history, such as motet, mass, art song, symphony, opera, or ballet; or some prominent movement in music, such as Ars Nova, Romanticism, Neoclassicism, modern jazz, or minimalism. Students can prepare for this by consulting either a history of music as mentioned above, or a shorter handbook that gives an overview of Western music.
3. Listening examples. This section asks students to attempt to identify the composer and approximate year of various musical examples from the Middle Ages to the present. The readers of this portion are not so concerned with the student's ability to actually identify such pieces as to make educated guesses as to the likely composer and century of composition. The student can prepare for this by consulting the recorded examples for one of the major textbooks on Western music history, such as the Burkholder-Grout-Palisca text.

For a sample exam, see Diagnostic Exam Musicology.

Diagnostic exam in music theory:

The diagnostic exam in music theory comprises four sections:

1. Exercises in common-practice chromatic voice-leading, i.e., 4-part SATB writing with chromatic harmony and/or modulations. Students should be able to realize a figured bass and/or harmonize a melody line (given no bass line and no other harmonic indicators), using in both cases standard procedures of common-practice voice leading (logical harmonic progressions, avoidance of motion in prohibited parallel intervals, and the like). Any and all of the exercises may require the use of standard elements of chromatic harmony, including modulations, augmented sixth chords, and Neapolitan chords. Students should be able to demonstrate an understanding of how such elements function in harmonic progressions and how to employ them in a voice-leading exercised.
2. 18th-century counterpoint analysis. This will involve analysis of a fugue, in which students are expected to know the names of and be able to identify in score, the major components of standard Baroque fugues. Relevant terms may include: subject, counter-subject, answer (real or tonal), exposition, bridge, episode, middle entry, etc.
3. Formal analysis of a large common-practice movement or portion thereof. This will involve score analysis in which students are expected to identify sections and characteristics of a standard sonata form. This will include analysis of the exposition and its constituent theme groups, transition, and coda sections, and may include analysis of a development (or portion thereof) and/or recapitulation. Harmonic analysis (i.e., Roman-numeral and figured bass analysis) of any section of the piece may be required.
4. Analysis of post-common-practice, 20th-century materials. This will require students to recognize, given scores or score excerpts, compositional procedures such as 12-tone serialism; polymeter, metric shifts, or other metric procedures; harmonic resources such as extended tertian harmony or non-tertian harmony; and scalar and collectional resources such as diatonic modes, non-diatonic scales, pandiatonicism, or others.

Other information: Students will not be permitted to use a piano for assistance on any part of the exam. In preparing for the exam, students may use for study and reference the latest editions of these widely-available theory texts: Benjamin, Horvit, Koozin, and Nelson, *Techniques and Materials of Music: From the Common Practice through the Twentieth Century*, 7th ed. (on voice-leading theory and practice and twentieth-century materials); Aldwell and Schachter, *Harmony and Voice Leading* (on voice leading theory and practice); Robert Gauldin, *A Practical Approach to 18th-Century Counterpoint*; Douglass Green, *Form in Tonal Music*; Stefan Kostka, *Materials and Techniques of Twentieth-Century Music*.

For more information and a sample exam, see Music Theory Diagnostic Exams.

Standardized Testing Requirements

- GRE



- Only applicants specializing in Music Education are required to submit scores from the Graduate Record Examination (General Exam) as part of their applications for admission. The GRE is a prerequisite for admission in this area and may not be taken after a student has been admitted for graduate study.
- TOEFL
 - International applicants for whom English is not the primary language are required to submit scores from the Test of English as a Foreign Language.
 - The TOEFL is a prerequisite for admission and may not be taken after a student has been admitted for graduate study.
 - The University of Houston accepts the internet-based TOEFL, or iBT, with a minimum acceptable score of 79; including a minimum writing score of 20; the minimum standard is strictly enforced at the university level.
 - The University of Houston does not accept the institutional TOEFL, or iTOEFL, for graduate admission.
- IELTS
 - International applicants for graduate admission may submit passing scores from the International English Language Testing System as a substitute for TOEFL scores.
 - The minimum acceptable IELTS score for graduate admission at the University of Houston is 6.5, including a minimum writing score of 6.5.
- LCC
 - Applicants for graduate admission may submit, in lieu of the minimum passing scores on the TOEFL or IELTS, a passing grade in Level 6 of the intensive English program at the Language and Culture Center (LCC) at the University of Houston (administered by the University of Houston Department of English).

Foreign Language Proficiency

All doctoral students except those in music education must demonstrate reading proficiency in French, German, or Italian in order to gain admission to candidacy. Proficiency may be demonstrated in one of the following ways:

- Satisfactory completion of second-year (fourth term-equivalent of 12 credit hours or four one-term courses) undergraduate French, German, or Italian.
- Satisfactory completion of six credit hours (two terms) of intensive graduate reading courses in French, German, or Italian.
- Satisfactory completion of a translation exam in French, German, or Italian. Translation exams are administered by the musicology faculty; contact the Graduate Office for scheduling information.

Doctoral students in voice performance must also pass a three-part language proficiency exam in order to gain admission to candidacy. The content of the exam is normally as follows (consult the voice area coordinator for more information):

1. Part 1: Translation, with the aid of a dictionary, of an approximately 300-word prose text in the student's choice of French, German or Italian.
2. Part 2: Translation, with the aid of a dictionary, of a poetic text (song or aria) in the student's choice of French, German or Italian.
3. Part 3: Transliteration using IPA, without the aid of a dictionary, of four texts in, respectively, French, German, English, and Italian.

Conditional Versus Unconditional Admission

The School of Music does not consider Doctor of Musical Arts applicants for conditional admission. Admission for the DMA is not possible for students who do not satisfy all entrance requirements.

Academic Policies

University Academic Regulations and Requirements

Students must satisfy all the university academic regulations and degree requirements. See the Degree Requirements section on the Graduate Catalog Policies page.



Orientation

An orientation and information session for all new Moores School of Music students occurs during the week prior to the start of classes. There is a general meeting of all students on the Tuesday of the first week of classes in the Fall term, at 1:00pm. Contact the graduate office more specific information.

An orientation session for graduate students with Teaching Assistantship positions occurs on the Friday before the start of the Fall semester. Contact the graduate office for more specific information.

Advising

Students must schedule an advising appointment with the Graduate Advisor before registering for courses in every term in which they are enrolled for graduate study. Students must come prepared for advising appointments: students should carefully review their degree requirements, courses they have completed, progress toward their degree, and course offerings in the upcoming term.

Candidacy and Continuous Enrollment

DMA students with majors in Performance and Conducting must complete all required coursework, present all required recitals except their lecture recital, and pass their comprehensive exam in order to gain admission to candidacy.

DMA students with majors in Composition must complete all required coursework, present their chamber-music recital, and pass their comprehensive exam in order to gain admission to candidacy.

DMA students with majors in Music Education must complete all required coursework and pass their comprehensive exam in order to gain admission to candidacy.

Note that students are expected to present any required pre-candidacy recitals during the time in which they are completing coursework; for students required to complete remedial work in music theory or music history, it may be advisable not to schedule degree recitals until all such requirements have been satisfied.

For all doctoral students, the comprehensive exam may be scheduled upon completion of (but not before the completion of) all required coursework and pre-candidacy recitals. Comprehensive exams are administered by the Graduate Office and scheduled over a three-day period in the week preceding the start of classes in Fall and Spring terms (see "Doctoral Comprehensive Examination" for more information). Students are expected to take their comprehensive exam at the start of the term immediately following that in which they complete required coursework for their degree.

Admission to candidacy is granted upon successful completion of the comprehensive exam. Students complete their lecture recital and doctoral document after admission to candidacy. Note that in some cases, students may present their lecture recital before their admission to candidacy, pending approval of their doctoral committee and the Director of Graduate Studies.

Doctoral students must adhere at all times to the requirement to be continuously enrolled in Fall and Spring terms until the degree program has been completed and the degree awarded (see "Continuous Enrollment and Leaves of Absence," on the Graduate Studies home page).

Credit and Grade Requirements

Doctoral degrees require 60 credits of graduate work beyond the master's degree with a minimum cumulative grade point average of 3.00. No course (including any required prerequisite courses) in which a student earns a grade of C+ or lower will be accepted for credit toward the degree.

Posting of Previous Degrees Earned



Each student who enters a graduate degree program at the University of Houston must be certain that their transcript on file reflects the posting of any previous degrees earned. Students may be accepted for admission to the DMA program with the submission of a transcript showing a degree in progress, but once that degree has been completed, the student must submit to the Graduate Office an updated transcript that reflects that degree's completion.

Scholarships and Teaching Assistantships

Students with scholarship or teaching assistantship support are responsible for meeting the terms of their Acceptance Agreement-including enrollment at the appropriate credit-hour load and any other stipulations-and must renew their support each spring following initial acceptance of the award. Students will be notified of the renewal requirement as appropriate.

Semester Credit Hours

The Moores School of Music further defines a credit hour as representing at least 15 not more than 30 minutes of private music instruction per week per 15-week term.

Residency Requirement

Doctoral students must complete at least one year (usually the first year) of the program in residence, enrolling for full-time study (9 credits) in consecutive Fall and Spring terms.

Grades and Grade Point Average (GPA)

No course in which a DMA student earns a grade of C+ or lower will be accepted for credit toward the degree. (All graduate students should see also the Low-Grade Policy). All graduate students must maintain a minimum term and cumulative grade point average of 3.00 for all graduate courses attempted. Failure to do so may result in a warning, probation, suspension, loss of financial support, or dismissal from the program.

Graduation

Graduation is not automatic upon completion of degree requirements. Students must first obtain the signatures of the Graduate Advisor, the chair of their research committee, and the Director of Graduate Studies on the DMA Graduation Certification Form (available at Doctor of Musical Arts Graduation Certification Form). Students may then apply to the university for graduation by the deadline listed in the University of Houston Academic Calendar. Fee is required; students also must be enrolled in the term in which they plan to graduate. For more information, contact:

The Office of the University Registrar
128 Welcome Center
713-743-1010

If a student is unable to graduate in the term during which application for graduation is made, the student will be required to complete another application for graduation and pay another fee in order to graduate in a subsequent term.

Academic Requirements

Doctoral Committees

Over the course of their degree programs, doctoral students in all areas except Music Education will form two committees, both of which monitor the student's progress and guide them toward successful completion of the degree. (Music Education DMAs only have a single committee: the



"Research Committee" described below). The student forms a "Recital Committee" before their first recital; this committee is responsible for adjudicating recitals and recital programs (with the exception of the lecture recital). Before beginning work on their lecture recital and doctoral essay or document, the student will form a "Research Committee," which is charged with guiding the student's written work on those projects.

Both the Recital and Research Committees will consist of (1) the student's major professor; (2) a second faculty member from the student's major field; (3) one at-large faculty member from the School of Music but from outside the student's discipline; and (4) one at-large faculty member from any discipline, inside or outside the School of Music. At least one committee member must be from an academic division within the school of music (music theory, musicology, composition, or music education), and in all cases, the committee must include at least one member who has written a doctoral document or dissertation. Students may add a fifth at-large member to the committee, if appropriate. Both committees may consist of the same members, but it is recommended that the student chooses a Research Committee in which at least members (3) and (4) are knowledgeable about the student's area of research.

The student's major professor chairs the Recital Committee. In cases in which the major professor is an affiliate artist, the committee is co-chaired with another full-time faculty member. For the Research Committee, the committee member most knowledgeable about the student's research area should serve as chair (in many cases this will be a member of one of the school's academic divisions).

The Recital Committee is subject to the approval of the student's committee chair and the Director of Graduate Studies; the Research Committee is subject to the approval of these individuals, the Director of the Moores School of Music, and the Dean of the College of Liberal Arts and Social Sciences. Any reconfiguration of the committees must be approved by these same individuals. Both the "Moores School of Music DMA Recital Committee Appointment Form" and the "College of Liberal Arts and Social Sciences Research Committee Appointment Form" are available through the Moores School Graduate Advisor.

Doctoral Comprehensive Examination

Before scheduling their doctoral comprehensive examination, doctoral students must:

- satisfy the residency requirement;
- remedy all academic deficiencies;
- satisfy the foreign-language proficiency requirement;
- complete all coursework with a cumulative grade point average of at least 3.00;
- present all required pre-candidacy recitals (see "Candidacy and Continuous Enrollment," above, for more information);
- and submit an application form, with a completed degree plan, to the Graduate Office; students cannot be scheduled to take the comprehensive exam without submitting an application.

Doctoral comprehensive examinations are written by a committee of four faculty members (who are not necessarily members of the student's doctoral committee): (1) the student's major professor; (2) one faculty representative from the student's minor field; (3) one music theory faculty member; and (4) one musicology faculty member. Members 2, 3, and 4 are selected by the Graduate Office; generally these will be the coordinators in the respective areas of study or their designated representatives. Committee members will submit comprehensive exam questions, including scores if necessary, to the Graduate Office at least two weeks prior to the examination. The Graduate Office will notify committee members of the date of the exam and the deadline for submitting questions.

The doctoral comprehensive examination is divided into four sections - major field, minor field, music history, and music theory - and administered by the graduate advisor over three consecutive days. Students are required to take the exam on campus, on the designated day, at the scheduled time. Each day is divided into two four-hour time blocks: block 1 in the morning; and block 2 in the afternoon.

The exam is administered on the following schedule:

DAY	BLOCK	CONTENT
1	1	music history part 1
	2	music history part 2
2	1	major field part 1



2	major field part 2
3	1 music theory
	2 minor field; or music theory part 2, if music theory is the minor field; or free, if music history is the minor field

Every doctoral comprehensive exam is tailored to the individual student; as such, students should seek guidance from their exam committee regarding what will be expected of them on their exam. Exam content may include, but is not limited to, these subjects:

- major field: questions pertaining to any aspect of the student's major field of study.
- minor field: questions pertaining to any aspect of the student's minor field of study.
- music history: questions pertaining to (a) literature and performance practice in the student's major field; (b) bibliographic knowledge of source materials for research in the student's major field; and (c) general knowledge of music history and literature.
- music theory: questions pertaining to (a) analysis of selected repertoire performed on degree recitals or other repertoire relevant to the student's major field; (b) analysis of unidentified scores; (c) (b) bibliographic knowledge of source materials for relevant analytical research.

At the conclusion of the exam, the Graduate Office circulates the entire exam as a package to each committee member for evaluation. Each committee member will evaluate the exam within three working days and forward it to the next member. Committee members grade each portion of the exam independently and have four grade options for each section: pass, fail, oral exam required, or abstain.

If one or more committee members chooses a grade of "fail" on one or more portions of the exam, the full committee will meet to consider the exam. If the committee then determines by majority vote that the student has failed any portion of the exam, the student may retake (in written form) that particular portion of the exam within six months. The committee will then evaluate the student's rewritten exam according to the same procedures and criteria as the first exam. A second failure will result in the student's dismissal from the graduate program.

In evaluating the exams, committee members also have the option of requiring--before issuing a pass or fail grade--the student to submit to an oral follow-up exam if aspects of the written exam remain in need of clarification. The oral exam will take place if one or more committee members chooses a grade of "oral exam required" on one or more portions of the exam. The oral exam will take place within three weeks of the written exam and will be graded pass or fail by a majority vote of the committee. If the student fails the oral exam, a second oral exam may be scheduled within six months, or the student may complete another course of action at the committee's discretion (another written exam, for example). A second failure will result in the student's dismissal from the graduate program.

Admission to candidacy is granted upon successful completion of the doctoral comprehensive exam.

Doctor of Musical Arts Degree: Two-Track Option

All DMA students have the option to complete their degrees on one of two tracks: the doctoral document track or the doctoral essay track. Generally, the doctoral essay track will require one extra recital and a shorter, essay-style final research project (see below, under "Final Research Project: Doctoral Essay Track"); the doctoral document track will require one fewer recital and a longer, multi-chapter final research project. Both tracks require a lecture recital. For specific information on recital requirements specific to various majors, consult the appropriate degree plans, available at the bottom of this page.

Students must propose to complete their degrees on one of the two tracks following completion of their second DMA recital. (Some areas may require the doctoral document track, in which case no proposal is necessary.) Track proposal forms are available from the Graduate Office. The track proposal will require students to submit to their doctoral committees a writing sample, which in most cases will be a paper completed in an academic course in which the student has previously enrolled. The student's doctoral committee will read the writing sample and recommend approval or disapproval the choice of track; the track proposal is subject to the approval of the Director of Graduate Studies. (Note that the track proposal is not a doctoral document or doctoral essay topic proposal.) Any changes to the track after the initial approval will require a new petition to the student's doctoral committee, following exactly the same procedures as the first track proposal.

- **Final Research Project: Doctoral Document Track**



The doctoral document is a contribution to the existing body of research in the student's major field of study. It is the student's opportunity to produce a piece of scholarly work on the level of professionals in the field, and, as such, the document must show evidence of original thought, original research, and a command of basic musicological or analytical tools.

After passing the doctoral comprehensive exam and achieving candidacy for the degree, students must submit a doctoral document topic proposal to their doctoral committee for approval. The proposal should include: the proposed title; a minimum three-page description of the document's proposed scope, methodology, and aims; a working, chapter-by-chapter outline; a working bibliography (which will include, if appropriate, a discography); and a signature page with spaces for the signature of each committee member. The student's entire doctoral committee must approve the topic proposal.

Documents are expected to be comparable to others produced in the student's major field of study; a general guideline for length is 75 pages (60 pages minimum), double-spaced in a standard font. Students should use footnotes, not endnotes, and the notes should be included at the bottom of the page on which the reference appears. For other questions concerning formatting (including margins and other issues related to physical appearance of the document), front matter, order of pages, and numerous other issues, students should see the Kathrine G. McGovern College of the Arts web page. Note also that students are required to submit a review copy of the completed and successfully defended manuscript, with all committee signatures (and with signature pages printed on the correct paper), by the published deadline in the term in which graduation will occur; usually this is the last day of classes in the term. Manuscript submissions require an appointment with the college's dissertation secretary. Following delivery of the final copy to the dean's office, the dissertation secretary will coordinate submission of the document to ProQuest for public archiving.

For more general questions regarding matters of style, format, and other issues involving writing, students may consult the standard style reference for humanities disciplines, the *Chicago Manual of Style*; other sources may include Kate L. Turabian, *A Manual for Writers of Term Papers, Theses, and Dissertations*; and Oliver Strunk and E. B. White, *The Elements of Style*. Music education majors may consult the standard style reference in the science disciplines, the *Publication Manual of the American Psychological Association*. For questions regarding writing about music specifically, students may also wish to consult D. Kern Holoman, *Writing About Music: A Style Sheet from the Editors of "19th-Century Music"*; Jonathan Bellman, *A Short Guide to Writing About Music*; Richard J. Wingell, *Writing About Music: An Introductory Guide*; or James R. Crowder, ed., *How to Write About Music: The RILM Manual of Style*. Finally, note that some students may need to enlist outside consultants for assistance with general style and copyediting issues.

During the term in which the document will be completed, students should schedule a defense on a date at least three weeks prior to the published submission deadline (see above, on manuscript submissions). The student's doctoral committee must attend the defense, and as such the student should consult with the entire committee to find an acceptable date and time. Students may schedule the defense by calling the main office in the School of Music to reserve the conference room; one hour should be sufficient for most defenses.

Students must submit to their entire committee a final copy (the "defense copy") of their doctoral document at least three weeks prior to the scheduled defense date; students must allow the entire committee three weeks to review the defense copy. Upon reading the document, the committee has the option of not permitting the defense to proceed as scheduled.

At the conclusion of the defense, the committee will, by majority vote, approve the document as submitted, approve the document pending revisions, defer approval (perhaps pending a second defense), or disapprove the document. A result of deferral or disapproval will require that the student resubmit the document and reschedule a defense according to the procedure outlined above. This normally will require that the student enroll for additional terms of study; consult the Graduate Advisor for more information.

- **Final Research Project: Doctoral Essay Track**

The doctoral essay is a scholarly essay of sufficient quality, and on a topic of sufficient interest, to warrant possible publication in the student's field of study. The essay will be a minimum 7500 words, not including footnotes and bibliography. Doctoral essays do not require a final defense and will be archived in the Graduate Office (not submitted to UMI).

After passing the doctoral comprehensive exam and achieving candidacy for the degree, students must submit a doctoral essay topic proposal to their doctoral committee for approval. The proposal should include: the proposed title; a minimum three-page description of the essay's proposed aims; a working outline; a working bibliography; and a signature page with spaces for the signature of each committee member. The student's entire doctoral committee must approve the topic proposal.



Essays should use footnotes, not endnotes, and the notes should be included at the bottom of the page on which the reference appears. The physical appearance of the essays will be exactly the same as doctoral documents, including all front matter pages, signature pages, abstract, etc. For all questions on these and related matters, students should see the Kathrine G. McGovern College of the Arts web page. With the exception of sections rather than chapters, all doctoral document provisions apply to doctoral essays: students completing doctoral essays are required to submit a review copy of the approved essay, with all committee signatures (and with the signature page printed on the correct paper), by the published dissertation submission deadline in the term in which graduation will occur (usually this is the last day of classes in the term); and essay submissions require an appointment with the college's dissertation secretary, as with doctoral documents.

Students must submit to their entire committee a final copy of their doctoral essay at least four weeks prior to the published submission deadline. Students must allow the entire committee three weeks to review the final copy, after which students will have one week to make any remaining changes requested by the committee. Upon reading the essay, the committee has the option of not approving the essay in its present form; disapproval will require that the student resubmit the essay according to the procedure outlined above. This may also require that the student enroll for additional terms of study; consult the Graduate Advisor for more information.

Large Ensemble Enrollment and Other Co-Enrollment Requirements

All students enrolled in applied music must enroll concurrently in an appropriate large ensemble, even if all degree requirements have been met. The new-music ensemble (AURA, MUSI 6104) may count for large-ensemble credit for a limited number of terms (one term for master's terms and two terms for doctoral students).

Piano majors enrolled in applied music are assigned two hours per week of studio accompanying. (Piano majors with scholarship support must either [1] schedule an additional two hours per week of accompanying, or [2] enroll in an appropriate large ensemble during each term of enrollment in applied study.) Organ majors will have other concurrent enrollment requirements, as determined by the department. For other co-enrollment requirements specific to their major area of study, students should contact their division head.

Recitals

Doctoral recitals (with the exception of the lecture recital) are adjudicated by a student's Recital Committee (see "Doctoral Committees" for more information). Doctoral recitals are scheduled in Fall and Spring terms. Students must be enrolled for private applied study and doctoral recital credit during the term in which the recital occurs. No degree recitals may be presented (and no committees may be formed) before a student is accepted into the Doctoral of Musical Arts program.

A "full recital" at the doctoral level typically comprises at least sixty minutes of music, with doctoral piano recitals usually approximately ten minutes longer; recitals must fulfill all requirements specific to the student's degree plan or area of study, including requirements for memorization (vocalists and pianists, for example, are required to perform entirely from memory). All degree recital programs must be approved by the student's Recital Committee at least two months before the scheduled recital date; programs and other aspects of the recital (including duration) are also subject to the approval of the coordinator in the student's major area of study. The lecture recital is subject to the same guidelines, except that it is approved by the student's Research Committee. Music from the student's entrance audition and music previously presented in recital may not be included without approval of the student's Recital or Research Committee and the coordinator of the student's major area of study.

Vocalists and pianists are expected to perform all solo works (not chamber works) from memory. For other instrumentalists, the amount of memorization should be appropriate to the student's field of study and the genres of the specific works performed (memorization expectations for concertos, for example, differ from those for other solo works); at least half the program will typically be performed from memory. The student's Recital or Research Committee is responsible for approving memorization requirements when questions arise.

Chamber-music recitals should include works for a variety of media and from a variety of musical periods. This repertoire should be prepared under the supervision of the student's major professor and other faculty coaches, as appropriate. In many cases, students may wish to combine the required solo and chamber-music recitals, with each recital including solo and chamber literature; in these cases, expectations for memorization, repertoire, and duration continue to apply, as appropriate for the specific literature. Note that in all cases the ultimate responsibility for all aspects of chamber-music recitals and their quality, including ensemble playing and issues of musical interpretation, rests with the student.



Students' Doctoral Committees have responsibility for deciding whether recitals in the form of solo performances with an orchestra (on or off campus) will qualify as degree recitals, with consideration given to the nature of the repertoire, duration of the performance, venue, ability of the committee to attend the performance, or availability of a high-quality video recording of the performance.

Students must perform a pre-recital jury before their full committee at least two weeks prior to all scheduled solo, chamber-music, and lecture degree recitals (exceptions to the two-week requirement are subject to the approval of the student's committee). Students' performances in their pre-recital juries, together with all other aspects of the recital, must be approved by the full committee; the committee has the option to not permit the recital to proceed as scheduled on the basis of either the program or the student's performance at the jury. Jury approvals are granted on the Pre-Recital Jury Form available online at www.music.uh.edu or in the Graduate Office, and juries are graded "pass" or "fail" by a majority vote of the committee. The committee chair should obtain the Pre-Recital Jury Form from the Graduate Office prior to the jury, circulate it among committee members after the jury, and return it to the Graduate Office upon its completion.

Lecture recitals should include both lecture and performance, with approximately half of the total sixty minutes allotted for each. Students must present a final draft of the lecture (orally or in written form) at the pre-recital jury. Memorization on lecture recitals should be appropriate for the student's field of study and the specific works presented. Students must distribute to the audience a printed handout (or other materials, as appropriate) that supports the lecture. The lecture recital should not be an oral duplication of the doctoral document but rather may focus on a particular aspect of the students' work toward the document; in many cases, the topic of the lecture recital may be completely different from that of the document.

At least two members of a students' Recital Committee (or Research Committee in the case of the lecture recital) must be present for all degree recitals and pre-recital juries. If one or more committee members are unable to attend either event, students may either appoint one or more substitute committee members, in consultation with the committee chair and the Director of Graduate Studies; or students may provide absent committee members with a high-quality video recording of the recital or jury.

Committee members should submit recital grades to the Graduate Office within 24 hours after the recital (or within 10 days if viewing a recorded recital). Graduate Recital Evaluation Forms are available online at www.music.uh.edu or from the front desk in the School of Music office; committee chairs should distribute a copy of the form to each committee member at the time of the recital. Committees may meet at the conclusion of the recital to discuss the student's performance and grade, but in any case, each committee member should submit their own confidential grade form.

The student's final recital grade will be the average of the grades submitted by each committee member (including the committee chair). Doctoral students must select a minor field, study in which comprises twelve credits of graduate-level coursework. The most common minor fields are in musicology (ethnomusicology, music history, or music literature) and music theory. Other options may include music education, a field outside music (students may have to satisfy prerequisites before enrolling in courses offered in other university departments), or an applied/research minor in music comprising six credits of applied instruction and six credits of research-oriented coursework (i.e., in musicology or music theory). This last option may include work in early music (applied work on a period instrument, for example, with musicological studies in early music), studies in contemporary music (including, for example, composition and analysis of contemporary music), collaborative arts (applied study in collaborative arts, for example, with relevant work in musicology or music theory), or vocal pedagogy and voice science. All applied study in such minors is subject to approval by appropriate area faculty and must be on the graduate level. The minor field should be selected in consultation with, and is subject to the approval of, the chair of the student's doctoral committee and the Director of Graduate Studies. The minor field must be declared by the end of the first year of study using the appropriate form.

Juries

Jury requirements at the doctoral level vary by area of study; students should consult with their major professor for more information and specific requirements.

Minor Field

Doctoral students must select a minor field, study in which comprises twelve credits of graduate-level coursework. The most common minor fields are in musicology (ethnomusicology, music history, or music literature) and music theory. Other options may include music education, a field outside music (students may have to satisfy prerequisites before enrolling in courses offered in other university departments), or an applied/research minor in music comprising six credits of applied instruction and six credits of research-oriented coursework (i.e., in musicology or music theory). This last



option may include work in early music (applied work on a period instrument, for example, with musicological studies in early music), studies in contemporary music (including, for example, composition and analysis of contemporary music), collaborative arts (applied study in collaborative arts, for example, with relevant work in musicology or music theory), or vocal pedagogy and voice science. All applied study in such minors is subject to approval by appropriate area faculty and must be on the graduate level. The minor field should be selected in consultation with, and is subject to the approval of, the chair of the student's doctoral committee and the Director of Graduate Studies. The minor field must be declared by the end of the first year of study using the appropriate form.

Music 6300: Introduction to Research Methods in Musicology

Introduction to Research Methods in Musicology is a prerequisite for graduate-level music history and literature courses. (Note that the prerequisite for MUSI 6300 is satisfaction of deficiencies in music history, either by successfully completing the diagnostic exam in music history or by passing the graduate-level Survey of Music History review course; see above, under "Diagnostic Exams.") MM students must complete MUSI 6300 at the first available opportunity; MM students are required to complete MUSI 6300 before enrolling in graduate-level coursework in music history. DMA students are also required to take MUSI 6300 unless the requirement is waived on the basis of materials submitted as part of their application to the school of music. DMA students will be required to take MUSI 6300 at their first available opportunity (which in most cases will be in their first term of study).

Electives

Some DMA degree programs allow for electives. Electives may be satisfied with graduate-level (6000-level or above) music courses or, pending approval of the Director of Graduate Studies, other courses in a different university department that may be considered an enhancement of a student's degree objective. No additional hours of doctoral document research or doctoral essay research (MUSI 8299) beyond the amount required in the degree will satisfy a free elective requirement or any other degree requirement; additional hours of applied study in the major area will not satisfy a free elective requirement or any other degree requirement.



Graduate Faculty

SCHOOL OF ART

Cheryl Beckett. Associate Professor of Art-Graphics. B.F.A., M.A., M.F.A, Western Michigan University.

Suzanne Bloom. Professor of Art, Photography/Digital Media. B.F.A., M.F.A., University of Pennsylvania.

Jillian Conrad. Assistant Professor of Art-Sculpture. B.A., Saint John's College (Santa Fe); M.F.A., Rhode Island School of Design

Sarah K. Costello. Instructional Assistant Professor of Art History. B.A., Georgetown University; M.A., Bryn Mawr College; Ph.D., Binghamton University, State University of New York.

M. Beckham Dossett. Associate Professor of Art-Graphics. B.F.A., University of Texas at Austin; M.F.A., Cranbrook Academy of Art.

Sibylle Hagmann. Associate Professor of Art-Graphics. B.F.A., Basel School of Design; M.F.A., California Institute of the Arts.

John Hanna. Associate Professor of Art. Interior Design. B.F.A., Art Center School; M.F. A., University of Illinois.

Rachel Hecker. Associate Professor of Art-Painting. B.F.A., Moore College; M.F.A, Rhode Island School of Design.

Edward Hill. Professor Emeritus of Art-Photography/Digital Media. B.F.A., Rhode Island School of Design; M.F.A., Yale University.

Stephan Hillerbrand. Assistant Professor of Art-Photography/Digital Media. B.F.A., Southern Methodist University; M.F.A., Cranbrook Academy of Art.

Cathy S. Hunt. Instructional Assistant Professor of Printmaking. B.S., University of Illinois; M.F.A., University of Houston

David L. Jacobs. Professor of Art-Photo History/Criticism. B.A., University of Cincinnati; M.A., Ph.D., University of Texas at Austin.

Paul Kittelson. Associate Professor of Art-Sculpture. B.A. University of California, Santa Barbara; M. F. A., University of Houston.

Rex Koontz. Director and Associate Professor of Art History. B.A., American College in Paris, France; M.A., Ph.D., University of Texas at Austin.

Abinadi Meza. Assistant Professor of Art-IPEF. B.F.A. University of Minnesota; M.F.A. Southern California Institute of Architecture.

Fiona McGettigan. Associate Professor of Art-Graphics. B.A., Mercyhurst College; M.F. A., Cranbrook Academy of Art.

Delilah Montoya. Associate Professor of Art-Photography/Digital Media. B.A., M.A., M.F. A., University of New Mexico.

Katrina Moorhead. Assistant Professor of Art-Sculpture. B.A. and M.A., Edinburgh College of Art.H. Rodney Nevitt, Jr. Associate Professor of Art History. B.A., Rice University; M.A., William College; Ph.D., Harvard University.

Dana Padgett. Instructional Assistant Professor of Art History. B.S., Vanderbilt University; M.F.A., University of Houston.

Aaron Parazette. Professor of Art-Painting. B.A., University of South Florida; M.F.A., Claremont Graduate School.

John Reed. Professor of Art-IPEF. BFA., Temple University; MFA., University of California San Diego.

Raphael Rubinstein. Professor of Art. B.A., Bennington College. Jenni Sorkin. Assistant Professor of Art History-Critical Studies. B.A. Art Institute of Chicago; M.A. and Ph.D. Yale University.

Alfred Souza. Professor of Art-Painting. B.S., M.F.A., University of Massachusetts.

Gael Stack. John and Rebecca Moores' Professor of Art-Painting. B.F.A., University of Illinois; M.F.A., Southern Illinois University.

Judith Steinhoff. Associate Professor of Art History. B.A., Sarah Lawrence College; M.F. A., Ph. D., Princeton University.



Sandra Zalman. Assistant Professor of Art History. B.A. University of California, Berkeley; M.A. and Ph.D. University of Southern California.

Moores School of Music

Robert Bates. Professor of Music. B.A. Wayne State University; M.M. Southern Methodist University; Advanced Diploma, Conservatoire à Rayonnement Régional de Rueil-Malmaison; Ph.D., Stanford University.

Paul Bertagnolli. Associate Professor of Music. B.M., University of Wyoming; M.A., McMaster University; M.M., Yale University School of Music; Ph.D., Washington University.

David Bertman. Associate Director, Moores School of Music; Associate Professor of Music. B.M.E., University of Oklahoma; M.M., University of Houston.

Cynthia Clayton. Associate Professor of Music. B.A. University of California, Los Angeles; M.M., University of Southern California.

Andrew Davis. Director, Moores School of Music; Margaret M. Alkek and Margaret Alkek Williams Endowed Chair; Associate Professor of Music. B.A., The Pennsylvania State University; M.M., University of Massachusetts at Amherst; Ph.D., Indiana University.

Matthew Dirst. Professor of Music. Prix de Virtuosite (Organ) Prix d'Excellence (Harpsichord), Conservatoire à Rayonnement Régional de Rueil-Malmaison. B.M., University of Illinois; M.M., M.S.M., Southern Methodist University; Ph.D., Stanford University.

Aaminah Durrani. Clinical Assistant Professor of Music. B.A.; University of Miami, M.A., Harvard University; M.A., American University in Cairo; B.M., M.M., University of Houston; Ph.D., Louisiana State University.

Joseph Evans. Professor of Music. B.A., M.M., University of North Texas.

Dan Gelok. Instructional Assistant Professor in Music. B.M.E., Indiana University at Bloomington; M.M., University of Massachusetts at Amherst.

Andrzej Grabiec. Professor of Music. B.M., Polish State Music School; M.M., Karol Szymanowski Academy of Music.

Erin Hansen. Assistant Professor of Music. B.A., Michigan State University; M.M., University of Michigan; Ph.D., University of Michigan.

Charles S. Hausmann. Professor of Music. B.M.E., Westminster Choir College; M.A., Trenton State College; D.M.A., University of Missouri at Kansas City.

Timothy Hester. Professor of Music. B.M., University of Houston; M.M., Juilliard School of Music.

Timothy Jones. Associate Professor of Music. B.M., Centenary College; M.M., D.M.A., University of Michigan.

Julie Kastner. Assistant Professor of Music. B.M.E., University of Illinois at Urbana-Champaign; M.M., Ph.D., Michigan State University.

Timothy Koozin. Professor of Music. B.A., California State University; M.M., Ohio University; Ph.D., University of Cincinnati.

Franz Anton Krager. Professor of Music. B.M., M.M., University of Michigan.

Barbara Rose Lange. Associate Professor of Music. B.M., Montana State University; M.M., University of Wyoming; Ph.D., University of Washington.

Noe J. Marmolejo. Associate Professor of Music. B.M., Southern Methodist University; M.M., University of Houston.

Marcus Maroney. Associate Professor of Music. B.M., University of Texas; M.M., Yale University.

Tali Morgulis. Associate Professor of Music. B.M., M.M., Tel-Aviv Academy of Music; D.M.A., New England Conservatory.

Jeb Mueller. Assistant Professor of Music. B.M., Texas Tech University; M.M., University of Texas; D.M.A., University of Miami.

Howard J. Pollack. Rebecca & John J. Moores Professor of Music. B.M., University of Michigan; M.A., Ph.D., Cornell University.



Arnold C. Ross III. Professor of Music. B.A., Bucknell University; M.F.A., University of Minnesota.

Vagram Saradjian. Professor of Music. M.M., D.M.A., Moscow Conservatory.

Abbey Simon. Cullen Professor of Music. Artists Diploma, Curtis Institute of Music.

Robert Smith. Professor of Music. B.M., State University of New York at Potsdam; M.M., D.M.A., University of Texas at Austin.

John Snyder. Professor of Music. B.M., M.M., Michigan State University; Ph.D., Indiana University.

Melanie Sonnenberg. Professor of Music. B.A., City College, City College of New York; M.A., Teachers College, Columbia University.

Jeffrey Sposato. Director of Graduate Studies, Moores School of Music; Associate Professor of Music. B.A., Tufts University; B.M., M.M., New England Conservatory of Music; Ph.D., Brandeis University.

Betsy Cook Weber. Professor of Music. B.M., University of North Texas; M.M., Westminster Choir College; D.M.A., University of Houston.

Nancy E. Weems. Madison Endowed Professor of Music. B.M., Oberlin College; M.M., University of Texas at Austin.

Lawrence B. Wheeler. Associate Professor of Music. B.M., Juilliard School of Music.

David Ashley White. Professor of Music. B.M., M.M., University of Houston; D.M.A., University of Texas at Austin.

Blake M. Wilkins. Director of Undergraduate Studies, Moores School of Music; Professor of Music. B.M., University of Oklahoma; M.M., University of Southern California; D.M.A., University of Oklahoma.

Kirsten Yon. Associate Professor of Music. B.M., University of Michigan; M.M., Cleveland Institute of Music; D.M.A., Rice University.

School of Theatre and Dance

Edward Albee. Distinguished University Professor of Theatre.

Carolyn Houston Boone. Associate Professor of Theatre. B.A., Louisiana Polytechnical Institute; M.A., Sam Houston State University; M.F.A., University of Houston.

Brian Byrnes. Associate Professor of Theatre. B.A., University of Iowa; M.F.A., University of Pittsburgh.

Sara Becker. Assistant Professor of Theatre. B.A., Fordham; M.F.A., University of Wisconsin.

Teresa Chapman. Assistant Professor of Theatre. B.F.A., University of Southern California, Santa Barbara; M.F.A., California State University, Long Beach.

Jackie DeMontmollin. Clinical Assistant Professor. M.Ed., Concordia University.

Jim Johnson. Assistant Professor of Theatre. B.A., Buena Vista College; M.F.A., University of Nebraska/Lincoln

Jonathan M. Middents. Associate Professor of Theatre. B.A., Rice University; M.F.A., Florida State University.

Stuart Ostrow. Distinguished University Professor of Theatre.

Kevin Ridgon. Professor of Theatre. Member of United Scenic Artists.

Robert Shimko. Assistant Professor of Theatre. B.A., Hartwick College; M.A. University of Minnesota; Ph.D., University of Minnesota.

Karen Stokes. Head of Dance Division-School of Theatre and Professor of Dance. B.F.A., Ohio State University; M.F.A., University of California, Los Angeles.



Claremarie Verheyen. Associate Professor of Theatre. B.A, St. Norbert College; B.F.A., University of Wisconsin; M.A., Illinois State University; M.F.A., California Institute of the Arts.

Paige Willson. Clinical Assistant Professor. B.F.A., University of Louisiana Lafayette; M.F.A., University of Houston.

Jack Young. Head of Professional Actor Training Program. Associate Professor of Theatre. B.A., Virginia Tech; M.F.A., University of Washington.



C. T. Bauer College of Business

Contact Information

Office of the Dean

(713) 743-4600

Senior Associate Dean, Faculty Affairs

(713) 743-4600

Associate Dean, Student Affairs

(713) 743-4600

Associate Dean, Undergraduate Business Programs

(713) 743-4912

Assistant Dean, Graduate and Professional Programs

(713) 743-4806

Assistant Dean, Career Services

(832) 842-6120

Master of Science in Accountancy Program

(713) 743-5936

Master of Science in Finance Program

(713) 743-0700

Master of Science in Global Energy Management Program

(713) 743-0700

Master of Science in Management Information Systems Program



(713) 743-0700

Master of Science in Supply Chain Management Program

(713) 743-0700

Master of Science in Marketing Program

(713) 743-0700

Graduate Professional Programs Office

(713) 743-0700

Office of Undergraduate Business Programs

(713) 743-4900

Bauer Division of Technology

(713) 743-4871

Department of Accountancy and Taxation

(713) 743-4820

Department of Decision and Information Sciences

(713) 743-4747

Department of Finance

(713) 743-4755

Department of Management and Leadership

(713) 743-4646

Department of Marketing and Entrepreneurship

(713) 743-4555

Dean:



Latha Ramchand, Ph.D., Northwestern University

Senior Associate Dean for Faculty Affairs:

Thomas George, Ph.D., University of Michigan

Associate Dean for Student Affairs:

Richard Scamell, Ph.D., University of Texas at Austin

Associate Dean for Undergraduate Business Programs:

Frank W. Kelley, M.A., McNeese State University

Assistant Dean for Graduate and Professional Programs:

Steve Koch, M.S., California State University

Assistant Dean of the Elizabeth D. Rockwell Career Services Center:

Jamie K. Belinne, M.S., Loyola University-New Orleans

Executive Director of Business Operations:

Sara Brown, M.B.A., University of Houston

Director of Registration and Academic Records:

Mary Rendon Gould, M.A., Boston University

General Information

The C.T. Bauer College of Business offers master's degree programs that have an emphasis in business and administration, and a doctoral program in which students may concentrate in one of several business administration disciplines.

The Master of Business Administration (MBA) degree is a fully-accredited curriculum that prepares students with the professional skills necessary to manage within a modern global business. The degree program emphasizes practices that benefit the individual, the organization, and the social and economic environment. In addition, the curriculum requires students to master topics in accounting, economics, finance, marketing, production, quantitative methods, computer applications, management, and corporate strategy and policies.

While there are several thousand educational institutions granting graduate degrees in management, the University of Houston is one of approximately 620 colleges whose master's program is accredited by the Association to Advance Collegiate Schools of Business, International (AACSB International).

Admission to the MBA program is open to qualified applicants who have bachelor's degrees from recognized colleges or universities, regardless of the undergraduate field of study. Because Houston is a dynamic business center, the Houston MBA program provides the flexibility necessary to



accommodate a wide range of student needs and also gives students extensive opportunities to network with their classmates, enhancing their experience in the program. The Professional MBA is designed for fully employed students who wish to pursue their education in the evening, without interrupting their career. The Full Time MBA program is available to students who can make a full-time commitment to their education, and encourages internships, networking opportunities and other co-curricular programming and activities to enhance or transition their careers.

The Executive program option for the MBA degree is designed for more experienced applicants with substantial professional experience. The program includes the same course requirements and contact hours as the MBA curriculum, with a series of executive enrichment activities for participants. The program's objectives are to prepare participants for undertaking managerial assignments that require a heightened level of responsibility, a sharpening of the participant's managerial skills, and an increased understanding of the political, social, and economic forces that affect an executive's future. Two programs are offered: Global Leadership and Global Energy. The two program options provide opportunities for educational enhancement without an interruption to the students' professional careers.

A number of joint master's degree programs are offered which may be pursued on a part- or full-time basis. Other programs at the University of Houston that may be combined with the Master of Business Administration include the Doctor of Jurisprudence (MBA/JD), BS Industrial Engineering BSE/MBA, the MS in Industrial Engineering (MSIA/MBA), the Master of Hospitality Management (MBA/MHM), the Doctor of Pharmacy (PharmD/MBA) and the Master of Social Work (MBA/MSW).

The Master of Science in Accountancy program is for students who plan to concentrate in the fields of financial, managerial, and tax accounting. The degree provides a balanced background in a variety of business areas, as well as specific competencies in accountancy and taxation. Students' degree plans are structured to complement their previous academic backgrounds. Students who are interested in this degree, but who have career and time constraints, may complete the program by attending on a part-time, evening basis.

The Master of Science in Finance is a fully accredited program designed to provide a focused, intensive course of study in security valuation, trading and corporate financial management. Coursework is designed for both working professionals and full-time students who are interested in careers in finance, preparing students for the increasingly complex and technical world facing finance professionals. The program curriculum is aimed at the needs of the financial professional and provides an excellent background for all levels of the CFA examinations.

The Master of Science in Global Energy Management program exploits the city of Houston as the "energy capital of the world." The program focuses on the business of energy and effective management skills. Coursework in the program includes areas such as upstream economics, petrochemical and refining economics, energy value chain, human resource management in the oil and gas industry, strategic management in the oil and gas industry, energy trading, and energy supply chain management. The program curriculum is aimed at professionals who want a graduate degree focused on effective management in the energy industry.

The Master of Science in Supply Chain Management program addresses the creation and delivery of products from suppliers to the final customer. Supply chain management is a rapidly growing business discipline being driven by advanced applications of information technology and the important role of supply chain management in an increasingly global economy. With global operations becoming more complex, companies in manufacturing, retail and technology, along with the consulting firms that service them, find themselves in need of people with supply chain expertise. The program is structured with required courses in business fundamentals, the supply chain core (e.g., demand and supply integration, logistics management, sourcing and procurement, contracting and negotiation) and supply chain analytics (supply chain analysis and design, supply chain optimization, and quality and productivity management).

The Master of Science in Marketing program allows students to develop skills that will push them forward in marketing careers. Students can strengthen their skills in traditional brand and product management, including new product development and technology commercialization. Students can also build specialized skills in areas such as marketing analytics, digital/interactive marketing, or business to business sales and marketing.

The Master of Science in Management Information Systems program is targeted to develop professionals in the areas of database administration, network and computer system administration, software development, information security analysis, web development, and computer and information systems management. The program consists of required courses in systems analysis and design, object-oriented programming, database management systems, project management, client server technology and the administration of MIS. Electives are offered in a wide array of areas, such as open source systems, cloud and collaboration, user experience essentials IT auditing, network security and infrastructure, predictive analytics, business intelligence, and enterprise operations.



The college also grants a Doctor of Philosophy degree in six areas within business administration: accounting, finance, management, management information systems, marketing, and supply chain management. The doctoral program is strongly oriented toward research, and it endeavors to educate teacher-scholars capable of expanding the frontier of knowledge in these disciplines.

Students who have bachelor's degrees from recognized colleges or universities, regardless of the undergraduate field of study, may apply for admission to the Ph.D. program. Degree programs that suit the research interest of candidates are planned by graduate advisory committees within students' major areas. Although doctoral candidates have individualized degree plans, the college usually requires four years of course work, research, and teaching from all candidates who enter the program. The doctoral program requires full-time enrollment.



Admission Requirements: C.T. Bauer College of Business

General Requirements

For specific information about admission requirements and application deadlines for the MBA or MS Programs, please contact the Graduate and Professional Programs Office at mba@uh.edu, call (713) 743-0070 or visit the Graduate and Professional Programs website.

The C.T. Bauer College of Business does not grant conditional admission, nor does it have a non-degree seeking status at the graduate level.

Master of Science in Accountancy and Certificate in Accountancy Programs

Accountancy and Taxation Programs Office, 304 University Classroom and Business Building, 713-743-4696.

For information regarding the Master of Science in Accountancy Program (MSACCY), please contact the admissions advisor at 713-743-4878, email applymsaccy@uh.edu, or view the Master of Science in Accountancy website.

For information about the Certificate in Accountancy Program, please contact the CAP advisor at 713-743-5752, email applycap@uh.edu, or view the Certificate in Accountancy Program website.

The C.T. Bauer College of Business does not grant conditional admission, nor does it have a non-degree seeking status at the graduate level.



Academic Policies: C.T. Bauer College of Business

Changes of Major, Degree, and Classification

Students who wish to change their field of study, degree objective, or classification to one in the Bauer College of Business should obtain the appropriate petition and information packet from the Graduate Professional Programs Office. If admitted, students will be subject to college policies in effect during the semester for which the change is approved. Graduate students in the C. T. Bauer College of Business who wish to change from one program to another within the college should complete a General Petition requesting the change. Students who receive approval for the change will be subject to policies and degree plans in effect during the semester the change is approved. Graduate students in this college who wish to change to another graduate college at the University of Houston should consult the dean's office of that college for procedural information.

Dropping Courses

The last day to drop a course (or courses) is the date indicated in the current class schedule. Students taking courses in the college may not drop a C. T. Bauer College of Business course after that date.

Eligibility for Enrollment in Graduate Business Courses

All course work to be applied to the graduate business programs must be 6000-level or higher.

Students not enrolled as graduate students in the Bauer College of Business may take 6000-level (or above) courses in the Bauer College if they meet one of the following criteria:

- Have graduate standing on the University of Houston main campus; or
- Have received written permission from the Bauer College Dean, or designate, on a space-available basis.

Those enrolled as graduate students in the Bauer College of Business may take 6000-level (or above) courses provided they have the pre-requisites, or permission of the instructor where appropriate. Students not enrolled as graduate students in the Bauer College of Business may take 6000-level (or above) courses in the Bauer College with written permission from the Bauer College Dean, or designate, on a space-available basis.

Such students may enroll in a maximum of four graduate courses in the Bauer College (five courses for graduate students in the College of Hotel and Restaurant Management master's program). For both of these options, registration in additional graduate-level business courses would require approval from the Bauer College Office of the Dean, or designee

After completing these hours, students are no longer eligible to take graduate hours in the college unless prior approval is received in writing from the Office of the Dean, or a petition to change major and degree objective has been submitted and approved for a graduate program in the Bauer College of Business.

Undergraduate and postbaccalaureate students are ineligible to enroll in graduate-level courses in business administration and will be dropped from any such courses for which they enroll. Drops can be generated by either the instructor or the Graduate Professional Programs Office. Only students in the Professional Program in Accounting are granted an exception to take two graduate accounting classes in their senior year.

Graduate Classification

Students are classified as graduate students in the Bauer College only after their application for admission has been approved by the Bauer College. Students must go through the formal application process in order to obtain this classification.

Inapplicable Graduate Credit



Graduate credit is not granted for correspondence courses, extension courses, advanced standing examinations, and courses taken prior to admission to a graduate program (except as outlined in the waiver/transfer policy for the graduate programs). The time limitation section specifies additional restrictions. Also, although grades of D+ and lower are included in the computed grade point average, the university awards no credit toward the degree for courses in which the student receives a grade below C-.

Prerequisites and Corequisites

Admission to a graduate program on this campus of the University of Houston System is a prerequisite for enrollment in any C. T. Bauer College of Business course numbered 6000 or higher. Students must meet the prerequisite and corequisite requirements of the graduate program to which they are admitted. Prerequisites to the programs are listed with each individual graduate program section. Prerequisites to individual courses are indicated under each course title and are strictly enforced.

Course Load Information

Prior to admission, C. T. Bauer College of Business does not have a course load requirement. However, after admission into the program, international students with an F-1 visa are required to be full-time students, which translates into a minimum of 9 credit hours per semester.

Special Problems Courses

A master's or doctoral-level student who is interested in doing an independent study or research project may make arrangements to work individually with a faculty member by signing up for a special problems/independent study course. No more than six semester hours of special problems credit may count as electives toward the business administration graduate degree requirements.

Graduation Honors

The Dean's Award for Academic Excellence is a college-based honor awarded to students who complete their graduate degrees in business with a cumulative graduate grade point average of 3.70 or above. The graduate GPA does not include grades in any undergraduate courses the student may have taken while in the graduate program. Students earning the Dean's Award are mailed certificates following their graduation from the program. The designation does not appear on the University of Houston diploma.

Termination of Enrollment

Students must maintain a satisfactory rate of progress toward the degree. Satisfactory progress is measured by several means, including timely completion of courses required for the degree and maintenance of a minimum grade point average of 3.00 (A=4.00). In addition, the University's 4C Rule applies. A graduate student who receives a grade of C+ or lower in 12 semester credit hours attempted at this institution for graduate credit or for application toward the graduate degree, whether or not in repeated courses, is ineligible for any advanced degree at this institution and will not be permitted to re-enroll for graduate study. Refer to the Academic Regulations section of this publication for other requirements. The Dean, or designate, may terminate enrollment at any time if the student's rate of progress is not satisfactory. If enrollment is terminated, students will be notified with a written explanation. Copies of this notice and an explanation will be maintained in the student's file.



Concurrent Degree Program

The C.T. Bauer College of Business offers concurrent degree programs with a number of other colleges at the University of Houston.

Concurrent degree program opportunities available with other colleges at the University of Houston include the MBA/JD with the UH Law Center, the BS in Industrial Engineering/MBA (BSIE/MBA) and the MS in Industrial Engineering/MBA (MSIA/MBA) with the Cullen College of Engineering, the Master of Hospitality Management/MBA (MBA/MHM) with the Hilton College, the Doctor of Pharmacy/MBA (PharmD/MBA) with the UH College of Pharmacy, and the MSW/MBA with the UH Graduate College of Social Work.

Through the joint programs students can obtain two graduate degrees in a shorter period of time than if they were to pursue the same two degrees independently. The programs may be pursued on either a full-time or part-time basis within specific time limitations. Students graduate with both degrees in the same term.

Participation in any of the concurrent degree programs requires separate application to and acceptance by each of the participating schools. Applicants must meet the admission requirements of the two respective colleges before being admitted to a concurrent degree program. Further information may be obtained from the Graduate and Professional Programs office at the C. T. Bauer College of Business.



Scholarships and Financial Aid: C.T. Bauer College of Business

Scholarships

All graduate students accepted into the C.T. Bauer College of Business are eligible to apply for Bauer College scholarships. In the 2013-2014 academic year, approximately 350 Bauer College students were awarded over \$1,120,000 in scholarships. Bauer College scholarships range from \$500 to \$5,000, and are competitively awarded by the Bauer College Scholarship Committee. Scholarships range on a basis of academic merit, financial need, and a combination of both. Almost all doctoral students receive fellowships and there is some scholarship support available to them, as well.

The specific criteria for each scholarship are established by the scholarship donors and the college. Applicants need to complete the single on-line Bauer College Scholarship Application form to be considered for all Bauer College scholarships for which they qualify. For scholarships that require financial need, students who are U.S. Citizens and permanent residents will need to fill out the FAFSA online. International students will fill out the Bauer Financial Aid Application for International Students and turn this directly into the Bauer College Scholarship Coordinator, along with the student's past six months' bank statements. These documents (and likewise FAFSA data) are utilized as financial need review material and confidential to the Scholarship Committee. Students are encouraged to apply as soon as they have been admitted to a Bauer graduate program since scholarships are awarded on a rolling basis, with the bulk of scholarships being awarded prior to the start of the academic year.

In addition to the annually-funded scholarships that may vary from year to year, the Bauer College has the following endowed Scholarships available for graduate students including, but not limited to:

- Bank of America Academic Success Scholarship
- Bauer Alumni MBA/EMBA Scholarship in Honor of Latha Ramchand
- Ruth and Ted Bauer Family Foundation Fellowship Endowment
- Charles T. Bauer- Full-Time MBA
- Charles T. Bauer- Part-Time MBA
- Greater Houston Business Ethics Roundtable
- EMBA Alumni Association
- Larry R. Furman Scholarship (DOCTORAL)
- Aron S. & Anaruth P. Gordon Scholarship
- Harry B. & Aileen B. Gordon Scholarship
- Houston Foundation for Continuing Education Scholarship
- Dan C. Jones and Yvonne W. Jones Scholarship
- Jesse H. Jones Business Leadership Development Program
- Robert L. and Ruth Kneebone Memorial Scholarship
- Richard Charles Kuriger IV MBA Scholarship Endowment
- William Laufman Memorial Scholarship
- The Minute Maid Company Foundation Scholarship
- Prudential Insurance Scholarship
- Wells Fargo Scholarship

Bauer College of Business Scholarship information and the on-line application form are found on the Bauer Scholarship web page, <http://www.Bauer.uh.edu/scholarships>. For questions, please contact:

Bauer College of Business Scholarships Office
334 Melcher Hall
Suite 320, Room E.
University of Houston
Houston, Texas, 77204-6021
(713)743-3842
kbvardeman@bauer.uh.edu



Financial Aid

Financial aid is available to citizens and eligible non-citizens who are enrolled in at least 6 hours. All applicants must complete the Free Application for Federal Student Aid (FAFSA) to be considered for financial need-based scholarships and other financial aid based on financial need. Bauer College students interested in scholarships from the Bauer College must also complete the Bauer College online Scholarship Application, found at <http://www.Bauer.uh.edu/scholarships>.

State and federal grants are available through programs administered by the University of Houston Student Financial Aid Office. These are very limited and are need-based. Graduate students primarily receive loans to cover their costs. Federal loans consist of the Stafford Loan (subsidized and/or unsubsidized). Stafford subsidized loans are loans that are need-based, and the interest on them is paid by the government while the student is enrolled in school. An unsubsidized loan begins accruing interest immediately after disbursement and is limited to \$20,500/year (a maximum of \$8500 of this amount is subsidized). Repayment for these loans begins 6 months after graduation or if the student drops below half-time enrollment. There are other loans available to students if these loans are not sufficient to cover cost of attendance, which can be discussed with a financial aid advisor.

The Bauer College of Business houses a financial aid advisor to serve its graduate students, located in the Bauer Graduate and Professional Programs Office, 320 Melcher Hall or via e-mail at drpineda@uh.edu.



C.T. Bauer College of Business

Programs

Business Administration, MBA

The C. T. Bauer College of Business at the University of Houston is located in the heart of Houston and fuels the city's workforce. Our graduate students have the benefits of an on-campus education, a world-renowned faculty that provides personalized attention in classrooms of diverse professionals, and a strong network of Bauer alumni that dominates the Houston workforce - truly making the Bauer MBA, Houston's MBA.

The Full-Time MBA program is a **22 month** experience, built on a rigorous core curriculum, that also allows students a great deal of flexibility. Electives and graduate certificates within the program provide the specialized knowledge needed for success in a wide variety of careers in business. The Professional MBA program offers evening courses for the working professional, with flexible scheduling options. This **24 month** program also allows a great deal of flexibility in choosing electives and graduate certificates. Students in both the Full-Time and Professional formats of the MBA are supported by Bauer's Rockwell Center for Career Services.

The Full-Time MBA admits students for fall enrollment only, while the Professional MBA admits students in both the fall and spring semesters. Bauer MBA students are typically 29-30 years of age with 5-6 years of work experience and average GMAT scores of 610.

For further information please see <http://www.bauer.uh.edu/graduate-studies/prospective-students/mba/index.php>.

Admission Requirements

Admission eligibility for the Bauer MBA Program requires a four-year undergraduate degree (or foreign equivalent) from an accredited institution. The undergraduate degree may be in any discipline.

A complete application should include:

1. **Application for Graduate Studies** (see www.uh.edu/graduate-school/admissions/how-to-apply)
2. **Transcripts**
 - Domestic transcripts - official transcript from all higher education institutions attended
 - International Transcripts - one original transcript and degree certificate in the original language and the other must be an official English translation of the transcript.
3. **Test Scores**
 - Official GMAT or GRE scores, less than 5 years old
 - International applicants must submit a test of English language proficiency unless they have earned a high school diploma or bachelor's degree or a higher from a college or university in the US.
One of the following tests may be submitted to meet this requirement. Please note that scores over two years old will not be accepted.
 - Official PTE Academic (Pearson Test of English Academic) minimum of 70.
 - Official IELTS (International English Language Testing System) score above 6.5.
 - Official TOEFL (Test of English as a Foreign Language) score above 603 on the paper-based test or 100 on the internet-based test.
4. **Non-refundable Application Fee(s)**
 - An application fee is required of all applicants.
5. **Additional Requirements for International Applicants**
 - I-20 Transfer Form (if applicant has an I-20 from another institution)
 - International Address Form
 - Letter of Financial Backing
 - Copy of Passport
 - Full details can be found at www.uh.edu/graduate-school/admissions/international-students



NOTE: International students must have a four-year degree from an accredited university to apply for the MBA. Three-year degrees are not considered equivalent. There is no bridge program at UH. Students with a three-year degree will likely need to combine it with a completed master's degree from their home country before applying. Visit www.uh.edu/graduate-school/admissions/international-students/transcripts/ for additional information.

6. **Resume**
7. **Goal Statement**
8. **Letter of Recommendation**
9. **Interviews**
 - Interviews are required for applicants who have been selected to continue the admission process. Not every applicant is invited for an interview. The interviews are by invitation only.

Degree Requirements

Credit hours required for this degree: 48.0

The MBA Program is 48.0 credit hours; all coursework is at the graduate level. Students must complete 21.0 core Credit Hours and 27.0 elective Credit Hours. Electives may vary from 1.5-3.0 Credit Hours each.

The number of core courses taken each semester and the order in which they are taken will depend on which scheduling option the student selects, Full-Time or Professional.

- See Also: MBA Website <http://www.bauer.uh.edu/graduate-studies/current-students/academic-information/forms.php>.

Core Courses

- ACCT 6331 - Financial Accounting Credit Hours: 3.0
- BZAN 6310 - Quantitative Analysis for Business Decisions Credit Hours: 3.0
- FINA 6A35 - Managerial Finance Credit Hours: 1.5
- FINA 6387 - Managerial Analysis Credit Hours: 3.0
- GENB 6A50 - Business Communications Credit Hours: 1.5
- MANA 6A25 - Ethical Leadership & Critical Reasoning Credit Hours: 1.5
- MANA 6A32 - Organizational Behavior & Management Credit Hours: 1.5
- MANA 6A83 - Strategic Analysis Credit Hours: 1.5
- MARK 6A61 - Marketing Administration Credit Hours: 1.5
- MIS 6A41 - Information Systems Credit Hours: 1.5
- SCM 6A01 - Supply Chain Management Concepts Credit Hours: 1.5

Electives

MBA candidates must take a minimum of nine 7000-level or above business elective courses totaling 27 credit hours to complete the degree. Two UH graduate-level electives outside the Bauer College of Business may be counted toward the degree *subject to prior approval from the MBA Program Office*. These electives would be three-credit courses, taken for a letter grade, and integrally related to the advanced study of business.

Electives can be selected from the following business areas:

Accountancy and Taxation

Business Analytics

Finance

General Business

International Business

Management



Due to prerequisites, a limited number of the graduate accounting courses are open to MBA students; if you plan to focus your graduate studies on accountancy and taxation, you may want to consider the MS Accountancy program.

In the elective section, students may choose from the following three paths:

1. **Free Electives Path:** A variety of courses may be taken from across the college in support of a generalist theme.
2. **Focused Path:** 12 hours or more may be taken in a single department to focus on a specific functional area (for example, MIS or Finance).
3. **Certificate Path:** 9-18 hours may be taken toward a certificate in a specialized area. Students selecting this option will be awarded a certificate in addition to the MBA diploma upon completion of their degree.

Joint Degrees

The Bauer College of Business offers a number of joint master's degree programs, which may be pursued on a part- or full-time basis. Programs at the University of Houston that may be combined with the Master of Business Administration include the following:

- Doctor of Jurisprudence, JD/MBA
- Hospitality Management, MS/MBA
- Industrial Engineering, MIE/MBA
- Social Work, MSW/MBA
- Doctor of Pharmacy (MBA/PharmD)

For all of these joint degree programs, it is necessary to apply separately and meet admissions requirements for both programs. (For example, MBA/JD applicants must take both the GMAT or GRE and the LSAT tests.) Once students have been admitted to the first graduate program, they must gain admission to the other within one calendar year. The MBA program will allow 12 hours of MBA electives to be filled by courses from the other program. Students will receive two diplomas, and must file for graduation with both degrees in the same semester.

Contact Information for Joint Degrees

MBA/JD

Law Center
(713) 743-2280
<http://www.law.uh.edu/admissions/>

MBA/MS

Hospitality Management
(713) 743-2457
<http://www.hrm.uh.edu/>

MBA/MIE

Industrial Engineering
(713) 743-4180
<http://www.egr.uh.edu/ie/graduate/>

MBA/MSW

Social Work
(713) 743-8082
<http://www.sw.uh.edu/>

MBA/PharmD



Academic Policies

MBA Academic Policies

All MBA candidates are expected to have computer literacy in the areas of word processing, spreadsheet analysis, databases, PowerPoint, and the use of the Internet. Students who do not have these competencies are expected to acquire this knowledge prior to enrollment in the program. At UH an appropriate undergraduate course equivalent is MIS 3300.

To take Masters' level courses (6000-7000 level) in the C. T. Bauer College of Business, students must have graduate standing at UH and meet the specific prerequisites for courses as listed in the course prerequisites section. A **prerequisite** must be completed **prior** to the start of the course for which it is a prerequisite.

None of the 48 credits required for the MBA degree may be waived. Transfer hours are also not accepted. In rare cases, waivers of a core course may be allowed with substitution of a higher level course in that area. On occasion, students close to degree completion who relocate due to a job transfer may be allowed to transfer in some elective credits with approval from the Assistant Dean and Advisor.

Student records of prerequisites taken

Prerequisites must be evaluated and automated on the Bauer College of Business prerequisite checking computer program before students take courses for which the prerequisites are required. Students in masters' level business programs with questions regarding their records should consult with a graduate advisor in 424 University Classroom and Business Building (UCBB). Students in other graduate programs on campus should provide the graduate advisor in the Bauer College of Business, MBA Program Office, 424 University Classroom and Business Building (UCBB), with a copy of their transcript indicating completion of a calculus course and any other required prerequisites, prior to the start of the semester.

Course and Program Policies

If a course is cross-listed under two departments, students will receive credit for only one of the cross-listed courses.

The 5000-level courses in the Certificate in Accountancy Program (CAP) can be used to waive prerequisites for graduate-level accounting courses, but will not count as graduate credit toward degree requirements for the MBA, MS in Accountancy, or MS in Finance.

Graduate students are not permitted to enroll in undergraduate business courses in the Bauer College of Business.

Undergraduate and post baccalaureate students are ineligible to enroll in graduate-level courses in the Bauer College and will be dropped from any such courses for which they enrolled. Drops can be generated by either the instructor or the Graduate and Professional Programs Office. Only students in the Professional Program in Accounting and the BSIE/MBA joint program are granted an exception to take two graduate courses in their senior year.

Effective Term of Admission

Admission to the Full-time MBA program is granted only for the Fall term. The Professional MBA program admits students for either the Fall or Spring term; admission is granted for a specific term. If students wish to postpone enrollment, they must notify the Bauer Graduate & Professional Programs Office in writing and secure approval to defer their start date. The first term in which students, as graduate students, complete graduate-level course work that applies toward a degree, is the effective term of admission.

Graduate Classification



Students are classified as graduate students in the Bauer College only after their completed application for admission has been approved by the Bauer College. Students must go through the formal application process in order to obtain this classification.

Prerequisites and Corequisites

Admission to a graduate program on this campus of the University of Houston System is a prerequisite for enrollment in any C. T. Bauer College of Business course numbered 6000 or higher. Students must meet the prerequisite and corequisite requirements of the graduate program to which they are admitted. Prerequisites to the programs are listed with each individual graduate program section. Prerequisites to individual courses are indicated under each course title and are strictly enforced.

Transfer Policy

The Bauer MBA program does not accept transfer credit for students who have started an MBA program at another institution. Bauer MBA students who relocate due to a job transfer and are close to graduation should meet with an MBA academic advisor to discuss options regarding completion of their degree.

Waiver Policy

None of the 48 credit hours required for the MBA degree may be waived.

Inapplicable Graduate Credit

Graduate credit is not granted for extension courses, advanced standing examinations, or courses taken prior to admission to a graduate program. The time limitation section specifies additional restrictions. Also, although grades of D+ and lower are included in the computed grade point average, the university awards no credit toward the degree for courses in which the student receives a grade below C-.

Special Problems Courses

A master's or doctoral-level student who is interested in doing an independent study or research project may make arrangements to work individually with a faculty member by signing up for a special problems/independent study course. No more than six semester hours of special problems credit may count as electives toward the business administration graduate degree requirements.

Dropping Courses

The last day to drop a course (or courses) is the date indicated in the University's academic calendar. The C. T. Bauer College of Business cannot override the drop dates set by the University of Houston. Please refer to Student Business Services for information regarding deadlines to drop a course with and without a refund. Students who are dropping all their courses in a given semester must withdraw before the first class day in order to obtain a full refund.

Continuous Enrollment

Unless students petition for a leave of absence, they should maintain continuous enrollment during the fall and spring semesters. Students who are out of the program for more than one calendar year will be under the jurisdiction of the catalog in effect at the time of their reentry. Students who fail to maintain continuous enrollment for more than two calendar years must apply for reinstatement to the program through a petitioning process, pay the Bauer College application fee again, submit an updated resume, and meet the admission requirements in effect at that time.

Graduation Honors



The Dean's Award for Academic Excellence is a college-based honor awarded to students who complete their graduate degrees in business with a cumulative graduate grade point average of 3.70 or above. The graduate GPA does not include grades in any undergraduate courses the student may have taken while in the graduate program. Students earning the Dean's Award are mailed certificates by the College. The designation does not appear on the University of Houston diploma.

Termination of Enrollment

Students must maintain a satisfactory rate of progress toward the degree. Satisfactory progress is measured by several means, including timely completion of courses required for the degree and maintenance of a minimum grade point average of 3.00 (A=4.00). In addition, the University's Low Grade Policy applies. A graduate student who receives a grade of C+ or lower in 12 semester credit hours attempted at this institution for graduate credit or for application toward the graduate degree, whether or not in repeated courses, is ineligible for any advanced degree at this institution and will not be permitted to re-enroll for graduate study. The Dean, or designate, may terminate enrollment at any time if the student's rate of progress is not satisfactory. If enrollment is terminated, students will be notified with a written explanation. A hold will be placed on your account with the Office of the University Registrar and you will be unable to continue with graduate classes at this university.

Changes of Major, Degree, and Classification

Students who wish to change their field of study, degree objective, or classification to one in the Bauer College of Business should contact the Graduate & Professional Programs Office. If admitted, students will be subject to college policies in effect during the semester for which the change is approved. Graduate students in the C. T. Bauer College of Business who wish to change from one degree objective to another within the College should complete an online application form at <https://www.applyweb.com/uhouston/index.ftl>. Students who receive approval for the change will be subject to policies and degree plans in effect during the semester the change is approved. Bauer graduate students who wish to change to another graduate college at the University of Houston should consult the dean's office of that college for procedural information.

Non-Business Majors at the University of Houston

On a space-available basis, non-business majors in good standing in other graduate programs at the University of Houston main campus may take up to 12 semester hours (15 hours for HRM graduate students) of Masters' level business courses as long as they meet the specific prerequisites (or have taken equivalent prerequisite courses in their own program). After completing these hours, students are no longer eligible to take graduate courses in the Bauer College unless an application for a new degree objective and major in the Bauer College of Business has been submitted and approved.

MBA courses taken by students in other UH colleges who have not been admitted to a Bauer College graduate program may not be applied to a future MBA degree at UH.

Business Administration, PhD

Doctoral Program

Please visit the Bauer Doctoral Program website (www.bauer.uh.edu/Doctoral/) for current PhD Program requirements.

Admission Requirements:

A faculty committee within the department of interest will evaluate applicants to the PhD program on several factors, including academic achievement as evidenced by transcripts from each college or university the applicant has attended, standardized test scores, career objectives, research interests, and the department's ability to match the student's aims and the available faculty.



Admission is a two-part process, meeting the technical requirements of the university and meeting the standards of the specific program a prospective student wants to enter. Enrollment in each program is limited, and meeting the university's admission requirements is thus not sufficient. Prospective students are strongly advised to e-mail the PhD Coordinator for the program of interest for information about the program.

Area of Study	Coordinator	Email
Accountancy & Taxation	Dr. Volkan Muslu	vmuslu@uh.edu
MIS (DISC)	Dr. Randolph Cooper	rcooper@uh.edu
Supply Chain Management (DISC)	Dr. Funda Sahin	fsahin@uh.edu
Finance	Dr. Kris Jacobs	kjacobs@bauer.uh.edu
Management	Dr. Dejun Tony Kong	dkong@bauer.uh.edu
Marketing	Dr. Ye Hu	yehu@uh.edu

Conditional admission to the PhD program is not possible, nor is part-time enrollment. These are programs solely to educate prospective university faculty members.

Admission requirements and information can be found on the Bauer Doctoral Programs webpage.

Program Requirements

The program requires continuous, full-time enrollment.

Degree Requirements:

Program of Study

The program of study fosters development in the primary areas of teaching and research that each student selects. All degree candidates must complete the following minimum requirements: 21 semester hours in the major field, twelve semester hours in the support field, nine semester hours in research, comprehensive examinations in the major field, an oral defense of the dissertation proposal, a minimum of 18 semester hours devoted to dissertation and research, and an oral defense of the dissertation.

Prior graduate-level elective course work may be applied toward the required course work if approved by the student's advisory committee. A maximum of 12 hours of prior graduate credit may be applied in total to the supporting field, major field, and research requirement.

Major Field

The major field is the area in which a student elects to take primary course work and to complete the dissertation research. Major fields are offered in accountancy and taxation, finance, management, management information systems, marketing, and supply chain management. A minimum of 21 semester hours is required in the major field, including a maximum of 12 hours applied from the elective courses in a completed master's program. Each major field has at least three hours of research seminar, which must be included in the program. The selection of specific courses will be determined by students and their advisory committee, consistent with departmental requirements, and subject to a maximum of six hours of special problems (independent study) courses.



Supporting Field

The secondary area of interest is called the supporting field. Supporting fields are offered within the college as well as in areas of study from outside the C.T. Bauer College of Business to augment the student's dissertation research in the major field. Such areas might include, but are not limited to, economics, anthropology, industrial engineering, law, mathematics, political science, computer science, psychology, and sociology.

Students must complete a minimum of nine semester hours in the supporting field. C.T. Bauer College of Business supporting fields must consist of 7000- and 8000-level courses. Selection of specific courses to fulfill this requirement will be made by the student, subject to the approval of the advisory committee. The department offering the supporting field may also have policies governing course selection to fulfill this requirement.

Research Requirement

Students must complete a minimum of twelve hours of research courses, including three hours of research in the major field. These courses must have either research methodology or statistical data analysis as their major emphasis, must meet all specific requirements of the department offering the major field, and must be approved by the advisory committee. Courses fulfilling this requirement cannot be double-counted toward fulfillment of the major field or supporting field course work requirements. Prior graduate credit may be applied toward this requirement, but is subject to the advisory committee's approval and to the limitations set forth under the section on program of study.

Comprehensive Examination

The comprehensive examination consists of a written and oral section in the major area. In addition to the following policies governing this examination, each major field within the C.T. Bauer College of Business has specific written policies and procedures governing the design, the administration, the timing, and the evaluation of exams. These policies and procedures will be made available to students at the time doctoral-level course work begins.

Administrative Responsibility

The responsibility for designing, administering, and evaluating written and oral examinations in the major area rests either with the faculty in that area or a subset of those faculty members, as determined by departmental policy.

Eligibility

The Associate Dean for Faculty Affairs will determine candidates' eligibility to sit for the comprehensive exam. The department must obtain a written statement of eligibility before candidates can sit for the exam. To be eligible, students must (1) have successfully completed all course work in the degree plan, (2) have successfully completed all additional departmental requirements, and (3) file a "Request for Comprehensive Examinations" form with the Bauer College Director of Registration and Academic Records in 262 Melcher Hall before the first day of classes in the term in which the exams are to be taken.

Scheduling

A student eligible to take the comprehensive exam must be offered the opportunity to do so within six months of becoming eligible and must sit for the exam within that time period in order to remain in good standing.

Written examinations shall be administered in the fall and spring terms. The department of the major area, at its option, may schedule a third examination opportunity between May and August, inclusive.

Oral Examination



Students must successfully complete the written examination in the major field before taking the oral examination. The oral exam must occur within four weeks of notification that the written examination has been passed. The oral examination is designed and administered either by the faculty of the major area or by a subset of those faculty members. The supporting field representative to the advisory committee will be given an opportunity to question students during the oral exam. All faculty in the C.T. Bauer College of Business will be notified of the oral examination at least five days prior to its scheduled time and will be invited to attend.

Notification of Results

Notification of results of the written exam in the major field will be provided to students in writing within two weeks of completion of each exam. The letter must be prepared in accordance with written departmental policies, and copies will be sent to the Office of Student Services and the major field PhD program coordinator.

Written notification of results of the oral examination will be provided to the student within 24 hours of the exam. In the case of student failure of either the written or oral examinations, the letter will cite the specific deficiencies that resulted in failure.

Examination Failures

In order to pass the comprehensive examination, students must pass the written examination in the major field and the oral examination. Failure of the written exam will prevent the scheduling of an oral exam.

Students have only two opportunities to pass the comprehensive examination. Any retake of the examination must occur at the next scheduled occasion that exams are offered. Students who fail the re-examination will be dismissed from the program.

A student may be exempted from retaking a portion of the comprehensive exam if written departmental policies specify a mechanism for such exemptions. In the absence of such policies, failure of a portion of the examination will require that the entire examination, both written and oral sections, be repeated.

Dissertation

The dissertation consists of significant scholarly research in the major area of study and represents the culmination of the doctoral studies. After successful completion of the comprehensive examination, students are allowed four years to complete the dissertation. If this requirement is not met, students must retake the comprehensive examination.

Designation of a Dissertation Chair

It is the student's responsibility to form a dissertation committee composed of faculty agreeing to supervise the student's work. No faculty member is obliged to serve. The selection of a dissertation chair will occur only after a student successfully completes the comprehensive examination. Students shall nominate as chair a faculty member having a tenure track appointment in the student's major field. The nominated faculty member will then prepare a brief description of his or her own research accomplishments demonstrating competence in research and scholarship and adequate qualifications to direct doctoral dissertations. Students must then petition the Associate Dean for Faculty Affairs to have the nomination approved. An approved dissertation chair must be selected within two months of the completion of the comprehensive examination.

Dissertation Committee

Students select the remaining committee members in consultation with the dissertation chair. The committee must be composed of at least four tenure track faculty members, at least two of whom must be from the major field, including the dissertation chair. An outside member may, under some circumstances, be a faculty member affiliated with another college or university. Full-time instructional faculty members may be added to a dissertation committee that meets the minimum standards described above. No faculty member is obliged to serve.



Members of the dissertation committee must also be approved by the Associate Dean for Faculty Affairs. This approval may occur at the same time the chair is approved; however, concurrent approvals are not a requirement. Approval must precede the scheduling of a dissertation proposal defense.

Changes in Committee Membership

Any changes in the composition of a dissertation committee must be approved by the Associate Dean for Faculty Affairs.

A member of a dissertation committee who leaves the active employment of the University of Houston must be replaced if:

1. the member is the dissertation chair,
2. the member does not agree to further advise the student,
3. the member cannot participate either in the proposal or the dissertation defenses, or
4. the dissertation is not successfully defended within the next long (i.e., fall or spring) term of the member's termination of active employment at the University of Houston.

The last condition does not apply if the member can qualify as an outside member of the committee.

Registration for Dissertation Credit

A minimum of 18 hours of academic credit is required for completion of the doctoral dissertation. Dissertation hours acquired before candidacy (i.e., before successful completion of the comprehensive examination) cannot be applied to this total.

Proposal Defense

Candidates will defend the dissertation proposal at an open meeting. The PhD program coordinator of the major field will distribute abstracts of the proposal to all faculty members in the college two weeks before the defense; a copy of the completed proposal will, at that time, be placed in the departmental office for inspection. All C.T. Bauer College of Business faculty and doctoral students will be invited to the defense. The formal conduct of the defense is the responsibility of the dissertation committee. The final decision to approve the proposal rests solely with the committee. While the committee may wish to take into consideration input from other members of the graduate faculty, they are under no obligation to do so. For students to pass the proposal defense, the committee must approve the proposal unanimously. A record of substantive criticisms and/or required modifications must be provided to students in writing.

Candidates must successfully pass the proposal defense within one year of completing the comprehensive examination. Failure to do so will require students to repeat the comprehensive examination process.

Final Defense

Candidates will defend the dissertation at an open meeting. The PhD program coordinator of the major field will distribute abstracts of the dissertation to all faculty members in the college two weeks before the defense; a final draft of the completed dissertation will, at that time, be placed in the departmental office for inspection. All C.T. Bauer College of Business faculty and doctoral students will be invited to the defense. The formal conduct of the defense is the responsibility of the dissertation committee. The final decision to approve the dissertation rests solely with the committee. While the committee may wish to take into consideration input from other members of the faculty, they are under no obligation to do so. For candidates to pass the final defense, the committee must approve the dissertation unanimously. A record of substantive criticism and/or required modifications must be provided to students in writing. Minor changes to the dissertation may be stipulated by the committee without requiring an additional dissertation defense.

Certification of Form

Written certification that the dissertation is complete and meets all the college requirements of format and style must accompany the dissertation at the time of its submission for binding. (See "Instructions for the Preparation and Submission of the PhD Dissertation, C.T. Bauer College of Business.")



This document is available in the Office of Student Services.) Certification is obtained from the Office of Student Services and must be requested at least two working days before the university dissertation filing deadline. Failure to meet this deadline will cause graduation to be delayed one term.

Additional Requirements

The Doctor of Philosophy degree is the mark of highest achievement in preparation for scholarship and research and as such requires continuous full-time enrollment. Only through exclusive commitment and interaction with faculty and other graduate students can the individual benefit from the PhD experience.

Advisory Committee

Each student must select, with the approval of the PhD program coordinator of the major field department, an advisory committee. Students who enter the program with the foundation course work requirements completed must appoint this committee during their first term. If the committee has not been established before the end of the first term, students will not be allowed to pay registration fees for the next term. Students who enter the program with either partial or no credit toward the foundation requirements must form the advisory committee before the end of the term that follows the one in which the students complete the three foundation courses in DISC and economics. The advisory committee must consist of at least two faculty members from the major field and at least one faculty member from the supporting field. The committee will advise students on course selection and other decisions that affect students before candidacy. Prior to the formation of an advisory committee, this responsibility rests with the PhD program coordinator. The advisory committee is dissolved upon completion of the comprehensive examination.

Members of the advisory committee may be changed with the approval of either the doctoral program coordinator of the student's major field or the department chair.

Degree Plan

Each student must file a degree plan that outlines the schedule and timing of course work in the PhD program. The degree plan must be filed with the Office of Student Services after being approved by the advisory committee and the PhD program coordinator of the major field.

The degree plan must be filed within one term of forming the advisory committee, or students will not be allowed to pay registration fees for the next term.

The degree plan may be modified with the approval of the advisory committee and PhD program coordinator; however, such changes must be approved and filed before students deviate from an existing degree plan.

Annual Review

Between May 1 and June 30 of each year, student progress will be evaluated in accordance with departmental policy. The evaluation will include one of four recommendations:

1. The student's progress is satisfactory in all regards, and the student should be retained in the program.
2. The student's progress has been unsatisfactory in some regards, and the student should be carefully counseled and monitored to eliminate these deficiencies.
3. The student's progress gives cause for serious concern, and the student should be placed on probation with a specified time for correcting the noted deficiencies.
4. The student's progress does not warrant continuation in the program, and the student should be dismissed from the PhD program. The annual evaluation will be transmitted in writing to students with a copy to the Associate Dean for Faculty Affairs. If a student is to be dismissed, the Associate Dean will take that action.

The department, at its option, may evaluate student progress at additional times throughout the academic year.

Grade Point Average



Students must achieve a grade point average of 3.25 (A=4.00) in all work applied toward the foundation course work requirement. Moreover, students must achieve a grade point average of 3.25 (A=4.00) in all graduate work attempted at the University of Houston, excluding courses taken to satisfy the foundation course work requirement and excluding dissertation credit. The student must achieve a grade of B- or better in each of the three courses counting toward the supporting field. Moreover, the student must achieve an overall grade point average of 3.25 (A=4.00) in the supporting field. A grade of at least B- must be achieved in the dissertation hours of the student's graduating term.

Grades of Incomplete

Courses taken by doctoral students, while rigorous and demanding in nature, are structured so that course requirements can be met within the allotted time. Accordingly, grades of incomplete are seldom awarded. A grade of incomplete (excluding dissertation) must be changed within one year or less, at the instructor's discretion, or the grade will automatically become an F.

Three-C Rule

Doctoral students who receive a grade of C+ or lower in three courses (nine semester hours), whether or not in repeated courses, are ineligible to continue in the program.

Continuous Full-Time Program Enrollment

Doctoral students must maintain continuous full-time enrollment. Full-time is defined as enrollment in 9 semester hours of course credit during both the fall and spring terms. Full-time enrollment (a minimum of six hours) is also required during the summer if the student uses the university's resources at any time during the summer or if the student is on the college's financial support. Students should refer to the Graduate Student Policies (www.bauer.uh.edu/doctoral/policies/other.php#cont) for further information in regard to full-time enrollment.

Part-time enrollment is possible during the period in which students complete prerequisite or foundation course work; however, courses that a student takes during a term in which he or she takes less than a full load cannot be used to satisfy any of the doctoral course requirements in the major field, the supporting field, and research activities. Moreover, after any course is taken to fulfill a requirement other than either a prerequisite or a foundation course, full-time enrollment is required in all subsequent terms.

Candidates who have completed the requirement for enrollment in dissertation hours and who have lost in-state residency status for tuition purposes may satisfy the full-time enrollment requirement by registering for three hours of dissertation credit in each long term.

Residency Requirement

Following either the completion of the three college foundation courses in DISC and economics or the completion of an accredited master's degree, at least one year of full-time course work at the University of Houston (including six hours of study during the summer) must be accomplished to be eligible to sit for the comprehensive examination.

Students may also fulfill the residency requirement through full-time enrollment in three consecutive long terms.

Program Time Limitation

In addition to the requirement that the dissertation be completed within four years of the comprehensive examination, a limitation exists on the total length of study. Students who fail to successfully defend a dissertation within six years of completing the three college foundation courses (DISC and Economics) must retake the comprehensive examinations.

Doctoral Program Coordination



Each department will formalize a mechanism for administering the doctoral program. A PhD program coordinator, appointed by the department chair, will act on behalf of the department in admissions, advising, comprehensive examinations, committee formation, and progress monitoring.

Doctoral Information System

The Office of Student Services maintains the official file that monitors the progress of each doctoral student. Upon completion of a milestone, students' advisory committee chair or dissertation committee chair (or, in the absence of a chair, the PhD program coordinator) shall notify the Office of Student Services in writing that the milestone has been completed. Copies will be sent to students, all committee members, and the PhD program coordinator for the major area.

Teaching/Research Activity

All doctoral students are required to participate in research and teaching activities as an integral part of this doctoral program. In order to participate in teaching-related activities that require oral communication with students in spoken English, international students for whom English is a second language must take the Test of Spoken English (TSE), the SPEAK, or the Foreign Service Institute (FSI) Oral Interview and obtain a minimum score of 50 on the TSE or SPEAK, or 17 (out of 25) on the FSI interview. Students who fail to satisfy this requirement will not be able to teach until it is satisfied.

Other Governing Documents

University policies take precedence over all policies contained in this document. Departments within the C.T. Bauer College of Business provide students with written policies that govern the administration of comprehensive examinations within that department. This document may also contain policies that specify requirements in addition to those described here. In case of direct conflict, however, college policies take precedence over departmental policies. College policies on doctoral candidates are outlined in the "Graduate Student Policies for the Doctor of Philosophy Degree, C.T. Bauer College of Business." This document is available in the Office of Student Services.

Students are required to graduate under the degree provisions in effect at the time of first registration after having been admitted to the PhD program. Two exceptions to this rule apply:

1. A student who is required to reapply to the program shall be governed by the appropriate degree provisions in effect at the time the student reenters the university.
2. In the event the degree provisions affecting the student are modified, the student may choose to meet the modified provisions; however, the student must select either the old or the new provisions in their entirety.

Executive MBA Option

Celebrating more than thirty years of excellence for executives, the University of Houston's C.T. Bauer College of Business delivers a premier Executive MBA Degree program, offering quality education, outstanding faculty, and team-based learning.

The Executive Degree Programs offer a fully accredited MBA degree, with scheduling options that will meet both professional and development needs of upcoming managers and executives. These options are all-inclusive cohorts, presented in a lock-step format that acknowledges the demanding schedule of working professionals.

- Program I is a 24-month program that meets on Monday and Thursday evenings from 5:30 - 9:30 p.m.
- Program II is the oldest EMBA Program at UH. This 18-month program meets on Fridays and Saturdays from 8:00 a.m. - 5:00 p.m. on alternating weekends.
- The Woodlands Program is a 21-month program located on the Lone Star College campus that meets Tuesday evenings from 5:30 to 9:30 p.m., and one Saturday per month from 8:00 a.m. to 5:00 p.m.

All Executive MBA Program applicants must meet the following requirements:

- A bachelor's degree in any discipline



- Significant business and professional experience of at least seven years
- Potential for continued professional growth. Each applicant is evaluated on individual potential for senior management
- Application (\$75 non-refundable fee)
- Resumé
- Two official transcripts from all colleges and universities attended
- Two letters of appraisal
- Personal interview (an interview will be scheduled after your application is reviewed and approved)

Additional information on these options is available from the Executive MBA Programs Office, <http://www.bauer.uh.edu/graduate-studies/prospective-students/executive-mba/>.

Department of Accountancy & Taxation

Accountancy, MSACy

The MSACCY program is designed to be flexible and is anticipated to be completed in one year. The curriculum requirements are based on 36 graduate hours including 24 hours of graduate accounting or IT courses. Students can develop a skilled specialization in one of our five certificate tracks: Assurance/Financial Reporting, Advanced Internal Audit, Taxation, Oil & Gas and IT Systems Risk Management. The Program provides an opportunity to acquire a strong graduate foundation in accounting and also pursue an area of particular student interest or career aspiration.

The program offers a flexible class schedule and courses that provide students with the right balance of technical knowledge and critical thinking capabilities sought by today's employers. The majority of our MSACCY courses (approximately 80%) are offered in the evening to accommodate working professionals. The remaining courses are offered during the regular day class schedule. Students learn to solve complex business problems, recognize dysfunctional accounting situations, and respond appropriately to ethical and regulatory dilemmas; while engaging in accounting research and gaining first-hand experience communicating their findings. Emphasis is placed on the strong background needed to successfully complete the Texas Uniform CPA exam.

Course options include courses that introduces the concepts and use of data analytics, the related tools (software and programming concepts) and the solution applications (analysis and presentation); and a course where the data analytics software used extensively by the public accounting firms and internal audit departments will be integrated throughout the course including the performance of multiple audit applications. These steps to integrate data analytics into the program are aligned with the guidance of the AACSB and the American Accounting Association (AAA) White Paper on Integrating Data Analytics into the Financial Statement Auditing Class.

The Department of Accountancy & Taxation's MSACCY Accounting Program is recognized by the AACSB and has received separate Accounting Accreditation from the AACSB. Less than 2% of the worldwide accounting programs have received this important designation as one of the highest quality academic programs which "ensures that students are learning material most relevant to their field of study, preparing them to be effective leaders upon graduation."

Please see <http://www.bauer.uh.edu/departments/accy/graduate/admissions.php> for more information.

Admission Requirements

Admission eligibility for the MSACCY Program requires a four-year undergraduate degree (or foreign equivalent) from an accredited institution.

1. **Application for Graduate Studies**

2. **Transcripts**

Transcripts from each higher-educational institution attended must be submitted. Transcripts must be official and if applicable please include an official English translation. Official degree diplomas for foreign credentials, and an official English translation, if applicable, must be submitted.

International students can find information on submitting official transcripts to the University of Houston Graduate School at <http://www.uh.edu/graduate-school/admissions/international-students/transcripts/>.

3. **Test Scores**



- An official GMAT or GRE score, less than 5 years old, submitted to the University of Houston. The test should be taken prior to the application deadline.
 - GMAT/GRE can be waived for applicants who hold a terminal doctoral degree, including MD, JD, or PhD, from UH main campus or any other regionally-accredited domestic institution, or international equivalent.
- English Language Requirement - options for fulfilling this requirement:
 - Test of English as a Foreign Language (TOEFL) submit to school code 6870
 - International English Language Testing System (IELTS) sent to mailing address (listed above)
 - Full details are found at www.uh.edu/graduate-school/admissions/international-students/
- 4. **Application Fees (Non-refundable)**
 - **Domestic applicants:** A \$75 Bauer College application fee is required of all applicants and must be submitted via the application portal.
 - **International applicants:** International applicants must pay a \$75 processing fee, in addition to the Bauer College application fee of \$75, for a total fee of \$150. The fees are submitted via the application portal.
- 5. **Résumé or Curriculum Vitae**
- 6. **Goal Statement**

A goal statement should be one to two pages in length. The statement should address specific area of interest within accounting, how the MSACCY degree fits into career aspirations, and any additional information that might be useful to the admission committee.
- 7. **Two Letters of Recommendation**
- 8. **International Admission Forms**

International applicants who require an I-20 must submit additional documents such as the Letter of Financial Backing form.

Degree Requirements

Credit hours required for this degree: 36.0

The MSACCY Degree Plan (with the related course numbers) is provided below and is based on all of the prerequisites being met. The plan provides for individual student customization to address areas of specific interests and also provides opportunities to: (a) obtain a certificate in one of our five specialization tracks, (b) explore our four oil & gas accounting courses, (c) complete courses in our Internal Audit Program which has been recognized by the Institute of Internal Auditors as a Center of Excellence (one of only six in the world and one of only three in the United States), and (d) complete an internship for course credit.

The Degree Plan below is tailored to every student's interest and needs. The course offerings and details are important to note when selecting your courses per term. Please note: if a student has taken an undergrad or post-baccalaureate equivalent of any graduate level course and successfully completed it, they cannot receive credit for the same course as part of their graduate career.

All newly admitted students are required to complete an Excel skills development and assessment prior to their first term. This assessment will help students refine their skillsets that are vital in the workplace. Additional Microsoft resources for Access, Word and PowerPoint are also included for the student's use and further skill development during the Program.

MSACCY students have the opportunity to take one internship course credit. This course will count as a 3-hour elective on the MSACCY degree plan.

Accounting Courses

Required Core Courses

- ACCT 7330 - Advanced Accounting **Credit Hours: 3.0**
- ACCT 7375 - Corporate Taxation **Credit Hours: 3.0**

Elective Courses

- Six Accounting/IT courses **Credit Hours: 18.0**



Required Non-Accounting Core Courses

- GENB 7303 - Professional Accounting Communication Credit Hours: 3.0
- GENB 7304 - Business Ethics for Accountant Credit Hours: 3.0
- GENB 7305 - Commercial Law Credit Hours: 3.0

General Business or Accounting Electives

- One course Credit Hours: 3.0

Advanced Internal Audit Certificate

The **Advanced Internal Audit Certificate** program prepares students for careers as internal auditors. Courses in this specialization prepare students to examine and analyze accounting records to determine the financial status of a corporation and prepare financial reports concerning operating procedures and improve operational performance.

For additional information regarding the certificate program and new elective course options for the certificate, please visit [Advanced Internal Audit Certificate](#).

Admission Requirements

To earn a certificate(s), students must be currently enrolled in the MSACCY program, meet the requirements for the certificate as well as the MSACCY degree requirements.

Certificate Requirements

Credit hours required for the certificate: 12.0

Required Courses:

- ACCT 7367 - Advanced Internal Auditing Credit Hours: 3.0
- ACCT 7370 - Advanced Financial Statement Auditing Credit Hours: 3.0
- ACCT 7382 - Governance, Risk and Compliance Credit Hours: 3.0
- ACCT 7385 - Fraud Examination Credit Hours: 3.0

Applied Data Analytics in Accounting, Certificate

The Applied Data Analytics in Accounting Certificate helps students develop their understanding and ability to pragmatically apply Data Analytics to the fields of accounting and auditing. The related courses cover the rapidly evolving concepts and new methodologies for consuming large amounts of diverse data; applying sophisticated algorithms to the data; and developing and integrating decision modeling into business processes and the related accounting/auditing decisions.

Students with minimal or no IT experience learn how to use important data analytic tools such as R programming language, SQL and Microsoft Azure Machine Learning, among others. Corporate Business Partners team with the students in a lab environment to build advanced "real world" process models aligning theory and practical application. Full time faculty with extensive strategic consulting and corporate experience lead students with their journey from theory to successfully applying data analytics in value added solutions.

For additional information regarding the certificate program, please visit:

<https://www.bauer.uh.edu/departments/accy/graduate/certificates.php#applied-data>.



Admission Requirements

To earn a certificate(s), students must be currently enrolled in the MSACCY program, meet the requirements for the certificate(s) as well as the MSACCY degree requirements.

For more on how to apply to the MSACCY Program, please click here: <https://www.bauer.uh.edu/departments/accy/graduate/admissions-apply.php>.

Certificate Requirements

Credit hours required for this certificate: 12.0

The Applied Data Analytics in Accounting Certificate is comprised of 12.0 credit hours.

Required Courses

- ACCT 7373 - Applied Data Analytics in Accounting I Credit Hours: 3.0
- ACCT 7374 - Applied Data Analytics in Accounting II Credit Hours: 3.0
- BZAN 7320 - Business Modeling For Competitive Advantage Credit Hours: 3.0

Course Electives

Select one of the following courses:

- ACCT 7362 - Tax Research Credit Hours: 3.0 *
- ACCT 7370 - Advanced Financial Statement Auditing Credit Hours: 3.0 **
- ACCT 7397 - Selected Topics in Accounting Credit Hours: 3.0

Topic(s):

- Current Issues in Taxation
Any of the eligible courses in the IT Systems Risk Management Certificate.

*Formerly known as ACCT 7397 Data Analytics 1.

**Formerly known as ACCT 7397 Data Analytics 2.

Academic Policies

- Department of Accountancy & Taxation Academic Policies

A brief overview of Graduate School policies is provided below.

Graduate students are expected to be enrolled in consecutive long semesters (i.e., Fall and Spring semesters) until the degree program is completed and the degree is awarded.

Any student who cannot enroll in a given semester must apply for a leave of absence to remain in good standing. A student who leaves the university without obtaining a formal leave of absence from graduate study is not automatically readmitted.

Although grades of D+ and lower are included in the computed grade point average, the university awards no credit toward the degree for courses in which the student receives a grade below C-. If such courses are required for the degree, the student will be required to take the courses again.

A graduate student who receives a grade of C+ or lower and/or a grade of U in 12 semester hours of credit attempted at this institution, whether or not in repeated courses, is ineligible for any graduate degree at this institution and will not be permitted to re-enroll for graduate study.



Graduate students cannot graduate with a less than 3.00 cumulative grade point average (GPA).

Students who are enrolled as graduate students at the University of Houston must complete the usual master's degree program within five years of the date of enrollment with a master's degree objective at the University of Houston.

College Policies

To take Masters' level courses (6000-7000 level) in the C. T. Bauer College of Business, students must have graduate standing at UH and meet the specific course prerequisites.

A course prerequisite must be completed prior to the start of the course for which it is a prerequisite.

Undergraduates and Post-Baccalaureate students are not allowed to take any Masters' level courses in the Bauer College of Business.

If a course is cross-listed under two departments, students may not get credit for both a cross-listed course and its equivalent.

New classes use a generic course number (7397) until a unique course number is assigned. It is possible to have a course with a generic number one semester and a unique number in the next semester. If the course number changes a student cannot obtain credit for taking the same course twice.

Program Policies

Accounting electives must be taken at the 7000 level.

If a student has taken an undergraduate or post baccalaureate equivalent of any graduate level course and successfully completed it, they cannot receive credit for the same course as part of their graduate career.

The only transfer credit accepted to complete less than the 36 hours required to meet MSACCY degree requirements is for Bauer Professional Program in Accountancy (PPA) students that have completed PPA "double count" courses. In rare cases, a waiver of a core course may be allowed with substitution. The maximum amount of core courses that can be waived with substitution is 9 hours. Course waivers, and corresponding documentation, will only be accepted for review up until the official closing day of a student's first semester.

MSACCY courses taken by students in other UH departments who have not been admitted to the Bauer College of Business may not be applied to a future MSACCY degree at UH.

Students can take up to two pre-approved IT courses to count toward the accounting elective section of the MSACCY degree plan. These courses must be selected from the list of IT courses approved by the Department.

MSACCY certificates are only available to students currently enrolled in the MSACCY program.

Students have the option of obtaining a certificate(s) while completing degree requirements. Additional information regarding certificate policies can be located here: <https://www.bauer.uh.edu/departments/accy/graduate/certificates.php>.

MSACCY students have the opportunity to take a 3 hour accounting internship course as an accounting elective. Registration for the Accounting Internship course is necessary before being eligible to receive credit for the internship. For more information regarding eligibility requirements click here: <https://www.bauer.uh.edu/departments/accy/internships-careers/internships-for-credit.php>.

Assurance/Finance Reporting Certificate

The Assurance/Finance Reporting Certificate program prepares students for careers in public accounting as auditors or in industry in accounting related careers. This concentration provides students with the knowledge needed to understand internal controls and financial reporting systems, prepare and interpret financial reports, participate in the conduct of audits, and develop research skills needed to address complex financial reporting problems.



For additional information regarding the certificate program and new elective course options for the certificate, please visit Assurance/Finance Reporting Certificate.

Admission Requirements

To earn a certificate(s), students must be currently enrolled in the MSACCY program, meet the requirements for the certificate as well as the MSACCY degree requirements.

Certificate Requirements

Credit hours required for this certificate: 12.0

Complete four of the following courses:

- ACCT 7340 - Financial Statement Analysis Credit Hours: 3.0
- ACCT 7350 - International Financial Reporting & Analysis Credit Hours: 3.0
- ACCT 7363 - Contemporary Accounting Topics Credit Hours: 3.0
- ACCT 7370 - Advanced Financial Statement Auditing Credit Hours: 3.0
- ACCT 7378 - Government and Non-Profit Accounting Credit Hours: 3.0
- ACCT 7385 - Fraud Examination Credit Hours: 3.0

IT Systems Risk Management Certificate

The **IT Systems Risk Management Certificate program prepares students for careers in IT auditing, risk management and security.** The specialization provides students with knowledge of IT systems development and acquisition, database design and operation, IT control frameworks and compliance, and risk management.

For additional information regarding the certificate program and new elective course options for the certificate, please visit IT Systems Risk Management Certificate.

Admission Requirements

To earn a certificate, students must be currently enrolled in the MSACCY program, meet the requirements for the certificate as well as the MSACCY degree requirements.

Certificate Requirements

Credit hours required for this certificate: 12.0

Complete four of the following courses:

- MIS 7373 - Business Applications of Database Management Systems I Credit Hours: 3
- MIS 7376 - Systems Analysis and Design Credit Hours: 3.0
- MIS 7378 - InformationTechnology Management and Control Credit Hours: 3.0
- MIS 7381 - Management of Information Security Credit Hours: 3.0
- ACCT 7382 - Governance, Risk and Compliance Credit Hours: 3.0
- ACCT 7385 - Fraud Examination Credit Hours: 3.0



Oil & Gas Accounting Certificate

The **Oil and Gas Certificate Program** prepares students for careers in the energy sector. This specialization provides an in-depth examination of the multiple processes and technologies used by the energy sector to find and produce fossil fuels. Courses in this concentration include the fundamental property concepts governing oil and gas taxation, regulatory requirements, and risk management.

For additional information regarding the certificate program and new elective course options for the certificate, please visit Oil & Gas Accounting Certificate.

Admission Requirements

To earn a certificate, students must be currently enrolled in the MSACCY program, meet the requirements for the certificate as well as the MSACCY degree requirements.

Certificate Requirements

Credit hours required for certificate: 12.0

- ACCT 7337 - Oil & Gas Taxation Credit Hours: 3.0
- ACCT 7386 - Oil & Gas Accounting 1 Credit Hours: 3.0
- ACCT 7387 - Oil & Gas Accounting 2 Credit Hours: 3.0
- ACCT 7388 - Oil & Gas Accounting 3 Credit Hours: 3.0

Taxation Certificate

The Taxation Certificate Program prepares students for careers in public accounting as tax consultants, in industry as tax strategists, or in government. Required courses in this specialization provide students with the knowledge needed to identify and address tax issues at the local, state, national or international level.

For additional information regarding the certificate program and new elective course options for the certificate, please visit Taxation Certificate.

Admission Requirements

To earn a certificate, students must be currently enrolled in the MSACCY program, meet the requirements for the certificate as well as the MSACCY degree requirements.

Certificate Requirements

Credit hours required for this certificate: 12.0

Complete four of the following courses:

- ACCT 7337 - Oil & Gas Taxation Credit Hours: 3.0
- ACCT 7360 - Partnership Taxation Credit Hours: 3.0
- ACCT 7362 - Tax Research Credit Hours: 3.0
- ACCT 7372 - Multijurisdictional Taxation Credit Hours: 3.0
- ACCT 7380 - Advanced Corporate Taxation Credit Hours: 3.0
- ACCT 7397 - Selected Topics in Accounting Credit Hours: 3.0

Topics:



- Current Issues in Taxation
- Transfer Price Theory

Department of Decision & Information Sciences

Business Analytics Certificate

The graduate certificate in Business Analytics allows students to complement their master's degree studies with the foundations for success as business decision makers in a world of big data, learning data management and analytic methods that are used across business disciplines.

Admission Requirements

Admission to the graduate certificate in business analytics is restricted to students who are admitted to Bauer College graduate degree programs.

Certificate Requirements

Credit hours required for this certificate: 12.0

Required Courses

9 Credit Hours

- BZAN 6351 - Basic Programming for Business Analytics Credit Hours: 3
- BZAN 6352 - Quantitative Foundations for Business Analytics Credit Hours: 3
- BZAN 6353 - Research Design for Problems in Business Analytics Credit Hours: 3

Elective Course Options

Choose one course from the following (3 credits):

- BZAN 6356 - Database Management Tools for Business Analytics Credit Hours: 3
- BZAN 6354 - Database Management Infrastructure and Architecture for Business Analytics Credit Hours: 3
- BZAN 6355 - Advanced Programming for Big Data Analytics Credit Hours: 3

Business Analytics, MS

This program gives graduate students the tools for success as business decision makers in a world of big data, designed around a rigorous core curriculum emphasizing data management and analytic methods that are used across business disciplines. Students have the flexibility to emphasize data management or methods at their choosing. It also includes a flexible set of electives and a capstone experience that allows students to emphasize depth in a particular industry or discipline such as accounting, healthcare, finance, supply chain, energy, etc.

For more information, please visit the Master of Science in Business Analytics program page: <https://www.bauer.uh.edu/graduate-studies/prospective-students/ms-analytics/>.

Admission Requirements



The admission process and requirements will be similar to those of the current MS programs in the Bauer College. Admission eligibility for the Master of Science in Business Analytics program requires the following:

1. A four-year undergraduate degree (or foreign equivalent) from an accredited institution. The undergraduate degree may be in any discipline.
2. Online Application
 - Submit an application through Applyweb.
 - The cost to apply for all MBA programs and Specialized Masters programs is \$0 through January 3, 2019. All application fees are waived through January 3, 2019.
 - We value the extraordinary talents, experiences, and diversity that veterans bring to the Bauer Specialized Master's program. In recognition of your service, Bauer College of Business commits to waiving the application fee. Please contact us in order to receive your unique, one-time use waiver code: <https://www.bauer.uh.edu/graduate-studies/prospective-students/military/>.
 - The online application will include questions on the following topics:
 - a. Personal Information
 - b. Program of Choice
 - c. Academic History
 - d. Test Information (GRE, GMAT, Test of English Language Proficiency)
 - e. Resume/Goal Statement
 - f. Benefits & Financial Aid
 - g. Emergency Contact Information
 - h. Letter of Recommendation
 - i. Texas Residency Questionnaire
 - Disclaimer: Subject to change without notice. Please contact your Admissions Representative if you have specific questions about the application.
2. Transcript
 - Applicants must have earned a bachelor's degree from an institution accredited by one of the six regional accrediting associations. Scanned copies of official transcripts may be uploaded as PDF files to your online application. If admitted, however, you will not be able to enroll without the official transcript(s) showing your undergraduate degree conferral on file.
 - Official transcript(s) should be sent to:
 - a. Regular Mail:
*University of Houston
Graduate Admissions
P.O. Box 3947
Houston, TX 77253-3947*
 - b. Express Mail:
*University of Houston
Graduate Admissions
4302 University Dr. Rm 102
Houston, TX 77204-2012*
 - c. Electronic or "Speede" Transcript:
 - Within the U.S., the fastest way to send your transcript is electronically. Please inquire at your previous institution about this option. Electronic transcripts can be delivered via email to gradschool@uh.edu.
3. Test Scores
 - Scanned official copies or self-reported scores must be included in your online application. GMAT and GRE test scores are valid for five years after the test date. Scores must be valid at the time of application submission.
 - The University of Houston Graduate School is pleased to offer a GRE/GMAT Waiver program for UH main campus undergraduate students. To qualify, students must have graduated from the University of Houston main campus within 3 years preceding the term for which they are applying. Students must also meet the minimum undergraduate GPA for the degree program to which they are applying. Please visit the GRE/GMAT Waiver website for more information: <http://www.uh.edu/graduate-school/admissions/gre-gmat-waiver/>.
4. Résumé



- Please upload a copy of your most recent resume, highlighting your professional and academic experiences, as well as recognizable accomplishments to your online application.
5. Goal Statement
 - In one to two pages, discuss what motivates you, how your personal and professional experience has shaped you, and how you will maximize the specialized Master's degree to reach your future goals.
 6. Letter of Recommendation
 - Two letters of recommendation are required. These recommendations are gathered electronically through the online application system. You will be required to enter an email address for your recommender which will allow an online form to automatically be sent to your recommender.

Degree Requirements

Credit hours required for this degree: 36.0

The MS degree in Business Analytics will require 36.0 credit hours, comprised of the courses listed below. Students will select either the Data Management Track or the Analytics Track.

Data Management Track

Required Courses

- BZAN 6351 - Basic Programming for Business Analytics Credit Hours: 3 (online)
- BZAN 6352 - Quantitative Foundations for Business Analytics Credit Hours: 3 (online)
- BZAN 6353 - Research Design for Problems in Business Analytics Credit Hours: 3
- BZAN 6354 - Database Management Infrastructure and Architecture for Business Analytics Credit Hours: 3
- BZAN 6355 - Advanced Programming for Big Data Analytics Credit Hours: 3
- BZAN 6356 - Database Management Tools for Business Analytics Credit Hours: 3
- BZAN 6357 - Business Analytics - Frameworks and Methods Credit Hours: 3

Elective Courses

Selected from any business area, 9.0 credit hours, examples shown below:

- MIS 7373 - Business Applications of Database Management Systems I Credit Hours: 3
 - MARK 7362 - Management of Marketing Information Credit Hours: 3.0
 - MIS 7397 - Selected Topics in Management Information Systems Credit Hours: 3.0
- Topic(s):
- Cloud Data Visualization

Internship/Capstone Practicum

- BZAN 6660 - Capstone Project in Business Analytics Credit Hours: 6

Analytics Track

Required Courses

- BZAN 6351 - Basic Programming for Business Analytics Credit Hours: 3 (online)
- BZAN 6352 - Quantitative Foundations for Business Analytics Credit Hours: 3 (online)



- BZAN 6353 - Research Design for Problems in Business Analytics Credit Hours: 3
- BZAN 6356 - Database Management Tools for Business Analytics Credit Hours: 3
- BZAN 6357 - Business Analytics - Frameworks and Methods Credit Hours: 3

Elective Courses

Elective courses selected from any business area, 15.0 credit hours, examples shown below:

- BZAN 7320 - Business Modeling For Competitive Advantage Credit Hours: 3.0
- BZAN 7332 - Social Media and Analytics Credit Hours: 3
- MIS 7397 - Selected Topics in Management Information Systems Credit Hours: 3.0
Topic(s):
 - Predictive Analytics
- SCM 7380 - Analytics and Enterprise Operations Credit Hours: 3
- MARK 7397 - Selected Topics in Marketing Credit Hours: 3
Topic(s):
 - Practical Marketing Analysis

Internship/Capstone Practicum

- BZAN 6660 - Capstone Project in Business Analytics Credit Hours: 6

Core Courses & Electives

Core courses will cover the foundation topics that emphasize data management and analytical skills. Electives courses will enable students to develop specialized skills in focused business areas such as Energy, Marketing, Finance, Real Estate, Healthcare, Accounting, Human Resource Management, Information Systems, and Supply Chain Management.

Internship/Capstone Practicum. This course will give students hands-on experience by making them work on a business-defined problem that focuses on data management and/or analytics. The learning goal is for them to develop data management and analytic strategies, manage analytics team, and lead analytics projects.

Academic Policies

- Academic Policies: C.T. Bauer College of Business

All candidates are expected to have computer literacy in the areas of word processing, spreadsheet analyses, databases, PowerPoint, and the use of the Internet. Students who do not have these competencies are expected to acquire this knowledge prior to enrollment in the program. At UH an appropriate course equivalent for spreadsheet analyses is BZAN 3310 or SCM 4330. General knowledge of computer programming techniques, while not required, is highly recommended.

Degree Requirements

All students entering the Master of Science in Business Analytics program are required to have a four-year undergraduate degree or foreign equivalent from an accredited institution. The undergraduate degree may be in any discipline.

- Core courses may NOT be waived.
- Core courses do not require any prerequisites other than graduate standing
- The core course in a functional area is usually the prerequisite for elective courses in that area



- Core courses do not have to be taken in the exact order shown, but all core courses must be completed prior to graduation from the MS program
- Electives can be selected from the following business areas: accountancy and taxation, business analytics, finance, general business, international business, management and leadership, marketing and entrepreneurship, management information systems, and supply chain management. Due to prerequisites, a limited number of the graduate accounting courses are open to MS students

Transfer Policy

The MS/BZAN program does not accept transfer credit for students who have started an MBA or MS program at another institution.

Waiver Policy

By completing an exam, students could waive up to 6.0 credit hours of select courses. Otherwise, none of the 36.0 credit hours required for the MS/BZAN degree may be waived.

Time Limitation

Students must complete the degree program within the five-year period preceding the student's graduation.

Changes of Major, Degree, and Classification

Students who wish to change their field of study, degree objective, or classification to one in the Bauer College of Business should contact the Graduate & Professional Programs Office. If admitted, students will be subject to college policies in effect during the semester for which the change is approved. Graduate students in the C. T. Bauer College of Business who wish to change from one degree objective to another within the College should complete an online application form at <https://www.applyweb.com/uhouston/index.ftl>. Students who receive approval for the change will be subject to policies and degree plans in effect during the semester the change is approved. Bauer graduate students who wish to change to another graduate college at the University of Houston should consult the dean's office of that college for procedural information.

Eligibility for Enrollment in Graduate Business Courses

All course work to be applied to the graduate business programs must be 6000-level or higher.

Graduate Classification

Students are classified as graduate students in the Bauer College only after their completed application for admission has been approved by the Bauer College. Students must go through the formal application process in order to obtain this classification.

Inapplicable Graduate Credit

Graduate credit is not granted for extension courses, advanced standing examinations, or courses taken prior to admission to a graduate program. The time limitation section specifies additional restrictions. Also, although grades of D+ and lower are included in the computed grade point average, the university awards no credit toward the degree for courses in which the student receives a grade below C-.

Prerequisites and Corequisites



Admission to a graduate program on this campus of the University of Houston System is a prerequisite for enrollment in any C. T. Bauer College of Business course numbered 6000 or higher. Students must meet the prerequisite and corequisite requirements of the graduate program to which they are admitted. Prerequisites to the programs are listed with each individual graduate program section. Prerequisites to individual courses are indicated under each course title and are strictly enforced.

Termination of Enrollment

Students must maintain a satisfactory rate of progress toward the degree. Satisfactory progress is measured by several means, including timely completion of courses required for the degree and maintenance of a minimum grade point average of 3.00 (A=4.00). In addition, the University's Low Grade Policy applies. A graduate student who receives a grade of C+ or lower in 12.0 credit hours attempted at this institution for graduate credit or for application toward the graduate degree, whether or not in repeated courses, is ineligible for any advanced degree at this institution and will not be permitted to re-enroll for graduate study. The Dean, or designate, may terminate enrollment at any time if the student's rate of progress is not satisfactory. If enrollment is terminated, students will be notified with a written explanation. A hold will be placed on your account with the Office of the University Registrar and you will be unable to continue with graduate classes at this university.

Business Modeling and Decision Making Certificate

The primary purpose of this certificate is to enable students to build models of business problems that lead to making better decisions. Students will acquire the necessary skills to analyze unstructured business situations, develop models of those situations, explore alternative solutions through formalized approaches, and do "what if?" sensitivity analysis to gain insight into why the chosen solution makes business sense. They will be better able to structure complex problems, evaluate and prioritize alternatives, allocate scarce resources, and justify and defend decisions.

For additional information regarding the certificate program and new elective course options for the certificate, please visit Bauer Graduate Certificates.

Admission Requirements

You must be a current Bauer graduate student to enroll in any of our certificate programs.

Certificate Requirements

Program Total: 9.0 Credit Hours

Required Courses

6.0 Credit Hours

- BZAN 7320 - Business Modeling For Competitive Advantage Credit Hours: 3.0
- SCM 7380 - Analytics and Enterprise Operations Credit Hours: 3

Elective Course Options

3.0 Credit Hours

- MIS 7397 - Selected Topics in Management Information Systems Credit Hours: 3.0
Topic: Predictive Analytics
- FINA 7A10 - Intermediate Corporate Finance: Valuation Credit Hours: 1.5
- FINA 7A30 - Advanced Corporate Finance Credit Hours: 1.5
- FINA 7A33 - Mergers & Acquisitions I Credit Hours: 1.5



- FINA 7372 - Upstream Economics Credit Hours: 3.0
- FINA 7373 - Petrochemical and Refining Economics Credit Hours: 3.0
- FINA 7329 - Behavioral Finance Credit Hours: 3.0
- MANA 7329 - Behavioral Finance Credit Hours: 3.0
- FINA 7397 - Selected Topics in Finance Credit Hours: 3

Topic: Financial Engineering

Management Information Systems, MS

Job growth for Management Information System (MIS) professionals continues to be the top career option in many forecasts. Demand for MIS graduates is strong and expected to remain so over the next decade. To meet this demand, the Master of Science in Management Information Systems (MS/MIS) is designed for working MIS professionals in the Houston area as a part-time, evening program. Target applicants share the following academic and professional characteristics:

1. Currently employed in an information technology role (e.g., consultant, application developer, systems analyst, project manager, database administrator, security or infrastructure specialist, or a manager or director of areas previously listed)
2. Have at least two years of full-time MIS/IT experience after completing their undergraduate degree
3. Will continue in their professional employment role while in the program
4. Have an undergraduate technology degree in management information systems or computer science
5. Students pursue the MS/MIS to enhance their current skills and for the upward mobility the program coursework affords them, moving from purely technical roles to upper management.

Admission Requirements

The MS/MIS admits students for Fall and Spring terms.

Admission eligibility for the Master of Science in Management Information Systems program requires a four-year undergraduate degree (or foreign equivalent) from an accredited institution. The undergraduate degree must be in management information systems or computer science. Applications are accepted for Fall and Spring terms.

A complete application should include:

1. **Application for Graduate Studies** www.applyweb.com/uhouston
2. **Transcripts**
 - Domestic transcripts - official transcripts from all higher education institutions attended
 - International transcripts - one original transcript and degree certificate in the original language and the other must be an official English Translation of the transcript.
3. **Test Scores**
 - Official GMAT or GRE scores, less than 5 years old
 - International applicants must submit comply with English language proficiency requirements. Full details are found at <http://www.uh.edu/graduate-school/admissions/international-students/english-proficiency/>.
 - One of the following tests may be submitted to meet this requirement.
 - *Please note that scores over two years old will not be accepted.*
 - Official TOEFL (Test of English as a Foreign Language) score above 603 on the paper-based test or 100 on the Internet-based test.
 - Official IELTS (International English Language Testing System) score above 6.5.
 - Official PTE Academic (Pearson Test of English Academic) minimum of 70.
4. **Non-refundable Application Fee(s)**
 - An application fee is required and varies by applicant type.
5. **Additional Requirements for International Applicants can be found at** <http://www.uh.edu/graduate-school/admissions/international-students/>



- *NOTE:* International students must have a four-year degree from an accredited university to apply for the MBA. Three-year degrees are not considered equivalent. There is no bridge program at UH. Students with a three-year degree will likely need to combine it with a completed master's degree from their home country before applying.
6. **Resume**
 7. **Goal Statement** - In one to two pages, discuss what motivates you, how your personal and professional experience has shaped you, and how will you maximize the specialized Master's degree to reach your future goals.
 8. **Letters of recommendation**

Degree Requirements

The MS/MIS Program Total: 36.0 Credit Hours

Program information is subject to change

Core Skills Courses

18.0 Credit Hours

Core Skills courses may be waived with substitution based on previous graduate or undergraduate coursework for which a grade of at least B was achieved. The substitute courses will be taken from the program's elective list.

- MIS 7376 - Systems Analysis and Design Credit Hours: 3.0
- MIS 7373 - Business Applications of Database Management Systems I Credit Hours: 3
- MIS 7378 - InformationTechnology Management and Control Credit Hours: 3.0

Electives

18.0 Credit Hours

- Electives must be selected from the approved list. The approved list is subject to change.
- A maximum of two elective courses may be waived based on prior graduate or undergraduate coursework for which a minimum grade of B was received.
- No more than three non-MIS courses may be selected as electives.

MIS Electives

- MIS 7374 - Business Applications of Database Management Systems II Credit Hours: 3
- MIS 7375 - Transaction Processing Systems I Credit Hours: 3
- MIS 7381 - Management of Information Security Credit Hours: 3.0
- MIS 7397 - Selected Topics in Management Information Systems Credit Hours: 3.0

Topics:

- Client -Server II
- Open Source Systems
- Networking/Security Infrastructure
- Energy Trading Systems
- Geographic Information Systems
- Business Intelligence
- Cloud and Collaboration
- User Experience
- Advanced Web Applications
- Cloud-Powered Mobile App Development



- Advanced Data Modeling

Non-MIS Electives

- **GENB 7397 - Selected Topics Credit Hours: 3.0**
Topic: Spreadsheet Modeling
- **MARK 7365 - Introduction to Digital Marketing Credit Hours: 3.0**
- **MARK 7366 - Digital Marketing Analytics Credit Hours: 3**
- **SCM 7330 - Demand and Supply Integration Credit Hours: 3.0**
- **SCM 7397 - Selected Topics in Supply Chain Management Credit Hours: 3**
Topics:
 - ERP
 - Process Analysis

Academic Policies

Department/Program Policies

- Coursework for the MS/MIS will not include any repeats of prior undergraduate or graduate courses.
- Students receiving three or more grades of C or below (9.0 Credit Hours) will not be retained in the program.
- **Waiver of Core Skills Courses**
 - Core Skills courses may be waived with substitution based on previous graduate or undergraduate course work for which a grade of at least B was achieved. The substitute courses will be taken from the Electives list shown above.
- **Waiver of Electives**
 - A maximum of two elective courses may be waived based on prior graduate or undergraduate coursework for which a minimum grade of B was received.
- **Selection of Non-MIS Electives**
 - No more than three non-MIS courses may be selected as electives.
- **Continuous Enrollment**
 - Unless students petition for a leave of absence, they must maintain continuous enrollment during the fall and spring terms. Students who are out of the program for more than one calendar year will be under the jurisdiction of the catalog in effect at the time of reentry.
 - Students who fail to maintain continuous enrollment for more than two calendar years must reapply for admission to the program and must meet admission requirements in effect at that time.
- **Effective Term of Admission**
 - Admission is granted for a specific term. If students wish to postpone enrollment, they must secure approval from the graduate advisor. The first term in which students, as graduate students, complete graduate-level work that applies toward a degree is the effective term of admission.

Supply Chain Management Certificate

The primary focus of this certificate is to provide students with in-depth knowledge regarding the complexity and challenges of managing Global Supply Chains. Every function of global commerce - marketing, procurement, manufacturing operations, logistics, inventory management, information technology, and customer relations - are impacted by supply chain professionals. Students will gain exposure to all of the supply chain elements individually, and understand their associated interactions as well as the interactions with the other business functions. They will comprehend the need for balance and for managing trade-offs in the supply chain. They will be better able to identify the key drivers and the associated managerial levers that impact supply chain performance.



The certificate will be of interest to anyone who currently has or seeks a primary or secondary role in supply chain management. This includes those involved in procurement (sourcing/purchasing), operations, logistics, engineering, project and product management, as well as entrepreneurs, consultants, and general managers.

For additional information regarding the certificate program and new elective course options for the certificate, please visit Bauer Graduate Certificates.

Admission Requirements

You must be a current Bauer graduate student to enroll in any of our certificate programs.

Certificate Requirements

Credit hours required for this certificate: 12.0

Select 12.0 credit hours from the following:

- SCM 7320 - Supply Chain Analytics Credit Hours: 3.0
- SCM 7330 - Demand and Supply Integration Credit Hours: 3.0
- SCM 7350 - Strategic Supply Management Credit Hours: 3.0
- SCM 7390 - Global Supply Chain Strategy Credit Hours: 3
- SCM 7397 - Selected Topics in Supply Chain Management Credit Hours: 3
Topic(s):
 - Process Analysis and Design
 - Logistics Management
 - Corporate Projects

Supply Chain Management, MS

The goal of the nationally renowned faculty in supply chain management is to offer business professionals the Master of Science in Supply Chain Management, an opportunity to advance their careers by enhancing their professional knowledge. The program provides a focused course of study that will increase the understanding of the theory and practice of supply chain management.

The program is most relevant to those working in, or planning to work in the following areas:

- Supply chain management
- Logistics/Transportation
- Production and service operations
- Sourcing and procurement
- Project Management
- Supply Chain Analytics

The MS-SCM is a 30 Credit Hour, non-thesis program including coursework in supply chain management and business analytics. The program is designed to accommodate both full and part-time students with courses held 6-9 p.m. on weekdays.

Typical students range in age from 21-43 with average work experience of 3 years and average GMAT scores of 577.

For additional information, please visit <http://www.bauer.uh.edu/graduate-studies/prospective-students/ms-scm/>.

Admission Requirements



Admission eligibility for the Master of Science in Finance program requires a four-year undergraduate degree (or foreign equivalent) from an accredited institution. The undergraduate degree may be in any discipline. The MS-SCM admits students for Fall and Spring terms.

A complete application should include:

1. **Application for Graduate Studies**
2. **Transcripts**
 - Domestic transcripts - official transcripts from all higher education institutions attended
 - International transcripts - one original transcript and degree certificate in the original language and the other must be an official English Translation of the transcript.
3. **Test Scores**
 - Official GMAT or GRE scores, less than 5 years old
 - International applicants must submit comply with English language proficiency requirements. Full details are found at <http://www.uh.edu/graduate-school/admissions/international-students/english-proficiency/>.
 - One of the following tests may be submitted to meet this requirement. Please note that scores over two years old will not be accepted.
 - Official TOEFL (Test of English as a Foreign Language) score above 603 on the paper-based test or 100 on the internet-based test.
 - Official IELTS (International English Language Testing System) score above 6.5.
 - Official PTE Academic (Pearson Test of English Academic) minimum of 70.
4. **Non-refundable Application Fee(s)**
 - An application fee is required and the amount varies by application type.
5. **Additional Requirements for International Applicants can be found at** <http://www.uh.edu/graduate-school/international-students/>
 - *NOTE:* International students must have a four-year degree from an accredited university to apply for the MBA. Three-year degrees are not considered equivalent. There is no bridge program at UH. Students with a three-year degree will likely need to combine it with a completed master's degree from their home country before applying.
6. **Resume**
7. **Goal Statement** - In one to two pages, discuss what motivates you, how your personal and professional experience has shaped you, and how will you maximize the specialized Master's degree to reach your future goals.
8. **Letters of Recommendation**

Degree Requirements

The MS-SCM degree requires 30.0 Credit Hours

The Master of Science in Supply Chain Management requires 30.0 credits of graduate study, which consists of 18 credits of core SCM courses and 12 credits of SCM Analytics courses.

Program information is subject to change.

Supply Chain Management Core (Required)

18.0 Credit Hours

- SCM 6A01 - Supply Chain Management Concepts Credit Hours: 1.5
- SCM 7A01 - Project Management Credit Hours: 1.5
- SCM 7330 - Demand and Supply Integration Credit Hours: 3.0
- SCM 7350 - Strategic Supply Management Credit Hours: 3.0
- SCM 7325 - Process Analysis and Design Credit Hours: 3
- SCM 7335 - Logistics Management Credit Hours: 3
- SCM 7385 - Supply Chain Corporate Projects Credit Hours: 3



SCM Analytics Courses (Required)

12.0 Credit Hours

- SCM 7320 - Supply Chain Analytics Credit Hours: 3.0
- SCM 7380 - Analytics and Enterprise Operations Credit Hours: 3
- BZAN 6351 - Basic Programming for Business Analytics Credit Hours: 3
- BZAN 6357 - Business Analytics - Frameworks and Methods Credit Hours: 3

Academic Policies

Department/Program Policies

Time Limitation and Transfer Credit Guidelines

The MS-SCM is an evening-based professional program that is designed to accommodate both part-time and full-time students with program completion in 12-24 months.

Transfer credit is not available for the supply chain management courses. However, the Business Fundamentals may be waived with appropriate prior graduate coursework.

Continuous Enrollment

Unless students petition for a leave of absence, they must maintain continuous enrollment during the program. Students who are out of the program for more than one calendar year will be under the jurisdiction of the catalog in effect at the time of reentry.

Students who fail to maintain continuous enrollment for more than two calendar years must reapply for admission to the program and must meet admission requirements in effect at that time.

Effective Semester of Admission

Admission to the program is only granted for a specified fall semester, which marks the effective semester of admission. Enrollment postponement to a later semester is not available.

Department of Finance

Corporate Finance Certificate

The Corporate Finance Certificate prepares students for corporate finance careers, and for careers in financial firms that advise nonfinancial firms and assist them in the implementation of their financial strategies (investment banks, consulting firms, private equity funds). A typical first position in this career track may be that of a financial analyst. In corporations, roles could include project evaluation (capital budgeting), budgeting, financial modeling, financial planning, controlling, valuation, and business development research. Higher-level corporate positions include that of a treasurer or chief financial officer of a firm.

For additional information regarding the certificate program, please visit Bauer Graduate Certificate: <http://www.bauer.uh.edu/degrees-programs/certificates/>.

Admission Requirements

You must be a current Bauer graduate student to enroll in any of our certificate programs.



Certificate Requirements

Credit hours required for this certificate: 9.0

Complete 6 hours from the following:

- FINA 7A10 - Intermediate Corporate Finance: Valuation Credit Hours: 1.5
- FINA 7A20 - Capital Markets Credit Hours: 1.5
- FINA 7A30 - Advanced Corporate Finance Credit Hours: 1.5
- FINA 7A97 - Selected Topics in Finance Credit Hours: 1.5
Topic(s):
- Mergers and Acquisitions I

Choose 3 hours from:

- FINA 7A97 - Selected Topics in Finance Credit Hours: 1.5
Topic(s):
- Mergers and Acquisitions II
- Strategy of Project Finance
- Techniques in Project Finance
- FINA 7397 - Selected Topics in Finance Credit Hours: 3
Topic(s):
- Midstream Energy Finance

Economics of the Energy Value Chain Certificate

Students interested in developing a broad economic perspective on the energy business should consider this Certificate. The courses offered should be very helpful to engineers and other functional specialists seeking to develop managerial perspective suitable for executive responsibilities.

The Certificate exposes students to both the 'physical' side of the energy business, i.e., what is the nature of the assets, operations and products produced, and to the economics of each component of the EVC. Students will be able to gain an understanding of how the energy firms' activities 'add value' along the chain, e.g., how basic refinery units upgrade crude oil and how more complex conversion and chemical units upgrade basic products into higher value fuels or chemicals. The role of transportation logistics and trading will also be considered.

For additional information regarding the certificate program, please visit Bauer Graduate Certificates.

Admission Requirements

You must be a current Bauer graduate student to enroll in any of our certificate programs.

Certificate Requirements

Credit hours required for the certificate: 9.0

Complete nine credit hours from the following:

- FINA 7371 - Energy Value Chain Credit Hours: 3.0
- FINA 7372 - Upstream Economics Credit Hours: 3.0



- FINA 7373 - Petrochemical and Refining Economics Credit Hours: 3.0
- FINA 7397 - Selected Topics in Finance Credit Hours: 3
Topic(s):
 - Energy Value Creation
 - Future of Value Creation in the O & G Industry
 - Midstream Energy Finance
 - Electric Power Markets
- GENB 7397 - Selected Topics Credit Hours: 3.0
Topic(s):
 - Capturing Upstream Growth Opportunities

Energy Finance Certificate

Students interested in developing a broad economic perspective on the energy business should consider this Certificate. The courses offered should be very helpful to engineers and other functional specialists seeking to develop managerial perspective suitable for executive responsibilities.

The Certificate exposes students to both the 'physical' side of the energy business, i.e., what is the nature of the assets, operations and products produced, and to the economics of each component of the EVC. Students will be able to gain an understanding of how the energy firms' activities add value along the chain, e.g., how basic refinery units upgrade crude oil and how more complex conversion and chemical units upgrade basic products into higher value fuels or chemicals. The role of transportation logistics and trading will also be considered.

For additional information regarding the certificate program, please visit Bauer Graduate Certificates.

Admission Requirements

You must be a current Bauer graduate student to enroll in any of our certificate programs.

Certificate Requirements

Credit hours required for the certificate: 9.0

Complete 9 credit hours from the following:

- FINA 7A30 - Advanced Corporate Finance Credit Hours: 1.5
- FINA 7A33 - Mergers & Acquisitions I Credit Hours: 1.5
- FINA 7A97 - Selected Topics in Finance Credit Hours: 1.5
Topic(s):
 - Strategy for Project Finance
 - Techniques for Project Finance
 - Fixed Income Security Analysis
- FINA 7352 - Energy Derivatives Credit Hours: 3.0
- FINA 7360 - International Finance Credit Hours: 3.0
- FINA 7397 - Selected Topics in Finance Credit Hours: 3
Topic(s):
 - Energy Value Creation
 - Energy Insurance and Risk Management
 - Future of Value Creation in the O & G Industry
- ACCT 7397 - Selected Topics in Accounting Credit Hours: 3.0
Topic(s):
 - Oil and Gas Accounting



Energy Investment Analysis Certificate

Students interested in developing superior insight into the economics of energy industry capital projects should consider this certificate. Students currently working in or interested in working in project development, strategic planning, mergers and acquisitions, capital budgeting, business unit management or energy security analysis should find this certificate helpful to career development.

All courses assume a basic familiarity with the standard NPV/IRR methodology. EIA focuses on special analytical challenges characteristic of the energy industry. These include the tendency for energy projects to contain various embedded options, the capacity of many projects to support substantial amounts of project debt, the fact that energy projects typically are conceived within broader competitive strategies and the reality that many such projects are exposed to varied, severe political risks. EIA will expose students to specific analytical frameworks and strategies that address these challenges, such as: Real options, Competitive Strategy, Project Finance with Leveraged Economics, and market-based techniques to measure and adjust for political risk.

For additional information regarding the certificate program, please visit Bauer Graduate Certificates.

Admission Requirements

You must be a current Bauer graduate student to enroll in any of our certificate programs.

Certificate Requirements

Credit hours required for this certificate: 9.0

Complete 9 credit hours from the following:

- **FINA 7A97 - Selected Topics in Finance Credit Hours: 1.5**
Topic(s):
 - Fixed Income Security Analysis
 - Strategy for Project Finance
 - Techniques for Project Finance
- **FINA 7A30 - Advanced Corporate Finance Credit Hours: 1.5**
- **FINA 7A33 - Mergers & Acquisitions I Credit Hours: 1.5**
- **FINA 7360 - International Finance Credit Hours: 3.0**
- **FINA 7376 - Energy Trading Credit Hours: 3.0**
- **FINA 7397 - Selected Topics in Finance Credit Hours: 3**
Topic(s):
 - Energy Analysis
 - Financial Risk Management
 - Future of Value Creation in the O & G Industry
 - Midstream Energy Finance
 - Energy Value Creation
 - Electric Power Markets
- **ACCT 7397 - Selected Topics in Accounting Credit Hours: 3.0**
Topic(s) :
 - Oil and Gas Accounting
- **BZAN 7320 - Business Modeling For Competitive Advantage Credit Hours: 3.0**

Energy Risk Management Certificate



Although many positions in the energy sector are involved in energy trading and risk management, often the technical analysis done for companies is done in a practical but unscientific manner. The NYMEX **Energy Risk Management (ERM) Certificate** from the Bauer College provides the underlying financial theory and economic underpinnings necessary to rationally manage risk in the energy sector.

Students take a set of three courses designed to provide them with the essential principles of Energy Derivatives Trading. Each student combines that knowledge with an additional set of courses in Project Investment Analysis or Energy Industry Economics.

For additional information regarding the certificate program, please visit Bauer Graduate Certificates.

Admission Requirements

You must be a current Bauer graduate student to enroll in any of our certificate programs.

Certificate Requirements

Credit hours required for this certificate: 12.0

Students must complete FINA 7352 plus an additional 9 credit hours from the elective list below for a total of 12 credit hours.

Required:

- **FINA 7352 - Energy Derivatives Credit Hours: 3.0**

Elective Options:

- **FINA 7A10 - Intermediate Corporate Finance: Valuation Credit Hours: 1.5**
- **FINA 7A97 - Selected Topics in Finance Credit Hours: 1.5**

Topic(s):

- Fixed Income Security Analysis
- **FINA 7A33 - Mergers & Acquisitions I Credit Hours: 1.5**
- **FINA 7371 - Energy Value Chain Credit Hours: 3.0**
- **FINA 7350 - Derivatives I: Options Credit Hours: 3.0**
- **FINA 7351 - Derivatives II: Forwards, Futures and Swaps Credit Hours: 3.0**
- **FINA 7376 - Energy Trading Credit Hours: 3.0**
- **FINA 7397 - Selected Topics in Finance Credit Hours: 3**

Topic(s):

- Financial Engineering
- Energy Analysis
- Financial Risk Management
- Energy Insurance and Risk Management
- Future of Value Creation in the O & G Industry
- Energy Value Creation
- **MIS 7397 - Selected Topics in Management Information Systems Credit Hours: 3.0**

Topic(s):

- Energy Trading Systems

Finance, MS

The C. T. Bauer College of Business at the University of Houston fuels the city's workforce. Our graduate students have the benefits of an on-campus education, a world-renowned faculty that provides personalized attention in classrooms of diverse professionals, and a strong network of Bauer alumni that dominates the Houston workforce - giving our MS/Finance students an ideal setting for academic development and professional advancement.



The MS Finance program is primarily an evening program which may be pursued on a full- or part-time basis. The student is provided with a specialized course of study that is concentrated on financial markets and corporate financial management to enhance their understanding of the principles and practice of finance, and to develop their problem solving skills.

The MS Finance program is particularly relevant to those planning to work in the following areas:

- Corporate finance and financial consulting
- Investment banking, security analysis and brokerage
- Funds management
- Commercial and retail banking
- Risk management

The Bauer College of Business has assembled a nationally renowned faculty in finance. The current members of the faculty have over forty years of full-time experience as faculty at the top 10 finance departments. Recent rankings place the UH finance faculty sixteenth in the nation and second in the State of Texas.

Our knowledge of what "works" at the top business schools in this country is being brought to bear on the task of providing the Houston community with the opportunity for training and advanced certification in finance commensurate with the fourth largest city in the United States.

The MS Finance admits students for fall and spring terms. (The MS Finance-Quantitative Specialization admits for fall term only.) The students range in age from 21-48 with average work experience of 4 years and average GMAT scores of 621.

Please visit the Master of Science in Finance program page for more information.

Admission Requirements

Admission eligibility for the Master of Science in Finance program requires a four-year undergraduate degree (or foreign equivalent) from an accredited institution. The undergraduate degree may be in any discipline. Applications are accepted for Fall or Spring terms.

A complete application should include:

1. **Application for Graduate Studies**
2. **Transcripts**
 - Domestic transcripts - official transcripts from all higher education institutions attended
 - International transcripts - one original transcript and degree certificate in the original language and the other must be an official English Translation of the transcript.
3. **Test Scores**
 - Official GMAT or GRE scores, less than 5 years old
 - International applicants must submit comply with English language proficiency requirements. Full details are found at <http://www.uh.edu/graduate-school/admissions/international-students/english-proficiency/>.
 - One of the following tests may be submitted to meet this requirement. Please note that scores over two years old will not be accepted.
 - Official TOEFL (Test of English as a Foreign Language) score above 603 on the paper-based test or 100 on the internet-based test.
 - Official IELTS (International English Language Testing System) score above 6.5.
 - Official PTE Academic (Pearson Test of English Academic) minimum of 70.
4. **Non-refundable Application Fee(s)**
 - An application fee is required (\$75 for domestic applicants and \$150 for international applicants).
5. **Additional Requirements for International Applicants can be found at** <http://www.uh.edu/graduate-school/admissions/international-students/>
 - **NOTE:** International students must have a four-year degree from an accredited university to apply for the MBA. Three-year degrees are not considered equivalent. There is no bridge program at UH. Students with a three-year degree will likely need to combine it with a completed master's degree from their home country before applying.
6. **Resume**



7. **Goal Statement** - In one to two pages, discuss what motivates you, how your personal and professional experience has shaped you, and how will you maximize the specialized Master's degree to reach your future goals.
8. **Letters of recommendation** for MS in Finance are not required, nor accepted.

Degree Requirements

Credit hours required for this degree: 30.0

The Master of Science in Finance consists of 30 credits of graduate study: 6 credits of required foundation courses, 3 credits of required advanced courses and the remaining 21 hours of electives.

Program information is subject to change.

Required Foundation Courses (6 Credit Hours)

- FINA 6A31 - Analyzing Financial Statements Credit Hours: 1.5
- BZAN 6310 - Quantitative Analysis for Business Decisions Credit Hours: 3.0
- FINA 6A35 - Managerial Finance Credit Hours: 1.5

Note(s):

- FINA 6A35 - Managerial Finance is a prerequisite for all upper level finance classes

Required Advanced Courses (3 Credit Hours)

- FINA 7A10 - Intermediate Corporate Finance: Valuation Credit Hours: 1.5
- FINA 7A20 - Capital Markets Credit Hours: 1.5

Finance Electives (21 Credit Hours)

Students may select from a wide range of finance electives, as they determine an area of preference within finance.

Academic Policies

All coursework in the MS Finance Program is graduate-level, designated within the Finance Department. Any course that is not coded FINA before the number must be approved by the MSF Program Director, even if the course is part of a certificate program. The only non-finance course that is pre-approved is ACCT 7340 - Financial Statement Analysis (does not require a petition).

Finance, MS - Quantitative Specialization Option

The MSF-Q specialization combines PhD courses with advanced MS Finance courses, and is aimed at students who are interested in taking highly quantitative finance classes without continuing into the PhD program and writing a dissertation. It is ideal preparation for students who are interested in pursuing a Ph.D. in Finance but lack the necessary quantitative skills.

Please visit the Quantitative Specialization in Finance, MS program page for more information.

Admission Requirements



Students seeking to pursue this specialization are admitted in fall semesters only and must first receive approval from the MSF-Q Specialization Director and Finance Department Chair. Such students will usually have a solid quantitative background; with knowledge of calculus, mathematical statistics, and linear algebra. This specialization may be taken on a full- or part-time basis; however, Ph.D. level courses are offered only during the day.

Degree Requirements

Credit hours required for this degree: 36.0

The MSF-Q specialization consists of 36 hours of coursework. There is a required core of 4 Ph.D. level courses (10.5 credit hours) and 4 MS level courses (9 credit hours). Students can select the remaining credit hours from the elective courses listed below. Other MS Finance courses can be counted as credit towards the degree subject to the approval of the MSF-Q specialization Director.

Required Courses (19.5 Credit Hours)

PhD Level

10.5 Credit Hours

- FINA 7A97 - Selected Topics in Finance Credit Hours: 1.5
Topic(s):
 - Mathematics for Finance
- FINA 8397 - Selected Topics in Finance Credit Hours: 3.0
Topic(s):
 - Econometrics I
 - FINA 8338 - Sem in Fincl Mgt I Credit Hours: 3.0
 - FINA 8368 - Seminar in Investments Credit Hours: 3.0

MS Level

9.0 Credit Hours

- FINA 7A10 - Intermediate Corporate Finance: Valuation Credit Hours: 1.5
- FINA 7A20 - Capital Markets Credit Hours: 1.5
- ACCT 6331 - Financial Accounting Credit Hours: 3.0
- FINA 7397 - Selected Topics in Finance Credit Hours: 3
Topic(s):
 - Object Oriented Programming in Finance

Elective Courses (16.5 Credit Hours)

Required total: 16.5 credit hours from PhD or Master elective course options.

PhD Level

- FINA 8397 - Selected Topics in Finance Credit Hours: 3.0
Topic(s)
 - Econometrics II
 - Financial Management II



- Derivatives
- Price Theory I
- Continuous Time Finance
- Fixed Income

MS Level

- FINA 7A23 - Portfolio Theory and Practice Credit Hours: 1.5
- FINA 7A33 - Mergers & Acquisitions I Credit Hours: 1.5
- FINA 7A30 - Advanced Corporate Finance Credit Hours: 1.5
- FINA 7352 - Energy Derivatives Credit Hours: 3.0
- FINA 7397 - Selected Topics in Finance Credit Hours: 3
Topic(s):
- Optimizaton

Financial Services Management Certificate

The program exists to serve:

- Houston Financial Community: Local program whose graduates have **experience** with the valuation and portfolio management skills commonly used in financial services.
- Students: Rigorous year-long program integrating theory and practice that leads to a well-defined graduate credential. Complement to MBA or M.S. Finance degrees.

Elements of the Program

- The focus is on Finance and related disciplines as they apply to investment management, banking, venture finance and financial consulting.
- Students work in 4 teams as professional staff of a financial services company throughout the entire experience: Cougar Investment Fund, L.L.C., a private investment company.
- Small, select group of students return as "senior managers" and are responsible for leading teams and achieving overall objectives.

Target Audience

Individuals employed or who wish to be marketable as

- Securities/Banking/Insurance Managers: Business valuation, risk-management and fund accounting techniques used in Brokerage, Mutual Funds, Trust Management, Commercial Lending, Investment Banking and Insurance.
- Corporate Financial Managers: Understanding how financial markets assess the value of management decisions.

For additional information regarding the certificate program, please visit Bauer Graduate Certificates.

Admission Requirements

You must be a current Bauer graduate student to enroll in this certificate program. An application must be submitted for admission into this certificate. A student will be notified upon acceptance into the certificate program.

Certificate Requirements



Credit hours required for the certificate: 15.0

- FINA 7323 - Applied Equity Fund Management Credit Hours: 3.0 (9 credit hours Cougar Investment Fund)
- FINA 7A10 - Intermediate Corporate Finance: Valuation Credit Hours: 1.5
- FINA 7A20 - Capital Markets Credit Hours: 1.5
- FINA 7A23 - Portfolio Theory and Practice Credit Hours: 1.5
- FINA 7A97 - Selected Topics in Finance Credit Hours: 1.5
- Topic(s): Corp Strategy-Equity Fund Management

Global Energy Management, MS

As the global commercial center for oil and gas production, Houston is the gateway to jobs in the energy industry. Bauer College is home to the Gutierrez Energy Management Institute (GEMI), which provides graduate curriculum in energy management that is now internationally recognized. The MS in Global Energy Management program is the natural next step for Bauer and GEMI to serve the needs of the energy industry, giving students the knowledge of the business of energy and exposure to effective management skills.

No other school in Texas offers a Master of Science in Global Energy Management.

The program is most relevant to those working in, or planning to work, in the following areas:

- Energy management
- Energy trading
- Energy finance

This 36-credit hour interdisciplinary program includes courses from each of the five departments in the Bauer College. All classes meet once a week, 6-9 pm.

The MS-GEM admits students for fall and spring semesters. The students range in age from 22-47 with average work experience of 4 years and average GMAT scores of 546.

For more information, visit the Master of Science in Global Energy Management program page.

Admission Requirements

Admission eligibility for the Master of Science in Global Energy Management program requires a four-year undergraduate degree (or foreign equivalent) from an accredited institution. The undergraduate degree may be in any discipline. Applications are accepted for Fall and Spring semesters.

A complete application should include:

1. **Application for Graduate Studies**
2. **Transcripts**
 - Domestic transcripts - official transcript from all higher education institutions attended
 - International Transcripts - one original transcript and degree certificate in the original language and the other must be an official English translation of the transcript.
3. **Test Scores**
 - Official GMAT or GRE scores, less than 5 years old
 - International applicants must submit comply with English language proficiency requirements. Full details are found at <http://www.uh.edu/graduate-school/admissions/international-students/english-proficiency/>.
 - One of the following tests may be submitted to meet this requirement. Please note that scores over two years old will not be accepted.
 - Official TOEFL (Test of English as a Foreign Language) score above 603 on the paper-based test or 100 on the internet-based test.



- Official IELTS (International English Language Testing System) score above 6.5.
 - Official PTE Academic (Pearson Test of English Academic) minimum of 70.
4. **Non-refundable Application Fee(s)**
 - An application fee is required (\$75 for domestic applicants and \$150 for international applicants).
 5. **Additional Requirements for International Applicants can be found at** <http://www.uh.edu/graduate-school/admissions/international-students/>.
 - **NOTE:** International students must have a four-year degree from an accredited university to apply for the MBA. Three-year degrees are not considered equivalent. There is no bridge program at UH. Students with a three-year degree will likely need to combine it with a completed master's degree from their home country before applying.
 6. **Resume**
 7. **Goal Statement**
 - In one to two pages, discuss what motivates you, how your personal and professional experience has shaped you, and how will you maximize the specialized Masters degree to reach your future goals.
 - Letters of recommendation for MS in Global Energy Management are not required, nor accepted.

Degree Requirements

Credit hours required for this degree: 36.0

Required Courses

- ACCT 6331 - Financial Accounting Credit Hours: 3.0
- BZAN 6310 - Quantitative Analysis for Business Decisions Credit Hours: 3.0
- FINA 6A35 - Managerial Finance Credit Hours: 1.5

Prescribed Electives

- ACCT 7386 - Oil & Gas Accounting 1 Credit Hours: 3.0
- FINA 7371 - Energy Value Chain Credit Hours: 3.0
- FINA 7372 - Upstream Economics Credit Hours: 3.0
- FINA 7373 - Petrochemical and Refining Economics Credit Hours: 3.0
- MANA 7394 - Management of Human Resources in the Oil & Gas Industry Credit Hours: 3.0
- MANA 7395 - Practical Experiences in Management Credit Hours: 3
- MARK 7373 - Business to Business Marketing Credit Hours: 3.0
- SCM 7A97 - Selected Topics in Supply Chain Management Credit Hours: 1.5
Topic(s):
 - Energy Supply Chain Management

Free Electives (Choose 6 Credits)

- FINA 7376 - Energy Trading Credit Hours: 3.0
- FINA 7397 - Selected Topics in Finance Credit Hours: 3
Topic(s):
 - Energy Analysis
 - Value Creation in the Oil and Gas Industry
 - Alternative Energy Investments
 - Midstream Energy Finance
- GENB 7397 - Selected Topics Credit Hours: 3.0
Topic(s):



- Capturing Upstream Growth Opportunities
- **MIS 7397 - Selected Topics in Management Information Systems Credit Hours: 3.0**
Topic(s):
- Energy Trading Systems
- **FINA 7352 - Energy Derivatives Credit Hours: 3.0**

Program information is subject to change.

Academic Policies

- Academic Policies: C.T. Bauer College of Business

All coursework in the MS in Global Energy Management Program is graduate-level.

Waiver/Transfer Credit Guidelines

The foundation courses may be waived, based on equivalent, previous academic coursework. Students who have completed appropriate courses in previous graduate course work may transfer a maximum of six semester credit hours within the electives of the program.

The transfer of coursework is based on the following guidelines:

- Courses for which transfer credit is requested must have grades of 'B' or higher and may not be more than five years old at the time of graduation from UH with the MS in Global Energy Management degree.
- The course work must be graduate-level and consistent with the advanced study of global energy management and business administration.
- The academic department must approve the transfer request. Final authority for the approval of all transfer requests rests with the Director of the MS-GEM Program.
- Requests for the transfer of courses taken prior to enrolling at UH should be made during the first semester of attendance as a graduate student in the Bauer College of Business. Waiver/Transfer request forms are available in University Classroom and Business Building (UCBB) 424.
- Transfer credit is not given for either professional experience or professional development courses.

Continuous Enrollment

Unless students petition for a leave of absence, they must maintain continuous enrollment during the fall and spring semesters. Students who are out of the program for more than one calendar year will be under the jurisdiction of the catalog in effect at the time of reentry.

Students who fail to maintain continuous enrollment for more than two calendar years must reapply for admission to the program and must meet admission requirements in effect at that time.

Effective Semester of Admission

Admission is granted for a specific semester. If students wish to postpone enrollment, they must secure approval from the graduate advisor. The first semester in which students, as graduate students, complete graduate-level work that applies toward a degree is the effective semester of admission.

Investment Analysis Certificate



The Investment Analysis Certificate prepares students for careers that include investment management, trading, security analysis, and personal financial planning. Students with this background may be hired by investment banks, institutional money management firms, firms that specialize in trading of derivatives, and personal financial planning specialist firms.

For additional information regarding this certificate programs, please visit [Bauer Graduate Certificates](#).

Admission Requirements

You must be a current Bauer graduate student to enroll in this certificate program.

Certificate Requirements

Credit hours required for this certificate: 9.0

Required (6 Credit Hours)

- FINA 7A10 - Intermediate Corporate Finance: Valuation **Credit Hours: 1.5**
- FINA 7A20 - Capital Markets **Credit Hours: 1.5**
- FINA 7A23 - Portfolio Theory and Practice **Credit Hours: 1.5**
- FINA 7A97 - Selected Topics in Finance **Credit Hours: 1.5**
Topic(s):
- Fixed Income Security Analysis

Elective Options (3 Credit Hours)

- FINA 7A97 - Selected Topics in Finance **Credit Hours: 1.5**
Topic(s):
- Personal Financial Planning
- FINA 7350 - Derivatives I: Options **Credit Hours: 3.0**
- FINA 7397 - Selected Topics in Finance **Credit Hours: 3**
Topic(s):
- Financial Engineering

Investment Banking and Private Equity Certificate

The Investment Banking and Private Equity Certificate prepares students for a career in investment banking and private equity. Investment banks and private equity funds assist corporations in their financial decision making and in the implementation of their financial strategies. This includes decisions about capital structure, raising funds (by issuing securities), and financial restructuring of a firm: Mergers and acquisitions, buyouts, initial public offerings, and the resolution of financial distress. Experts in this area may also be hired by large and mid-size corporations (business development), consulting firms, and commercial banks.

For additional information regarding the certificate program, please visit [Bauer Graduate Certificates](#).

Admission Requirements

You must be a current Bauer graduate student to enroll in this certificate program.

Certificate Requirements



Credit hours required for the certificate: 9.0

Required

- FINA 7A10 - Intermediate Corporate Finance: Valuation Credit Hours: 1.5
- FINA 7A20 - Capital Markets Credit Hours: 1.5
- FINA 7A30 - Advanced Corporate Finance Credit Hours: 1.5
- FINA 7A33 - Mergers & Acquisitions I Credit Hours: 1.5
- FINA 7326 - Private Equity and Investment Banking Credit Hours: 3.0

Real Estate Certificate

The UH Bauer Graduate Real Estate Certificate prepares students for a successful career in the dynamic field of real estate through practice based academic courses and close working relationships with Houston's most successful real estate executives.

For additional information regarding the certificate program and new elective course options for the certificate, please visit Bauer Graduate Certificates.

Admission Requirements

You must be a current Bauer graduate student to enroll in this certificate program.

Certificate Requirements

Credit hours required for certificate: 12.0

Students must complete the following 12 credit hours:

- FINA 7380 - Real Estate Finance Credit Hours: 3.0
- FINA 7397 - Selected Topics in Finance Credit Hours: 3
Topic(s):
 - Essentials of Real Estate Principles
 - Developing a Real Estate Project
 - Real Estate Market Research and Valuation

Department of Management and Leadership

Global Management Certificate

The primary purpose of this certificate is to provide students the tools to deal with the challenge of the business environment's trend towards globalization. This includes understanding differences in managing multi-national rather than domestic firms, and how globalization has forever transformed the business environment. Students can also get first hand knowledge of country differences and global businesses through courses that include a study abroad component.

For additional information regarding the certificate program and new elective course options for the certificate, please visit Bauer Graduate Certificates.

Admission Requirements



You must be a current Bauer graduate student to enroll in any of our certificate programs.

Degree Requirements

Credit hours required for this certificate: 9.0

Students must complete 9 credit hours from the following:

- MANA 7343 - International Legal Environment of Management **Credit Hours: 3** - (Prague)
- MANA 7346 - Global Human Resource Management **Credit Hours: 3** - (Berlin)
- MANA 7351 - Management of Global Organizations **Credit Hours: 3.0**
- MANA 7353 - Regional Issues in Global Management **Credit Hours: 3** - (Chile/Prague)
- MANA 7375 - Global Leadership **Credit Hours: 3**
or
- MANA 7A97 - Selected Topics in Management **Credit Hours: 1.5**
Topic(s):
 - Global Leadership
- MANA 7397 - Selected Topics in Management **Credit Hours: 3**
Topic(s):
 - Globalization: Stakeholder Perspect
 - Cross-Cultur Bus Communication - (Prague)
 - Current Issues in International Business
 - Positive Leadership in a Global Context - (Berlin)
 - Managerial Issues in International Business
 - Cultural Issues - (Chile)
 - Global Strategy
 - Strategic Leadership in Emerging Markets
- INTB 7365 - Business and World Economy **Credit Hours: 3.0** - (Chile/China)
- GENB 6330 - International Environment of Business **Credit Hours: 3.0** - (China)
- GENB 7334 - Brainstorming to Bankrolling: Beyond the Classroom **Credit Hours: 3.0**
or
- FINA 7397 - Selected Topics in Finance **Credit Hours: 3**
Topic(s):
 - Brainstorming to Bankrolling: Beyond the Classroom

Human Resource Management Certificate

The primary purpose of this certificate is to provide students with the know-how and skill sets needed to effectively manage human resources in a variety of business contexts and settings.

Please visit our website for additional information about Bauer Graduate Certificates.

Admission Requirements

You must be a current Bauer graduate student to enroll in any of our certificate programs.

Certificate Requirements

Certificate Total: 9.0 Credit Hours



Required Course (3.0 Credit Hours)

- MANA 7336 - Human Resource Management Credit Hours: 3.0

Elective Options (6.0 Credit Hours):

- MANA 7330 - Legal Environment of Management Credit Hours: 3.0
- MANA 7334 - Management Development & Career Planning Credit Hours: 3
- MANA 7344 - Employee & Labor Relations Credit Hours: 3
- MANA 7346 - Global Human Resource Management Credit Hours: 3 -(Berlin)
- MANA 7355 - Staffing & Performance Improvement Systems Credit Hours: 3
- MANA 7356 - Diversity Management Credit Hours: 3.0
- MANA 7358 - Compensation & Benefits Credit Hours: 3
- MANA 7397 - Selected Topics in Management Credit Hours: 3

Topic: HR Management in Oil and Gas Sector

- FINA 7329 - Behavioral Finance Credit Hours: 3.0 or
- MANA 7329 - Behavioral Finance Credit Hours: 3.0

Leadership Development Certificate

C.T. Bauer College of Business > Department of Management and Leadership > Leadership Development Certificate

In today's complex and changing environment, organizations are seeking to hire and promote individuals who understand and can display effective leadership behaviors. It is important for managers and aspiring managers to learn about the nature of effective leadership and how they can develop their own competencies in this area. Accordingly, the primary purpose of this certificate is to examine leadership effectiveness at three levels: leadership skill sets for the individual, including leadership development and leading change; strategic governance issues for organizations, as well as ethics and social responsibility; and leadership in a global context, including effective leadership practices across cultures. Students who select this Leadership Certificate will have an edge on their competition in the job market and will be able to demonstrate their leadership savvy and understanding of the critical importance of leadership to the bottom line.

Please visit our website for additional information about Bauer Graduate Certificates.

Admission Requirements

You must be a current Bauer graduate student to enroll in any of our certificate programs.

Certificate Requirements

Certificate Total: 9.0 Credit Hours

Required Course (3.0 Credit Hours)

- MANA 7339 - Leadership Development Credit Hours: 3.0

Elective Options (6.0 Credit Hours):

- MANA 7332 - Effective Negotiating Credit Hours: 3
- MANA 7338 - Organizational Power, Politics, & Culture Credit Hours: 3
- MANA 7340 - Management of High Tech Organizations Credit Hours: 3
- MANA 7347 - Managerial Ethics & Corporate Social Responsibility Credit Hours: 3
- MANA 7362 - Leading Change Credit Hours: 3.0
- MANA 7363 - Managing Innovation & Creativity Credit Hours: 3
- MANA 7375 - Global Leadership Credit Hours: 3



- **MANA 7A97 - Selected Topics in Management Credit Hours: 1.5**
Topic: Global Leadership
- **MANA 7397 - Selected Topics in Management Credit Hours: 3**
Topics:
 - Leadership and Corporate Governance
 - Positive Leadership in a Global Context - (Location: Berlin)
 - Global Strategy
 - Strategic Leadership in a Emerging Markets

Management and Leadership, MS

The Online Master of Science in Management and Leadership (MS-M&L) will improve the marketability of undergraduates who have earned degrees in the humanities, fine arts, and social sciences by providing them with fundamental knowledge of business and management skills. Its purpose is to facilitate these graduates' searches for entry-level positions in organizations across a wide variety of disciplines and industry types. It is conceptualized as a graduate "bridge" degree between non-business undergraduate degrees and advanced business degrees such as the MBA.

For more information, please visit the Master of Science in Management and Leadership program page: <https://www.bauer.uh.edu/graduate-studies/prospective-students/ms-management-leadership/>.

Admission Requirements

1. Admission eligibility for the Online MS-M&L program requires a four-year undergraduate degree (or foreign equivalent) from an accredited institution. The undergraduate degree may be in any discipline. Online Application
2. Online Application
 - Submit an application through Applyweb.
 - The cost to apply for all MBA programs and Specialized Masters programs is \$0 through January 3, 2019. All application fees are waived through January 3, 2019.
 - We value the extraordinary talents, experiences, and diversity that veterans bring to the Bauer Specialized Master's program. In recognition of your service, Bauer College of Business commits to waiving the application fee. Please contact us in order to receive your unique, one-time use waiver code: <https://www.bauer.uh.edu/graduate-studies/prospective-students/military/>.
 - The online application will include questions on the following topics:
 - a. Personal Information
 - b. Program of Choice
 - c. Academic History
 - d. Test Information (GRE, GMAT, Test of English Language Proficiency)
 - e. Resume/Goal Statement
 - f. Benefits & Financial Aid
 - g. Emergency Contact Information
 - h. Letter of Recommendation
 - i. Texas Residency Questionnaire
 - Disclaimer: Subject to change without notice. Please contact your Admissions Representative if you have specific questions about the application.
2. Transcript
 - Applicants must have earned a bachelor's degree from an institution accredited by one of the six regional accrediting associations. Scanned copies of official transcripts may be uploaded as PDF files to your online application. If admitted, however, you will not be able to enroll without the official transcript(s) showing your undergraduate degree conferral on file.
 - Official transcript(s) should be sent to:
 - Regular Mail:
University of Houston
Graduate Admissions



*P.O. Box 3947
Houston, TX 77253-3947*

- Express Mail:

*University of Houston
Graduate Admissions
4302 University Dr. Rm 102
Houston, TX 77204-2012*

- Electronic or "Speede" Transcript:

- Within the U.S., the fastest way to send your transcript is electronically. Please inquire at your previous institution about this option. Electronic transcripts can be delivered via email to gradschool@uh.edu.

3. Test Scores

- Scanned official copies or self-reported scores must be included in your online application. GMAT and GRE test scores are valid for five years after the test date. Scores must be valid at the time of application submission.
- The University of Houston Graduate School is pleased to offer a GRE/GMAT Waiver program for UH main campus undergraduate students. To qualify, students must have graduated from the University of Houston main campus within 3 years preceding the term for which they are applying. Students must also meet the minimum undergraduate GPA for the degree program to which they are applying. Please visit the GRE/GMAT Waiver website for more information: <http://www.uh.edu/graduate-school/admissions/gre-gmat-waiver/>.

4. Résumé

- Please upload a copy of your most recent resume, highlighting your professional and academic experiences, as well as recognizable accomplishments to your online application.

5. Goal Statement

- In one to two pages, discuss what motivates you, how your personal and professional experience has shaped you, and how you will maximize the specialized Master's degree to reach your future goals.

6. Letter of Recommendation

- Two letters of recommendation are required. These recommendations are gathered electronically through the online application system. You will be required to enter an email address for your recommender which will allow an online form to automatically be sent to your recommender.

Degree Requirements

Credit hours required for this degree: 30.0

The Master of Science in Management and Leadership requires 30.0 total graduate credit hours, consisting of 18.0 credit hours from core skills courses, and 12.0 credit hours of elective courses.

All required coursework (core, advanced, and elective courses) for completion of the degree will be offered in an online format. Under certain circumstances and with the approval of the program director, face-to-face classes may be used to fulfill the practical and/or elective requirements.

Required Core Skills Courses

Students are required to take the following core skills courses:

- MANA 6310 - Fundamentals of Business Credit Hours: 3
- MANA 6A25 - Ethical Leadership & Critical Reasoning Credit Hours: 1.5
- MANA 6A32 - Organizational Behavior & Management Credit Hours: 1.5
- MANA 6A83 - Strategic Analysis Credit Hours: 1.5
- MANA 7A49 - Managerial Decision Making Credit Hours: 1.5
- MANA 7332 - Effective Negotiating Credit Hours: 3
- MANA 7336 - Human Resource Management Credit Hours: 3.0
- MANA 7339 - Leadership Development Credit Hours: 3.0



Elective Courses

Students in the proposed program are required to take 12 hours of elective courses in management from the courses listed below. Other courses may be used as electives with the approval of the Program Director.

- MANA 7A80 - Implementation of Strategies Credit Hours: 1.5
- MANA 7338 - Organizational Power, Politics, & Culture Credit Hours: 3
- MANA 7340 - Management of High Tech Organizations Credit Hours: 3
- MANA 7343 - International Legal Environment of Management Credit Hours: 3
- MANA 7346 - Global Human Resource Management Credit Hours: 3
- MANA 7351 - Management of Global Organizations Credit Hours: 3.0
- MANA 7353 - Regional Issues in Global Management Credit Hours: 3
- MANA 7354 - Cultural Issues in Global Management Credit Hours: 3
- MANA 7356 - Diversity Management Credit Hours: 3.0
- MANA 7358 - Compensation & Benefits Credit Hours: 3
- MANA 7393 - Global Strategy Credit Hours: 3.0
- MANA 7330 - Legal Environment of Management Credit Hours: 3.0
- MANA 7375 - Global Leadership Credit Hours: 3
- MANA 7380 - People Analytics Credit Hours: 3
- MANA 7392 - Managerial Issues Credit Hours: 3.0
- MANA 7395 - Practical Experiences in Management Credit Hours: 3

Academic Policies

- Academic Policies: C.T. Bauer College of Business

There are no waivers of core skills or required advanced course hours.

Students who lack fundamental skills in statistics and research methods will be strongly encouraged to utilize at least 3 of their available elective hours completing a statistics-related course (e.g., BZAN 6310)

All required coursework (core, advanced, and elective classes) for completion of the degree will be offered in an online format. Under certain circumstances and with the approval of the program director, face-to-face classes may be used to fulfill the practical and/or elective requirements.

Continuous Enrollment

Unless students petition for a leave of absence, they must maintain continuous enrollment during the program. Students who are out of the program for more than one calendar year will be under the jurisdiction of the catalog in effect at the time of reentry.

Students who fail to maintain continuous enrollment for more than two calendar years must reapply for admission to the program and must meet admission requirements in effect at that time.

Effective Semester of Admission

Admission to the program is only granted for a specified semester, which marks the effective semester of admission. Enrollment postponement to a later semester is not available.

Department of Marketing & Entrepreneurship



Business Consulting Certificate

This certificate program will improve your ability to understand and solve business problems, with a focus on solutions that fit the organization and can be implemented. The emphasis is on learning through a live management consulting project with a real-world client.

For additional information regarding the certificate program and new elective course options for the certificate, please visit Bauer Graduate Certificates.

Admission Requirements

You must be a current Bauer graduate student to enroll in any of our certificate programs.

Certificate Requirements

Credit hours required for certificate: 9.0

Required (6.0 Credit Hours):

- MARK 7393 - Business Consulting Lab I Credit Hours: 3.0 or
- GENB 7393 - Business Consulting Lab I Credit Hours: 3.0
- MARK 7394 - Business Consulting Lab II Credit Hours: 3.0 or
- GENB 7394 - Business Consulting Lab II Credit Hours: 3.0

Elective Course Option (3.0 Credit Hours):

- MARK 7362 - Management of Marketing Information Credit Hours: 3.0
- GENB 7334 - Brainstorming to Bankrolling: Beyond the Classroom Credit Hours: 3.0
- FINA 7397 - Selected Topics in Finance Credit Hours: 3
Topic: Brainstorming to Bankrolling: Beyond the Classroom

Digital Marketing Management Certificate

This certificate will provide students with skills that are increasingly important in the world of marketing and enhance their career opportunities. An increasing percentage of the jobs listed through the Houston chapter of the American Marketing Association call for digital skills, and Bauer has been hosting the Houston Interactive Marketing Association (HiMA) Career Fair to bring these opportunities to campus.

For additional information regarding the certificate program and new elective course options for the certificate, please visit Bauer Graduate Certificates.

Admission Requirements

You must be a current Bauer graduate student to enroll in any of our certificate programs.

Certificate Requirements

Credit hours required for certificate: 9.0

Required 3.0 Credit Hours:

- MARK 7365 - Introduction to Digital Marketing Credit Hours: 3.0

Elective Course Options - 6.0 Credit Hours::



- MARK 7332 - Social Media Marketing Credit Hours: 3.0
- MARK 7333 - Search Engine Marketing Credit Hours: 3.0
- MARK 7366 - Digital Marketing Analytics Credit Hours: 3
- MARK 7367 - Digital Marketing Lab Credit Hours: 3.0

Entrepreneurship Certificate

This certificate program will improve your ability to successfully launch or grow a business. It covers the basics of entrepreneurial business planning - including evaluating the feasibility of the business, estimating revenues, costs, and funding needs, and identifying key success factors - and then allows you to go deeper into questions such as where to get funding, how to present your business to potential investors or lenders, how to structure a funding term sheet, and how to turn technological developments into businesses.

For additional information regarding the certificate program and new elective course options for the certificate, please visit Bauer Graduate Certificates.

Admission Requirements

You must be a current Bauer graduate student to enroll in any of our certificate programs.

Certificate Requirements

Credit hours required for the certificate: 9.0

Required 3.0 credit hours selected from:

- ENTR 7336 - Entrepreneurship Overview Credit Hours: 3.0
- ENTR 7390 - Technology Entrepreneurship Credit Hours: 3.0

Electives 6.0 Credit Hours selected from the following:

- ENTR 7337 - Entrepreneurship Capital & Legal Forms Credit Hours: 3.0
- ENTR 7393 - RED Labs Pre-accelerator Credit Hours: 3.0
- ENTR 7394 - RED Labs Accelerator Credit Hours: 3.0
- ENTR 7339 - Venture Fund Credit Hours: 3.0
- ENTR 7341 - Family Business Credit Hours: 3.0
- FINA 7326 - Private Equity and Investment Banking Credit Hours: 3.0
- GENB 7334 - Brainstorming to Bankrolling: Beyond the Classroom Credit Hours: 3.0

Marketing Analysis Certificate

This certificate program will improve your analytical marketing capabilities and decision making skills. Good marketing decisions are not just based on opinion, they are based on analysis, and this certificate will give you the tools to conduct that analysis.

For additional information regarding the certificate program and new elective course options for the certificate, please visit Bauer Certificate Programs.

Admission Requirements

You must be a current Bauer graduate student to enroll in any of our certificate programs.



Course Requirements

Credit hours required for this certificate: 9.0

Students must complete 9 credits hours from the following list:

- MARK 7333 - Search Engine Marketing Credit Hours: 3.0
- MARK 7362 - Management of Marketing Information Credit Hours: 3.0
- MARK 7371 - Pricing Strategy Credit Hours: 3.0
- GENB 7334 - Brainstorming to Bankrolling: Beyond the Classroom Credit Hours: 3.0
- MARK 7377 - Customer Relationship Management and Database Marketing Credit Hours: 3.0

Marketing, MS

The Master of Science in Marketing program is a 30-hour program that can be completed in 12 months of full-time study or 24 months of part-time study. It offers:

- **Cutting-edge curriculum.** Learn the latest in digital marketing, social media marketing, customer relationship management and more.
- **Customized learning.** Select electives that build deep knowledge in areas such as Digital, Analytics, Product Management, Sales Leadership and Entrepreneurship & Technology.
- **Connections to the business community.** Opportunities and encouragement to do real-life projects with Houston's business community.
- **World-class faculty.** The Chronicle of Higher Education recently ranked Bauer #9 among leading research universities for scholarly productivity in marketing, and our executive faculty have had the job you want.
- **Prize-winning programs** in digital marketing, selling and sales management, and entrepreneurship.

The MS in Marketing admits students for fall and spring semesters. The students range in age from 22-31 with average work experience of 2 years and average GMAT scores of 575.

Please visit our website for more information: <http://www.bauer.uh.edu/graduate-studies/prospective-students/ms-marketing/>.

Admission Requirements

Admission eligibility for the Master of Science in Marketing requires a four-year undergraduate degree (or foreign equivalent) from an accredited institution. The undergraduate degree may be in any discipline.

Applications are accepted for Fall and Spring terms.

A complete application should include:

- **Application for Graduate Studies**
- **Transcripts**
 - Domestic transcripts - official transcripts from all higher education institutions attended
 - International transcripts - one original transcript and degree certificate in the original language and the other must be an official English Translation of the transcript.
- **Test Scores**
 - Official GMAT or GRE scores, less than 5 years old
 - International applicants must submit comply with English language proficiency requirements. Full details are found at <http://www.uh.edu/graduate-school/admissions/international-students/english-proficiency/>.
 - One of the following tests may be submitted to meet this requirement. Please note that scores over two years old will not be accepted.
 - Official TOEFL (Test of English as a Foreign Language) score above 603 on the paper-based test or 100 on the Internet-based test.
 - Official IELTS (International English Language Testing System) score above 6.5.



- Official PTE Academic (Pearson Test of English Academic) minimum of 70.
- **Non-refundable Application Fee(s)**
 - An application fee is required and varies depending on type of application.
- **Additional Requirements for International Applicants** are described in more detail at <http://www.uh.edu/graduate-school/admissions/international-students/>.

NOTE: *International students must have a four-year degree from an accredited university to apply for the MBA. Three-year degrees are not considered equivalent. There is no bridge program at UH. Students with a three-year degree will likely need to combine it with a completed master's degree from their home country before applying.*

The following documents must also be submitted as part of the application package:

- **Resume**
- **Goal Statement-** In one to two pages, discuss what motivates you, how your personal and professional experience has shaped you, and how will you maximize the specialized Master's degree to reach your future goals.
- **Letters of Recommendation**

Degree Requirements

The Master of Science in Marketing consists of 30.0 credits of graduate study: 10.5 credits of required foundation courses and one professional project, the remaining coursework comprised of electives.

Program information is subject to change.

Required Foundation Courses and Professional Project

10.5 Credit Hours

- ACCT 6331 - Financial Accounting **Credit Hours: 3.0**
- BZAN 6310 - Quantitative Analysis for Business Decisions **Credit Hours: 3.0**
- MARK 6A61 - Marketing Administration **Credit Hours: 1.5**
- MARK 7399 - MS Marketing Professional Project **Credit Hours: 3**

Elective Courses

19.5 SCH of elective courses

Academic Policies

- Academic Policies: C.T. Bauer College of Business

Department/Program Policies

- All coursework in the MS in Marketing Program is graduate-level.
- Non-marketing electives may be included in your MSM program with prior approval from the UH Department of Marketing & Entrepreneurship.
- **Continuous Enrollment**



- Unless students petition for a leave of absence, they must maintain continuous enrollment during the fall and spring semesters. Students who are out of the program for more than one calendar year will be under the jurisdiction of the catalog in effect at the time of reentry.
- Students who fail to maintain continuous enrollment for more than two calendar years must reapply for admission to the program and must meet admission requirements in effect at that time.
- **Effective Semester of Admission**
 - Admission is granted for a specific semester. If students wish to postpone enrollment, they must secure approval from the graduate advisor. The first semester in which students, as graduate students, complete graduate-level work that applies toward a degree is the effective semester of admission.

Product Management Certificate

This certificate program will improve your general marketing capabilities, based on a three-step process for identifying, delivering and communicating value to your customers.

- **Step 1** is to use market information to understand customer needs, customer perceptions, and the competitive landscape so you can identify a value proposition that fits your organization and will be well received in the market.
- **Step 2** is to deliver on that value proposition by ensuring that all aspects of your current products and business practices are consistent with the value proposition and by developing new products that deliver on the value proposition.
- **Step 3** is to communicate your value to customers in a compelling, relevant way.

For additional information regarding the certificate program and new elective course options for the certificate, please visit Bauer Certificate Programs.

Admission Requirements

You must be a current Bauer graduate student to enroll in any of our certificate programs.

Course Requirements

Credit hours required for this certificate: 9.0

Students must complete MARK 7362, MARK 7368, plus three additional credit hours from the list below for a total of 9 credit hours.

Required (6.0 credit hours):

- MARK 7362 - Management of Marketing Information Credit Hours: 3.0
- MARK 7368 - Integrated Marketing Communications Credit Hours: 3.0

Election options (3 credit hours):

- MARK 7369 - International Marketing Credit Hours: 3.0
- MARK 7374 - New Product Development Credit Hours: 3.0
- MARK 7376 - Brand Management Credit Hours: 3.0
- MARK 7397 - Selected Topics in Marketing Credit Hours: 3
Topic: Luxury Branding (Paris)

Sales Leadership Certificate

Purpose



The PES certificate in Sales Leadership will improve your effectiveness in selling yourself, your ideas, and your company's goods and services. It also will improve your understanding of how to manage customer relationships, especially business-to-business relationships with strategic customers, and how to lead a sales force.

For further information visit Bauer Graduate Certificates.

Admission Requirements

You must be a current Bauer graduate student to enroll in any of our certificate programs.

Course Requirements

Credit hours required for certificate: 9.0

Students must complete 9 credit hours from the list below:

- MARK 7377 - Customer Relationship Management and Database Marketing **Credit Hours: 3.0**
- MARK 7378 - Strategic Selling **Credit Hours: 3.0**
- MARK 7379 - Sales Leadership **Credit Hours: 3.0**
- MARK 7397 - Selected Topics in Marketing **Credit Hours: 3**

Topics:

- Business to Business Marketing
- Managing Sales Force Productivity

Dual Degree Programs

Doctor of Jurisprudence, JD/MBA

JD/MBA

Office of Student Services

Law Center

University of Houston

Houston, TX 77204-6060

(713) 743-1070

Master of Business Administration at UH

The Law Center and the UH Bauer College of Business offer a dual JD/MBA program that prepares students for a wide range of careers where law and business overlap. This program holds special appeal for students directed toward investment banking, accounting, international trade, industrial relations, corporate law, the entertainment industry and management consulting. Full-time students complete the program in four years.

Contact:

MBA Program Office

University of Houston

C.T. Bauer College of Business

334 Melcher Hall, Room 330



Hospitality Management, MS/MBA

This three-year degree is offered through a partnership between Hilton College and the University of Houston's C.T. Bauer College of Business. Through this program, students earn both an MS and MBA in less time than it would take to earn each degree independently. This opportunity enables students to prepare for careers in which business and hospitality overlap.

For more information, please visit the Hospitality Management, MS/MBA program page.

The Dual Masters MS/MBA Degrees

Program Description

The Conrad N. Hilton College of Hotel and Restaurant Management and the C.T. Bauer College of Business Administration offer a joint degree program that enables students to prepare for careers in which business and hospitality overlap. By pursuing both the Master of Science (MS) in Hospitality Management and the Master of Business Administration (MBA) degrees concurrently, students can complete both degrees in a shorter time period than if they were to pursue the two independently. The joint MS/MBA program requires a minimum of 63 semester hours.

Application Process

Participation in the joint MS/MBS program requires separate applications to and acceptance by each of the participating schools within a calendar year. Applicants must meet the admission requirements of the two colleges before being admitted by petition to the joint MS/MBA program. Admission to one college has no official bearing on admission to the other.

Visit each program's website for more information about each degree

- MBA Program
- MS HRM Program

Admission Requirements

Participation in the joint MS/MBS program requires separate applications to and acceptance by each of the participating schools within a calendar year. Applicants must meet the admission requirements of the two colleges before being admitted by petition to the joint MS/MBA program. Admission to one college has no official bearing on admission to the other.

Degree Requirements

Credit hours required for this degree: 36.0

All MS degree candidates must complete a minimum of 36 semester credit hours of graduate coursework, at least 27 of which must be earned at the Hilton College.

The curriculum for this program requires students to complete courses in five areas, including hospitality management core courses; support and focus courses; electives; and a thesis, a professional paper and practicum, or an additional elective and practicum. Up to nine hours of elective credits can include non-HRMA courses with prior advisor approval.



Students can choose either the professional or research track to complete this degree.

Social Work, MSW/MBA

C.T. Bauer College of Business > Dual Degree Programs > Social Work, MSW/MBA

MBA/Master of Social Work:

Graduate College of Social Work
Office of Student Services
University of Houston
Houston, TX 77204-4013
(713) 743-8082



Student Services: C.T. Bauer College of Business

The C. T. Bauer College Student Services' Offices are located in Cemo Hall and Melcher Hall, as well as the Classroom and Business Building, offering assistance to students in the areas of academic advising, admissions and academic records. Career services, scholarships, and special programs to graduate and undergraduate business students are also provided.

Graduate and Professional Programs Office, 424 Classroom and Business Building

The Graduate and Professional Programs Office within the C.T. Bauer College of Business is the administrative center for graduate admissions and academic advising for applicants or those admitted to the MBA and MS in programs. The staff is committed to quality student service. It also promotes recruitment and retention programs, proposes curricular innovations, and supports graduate business student organizations.

For questions relating to admission or for academic advising for the MBA or MS programs, please contact the Graduate and Professional Programs Office, 424 Classroom and Business Building, (713) 743- 0700. Advisors are available on an appointment basis.

Accountancy and Taxation Program Office, Master of Science in Accountancy, 304 Classroom and Business Building

The Accountancy and Taxation Programs Office with the C.T. Bauer College of Business is the administrative and academic unit for Certificate in Accountancy (CAP) and Master of Science in Accountancy, (MSACCY). For information about CAP, please contact the CAP advisor at (713) 743-5752 or e-mail applycap@uh.edu. Questions regarding MSACCY program admissions may be answered by emailing applymsaccy@uh.edu or calling (713) 743-4878. Current MSACCY students may contact their advisor by e-mailing msaccy@uh.edu or calling (713) 743-5936.

Rockwell Career Services Center, Second Floor of Cemo Hall

The Rockwell Career Services Center actively provides Bauer College students with the information, resources, and practical skills necessary to obtain a fulfilling career in today's competitive marketplace. The Career Center's mission is to complement Bauer students' academic experiences with career training and experiences to help them attain successful and fulfilling careers and increase the value of Bauer to the business community. The Center manages an on-campus recruitment service, online resume books and an active online job listing service serving companies targeting Bauer College students for full-time positions, internships, and special projects. The Center's experienced career counselors work with students individually and in group settings to help them clarify their career goals and develop the strategies and skills necessary for long-term career success.

The Rockwell Career Services Center may be contacted at (832) 842-6120 or at hirebauer@bauer.uh.edu. For more information on services, please visit the Career Center website.

Centers for Advanced Study, Research, and Executive Development

Five academic departments, Accountancy and Taxation, Decision and Information Sciences, Finance, Management, Marketing and Entrepreneurship and several centers for research and advanced study and management education are housed in the Bauer College of Business, located in Lucile and Leroy Melcher Hall.

AIM Center for Investment Management (ACIM)



The AIM Center serves as the focal point for the Cougar Investment Fund and its supporting courses. Located on the main floor of Melcher Hall, it offers the most comprehensive and technologically advanced systems available for accessing market and corporate information and for undertaking analytical research on business and financial market issues. The ACIM provides sixteen portfolio manager workstations, as well as classroom and conference areas that encourage students, faculty, and business professionals to interact in a technologically sophisticated environment.

Bauer Division of Technology (formerly Research and Instructional Computing Services)

The Bauer Division of Technology provides computing services and support for students, faculty, and staff in classroom instruction, research efforts, and college administration. BDT is responsible for supporting most of the technology services for Melcher Hall, Cemo Hall, and the Classroom and Business Building. The services provided are listed below:

1. Student computer labs with print services to complete course work assignments.
2. Mobile laptop lab for hands-on course delivery in any Bauer College of Business classroom.
3. Multimedia equipment for quality classroom presentation.
4. Facility for monitoring and videotaping course assignments involving role-playing and group interaction.
5. Wireless Network spanning College of Business buildings and patio areas.
6. Power equipped seats in classrooms for laptop and cell phone charging.

Bauer Supply Chain Management Center (BSCMC)

The Bauer Supply Chain Management Center (BSCMC) is a new industry forum seeking the participation, engagement, and sponsorship of interested industry partners and supply chain organizations to support student professional development, curriculum development, research collaboration, professional SCM forums, and SCM executive continuing education. An advisory board (consisting of a subset of the Bauer SCM Center membership) will be established to initially guide the development and strategic direction for the BSCMC. With strong industry support for the BSCMC, we expect Bauer to be recognized as a TOP 10 US supply chain program by the end of 2015.

Gutierrez Energy Management Institute (GEMI)

The Gutierrez Energy Management Institute (UH-GEMI) is a world renowned center of learning committed to preparing the energy industry workers of today while exploring the issues important to its future. The Institute uses multi-disciplinary approach to address the comprehensive needs of the energy industry. UHGEMI was established at a time when the energy industry was facing a crisis of confidence, but the creation of the Institute was more than a response to Enron, the California situation of other difficulties of the recent past. It is intended to help the industry to provide a neutral forum that will assist the industry in developing long-term solutions to present and future problems. To achieve this mission, GEMI focuses on three centers of excellences: Education (especially through our Certificate Programs), Community Learning, and Outreach Programs (through many public events).

Stagner Sales Excellence Institute (SSEI)

The Stagner Sales Excellence Institute (SEI) strives to be the leading global center for sales research and education. SSEI's research mission is to uncover the drivers of superior sales force performance, provide information to sales managers about state-of-the-art methods for creating and sustaining competitive advantage in the sales force, and be thought leaders in the academic domain SSEI's educational mission, pursued through the undergraduate Program for Excellence in Selling, the graduate program in Sales Leadership, and executive education, is to provide educational tools to enhance the productivity of salespeople and sales managers from the very beginning of their careers.

International Institute for Diversity and Cross-Cultural Management



The International Institute for Diversity and Cross-Cultural Management operates as the research and development arm of the Center for Executive Development in the Bauer College. The institute was created to address changes in the world marketplace, changes in the current and future demographics of the labor market, individual differences in the work force, and the increasing globalization of business.

Institute for Health Care Marketing

The Institute for Health Care Marketing produces academic studies for journals and technical reports for health-care providers. Its focus is on advising the marketers of health care, particularly preventive care, on how to be more effective in Energy Market Research.

University of Houston Small Business Development Center (SBDC)

The University of Houston Small Business Development Center Network (SBDC) helps small- and medium-sized businesses start, grow and succeed through free business consulting, affordable training seminars and specialty programs. Experienced consultants offer advice and act as sounding boards to help work through management, marketing, finance and operational business issues. UH SBDC instructors share their real-world, practical business experience with clients in state-of-the-art classrooms and computer labs. Special programs and services include Direct Business Assistance, International Trade Center, SBA Prequalification Loan Program, Procurement Technical Assistance Center (also known as Texas Information Procurement Service), Technology Program and Comprehensive Business Research Library. For more information, call (713) 752-8444 or visit the Small Business Development Center website.

Wolff Center for Entrepreneurship (WCE)

The mission of the Wolff Center for Entrepreneurship (WCE) is to organize and expand the knowledge and practice of entrepreneurship. The center also seeks to enhance the standing of the University of Houston's Bauer College of Business by providing programs which will make the college the nation's leader in entrepreneurial education.



Institute and Center Directors

Director, AIM Center for Investment Management

Thomas J. George, Ph.D., University of Michigan

Department Chair, Cyvia and Melvyn Wolff Center for Entrepreneurship:

Edward Blair, Ph.D., University of Illinois

President, Decision Sciences Institute

Funda Sahin, Ph.D., Texas A&M University

Executive Director, Gutierrez Energy Management Institute:

Praveen Kumar, Ph.D., Stanford University

Director, Institute for Health Care Marketing:

Partha Krishnamurthy, Ph.D., Pennsylvania State University

Director, Institute for Regional Forecasting

Robert W. (Bill) Gilmer, Ph.D., University of Texas at Austin

Director, Small Business Development Center:

Mike Young, J.D., University of Houston

Director, Stanford Alexander Center for Excellence in Real Estate

Vacant

Executive Director, Stephen Stagner Sales Excellence Institute

Randy Webb, MBA, University of Houston



Graduate Faculty Emeriti

Frank M. Allen. Professor Emeritus of Accountancy and Taxation. B.B.A., M.B.A., J.D., University of Texas at Austin.

Keith Cox. Professor Emeritus of Marketing. B.B.A., M.B.A., Ph.D., University of Texas at Austin.

Herbert L. Lyon. Professor Emeritus of Marketing. B.B.A., Memphis State University; M.S., Ph.D., University of Illinois.

James Pratt. Professor Emeritus of Accountancy and Taxation. CPA, DBA University of Southern California.

Michael T. Matteson. Professor Emeritus of Management. B.A., M.A., Baylor University; Ph.D., University of Houston.

A. Cameron Mitchell. Associate Professor Emeritus of Decision and Information Sciences. B.A., University of the South; M.B.A., Ph.D., University of Texas at Austin.

Ronald F. Singer. Professor of Finance Emeritus. B.S., Cornell University; M.A., Ph.D., Michigan State University.

Samuel V. Smith. Professor Emeritus of Marketing. B.S., University of Notre Dame.; M.L., University of Pittsburgh; Ph.D., Saint Louis University.

Bette Ann Stead. Professor Emerita of Marketing. B.B.A., Lamar University; M.B.A., University of Texas at Austin; Ed.D., University of Houston.

Andrew (Skip) Szilagyi. Professor Emeritus of Management. BSChemE, MBA, PhD Indiana University.



Department of Accountancy and Taxation Faculty

Novia (Xi) Chen. Assistant Professor of Accountancy and Taxation. B.S., Renmin University of China; M.S., Michigan State University; Ph.D., University of California, Irvine

Steven Crawford. Assistant Professor of Accountancy and Taxation. B.S., M.Acc., Brigham Young University; M.B.A., Ph.D., University of Chicago.

Joshua Cutler. Assistant Professor of Accountancy and Taxation. B.A., Brigham Young University; J.D., Harvard Law School; Ph.D., University of Oregon.

Yun Fan. Assistant Professor of Accountancy and Taxation. B.S., Beijing Information Science and Technology University; M.B.A., University of Scranton; Ph.D., University of Oklahoma.

Ramon Fernandez. Clinical Assistant Professor of Accountancy and Taxation and Certified Public Accountant. B.A. University of St. Thomas; M.B.A., University of Houston.

George O. Gamble. KPMG Professor of Accountancy and Taxation and Director of the International Institute for Diversity and Cross Cultural Management. B.A., Florida Agricultural and Mechanical University; M.B.A., Ph.D., Pennsylvania State University.

Samuel Goble. Clinical Assistant Professor of Accountancy and Taxation. B.S., University of Maryland; M.B.A., Tulane University.

John L. Green. Clinical Assistant Professor of Accountancy and Taxation and Certified Public Accountant. B.S. Accy., Florida A&M University; M. Accy., University of Illinois; J.D., South Texas College of Law; Ph.D., University of Houston.

Kathleen Harris. Clinical Assistant Professor of Accountancy and Taxation. B.A.A., University of Arlington; M.S., Ph.D., University of Houston.

Saleha B. Khumawala. Robert Grinaker Professor of Accountancy and Taxation and Certified Public Accountant. B.S., St. Xavier College; Ph.D., University of North Carolina at Chapel Hill.

Emre Kilic. Associate Professor of Accountancy and Taxation. B.A., Koc University, Istanbul, Turkey; Ph.D., Syracuse University.

Mohan Kuruvilla. Clinical Assistant Professor of Accountancy and Taxation, Director of Certificate in Accountancy Program, and Certified Public Accountant. M.B.A., Ph.D., University of Houston.

Chad Larson. Assistant Professor of Accountancy and Taxation. B.A., M.S., Brigham Young University; Ph.D., University of Michigan.

Haijin Lin. Associate Professor of Accountancy and Taxation. M.S., Carnegie Mellon University; M.S., Fudan University; Ph.D., Carnegie Mellon University.

Gerald Lobo. Arthur Andersen Chair and Professor of Accounting. B. Tech., Indian Institute of Technology; M.B.A., McMaster University; Ph.D., University of Michigan.

Tong Lu. Associate Professor of Accountancy and Taxation. B.A., University of China; M.A., Ohio State University; Ph.D., University of Minnesota.

Janet A. Meade. Associate Professor of Accountancy and Taxation and Certified Public Accountant (Arizona). B.S., M.A., Ph.D., Arizona State University.

Carolyn Miles. Clinical Assistant Professor of Accountancy and Taxation and Certified Public Accountant. B.B.A., M.B.A., University of Texas, Austin.

Volkan Muslu. Associate Professor of Accountancy and Taxation. B.S., Bilkent University; M.B.A., Koc University; Ph.D., Massachusetts Institute of Technology.

Edward C. Nathan. Clinical Assistant Professor of Accountancy and Taxation and Certified Public Accountant. B.A., M.B.A., University of Florida; Ph.D., University of Texas at Austin.

Michael Neel. Assistant Professor of Accountancy and Taxation. B.S., University of North Carolina - Asheville; Master of Economics, North Carolina State University; Ph.D., Texas A&M University.



Kaye Newberry. Chair of Accountancy and Taxation Department, C.T. Bauer Chair and Professor of Accountancy and Taxation, and Certified Public Accountant. B.S., M.B.A., University of Houston - Clear Lake; Ph.D., Arizona State University.

Michael R. Newman. Clinical Assistant Professor of Accountancy and Taxation, Director of Professional Programs in Accounting and Certified Public Accountant. B.B.A., M.B.A., M.S. Accy, Ph.D., University of Houston.

Thomas R. Noland. Professor of Accountancy and Taxation, and Certified Public Accountant. B.S., University of Illinois, Urbana-Champaign; M.S. Accy., Illinois State University, Normal; Ph.D., University of Illinois, Urbana-Champaign.

Kiran Parthasarathy. Clinical Assistant Professor of Accountancy and Taxation. B.C., University of Commerce; M.B.A., Ph.D., University of Houston.

Darlene Serrato. Clinical Assistant Professor of Accountancy and Taxation. B. S., M.B.A., Ph.D., University of Houston.

Joe Seltz. Clinical Assistant Professor of Accountancy and Taxation and Certified Public Accountant. CPA, CIA, DFE, CMA, B.S., Accounting, Duquesne University.

Xue (Amy) Sun. Assistant Professor of Accountancy and Taxation. B.E., M.E., Tsinghua University; Ph.D., Carnegie Mellon University.

Mary Sykes. Clinical Assistant Professor of Accountancy and Taxation and Certified Public Accountant. B.S., Mississippi State University; M.S., St. Thomas University.

John Barry Teare. Clinical Assistant Professor of Accountancy and Taxation and Certified Public Accountant. B.S., Lamar University, M.S., University of Houston.

Cathy Weber. Clinical Assistant Professor of Accountancy and Taxation. B.S., University of Richmond; M.S., Duke University; Ph.D., Texas A&M University.

Michael Yampuler. Clinical Assistant Professor of Accountancy and Taxation. B.A., M.A., Tel-Aviv University; Ph.D., Harvard University.

Yuping Zhao. Assistant Professor of Accountancy and Taxation. B.S., Peking University; M.A., University of Toledo; M.S. Accountancy, Brigham Young University; Ph.D., George Washington University.



Department of Marketing and Entrepreneurship Faculty

Michael Ahearne. Bauer Professor of Marketing Strategy. B.S., M.B.A., Worcester Polytechnic Institute; M.S., Ph.D., Indiana University.

Edward Blair. Chair and Cemo Professor of Marketing and Entrepreneurship. B.S., Ph.D., University of Illinois.

Steven Brown. Bauer Professor of Marketing. B.A., Prescott College; M.I.M., American Graduate School of International Management; Ph.D., University of Texas at Austin.

Rex Yuxing Du. Hurley Professor of Marketing and PhD Coordinator. B.Engr., Shanghai Jiaotong University; Ph.D., Duke University.

Betsy D. Gelb. Sachnowitz Professor of Marketing. B.J., University of Missouri; M.B.A., Ph.D., University of Houston.

Carl Herman. Executive Professor of Marketing and Director of Executive Education, Stagner Sales Excellence Institute. B.A., Colorado College; M.B.A., Southern Methodist University.

James Hess. Bauer Professor of Marketing Science. A.B., B.S.E., Princeton University; Ph.D., Massachusetts Institute of Technology.

Ye Hu. Associate Professor of Marketing and Robinson Fellow. B.A., B.Sc., Tsinghua University; M.Stat., Ph.D., University of Pennsylvania.

Sam Hui. Associate Professor of Marketing. B.S., Stanford University, M.S., Ph.D., University of Pennsylvania.

Kenneth Jones. Executive Professor of Entrepreneurship and Director of Undergraduate Programs, Wolff Center for Entrepreneurship. B.A., Bucknell University; M.B.A., University of Houston.

Jacqueline Kacen. Clinical Professor of Marketing. B.A., Wellesley College; M.B.A., Ph.D., University of Illinois.

John Karonika. Clinical Professor of Marketing and Entrepreneurship. B.S., M.B.A., University of Houston; Ph.D., Texas A&M University.

Steven Koch. Executive Professor of Marketing and Director, Graduate and Professional Programs. B.S., San Diego State University; M.B.A., California State University at Long Beach.

Partha Krishnamurthy. Professor of Marketing, Conn Fellow, and Director, Institute for Healthcare Marketing. B.S., Madras University; M.B.A., Bharathidasan University; Ph.D., Pennsylvania State University.

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Alan Lish. Executive Professor of Marketing and Entrepreneurship. B.A., Case Western Reserve University; M.S., University of Texas at Austin; D.B.A., Nova Southeastern University.

Carlos Ortega. Executive Professor of Entrepreneurship. B.A., Our Lady of the Lake University; M.B.A., University of Chicago.

Vanessa Patrick. Bauer Professor of Marketing and Director, Bauer Doctoral Programs. B.Sc., St. Xavier's College (Bombay); M.B.A., Bombay University; Ph.D., University of Southern California.

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Seshadri Tirunillai. Assistant Professor of Marketing. B.E., Birla Institute of Technology and Science; M.Mgmt, Indian Institute of Technology Bombay; Ph.D., University of Southern California.

Amy Vandaveer. Clinical Professor of Marketing. B.A., Texas A&M University; M.B.A., University of Houston.

Kitty Y. Wang. Assistant Professor of Marketing. B.A., University of Western Ontario; Ph.D., University of Toronto.

James R. Webb. Executive Professor of Marketing, Director Program for Excellence in Selling, and Executive Director, Stagner Sales Excellence Institute. B.S., Florida State University; M.B.A., University of Houston.



William J. Zahn. Clinical Professor of Marketing. B.B.A., University of Texas at Austin; Ph.D., University of Houston.



Department of Decision and Information Sciences Faculty

Elizabeth Anderson-Fletcher. Associate Professor of Decision and Information Sciences. B.B.A., M.B.A., Ph.D., University of Houston.

Robert L. Bregman. Associate Professor of Decision and Information Sciences. B.S., Lafayette College; M.B.A., M.A., Ph.D., Ohio State University.

Wynne W. Chin. Professor of Decision and Information Sciences. A.B., M.S., M.B.A., Ph.D., University of Michigan.

Randolph B. Cooper. Professor of Decision and Information Sciences. A.B., M.B.A., Ph.D., University of California at Los Angeles.

Kathy Cossick. Clinical Assistant Professor of Decision and Information Sciences. B.B.A., M.B.A., University of Texas at Austin; Ph.D., Florida State University.

Emese Felvegi. Clinical Assistant Professor of Decision and Information Sciences. B.S., M.S., Ed.D., University of Houston - Clear Lake.

Nickolas K. Freeman. Assistant Professor of Decision and Information Sciences. B.S., M.S., Ph.D., University of Alabama.

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G. Mark Grimes. Assistant Professor of Decision and Information Sciences. B.B.A., University of Mississippi; M.B.A., Belmont University; Ph.D., University of Arizona

Blake Ives. Professor of Decision and Information Sciences. B.S., M.S., State University of New York-Albany; Ph.D., University of Minnesota.

Norman Johnson. Associate Professor of Decision and Information Sciences. B.A., University of the West Indies, Jamaica; M.B.A., Baruch College; Ph.D., City University of New York.

Basheer M. Khumawala. Professor of Decision and Information Sciences. B.S., St. Xavier College; M.S., Ph.D., Purdue University.

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Jaana Porra. Associate Professor of Decision and Information Sciences. M.B.A., Ph.D., University of Jyväskylä, Finland.

Suryanaryan Radhakrishnan. Clinical Assistant Professor of Decision and Information Sciences. B.E., Osmania University; M.S., Oklahoma State University; Ph.D., University of Houston.

E. Powell Robinson. Professor of Decision and Information Sciences. B.A., M.B.A., Ph.D., University of Texas at Austin.

Richard W. Scamell. Professor of Decision and Information Sciences. B.A., M.B.A., Ph.D., University of Texas at Austin.

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Staci Smith. Clinical Assistant Professor of Decision and Information Sciences. B.A., Rice University; Ph.D., University of Houston.

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David Van Over. Clinical Assistant Professor of Decision and Information Sciences. B.A., M.B.A., Ph.D., University of Houston.

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Wayne Winston. Visiting Professor of Decision and Information Sciences. B.S., Massachusetts Institute of Technology; Ph.D., Yale University.

Ming Zhao. Assistant Professor of Decision and Information Sciences, B.S., Zhejiang University; M.S., Ph.D., State University of New York at Buffalo.



Department of Finance Faculty

Swati Basu. Clinical Assistant Professor of Finance. B.A., Calcutta University; M.A., Tufts University, Ph.D., University of Pittsburgh.

Donald Bellman. Executive Professor of Finance. B.S., Duke University; M.B.A., Stanford University.

Jeremy Berkowitz. Associate Professor of Finance. A.B., M.A., Ph.D., University of Pennsylvania.

Darla Chisholm. Clinical Assistant Professor of Finance. B.S., B.S.M.E., Lamar University; M.B.A., Ph.D., University of Houston.

Hitesh Doshi. Assistant Professor of Finance. B.S., L.D. College of Engineering; M.S., University of Houston; Ph.D., McGill University.

Thomas J. George. Bauer Professor of Finance and Director, AIM Center for Investment Management. B.S.B.A., Duquesne University; Ph.D., University of Michigan.

Charles Guez. NASDAQ Executive Professor of Finance. M.B.A., Ph.D., Pennsylvania State University.

Kris Jacobs. Bauer Professor of Finance and Co-Coordinator of Finance Doctoral Program. B.A., Katholieke Universiteit Leuven; M.A., Ph.D., University of Pittsburgh.

Praveen Kumar. Cullen Distinguished Chaired Professor, Department Chair, and Executive Director, Gutierrez Energy Management Institute. A.B., M.P.A., Princeton University; Ph.D., Stanford University.

Nisan Langberg. Associate Professor of Finance. M.A., Haifa University; M.A., Haifa University and the Technion; Ph.D., Northwestern University.

John Lopez. Executive Professor of Finance. B.B.A., University of Houston; M.B.A., Texas A&M University.

Trenton Page. Assistant Professor of Finance. B.B.A. Finance, University of Oklahoma; M.A., Ph.D., University of Rochester.

Natalia Piqueira. Clinical Assistant Professor of Finance. B.A., University of Sao Paolo; Ph.D., Princeton University.

Craig Pirrong. Professor of Finance and Director of Energy Markets. B.A., M.B.A., and Ph.D., University of Chicago.

Paul Povel. Duncan Professor of Finance. Lic. Rer. Pol., University of Basel; Ph.D., London School of Economics.

Ramon Rabinovitch. Professor of Finance and Co-Director of the M.S. Finance Program. B.A., Hebrew University-Jerusalem; M.B.A., City University of New York, Bernard M. Baruch College; Ph.D., New York University.

Latha Ramchand. Dean of C. T. Bauer College of Business and Professor of Finance. B.A., M.A., University of Bombay; M.S., Ph.D., Northwestern University.

Mack Rogers. Executive Professor of Finance. B.B.A., Sam Houston State University.

Kevin Roshak. Assistant Professor of Finance, B.S., B.A., Ohio State University; Ph.D., Northwest University.

Sang Seo. Assistant Professor of Finance, B.S., B.A., Korea Advanced Institute of Science and Technology; M.A., Ph.D., University of Pennsylvania.

Raul Susmel. Associate Professor of Finance and Co-Coordinator of Finance Doctoral Program. Lic., Universidad de Buenos Aires; Ph.D., University of California, San Diego.

Stuart Turnbull. C.T. Bauer Chair of Business Leadership and Professor of Finance. B.Sc, M.Sc., Imperial College of Science and Technology, London University; Ph.D., University of British Columbia.

Guojun Wu. Professor of Finance. B.S., Shanghai Kiaotong University; M.A., Ohio University; Ph.D., Stanford University.

James Yae. Assistant Professor of Finance. B.S., M.B.A., Seoul National University; M.S., M.B.A., Ph.D., University of Chicago.



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Department of Management and Leadership Faculty

Leanne Atwater. Professor of Management. B.A., M.A., San Diego State University; Ph.D., Claremont Graduate School.

Dennis P. Bozeman. Associate Professor of Management. B.S., M.S., Ph.D., Florida State University.

Barbara Carlin. Clinical Assistant Professor of Management. B.A., University of Arizona; M.S.I.S., University of Pittsburgh; Ph.D., University of Texas at Austin.

Richard S. DeFrank. Associate Professor of Management. B.A., Syracuse University; M.A., University of Pennsylvania; Ph.D., University of Rochester.

Robert Eisenberger. Professor of Psychology and Professor of Management. B.A., UCLA; Ph.D., University of California - Riverside.

Robert T. Keller. Baker-Hughes Professor of Business Administration and Professor of Management. B.S., University of Illinois (Urbana); M.B.A., State University of New York at Buffalo; Ph.D., Pennsylvania State University.

Dejun (Tony) Kong. Assistant Professor of Management. B.B.A., Fudan University; M.S., Ph.D., Washington University in St. Louis.

Teri Elkins Longacre. Associate Professor of Management and Vice Provost and Dean, Undergraduate Student Success. B.A., Baylor University, J.D., Ph.D., University of Houston.

C. Chet Miller. Professor of Management and C.T. Bauer Professor of Organizational Studies. B.A., Ph.D., University of Texas at Austin.

James S. Phillips. Professor of Management. B.A., M.A., Ph.D., University of Akron.

Dale E. Rude. Associate Professor of Management. B.S., M.S., Iowa State University; Ph.D., University of Iowa.

Marina Sebastijanovic. Clinical Assistant Professor of Management. B.A., M.B.A., McNeese State University; Ph.D., University of Houston.

Dusya Vera. Associate Professor of Management. B.S., Polytechnic University; M.B.A., University of Pittsburgh; Ph.D., University of Western Ontario.

William Walker. Clinical Assistant Professor of Management. B.A., North Park College; M.B.A., Ph.D., University of Houston.

Steve Werner. Professor of Management and Department Chair. B.A., M.B.A., San Jose State University; Ph.D., University of Florida.

C. Wesley. Assistant Professor of Management. B.S., United States Naval Academy; MBA, University of Maryland; Ph.D., Texas A & M University.

L. Alan Witt. Professor of Psychology and Professor of Management. B.S., Tulane University; M.S., Illinois Institute of Technology; Ph.D., Tulane University.



Education

Departments and Programs

Department of Curriculum and Instruction

Go to information for this department.

Programs

- Curriculum and Instruction, MEd - with Specializations
- Curriculum and Instruction, PhD
- Designing and Developing Educational Graphics Certificate
- Designing and Developing Educational Multimedia Certificate
- Innovative Technologies in Health Science Education, Certificate
- Museum Education Certificate
- Online Teaching and Learning Certificate
- Professional Leadership - Health Science Education, EdD
- Professional Leadership - Literacy Education, EdD
- Professional Leadership - Mathematics Education, EdD
- Professional Leadership - Social Studies/Social Education, EdD

Department of Psychological, Health, and Learning Sciences

Go to information for this department.

Programs

- Counseling Psychology, PhD
- Counseling, MEd
- Measurement, Quantitative Methods, and Learning Sciences, PhD
- School Psychology, PhD

Department of Educational Leadership and Policy Studies

Go to information for this department.

Programs

- Administration and Supervision, MEd
- Disability Support, Certificate
- Higher Education Leadership and Policy Studies, PhD
- Higher Education, MEd



- • Professional Leadership - K-12, EdD
- • Professional Leadership - Special Populations, EdD
- • Special Populations, MEd



About the College of Education

Office of the Dean

(713) 743-5001
214 Farish Hall

Office of Institutional Effectiveness and Outreach

(713) 743-9832
214 Farish Hall

Office of Graduate Studies

(713) 743-7676
256 Farish Hall

Department of Curriculum and Instruction

(713) 743-4950
236 Farish Hall

Department of Psychological, Health, and Learning Sciences

(713) 743-9830
491 Farish Hall

Department of Educational Leadership and Policy Studies

(713) 743-5030
112 Farish Hall

Dean:

Robert H. McPherson, Ph.D., University of Houston.

Associate Dean for Undergraduate Studies:

Jonathan Schwartz, Ph.D., New Mexico State University (Interim).

Associate Dean for Graduate Studies:

Jonathan Schwartz, Ph.D., New Mexico State University.



Associate Dean for Research:

Ezemenari M. Obasi, Ph.D. Ohio State University (Interim).

College Business Administrator:

Paul Roch, M.B.A., University of Houston.

Degree Requirements and Regulations

The College of Education has a broad mission; the key feature is the preparation of professionals who develop the full human potential of the people they serve in schools and a wide variety of non-school settings by:

- Preparing professional individuals to conduct research and provide services and education in the health sciences;
- Educating practitioners for roles in teaching, counseling, psychology, administration and applied practice;
- Advancing the knowledge and skills of experienced practitioners;
- Advancing conceptual and methodological knowledge to conduct research;
- Advancing knowledge through scholarly investigation; and
- Leading and serving the organizations that benefit the communities of practice and academic study.

The College offers a range of graduate programs. The Departments of Curriculum and Instruction, Psychological, Health, and Learning Sciences, and Educational Leadership and Policy Studies all offer programs that award the Master of Education (M.Ed.). The Department of Curriculum and Instruction, Psychology, Health, and Learning Sciences, and Educational Leadership and Policy Studies all offer programs that award a Doctor of Education (Ed.D.), and/or Doctor of Philosophy (Ph.D.) degrees. The Department of Curriculum and Instruction offers professional certificates. Each department lists the specific requirements to these programs.

Accreditation and Memberships

College of Education Accreditations:

- National Council for Accreditation of Teacher Education (NCATE/CAPE)
- American Psychological Association
- The Texas State Board for Educator Certification (SBEC)



Admission Requirements: College of Education

Graduate Status

Admission to all graduate programs in the College of Education is selective and often very competitive. Simply meeting the minimal criteria does not ensure admission. Admission to one of the College's masters or doctoral degree programs requires the completion of the application requirements outlined by the Program, the Department, and the College.

Admission to graduate programs at the University of Houston requires a 2.6 cumulative undergraduate Grade Point Average (GPA) or over the last 60 credit hours of coursework. Applicants who do not meet this requirement should address, in their goal statement, the reasons for their undergraduate degree performance and discuss other academic indicators that provide supportive evidence of their potential to meet the demands of rigorous study at the graduate level.

All College of Education departments and programs have additional admission requirements, which may include letters of reference, resume, statement of interest, or a personal interview. Deadlines for submission of application materials vary by specific program. For more information, consult the appropriate academic program.

Professional Certificates

Individuals with a bachelor's or master's degree who wish to receive a professional certificate can apply. To apply for a professional certificate, individuals must complete an application for admission and submit all required supplemental materials.

Students who later decide to apply for admission to a graduate degree program must complete an application for admission and submit all supplemental materials. Students may apply six (6) graduate credit hours taken toward a degree. The six (6) graduate credit hours must be approved by the faculty advisor, and must be applicable to that degree.



College of Education

Departments and Programs

College of Education

Departments and Programs

Department of Curriculum and Instruction

Go to information for this department.

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- Curriculum and Instruction, PhD
- Designing and Developing Educational Graphics Certificate
- Designing and Developing Educational Multimedia Certificate
- Innovative Technologies in Health Science Education, Certificate
- Museum Education Certificate
- Online Teaching and Learning Certificate
- Professional Leadership - Health Science Education, EdD
- Professional Leadership - Literacy Education, EdD
- Professional Leadership - Mathematics Education, EdD
- Professional Leadership - Social Studies/Social Education, EdD

Department of Psychological, Health, and Learning Sciences

Go to information for this department.

Programs

- Counseling Psychology, PhD
- Counseling, MEd
- Measurement, Quantitative Methods, and Learning Sciences, PhD
- School Psychology, PhD

Department of Educational Leadership and Policy Studies

Go to information for this department.

Programs



- Administration and Supervision, MEd
- Disability Support, Certificate
- Higher Education Leadership and Policy Studies, PhD
- Higher Education, MEd
- Professional Leadership - K-12, EdD
- Professional Leadership - Special Populations, EdD
- Special Populations, MEd

Department of Curriculum and Instruction

Chair: Dr. Jennifer Chauvot

The Department of Curriculum and Instruction prepares teachers and other educators to meet the special demands of educational, health, cultural, and other human service settings. The Department of Curriculum and Instruction offers a variety of graduate degrees as well as course work for teacher certification. The Department offers a PhD in Curriculum & Instruction, a 51-hour EdD in Professional Leadership, a 30-hour MEd in Curriculum & Instruction, and a 36-hour MEd in Curriculum & Instruction.

Full-time faculty members teach and conduct research in a broad range of subject areas including art education, early childhood education, health science education, learning, design & technology, mathematics education, reading, language arts, and literature education, science education, social studies/social education, and teaching and teacher education.

Academic Programs

Master of Education (MEd) in Curriculum and Instruction

The 30-hour Masters in Education program offers a variety of specializations to meet the needs of all educators. The program produces graduates that are well versed in current research and theories regarding their disciplines. The program prepares graduates for leadership positions in schools, community organizations, museums, and related educational institutions as well as to become curriculum specialists, instructional leaders, master teachers, community college professors, and instructional designers. Flexibility in the program allows students with demanding schedules the ability to pursue a graduate degree. By offering online and hybrid courses as well as some online degree programs, students are able to successfully complete our degree program. Most recently, US News and World Report ranked our online graduate program the #1 online education graduate program in the nation.

This 30-hour degree program offers the following areas of specialization:

- Art Education
- Early Childhood Education
- Health Science Education
- Learning, Design and Technology
- Mathematics Education
- Reading and Language Arts Education
- Science Education
- Social/Social Studies Education
- Teaching and Teacher Education

The 36-hour dual credit Masters in Education program offers mathematics and social studies educators the opportunity to become both content and curriculum specialists in their given field. This program prepares educators to become high school dual credit course teachers or instructors at community and some other colleges. For college-level academic dual credit courses, the Southern Association of Colleges and Schools (SACS) requires that instructors have a master's degree or doctoral degree with 18 graduate hours in the discipline being taught. To meet the needs of



students, the college offers the mathematics specialization entirely online and the social studies specialization through a variety of online, hybrid, and face-to-face courses.

This 36-hour degree program offers the following areas of specialization:

- Mathematics Education
- Social Studies/Social Education

The 36-hour Masters in Education program with initial certification offers a demanding curriculum where graduate coursework in Curriculum and Instruction and certification coursework overlap. This program is for individuals who are seeking the MEd and intend to pursue teaching in K-12 public schools in Texas.

This 36-hour Masters in Education with initial certification program offers the following areas of specialization/certifications:

- EC-6 Generalist
- EC-6 Bilingual Generalist
- EC-12 Special Education
- 4-8 Language Arts
- 4-8 Mathematics
- 4-8 Science
- 4-8 Social Studies
- 7-12 English
- 7-12 Mathematics
- 7-12 Science
- 7-12 Social Studies

Doctorate of Education (EdD) in Professional Leadership

The Doctorate of Education in Professional Leadership is a 51-hour doctoral program providing research and applied skills for educators grappling with current issues in education in urban contexts. The program is designed to facilitate the knowledge, skills, and dispositions needed for professional and instructional leadership in urban schools, community organizations, museums and related educational institutions. Designed as a cohort model with online, hybrid, and flipped courses.

This degree program has the following area of specialization:

- Health Science Education
- Reading (Literacy)
- Social Studies/Social Education
- Mathematics Education

Doctor of Philosophy (PhD) in Curriculum and Instruction

The Curriculum and Instruction, PhD (with an emphasis on urban education and a specialization in a chosen program area) is a 66-hour doctoral program that establishes a link between research and practice, providing opportunities to investigate curriculum, instruction, assessment, and social justice issues within an urban education context. PhD students engage in rigorous research, quality teaching, and contextual service to enhance education, curriculum and instruction, and community connections. The program area, core, and research courses, in addition to the dissertation process and other experiential opportunities, prepare students for positions in higher education or other related areas that expect continued examination of research and practice in urban environments.

This degree program has the following area of specialization:

- Art Education
- Learning, Design & Technology
- Early Childhood Education



- Mathematics Education
- Reading, Language Arts, and Literacy Education
- Science Education
- Social Studies/Social Education
- Teaching/Teacher Education

Curriculum and Instruction, MEd - with Specializations

College of Education > Department of Curriculum and Instruction > Curriculum and Instruction, MEd - with Specializations

The Department of Curriculum and Instruction offers an M.Ed. in Curriculum & Instruction in the following specializations:

- Art Education
- Early Childhood Education
- Elementary Education
- Health Science Education
- Learning, Design, and Technology
- Mathematics Education
- Reading, Language Arts, and Literature Education
- Science Education
- Social Education/Social Studies
- STEM Education
- Teaching

The Department of Curriculum and Instruction prepares teachers and other educators to meet the special demands of educational, health, cultural, and other human service settings. The UH Teacher Education Program at the University of Houston has received the Distinguished Program in Teacher Education Award from the Association of Teacher Educators - the only competitive award for excellence in teacher education in the United States.

Admission Requirements

The College of Education takes into consideration a number of criteria when determining admission, including

- prior college or university performance,
- letters of recommendation,
- standardized test scores and
- statement of intent.

All applicants must abide by the minimum qualifications for admissions to a masters or doctoral program.

All graduate applicants (regardless of citizenship status) must demonstrate proficiency in English to obtain admission to the University.

- For more information, visit <http://www.uh.edu/graduate-school/admissions/international-students/english-proficiency/>.

An applicant is responsible for ensuring that all required materials for the evaluation of admissions are received by the College before the program's deadline. If the application is not complete by the program's deadline, it will not be evaluated for the admissions. Full details of the online application process can be found at www.uh.edu/graduate-school/admissions/how-to-apply.

Applicant checklist:

1. Complete online graduate application including statement of interest, resume/c.v., letters of recommendation, and application fee payment.
2. Official transcripts from all previous college/university work sent to the UH Graduate School.
3. Official reporting of GRE scores taken in the last five years



4. International students have additional documentation requirements which can be found at www.uh.edu/graduate-school/admissions/international-students/

Grade Point Average Requirements

- Admission requirements for the College of Education require a minimum cumulative grade point average (GPA) of 2.6 for undergraduate coursework or over the last 60 credit hours of coursework.
- The College requires a minimum cumulative grade point average (GPA) of 3.0 for graduate coursework.
- The College's admission committees evaluate all credentials submitted by applicants to determine a student's ability and potential to succeed in graduate study.
- In addition, the committee is interested in the applicant's potential to contribute to his/her program of study and the University community as a whole.

Degree Requirements

The Master of Education degree requires

- Completion of a minimum of 30 credit hours
 - In the areas of Mathematics Education and Social Education/Social Studies, there is also a 36-credit hour option.
 - All students, regardless of specialization, must complete the Curriculum and Instruction Core.
 - For the remaining requirements, please visit the pages for each specialization (list and links above)
- Successful capstone project.

Curriculum and Instruction Core

6.0 Credit Hours

- CUIN 7303 - Professional Seminar I **Credit Hours: 3.0**
- CUIN 7304 - Professional Seminar II **Credit Hours: 3.0**

Curriculum and Instruction, PhD

College of Education > Department of Curriculum and Instruction > Curriculum and Instruction, PhD

The PhD in Curriculum and Instruction prepares aspiring scholars and researchers to meet today's challenges to education in multicultural urban settings. The Houston metropolitan area, with over one and a half million K-12 students, is a laboratory of practice for our PhD students from nearby and from around the world. Here, they can engage in inquiry on critical issues and needs germane to education in an increasingly diverse society.

Graduates of the PhD program in Curriculum and Instruction typically pursue the following careers:

- University faculty members
- Researchers in educational settings
- Curriculum design experts
- Content area and program evaluation directors
- Advocates for policy improvements

Innovation, diversity and excellence are words that characterize this PhD program at the University of Houston. UH is recognized as one of only three national Tier One Hispanic-serving public research universities. It is also designated as an Asian-American serving institution. It is now welcoming the best and brightest local, national and international students into its PhD program in Curriculum and Instruction.

Specialization Areas



There are eight areas of emphasis within the Doctor of Education program that reflect specific career aspirations. Questions about a specialization should be directed to the faculty advisor in each of the areas described below.

Art Education. The doctoral program with specialization in Art Education is designed to prepare graduates for leadership roles in the teaching of art. Course work includes curriculum design, current issues and trends, and new technology in art. Students in the doctoral program are required to complete original research and are encouraged to be involved with professional organizations through publication and presentation. Study in this area prepares students for leadership roles as university teachers, curriculum coordinators for the public schools, and educational leadership in non-school settings such as museum education.

Early Childhood Education. The Early Childhood Education emphasis is designed to meet the educational needs of researchers who seek to improve their investigative and instructional skills in early childhood education settings within urban environments. Courses, field experiences, and research studies are complemented with progressively more involved curricula encompassing young children in group settings within public and private settings. Such training is the best possible preparation for careers in higher education, in schools as educational leaders and in child-related agencies.

Learning, Design, and Technology. The Learning, Design, and Technology emphasis prepares graduates to be active leaders in the use of instructional technologies in education at all levels, from early childhood through post-secondary, in business and industry, and in other organizations with educational components. The program emphasizes scholarly exploration in the areas of design and development of technology-based resources, curriculum development, teaching, design of learning environments, and assessment of programs and learning outcomes. Doctoral students develop broad understandings of current instructional technology trends and issues, as well as focus on a field of specialty that will provide for rich scholarly exploration in the future.

Mathematics Education. The doctoral program with an emphasis in Mathematics Education integrates curriculum and instructional theories, technology, issues of equity and social justice, research, and practice in order to prepare graduates to fill a variety of leadership positions. Graduates have assumed positions as mathematics education researchers, professional developers, mathematics supervisors in school districts, and mathematics teachers at elementary, secondary, and post-secondary levels. The degree offers students with opportunities to investigate mathematics education at all grade levels (pre-school through secondary).

Reading, Language Arts, and Literature. The doctoral program in Reading, Language Arts, and Literature concentrates on the effective teaching of reading, writing, and communicating. Literacy development, content area reading, clinical diagnosis, psychology of reading, reading comprehension, and the analysis of reading programs and other curriculum materials in language arts are studied in advanced seminars. In addition, this program provides for advanced study in literature for children and young adults. Graduates from the program are university professors, literacy curriculum specialists, school administrators, and campus literacy coaches.

Science Education. The doctoral program with emphasis in Science Education prepares graduates to fill a variety of leadership positions in education. The many graduates have assumed positions as: science education researchers and teacher trainers at universities; science supervisors in school systems; science teachers at pre-college and college levels; educational specialists at zoos, planetariums, and museums; and directors of training programs in business and industry. The degree serves to bridge the career aspirations of the candidate with his or her expertise and experiences. It places emphasis upon research and scholarly activity in the areas of curriculum development, teaching skills and instructional strategies, and theories of learning. A major focus is the improvement of scientific and technological literacy of school-age children and adults in the U.S.

Social Education. The doctoral program in Social Studies Education is designed to prepare college instructors, researchers, curriculum leaders, and teachers who are able to draw upon the social and behavioral sciences to understand and investigate problems in education. Program students are encouraged to select course work and learning experiences that are relevant to their own professional academic goals. The student may select a theme that will provide an interdisciplinary basis for his or her program. The program also provides for attention to the teaching of social issues, the social sciences and history as well as to such topics as curriculum construction, controversial issues, the conduct of inquiry, and political socialization.

Teaching and Teacher Education. This area of emphasis provides the student with an intensive study of curricular and teacher effectiveness. It has been designed to enable educational practitioners -teachers, supervisors, staff developers, administrators, and those who aspire to be involved in curriculum development or teacher preparation and training at the university or college level to engage in stimulating, in-depth study and research with nationally recognized faculty. The experiences have been carefully planned to provide a mixture of knowledge, research, and practical experience.

Admission Requirements



The College of Education takes into consideration a number of criteria when determining admission, including prior college or university performance, letters of recommendation, standardized test scores and statement of intent. All applicants must abide by the minimum qualifications for admissions to a masters or doctoral program. All graduate applicants (regardless of citizenship status) must demonstrate proficiency in English to obtain admission to the University. For more information, visit <http://www.uh.edu/graduate-school/admissions/international-students/english-proficiency>.

An applicant is responsible for ensuring that all required materials for the evaluation of admissions are received by the College before the program's deadline. If the application is not complete by the program's deadline, it will not be evaluated for the admissions. Full details of the online application process can be found at www.uh.edu/graduate-school/admissions/how-to-apply.

Applicant checklist:

1. Complete online graduate application including statement of interest, resume/c.v., writing sample, letters of recommendation, and application fee payment.
2. Official transcripts from all previous college/university work sent to the UH Graduate School.
3. Official reporting of GRE scores taken in the last five years
4. International students have additional documentation requirements which can be found at www.uh.edu/graduate-school/admissions/international-students/

Grade Point Average Requirements

Admission requirements for the College of Education require a minimum cumulative grade point average (GPA) of 2.6 for undergraduate coursework or over the last 60 credit hours of coursework. The College requires a minimum cumulative grade point average (GPA) of 3.0 for graduate coursework. The College's admission committees evaluate all credentials submitted by applicants to determine a student's ability and potential to succeed in graduate study. In addition, the committee is interested in the applicant's potential to contribute to his/her program of study and the University community as a whole.

Degree Requirements

Credit hours required for this degree: 66.0

Research Core (15.0 hours)

- CUIIN 8370 - Intro to Educational Research Credit Hours: 3.0
- CUIIN 8371 - Introduction to Quantitative Research Credit Hours: 3.0
- CUIIN 8372 - Introduction to Qual Research Credit Hours: 3.0
- Two **research methods** courses from the elective list below

Curriculum and Instruction Core (24.0 hours)

- CUIIN 7360 - Curriculum Theory Credit Hours: 3.0
- CUIIN 8345 - Curriculum and Instruction Seminar Credit Hours: 3.0
- CUIIN 8393 - Adv Internship & Prac Credit Hours: 3.0
- CUIIN 8341 - Critical Issues & Research in Urban Education Credit Hours: 3.0
- CUIIN 8342 - Social Justice and Equity Credit Hours: 3.0
- CUIIN 8352 - Adv Seminar in Instruct Tech Credit Hours: 3.0
- CUIIN 8361 - The State of the Curriculum Field in Education Credit Hours: 3.0
- CUIIN 7373 - Instr Strat Tchng Adult Credit Hours: 3.0

Program Area Emphasis/Electives (21.0 hours)



Research Methods Electives

After successful completion of the nine-hour introductory sequence (CUIN 8370, 8371, 8372), all doctoral students are required to complete two additional research courses (6 hours) in **quantitative or qualitative research methods** from the lists below, in consultation with their advisor.

Qualitative Methods

- CUIN 8365 - Organizational Psychology in Health Science Education Credit Hours: 3.0
- CUIN 8377 - Qualitative Inquiry in Education I Credit Hours: 3.0
- CUIN 8378 - Qualitative Inquiry in Education II Credit Hours: 3.0
- CUIN 8386 - Advanced Issues in Qualitative Research Credit Hours: 3.0
- SAER 8320 - Ethnographic Methods in Education Credit Hours: 3.0

Survey Methods & Measurement

- PHLS 8300 - Advanced Educational & Psychological Measurement Credit Hours: 3.0
- PHLS 8327 - Longitudinal Data Analysis in Psychology/Education Research Credit Hours: 3.0

Quantitative Methods

- PHLS 8321 - Structural Equation Modeling in Psychological and Educational Research Credit Hours: 3.0
- PHLS 8322 - Intermediate Statistical Analysis in Psychological and Educational Research Credit Hours: 3.0
- PHLS 8324 - Multivariate Analysis in Psychological and Educational Research Credit Hours: 3.0
- SAER 8321 - Survey Methods in Education Credit Hours: 3.0

Program Evaluation

- SAER 8370 - Program Evaluation Research Credit Hours: 3.0

Dissertation (6.0 hours)

- CUIN 8399 - Doctoral Dissertation Credit Hours: 3

Academic Policies

- About the College of Education

During the first term of the program, all PhD students will receive a reading list of articles and books that are considered required reading for the program. Students are responsible for studying the entire list before they apply for the qualifying examination. Specialization area will provide separate reading lists.

Qualifying Examination

The CUIN doctoral qualifying examination is intended to assess the student's understanding of educational research methodologies, of the chosen field of study, and of how this chosen field is situated in the broader field of Curriculum and Instruction. It is also intended to assess the student's capacity to move into the dissertation phase of the program. The CUIN doctoral qualifying examination will be offered only in the fall and spring terms.

Designing and Developing Educational Graphics Certificate

Education > Graduate Certificate Programs > Designing and Developing Educational Graphics Certificate

This program prepares professionals working in education or private industry who desire to enhance their ability to design, create, and evaluate educational multimedia.

Criteria include 12 graduate credit hours and program certificate requirements. The program area is in the Department of Curriculum and Instruction.



For further information, please see <http://www.uh.edu/education/degree-programs/cuin-ldt-med/certifications/>.

Admission Requirements

Applicant checklist:

- Online Application
- A bachelor's or master's degree from an accredited institution with a GPA that reflects the ability to achieve a 3.0 GPA in graduate courses
- Official transcripts showing degree conferral on file
- Personal Statement
- Resume or Curriculum Vitae
- Additional international admission requirements are found at www.uh.edu/graduate-school/admissions/international-students/.

Please note that with the ApplyWeb application, all documents are uploaded in the application and are to be received by the University no later than the deadline. Applicants are required to submit official transcripts (electronically or by mail) to the University's Graduate School.

For details on the graduate application process, visit www.uh.edu/graduate-school/admissions/how-to-apply/.

Certificate Requirements

Credit hours required for this certificate: 12.0

In consultation with their advisor, students choose four courses (12 hours total) from the following:

- CUIN 7305 - Design, Development, & Evaluation of Presentations Credit Hours: 3.0 (Online)
- CUIN 7358 - Educational Uses of Digital Storytelling Credit Hours: 3.0 (Online)
- CUIN 7368 - Digital Imaging in Education Credit Hours: 3.0 (Hybrid)
- CUIN 7376 - New Tools for Creating Online Educational Materials Credit Hours: 3.0 (Online)
- CUIN 7389 - Digital Media Credit Hours: 3.0 (Online)
- CUIN 7390 - Instructional Design Credit Hours: 3.0 (Online)

Designing and Developing Educational Multimedia Certificate

Education > Graduate Certificate Programs > Designing and Developing Educational Multimedia Certificate

This program prepares professionals working in education or private industry who desire to enhance their ability to design, create, and evaluate educational multimedia.

Criteria include 12 graduate credit hours and program certificate requirements. The program area is in the Department of Curriculum and Instruction.

For further information please see <http://www.uh.edu/education/degree-programs/cuin-ldt-med/certifications/>.

Admission Requirements

Applicant checklist:

- Online Application
- A bachelor's or master's degree from an accredited institution with a GPA that reflects the ability to achieve a 3.0 GPA in graduate courses
- Official transcripts showing degree conferral on file
- Personal statement
- Resume or curriculum vitae



- Additional international admission requirements are found at www.uh.edu/graduate-school/admissions/international-students/
Please note that with the ApplyWeb application, all documents are uploaded in the application and are to be received by the University no later than the deadline. Applicants are required to submit official transcripts (electronically or by mail) to the University's Graduate School.

For details on the graduate application process, visit www.uh.edu/graduate-school/admissions/how-to-apply/.

Certificate Requirements

Credit hours required for this certificate: 12.0

In consultation with their advisor, students choose four courses from the following:

- CUIIN 7305 - Design, Development, & Evaluation of Presentations **Credit Hours: 3.0** (Online)
- CUIIN 7357 - Collaborative Development of Multimedia **Credit Hours: 3.0** (Must be taken with CUIIN 7327) (Hybrid)
- CUIIN 7358 - Educational Uses of Digital Storytelling **Credit Hours: 3.0** (Online)
- CUIIN 7376 - New Tools for Creating Online Educational Materials **Credit Hours: 3.0** (Online)
- CUIIN 7389 - Digital Media **Credit Hours: 3.0** (Online)
- CUIIN 7390 - Instructional Design **Credit Hours: 3.0** (Online)

Innovative Technologies in Health Science Education, Certificate

Education > Graduate Certificate Programs > Innovative Technologies in Health Science Education, Certificate

The Innovative Technologies in Health Science Education Certificate is designed to provide healthcare professionals with expertise that will aid them as educators facilitating student learning and as managers of education programs, including curriculum leadership and scholarly inquiry into teaching and learning. The courses in this certificate provide students with the knowledge and skills necessary to use innovative technology tools to design interactive and engaging instructional resources that can be used in their professional careers. Courses specifically focus on how create effective, educationally-sound, technology-based learning materials for use in training environments as well as to support the professional development of adult learners.

Students in this certificate program typically work in a wide variety of different vocations. They include physicians, dentists, nurse educators, healthcare administrators, family therapists and others who work in various healthcare fields in the Texas Medical Center, the Houston area and other locations in the state and region.

We anticipate that upon earning the certificate, many of our graduates will apply for the Master's degree program or seek new employment opportunities in academic healthcare institutions or other locations where they will have educational roles and responsibilities in instructional design, curriculum development, teaching and more.

For more information, please visit the Certificate in Integrating Innovative Technologies in Health Science Education program page.

Admission Requirements

The Certificate program is delivered completely online and is open to applicants who:

- are currently working or have worked at a healthcare institution, or in private practice, and
- have earned a baccalaureate degree with an overall Grade Point Average (GPA) of at least 2.6 for undergraduate coursework (A = 4.00).

Applicants with an overall GPA of less than 2.6 cannot be admitted. Since all coursework may be completed online, students in the Certificate program do not need to live in the Houston area or attend any face-to-face classes.

More specific information is online at: <http://medical.coe.uh.edu/admissions.htm>



1. Admissions applications must be submitted online through the UH Graduate School at <http://www.uh.edu/graduate-school/admissions/how-to-apply/>
2. Scanned copies of official transcripts can be uploaded as PDF files and may be used by programs to make admission decisions. Please follow the instructions online to properly scan and upload your transcript. If admitted, however, you will not be able to enroll without the official transcript(s) showing undergraduate degree conferral on file.
Official transcript(s) should be sent to:

Regular Mail:	Express Mail:	Electronic or "Speede" Transcript
<i>University of Houston Graduate Admissions P.O. Box 3947 Houston, TX 77253-3947</i>	<i>University of Houston Graduate Admissions 4302 University Dr., Room 102 Houston, TX 77204-2012</i>	Within the U.S., the fastest way to send your transcript is electronically. Please inquire at your previous institution about this option. Electronic transcripts can be delivered to gradschool@uh.edu .

3. The Graduate Record Exam (GRE) is not required for admission to the Innovative Technologies in Health Science Education Certificate program.
4. There is no application fees for this Certificate program.

Certificate Requirements

Credit hours required for this certificate: 12.0

Students in the Innovative Technologies in Health Science Education Certificate program take a total of four courses (12 credit hours) that provide hands-on experiences with a variety of software applications and instructional strategies. Instruction is provided by faculty in the Learning, Design & Technology (LDT) Program at the University of Houston.

Required Courses

3 credits, choose one from:

- CUIIN 7390 - Instructional Design Credit Hours: 3.0
OR
- CUIIN 7391 - Curriculum Development for Health Sciences Education Credit Hours: 3.0

Elective Choices

9 credits, choose three from:

- CUIIN 7305 - Design, Development, & Evaluation of Presentations Credit Hours: 3.0
- CUIIN 7308 - Educational Uses of CMC Credit Hours: 3.0
- CUIIN 7356 - Issues in Distance Education Credit Hours: 3.0
- CUIIN 7358 - Educational Uses of Digital Storytelling Credit Hours: 3.0
- CUIIN 7368 - Digital Imaging in Education Credit Hours: 3.0
- CUIIN 7376 - New Tools for Creating Online Educational Materials Credit Hours: 3.0
- CUIIN 7389 - Digital Media Credit Hours: 3.0

Museum Education Certificate



The Museum Education Certificate capitalizes on Houston's community needs and assets. The University of Houston (UH) and the Museum District are rich cultural resources for residents. By forming a partnership, these institutions can more fully serve the communities they share. Graduate students looking for engaging ways to expand their horizons will have opportunities to learn and teach in unique environments beyond the K-12 classroom.

Museum Education Certificate Goals:

- Provide a unique set of experiences that expands understanding of museum pedagogy in the core disciplines of art, history, education, or the science
- Link UH with the Houston Museum community to provide "real world" experience and expand professional networks and job opportunities
- Activate understanding of community
- Introduce models of non-profit, cultural, and other educational resources
- Establish new career paths for students outside of traditional classroom settings that include museums, non-profit and cultural community organizations
- Prepare educators to use museums as educational resources and/or work in an art, history, and/or science museum setting

For more information please view the Graduate Certificate in Museum Education webpage.

Admission Requirements

For details on the graduate application process, visit www.uh.edu/graduate-school/admissions/how-to-apply/.

Applicant checklist:

- Online Application
- A bachelor's or master's degree from an accredited institution with a GPA that reflects the ability to achieve a 3.0 GPA in graduate courses
- Official transcripts showing degree conferral on file
- Personal Statement
- Resume or Curriculum Vitae
- Additional International Admission Requirements are found at www.uh.edu/graduate-school/admissions/international-students/

Please note that with the ApplyWeb application, all documents are uploaded in the application and are to be received by the University no later than the deadline. Applicants are required to submit official transcripts (electronically or by mail) to the University's Graduate School.

Certificate Requirements

Credit hours required for this certificate: 15.0

The 15 hour **Museum Education Certificate** program includes a series of three core courses (9 hours) followed by a 6 hour internship. Core courses provide the foundation of museum education and include the history, theory, practice and application of museum education principles. The internship will be at a Houston art, history, or science museum, aligns with the students' area of interest, and is designed in collaboration with the host museum. Students are admitted in the fall term only and can complete their certificate by the end of following summer. Courses are taught by CUIIN faculty in collaboration with museum partners.

Required Coursework

- CUIIN 6358 - Perspectives of Museum Education **Credit Hours: 3.0** (offered fall term)
- CUIIN 7302 - Community Education **Credit Hours: 3.0** (fall term)
- CUIIN 6359 - Museum Education Practice & Application II **Credit Hours: 3.0** (spring term)
- CUIIN 7692 - Internship **Credit Hours: 6.0** (summer term)



Online Teaching and Learning Certificate

Education > Graduate Certificate Programs > Online Teaching and Learning Certificate

This program prepares professionals working in education or private industry who desire to enhance their ability to design, create, and evaluate online learning.

Requirements include 12 graduate credit hours and program certificate criteria. The program area is in the Department of Curriculum and Instruction.

For more information please see the Online Teaching and Learning webpage.

Admission Requirements

Applicant checklist:

- Online Application
- A bachelor's or master's degree from an accredited institution with a GPA that reflects the ability to achieve a 3.0 GPA in graduate courses
- Official transcripts showing degree conferral on file
- Personal Statement
- Resume or Curriculum Vitae
- Additional International Admission Requirements are found at www.uh.edu/graduate-school/admissions/international-students/

Please note that with the ApplyWeb application, all documents are uploaded in the application and are to be received by the University no later than the deadline. Applicants are required to submit official transcripts (electronically or by mail) to the University's Graduate School.

For details on the graduate application process, visit www.uh.edu/graduate-school/admissions/how-to-apply/.

Certificate Requirements

Credit hours required for this certificate: 12.0

In consultation with their advisor, students choose four courses from the following:

- CUIIN 7308 - Educational Uses of CMC **Credit Hours: 3.0** (Online)
- CUIIN 7316 - Design Online Educational Resources **Credit Hours: 3.0** (Online)
- CUIIN 7318 - Current Issues in Learning & Design **Credit Hours: 3.0** (Online)
- CUIIN 7356 - Issues in Distance Education **Credit Hours: 3.0** (Online)
- CUIIN 7376 - New Tools for Creating Online Educational Materials **Credit Hours: 3.0** (Online)
- CUIIN 7390 - Instructional Design **Credit Hours: 3.0** (Online)

Professional Leadership - Health Science Education, EdD

College of Education > Department of Curriculum and Instruction > Professional Leadership - Health Science Education, EdD

The Executive Doctor of Education Degree (Ed.D.) in Professional Leadership with an Emphasis in Health Science Education prepares students for professional and administrative leadership positions in a variety of academic healthcare settings. The program provides intensive research and applied skills for students grappling with real-world educational needs and services in medicine, dentistry, nursing and other health-related areas. The design of the program emphasizes exploration, problem-solving and student collaboration in a variety of courses and research activities. A practical internship or Laboratory of Practice provides students with an avenue to apply the specifics of these problems to their course of study and research projects.



The multi-vocational model is a unique feature of the program that promotes inter-professional education and enhances networking between future healthcare professional leaders. The cohort design also ensures mutual encouragement and support with a low number of students able to complete the program. Physicians, dentists and nurse educators who work in the Texas Medical Center make up a majority of students in this program, however it may also be beneficial for researchers, program coordinators, residents, fellows and others interested in educational and/or leadership positions in academic healthcare settings.

We expect most of our graduates to seek positions in academic healthcare institutions or other locations where they will have leadership roles and responsibilities in several of the following areas:

- instructional design and curriculum development
- teaching
- program evaluation
- research design, data collection and analysis
- grant writing and assessment
- use of emerging technologies for teaching and learning

For more information, please visit the Executive Doctorate in Professional Leadership program page.

Admission Requirements

Applicants must possess a master's degree or higher, and are currently working, have worked, or are interested in working at a healthcare institution, or in private practice. All applicants must have earned a baccalaureate degree with an overall Grade Point Average (GPA) of at least 2.6 for undergraduate coursework (A = 4.00) and a master's degree with an overall GPA of at least 3.0 for master's level coursework.

Graduate Record Examination (GRE)

All applicants who have not already earned a terminal degree (such as an MD, DDS, PhD, etc.) are required to take the Graduate Record Exam (GRE), but there are no minimum scores required for admission. Applicants are expected to score at least at the 35th percentile of each section of the exam, however, GRE scores are just one measure we use to assess suitability for the program.

Admissions Decisions

Each applicant is treated on an individual basis and selected applicants will participate in one or more telephone or Skype interviews with the faculty admissions committee. Final admissions decisions are made by the faculty admissions committee that determines which applicants will be the best fit for this program.

Applying for Admission

1. Applications must be submitted online through the UH Graduate School menu, at <http://www.uh.edu/graduate-school/admissions/how-to-apply>
2. Scanned copies of official transcripts can be uploaded as PDF files and may be used by programs to make admission decisions. Please follow the instructions online to properly scan and upload your transcript. If admitted, however, you will not be able to enroll without the official transcript(s) showing undergraduate degree conferral on file.

Regular Mail:	Express Mail:	Electronic or "Speede" Transcript:
<i>University of Houston Graduate Admissions</i>	<i>University of Houston Graduate Admissions</i>	Within the U.S., the fastest way to send your transcript is electronically. Please inquire at your previous institution about this option. Electronic



P.O. Box 3947 Houston, TX 77253-3947	4302 University Dr., Rm 102 Houston, TX 77204-2012	transcripts can be delivered via email to gradschool@uh.edu
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3. Applicants should request that official results of the Graduate Record Examination test scores be sent to the University of Houston Main Campus.
4. An admission fee of \$80 for a domestic application and \$75 fee for an international application must be submitted.
5. All applicants must also submit the following documents:
 - Statement of Interest
 - Resume or Curriculum Vitae
 - Writing Sample
 - Letters of Recommendation

Degree Requirements

Students in the program will complete a total of 17 courses over approximately 3 years, culminating in writing and defending a doctoral research thesis. Two courses are offered in the fall, spring and summer semesters. Face-to-face classes are held in the Texas Medical Center. These classes are typically held on Mondays and Thursdays from 5:00pm to 8:00pm. Summer classes are usually offered online. Additionally, there are short, intersession classes during the winter break and between the end of the spring and summer semesters.

Required Courses

Year 1

Fall Term

- CUIIN 8397 - Selected Topics in C&I Credit Hours: 3
Topic: Academic Writing for Doctoral Candidates
- CUIIN 8380 - Research Methods in CUIIN Credit Hours: 3.0

Fall Intersession

December - January

- CUIIN 8310 - Laboratory of Practice Credit Hours: 3

Spring Term

- CUIIN 7397 - Selected Topics in CUIIN Credit Hours: 3
Topic: Learning and Development
- CUIIN 8397 - Selected Topics in C&I Credit Hours: 3
Topic: Organizational Psychology

Spring Intersession

May

- CUIIN 8310 - Laboratory of Practice Credit Hours: 3



Summer Term

Odd-numbered years

- CUIIN 7305 - Design, Development, & Evaluation of Presentations Credit Hours: 3.0
- CUIIN 7389 - Digital Media Credit Hours: 3.0

Year 2

Fall Term

- CUIIN 8320 - C&I Doctoral Rsch Sem Credit Hours: 3.0
- CUIIN 8340 - Survey and Research in Early Childhood Education Credit Hours: 3.00

Fall Intersession

December - January

- ELCS 8325 - Instnl Leadercurri&Prof Develop Credit Hours: 3.0

Spring Term

- CUIIN 8318 - Issues in Urban Education Credit Hours: 3.0
- CUIIN 8381 - Research Methods Credit Hours: 3.0

Summer Term

Even-numbered years

- CUIIN 7376 - New Tools for Creating Online Educational Materials Credit Hours: 3.0
- CUIIN 7356 - Issues in Distance Education Credit Hours: 3.0

Year 3

Fall and Spring Terms

- CUIIN 8390 - Doctoral Thesis Credit Hours: 3

Or Fall only

- CUIIN 8690 - Doctoral Thesis Credit Hours: 6

Other Program Requirements

In addition to the courses, students must also complete doctoral comprehensive exam portfolio, a doctoral candidacy paper and a five-chapter doctoral thesis.



- The candidacy paper consists of the first two chapters of the doctoral thesis which are reviewed by a student's advisor and other members of a faculty thesis committee before being orally defended before the committee.
- The Comprehensive Exam Portfolio consists of a series of artifacts that showcase curriculum, research, teaching, and other relevant professional competencies that students have attained from coursework and various academic experiences during their doctoral studies. These are the six required components of the Doctoral Comprehensive Examination Portfolio:
 1. Doctoral Comprehensive Examination Submission Form
 2. Goal Statement and Curriculum Vita
 3. Foundations of the Program
 4. Scholarship
 5. Teaching
 6. Professional Development
- The doctoral thesis proposal consists of the first three chapters of the doctoral thesis which are reviewed by a student's advisor and other members of a faculty thesis committee before being orally defended before the committee.
- The final doctoral thesis consists of the all five chapters of the doctoral thesis which are reviewed by a student's advisor and other members of a faculty thesis committee before being orally defended before the committee. Oral defenses of the candidacy paper, thesis proposal and final thesis take approximately 1 to 1 ½ hours each and are held in the Texas Medical Center or on the University of Houston campus.

Academic Policies

- University of Houston Academic Policies
Upon admission to the Executive Doctoral Program in Professional Leadership with an Emphasis in Health Science Education, students will receive a copy of the Student Handbook. The Student Handbook provides an overview of program requirements, policy, rules, and regulations and is designed to facilitate students' progress toward the attainment of their degree. The purpose of the handbook is to supplement and clarify - not supersede - policies and procedures provided at the College of Education and the University of Houston level.

Professional Leadership - Literacy Education, EdD

College of Education > Department of Curriculum and Instruction > Professional Leadership - Literacy Education, EdD

The Executive EdD in Professional Leadership-Literacy Education is a 51-hour doctoral program focusing on research and applied skills for educators grappling with current issues in education in urban contexts. The program is designed to facilitate the knowledge, skills and dispositions needed for professional and instructional leadership in urban schools, community organizations, museums and related educational institutions. The program is designed as a cohort model with online, hybrid and flipped courses.

For more information, please visit the Executive EdD in Professional Leadership program page.

Admission Requirements

The College of Education takes into consideration a number of criteria when determining admission, including prior college or university performance, letters of recommendation, standardized test scores and statement of intent. All applicants must abide by the minimum qualifications for admissions to a masters or doctoral program. All graduate applicants (regardless of citizenship status) must demonstrate proficiency in English to obtain admission to the University. For more information, visit <http://www.uh.edu/graduate-school/admissions/international-students/english-proficiency>.

An applicant is responsible for ensuring that all required materials for the evaluation of admissions are received by the College before the program's deadline. If the application is not complete by the program's deadline, it will not be evaluated for the admissions. Full details of the online application process can be found at www.uh.edu/graduate-school/admissions/how-to-apply.

Applicant checklist



- Complete online graduate application including statement of interest, resume/c.v., writing sample, letters of recommendation, and application fee payment.
- Official transcripts from all previous college/university work sent to the UH Graduate School.
- Official reporting of GRE scores taken in the last five years
- International students have additional documentation requirements which can be found at www.uh.edu/graduate-school/admissions/international-students/

Grade Point Average Requirements

Admission requirements for the College of Education require a minimum cumulative grade point average (GPA) of 2.6 for undergraduate coursework or over the last 60 credit hours of coursework. The College requires a minimum cumulative grade point average (GPA) of 3.0 for graduate coursework. The College's admission committees evaluate all credentials submitted by applicants to determine a student's ability and potential to succeed in graduate study. In addition, the committee is interested in the applicant's potential to contribute to his/her program of study and the University community as a whole.

For more information, please visit the College of Education Graduate Admissions page.

Degree Requirements

Credit hours required for this degree: 51.0

Core

9 Credit Hours

- CUIIN 8318 - Issues in Urban Education Credit Hours: 3.0
- TBA

Research

9 Credit Hours

- CUIIN 8380 - Research Methods in CUIIN Credit Hours: 3.0
- CUIIN 8381 - Research Methods Credit Hours: 3.0
- TBA

Specialization

12 Credit Hours

Leadership Courses

9 Credit Hours

- TBA

Laboratory of Practice



6 Credit Hours

- CUIIN 8310 - Laboratory of Practice Credit Hours: 3

EdD Doctoral Thesis

6 Credit Hours

- CUIIN 8390 - Doctoral Thesis Credit Hours: 3

Professional Leadership - Mathematics Education, EdD

College of Education > Department of Curriculum and Instruction > Professional Leadership - Mathematics Education, EdD

The EdD in Professional Leadership, with an emphasis in mathematics education, is a 51-hour program at University of Houston Sugarland providing research and applied skills for educators grappling with current issues in urban settings. The program is designed to facilitate the knowledge, skills and dispositions needed for instructional leadership in curriculum and instruction in urban schools, community organizations, museums and related educational institutions. The intent of the program is for graduates of this program to remain in educational settings as instructional leaders.

Graduates of the 51-hour EdD in Professional Leadership will typically pursue the following careers:

- Curriculum managers
- School department leads or heads
- Education directors for community agencies
- Higher education faculty
- District data collectors and evaluators

For more information, please visit the Executive Ed.D. Professional Leadership - Mathematics Education program page.

Admission Requirements

The College of Education takes into consideration a number of criteria when determining admission, including prior college or university performance, letters of recommendation, standardized test scores and statement of intent. All applicants must abide by the minimum qualifications for admissions to a masters or doctoral program. All graduate applicants (regardless of citizenship status) must demonstrate proficiency in English to obtain admission to the University. For more information, visit <http://www.uh.edu/graduate-school/admissions/international-students/english-proficiency>.

An applicant is responsible for ensuring that all required materials for the evaluation of admissions are received by the College before the program's deadline. If the application is not complete by the program's deadline, it will not be evaluated for the admissions. Full details of the online application process can be found at www.uh.edu/graduate-school/admissions/how-to-apply.

Applicant checklist:

1. Complete online graduate application including statement of interest, resume/c.v., writing sample, letters of recommendation, and application fee payment.
2. Official transcripts from all previous college/university work sent to the UH Graduate School.
3. Official reporting of GRE scores taken in the last five years
4. International students have additional documentation requirements which can be found at www.uh.edu/graduate-school/admissions/international-students/

Grade Point Average Requirements



Admission requirements for the College of Education require a minimum cumulative grade point average (GPA) of 2.6 for undergraduate coursework or over the last 60 credit hours of coursework. The College requires a minimum cumulative grade point average (GPA) of 3.0 for graduate coursework. The College's admission committees evaluate all credentials submitted by applicants to determine a student's ability and potential to succeed in graduate study. In addition, the committee is interested in the applicant's potential to contribute to his/her program of study and the University community as a whole.

For more information, please visit the College of Education Graduate Admissions page.

Degree Requirements

Credit hours required for this degree: 51.0

Core

9 Credit Hours

- CUIIN 8318 - Issues in Urban Education Credit Hours: 3.0
- CUIIN 8325 - Research in Math Education Credit Hours: 3.0
- PHL5 8345 - Adult Cognition and Learning Credit Hours: 3.0

Research

9 Credit Hours

- CUIIN 8380 - Research Methods in CUIIN Credit Hours: 3.0
- CUIIN 8381 - Research Methods Credit Hours: 3.0
- EDRS 8383 - Action Research Credit Hours: 3.0

Specialization

12 Credit Hours

- CUIIN 7332 - Teaching and Learning Math Credit Hours: 3.0
- CUIIN 7340 - Issues in Mathematics Education Credit Hours: 3.0
- CUIIN 8326 - Math Education Leadership & Coaching Credit Hours: 3
- CUIIN 8346 - Teaching Mathematics and Science with Technology Credit Hours: 3

Cognate and Supporting Courses

9 Credit Hours

- CUIIN 8366 - Academic Writing for Doctoral Candidates Credit Hours: 3
- ELCS 8340 - Organizatn & Admin Curriculum Credit Hours: 3.0
- ELCS 8356 - Program Policy Evaluation Credit Hours: 3.0

Laboratory of Practice

6 Credit Hours



- CUIIN 8310 - Laboratory of Practice Credit Hours: 3

EdD Doctoral Thesis

6 Credit Hours

- CUIIN 8690 - Doctoral Thesis Credit Hours: 6

Professional Leadership - Social Studies/Social Education, EdD

College of Education > Department of Curriculum and Instruction > Professional Leadership - Social Studies/Social, EdD

The Executive EdD in Professional Leadership-Social Studies/Social Education is a 51-hour doctoral program focusing on research and applied skills for educators grappling with current issues in education in urban contexts. The program is designed to facilitate the knowledge, skills and dispositions needed for professional and instructional leadership in urban schools, community organizations, museums and related educational institutions. The program is designed as a cohort model with online, hybrid and flipped courses.

For more information, please visit Professional Leadership -Social Studies/Social Education, EdD program page.

Admission Requirements

The College of Education takes into consideration a number of criteria when determining admission, including prior college or university performance, letters of recommendation, standardized test scores and statement of intent. All applicants must abide by the minimum qualifications for admissions to a masters or doctoral program. All graduate applicants (regardless of citizenship status) must demonstrate proficiency in English to obtain admission to the University. For more information, visit <http://www.uh.edu/graduate-school/admissions/international-students/english-proficiency>.

An applicant is responsible for ensuring that all required materials for the evaluation of admissions are received by the College before the program's deadline. If the application is not complete by the program's deadline, it will not be evaluated for the admissions. Full details of the online application process can be found at www.uh.edu/graduate-school/admissions/how-to-apply.

Applicant checklist

1. Complete online graduate application including statement of interest, resume/CV, writing sample, letters of recommendation, and application fee payment.
2. Official transcripts from all previous college/university work sent to the UH Graduate School.
3. Official reporting of GRE scores taken in the last five years
4. International students have additional documentation requirements which can be found at www.uh.edu/graduate-school/admissions/international-students/

Grade Point Average Requirements

Admission requirements for the College of Education require a minimum cumulative grade point average (GPA) of 2.6 for undergraduate coursework or over the last 60 credit hours of coursework. The College requires a minimum cumulative grade point average (GPA) of 3.0 for graduate coursework. The College's admission committees evaluate all credentials submitted by applicants to determine a student's ability and potential to succeed in graduate study. In addition, the committee is interested in the applicant's potential to contribute to his/her program of study and the University community as a whole.

For more information, please visit the College of Education Graduate Admissions page.

Degree Requirements



Credit hours required for this degree: 51.0

Core Coursework

9 credit hours

- CUIIN 8318 - Issues in Urban Education Credit Hours: 3.0
- TBA

Research Coursework

9 credit hours

- CUIIN 8380 - Research Methods in CUIIN Credit Hours: 3.0
- CUIIN 8381 - Research Methods Credit Hours: 3.0
- CUIIN 8336 - Research in Social Education Credit Hours: 3.0

Specialization Coursework

12 credit hours

- TBA

Leadership Coursework

9 credit hours

- TBA

Laboratory of Practice

6 credit hours

- CUIIN 8310 - Laboratory of Practice Credit Hours: 3

EdD Doctoral Thesis

6 credit hours

- CUIIN 8390 - Doctoral Thesis Credit Hours: 3

Department of Psychological, Health, and Learning Sciences

Chair: Lorraine R. Reitzel

The Department of Psychological, Health, and Learning Sciences offers graduate programs at the master and doctoral levels preparing students to understand the conceptual base of theories, research, and methods of psychology and to apply these fields of study to the processes of education and human development. Though differing in focus, all programs emphasize preparing students to be competent in the academic and professional



aspects of psychological, health, and learning sciences. Students pursue professional competence through course work, seminars, supervised research, practice, and internship experiences.

Academic Programs:

Master of Education (MEd)

This degree program has the following areas of specialization:

- Counseling

The master's degree program in counseling brings together the theoretical and applied principles of educational psychology essential to the counseling relationship, and prepares students to work as professional counselors in public and private schools, community agencies, and college counseling centers.

Doctor of Philosophy (PhD)

This degree program has the following areas of specialization:

- Counseling Psychology

Accredited by the American Psychological Association, the Doctor of Philosophy program in Counseling Psychology and adheres to a scientist-practitioner training model. The program emphasizes the theory, research, and practice of working with normal populations from a broadly defined ecological developmental perspective. Graduates obtain faculty positions in colleges and universities; provide counseling supervision and consultation services in a variety of mental health settings; and serve as supervisors, program coordinators, and direct service providers in school districts. Students participate in a variety of training experiences including at least two semesters of practicum and a full-year, full-time, pre-doctoral internship approved by the faculty. Graduates of the Counseling Psychology program typically meet the academic requirements to apply for licensure as a psychologist in the state of Texas. Licensure requirements vary by state and may change without notifications. Students should ensure their individual degree plans concur with their credentialing expectation.

- Measurement, Quantitative Methods and Learning Sciences

The Doctor of Philosophy in Measurement, Quantitative Methods and Learning Sciences prepares students for employment as faculty members at colleges and universities. Graduates also find employment as directors of educational components of health care institutions and social service agencies. Typically, these students develop an individually tailored PhD program emphasizing theory and research in one or more areas related to measurement and statistics.

- School Psychology

Accredited by the American Psychological Association and adhering to a scientist-practitioner training model, the School Psychology program develops professional school psychologists. Graduates engage in applied research and apply critical analysis and inquiry to identify, select, implement, and evaluate evidence-based practices with sensitivity to cultural and linguistic considerations, and in consideration of diverse client preferences. Embedded throughout the training experience, sensitivity to diversity issues becomes an essential tool, in part because the UH is one of the most culturally and linguistically diverse research institutions in the nation.

Varied practicum placements provide opportunities in more than a dozen school districts, specialized assessment and intervention clinics at the Texas Children's Hospital (e.g., Disruptive Behavior Disorders and ADHD, Autism Spectrum Disorders, Pediatric Neuropsychology, Pediatric Neurology, Developmental-Behavioral Pediatrics), the Behavioral Pediatrics Neuro-oncology Clinic at the M.D. Anderson Children's Cancer Hospital, and in other settings within the Houston area. These settings provide opportunities for students to obtain supervised experience with diverse populations, conditions, professionals, settings, and procedures as they matriculate through the program. Program graduates typically meet requirements for licensure in Texas as a licensed psychologist.

Counseling Psychology, PhD



Accredited by the American Psychological Association since 1987, the Counseling Psychology doctoral program trains psychologists to become health service psychologists and psychological researchers. Through our challenging curriculum and supportive student environment, it is our goal to develop psychologists who are skilled in the practical practice of psychology, produce graduates who have a solid foundation of psychological science, and produce graduates who display ethical behavior and professionalism.

The program offers the preparation necessary for students to apply for licensure as psychologists in Texas and other states and provinces. Our graduates are employed in settings such as hospitals, colleges and university psychology departments, university and college counseling centers, community agencies, clinics, private practice, and K-12 schools.

For more information, please see <http://uh.edu/education/degree-programs/counseling-psyc-phd/>.

Admission Requirements

- See also: University Admission Requirements

The College of Education takes into consideration a number of criteria when determining admission, including prior college or university performance, letters of recommendation, standardized test scores, and statement of intent. All applicants must abide by the minimum qualifications for admissions to a master's or doctoral program.

All graduate applicants (regardless of citizenship status) must demonstrate proficiency in English to obtain admission to the University. For more information, visit <http://www.uh.edu/graduate-school/admissions/international-students/english-proficiency/>.

An applicant is responsible for ensuring that all required materials for the evaluation of admissions are received by the College before the program's deadline. If the application is not complete by the program's deadline, it will not be evaluated for the admissions.

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Applicant checklist:

1. Complete online graduate application including statement of interest, resume/CV, writing sample, letters of recommendation, and application fee payment.
2. Official transcripts from all previous college/university work sent to the UH Graduate School.
3. Official reporting of GRE scores taken in the last five years.
4. International students have additional documentation requirements that can be found at www.uh.edu/graduate-school/admissions/international-students/.

Grade Point Average Requirements: Admission requirements for the College of Education require a minimum cumulative grade point average (GPA) of 2.6 for undergraduate coursework or over the last 60 credit hours of coursework. The College requires a minimum cumulative grade point average (GPA) of 3.0 for graduate coursework. Typical students admitted to the Counseling Psychology doctoral program usually have higher GPAs than the College minimums. The College's admission committees evaluate all credentials submitted by applicants to determine a student's ability and potential to succeed in graduate study. In addition, the committee is interested in applicants' potential to contribute to their program of study and the University community as a whole.

Degree Requirements

Program Total Credit Hours Required: Minimum 89.0 (Minimum 104.0 with Emphasis)

The PhD in Counseling Psychology requires no less than four years of full time study and the completion of all required coursework, candidacy research project, comprehensive examination, practicum, dissertation, and pre-doctoral internship. Beyond the required curriculum, students may pursue additional coursework within the Department of Psychological, Health, and Learning Sciences and the Department of Psychology with the consent of their advisor/faculty related to their individual research interests and career goals.

Foundational Courses



18.0 Credit Hours

Required Courses

(12.0 Credit Hours)

- PHLS 6330 - Human Growth-Developmnt Credit Hours: 3.0
- PHLS 7317 - Cognitive and Affective Bases of Behavior Credit Hours: 3.0
- PHLS 8351 - Hist & Philosophy of Psyc Syst Credit Hours: 3.0
- PHLS 8364 - Professional Practice in Psyc: Ethics, Law, & Professional Issues Credit Hours: 3.0

Select from the Following:

(3.0 Credit Hours)

- PSYC 6308 - Foundations of Neuropsychology Credit Hours: 3.0
- PSYC 7342 - Bio Bases of Behav Credit Hours: 3.0

Select from the Following:

(3.0 Credit Hours)

- PSYC 6338 - Fndtns of Social Psyc Credit Hours: 3.0
- PSYC 8397 - Selected Topics in Psychology Credit Hours: 3.0
Topic: Theories and Research in Social and Personality Psychology

Research Design, Statistics, and Measurement Courses

Minimum 24.0 Credit Hours

Statistics and Measurement

Required Courses:

(15.0 Credit Hours)

Research Design and Statistics

(12.0 Credit Hours)

- PHLS 8302 - Research Methods in Psychological and Educational Research Credit Hours: 3.0
- PHLS 8319 - Inferential Statistics in Psychological and Educational Research Credit Hours: 3.0
- PHLS 8322 - Intermediate Statistical Analysis in Psychological and Educational Research Credit Hours: 3.0
- PHLS 8324 - Multivariate Analysis in Psychological and Educational Research Credit Hours: 3.0

Select from the Following:

(3.0 Credit Hours)

- PHLS 8300 - Advanced Educational & Psychological Measurement Credit Hours: 3.0



Candidacy Research

Minimum 3.0 Credit Hours

- PHLS 7398 - Candidacy Research Credit Hours: 3.0

Doctoral Dissertation

Minimum 6.0 Credit Hours

Students must enroll in at least three hours of dissertation credits the term they defend their dissertation proposal. Once students enroll in dissertation credits, they must continuously enroll for a minimum of three credits of dissertation every subsequent Fall and Spring term, until the dissertation is completed (final defense). Summer enrollment in dissertation credits is required only if during the summer months the student conducts the dissertation's proposal or final defense or actively engages in dissertation work involving the use of universities facilities.

- PHLS 8399 - Doctoral Dissertation Credit Hours: 3

Counseling Psychology Specialty Courses

Minimum 41.0 Credit Hours

The Program's curriculum includes a series of courses developmentally sequenced to help students gain knowledge in the core foundations of psychology as well as in the specialty discipline of Counseling Psychology. Some students need to complete master's-level prerequisite courses (i.e., "leveling" courses). Prior to their first term in the Program, advisors notify students with a master's degree of any prerequisite "leveling" courses they need to complete, based on a review of their degree transcript. All students accepted directly from the Bachelor's degree need to complete the leveling master's-level courses described below. Even though students do not need to complete all leveling courses prior to taking doctoral-level courses, students are expected to complete master's-level coursework prior to enrolling in doctoral-level coursework in the same area.

Master's-Level Courses (Leveling Courses)

Credit Hours Requirement Varies

- PHLS 6325 - Theories of Counseling Credit Hours: 3.0
- PHLS 6335 - Intro To Grp Couns Thry Credit Hours: 3.0
- PHLS 6345 - Atypical Growth & Behavior Credit Hours: 3.0
- PHLS 6391 - Counseling Methods and Techniques Credit Hours: 3

Doctoral-Level Courses

27.0 Credit Hours

- PHLS 7330 - Adv Thrys of Counseling Credit Hours: 3.0
- PHLS 8305 - Supervision in Counseling Credit Hours: 3.0
- PHLS 8334 - Research Counseling Psychology Credit Hours: 3.0
- PHLS 8337 - Multicul Iss Coun Psych Credit Hours: 3.0
- PHLS 8339 - Sem in Career Coun Credit Hours: 3.0
- PHLS 8341 - Professional Seminar Credit Hours: 3.0
- PHLS 8347 - Assessment of Cognitive Abilities Credit Hours: 3.0
- PHLS 8349 - Advanced Psyc Assessment II Credit Hours: 3.0
- PHLS 8357 - Clinical Interventions in Counseling Psychology Credit Hours: 3.0



Clinical Training

14.0 Credit Hours

Counseling Psychology doctoral students receive clinical training primarily through practicum experiences and a pre-doctoral internship. Students are required to enroll in PHLS 8393 every term (Fall, Spring, and Summer) they participate in practicum. During the internship year, enrollment in PHLS 8193 is mandatory during the Fall and Spring terms only.

- PHLS 8393 - Doctoral Practicum in Psy **Credit Hours: 3.0** 12.0 hours required (minimum of two years)
- PHLS 8193 - Internship in Psychology **Credit Hours: 1.0** 2.0 hours required (1.0 credit each semester)

Counseling Psychology: Health Psychology Emphasis/Minor

15.0 Credit Hours

Students may choose to add an optional Health Psychology Emphasis/Minor to their coursework. Eligibility to add this emphasis/minor includes the completion of nine (9.0) credit hours of didactic coursework as well as two (2) terms of practicum (i.e., 6.0 credit hours) in the area of health psychology.

Health Psychology Required Courses

6.0 Credit Hours

- PHLS 8306 - Health Psychology Research, Prevention, & Interventions **Credit Hours: 3.0**
- PHLS 8307 - Health Disparities **Credit Hours: 3.0**

Interdisciplinary Perspectives on Health and Chronic Disease Elective

3.0 Credit Hours

- PHLS 8309 - Gene by Environment (GxE) Determinants of Health **Credit Hours: 3.0**
- PHLS 8308 - Stress and Drug Abuse: Research & Health Outcomes **Credit Hours: 3.0**
- PHLS 6322 - Dimensions in Women's Health **Credit Hours: 3.0**
- PHLS 7300 - Program Evaluation in Health **Credit Hours: 3.0**
- PHLS 7306 - Health Disparities **Credit Hours: 3.0**
- PHLS 7324 - Cancer Education **Credit Hours: 3.0**
- PHLS 7325 - Cross-Cultural Aspects of Health **Credit Hours: 3.0**

Practicum Experiences in the area of Health Psychology

6.0 Credit Hours

Eligibility to add the Health Psychology Emphasis includes the completion of two (2) semesters of practicum in the area of health psychology, in addition to the coursework described above. Please note, no additional practica above and beyond the existing requirements are required for the Health Psychology Emphasis (i.e., it is only necessary that the student pursuing this option demonstrate completion of two semesters of practicum in a health-related setting among the 12 credit hours of practicum required for the degree). To clarify further, these two semesters are not included in the 12-credit hour requirement for completion of the track, since students are required to complete practicum experiences as part of their doctoral training.

Counseling Psychology Practicum



Enrollment in several terms of practicum and the year of pre-doctoral internship constitute the formally organized clinical training experiences in the Counseling Psychology Program. Students are typically required to complete a minimum of 2 years of practicum (12.0 Credit Hours of PHL 8393). However, students who enter the program with a master's degree may choose to complete only 1 year of practicum (6.0 Credit Hours), although many students choose to go beyond this requirement because of the competitiveness of internship.

Annual Review

The program's faculty conducts an annual review of the student's progress and provides the student with written feedback regarding this evaluation. With the exception of students whose graduation is imminent, all currently enrolled students (including those who are on internship) are required to participate in the annual review.

Program Completion Time Limits

Students must complete their programs within 10 years of their term of first enrollment. Students who are beyond their 7th year in the program are considered to be making unsatisfactory progress; therefore, as part of the annual review process, students in the seventh year or beyond must provide their advisors and the Director of Training a detailed timeline for completing their remaining work.

Counseling Psychology Pre-Doctoral Internship

The pre-doctoral internship year in counseling psychology represents the capstone clinical experience for students in the Program. During this year, students work full time (2,000 hours) as paid psychology interns in an approved professional setting where they receive regular supervision. Students are required to apply to APA-accredited internship sites as these programs regularly engage in the pre-doctoral training of counseling psychologists and meet all expected standards of training quality.

Counseling, MEd

Welcome

The Masters of Education in Counseling program prepares students for careers as a professional counselor. Many of our students will pursue a national licensure to become a licensed professional counselor (LPC) post-graduation. The program's faculty is dedicated to providing graduates a deep understanding of counseling knowledge, skills and techniques. Graduates will gain an understanding and awareness of the role and influence professional counselors play in our communities. At the University of Houston, we prepare graduates to providing services for a diverse and ever-changing population, while preparing them for the future of our technology driven society and profession. As our program moves toward national accreditation we value a rich education experience that lays the foundation for professional and personal enrichment. We now conveniently offered a variety of face-to-face, hybrid and online courses that are offered at the UH Main campus and Sugar Land campus.

What should I expect?

We are a 60 credit hour program (20 classes) to be completed in three years. We only accept candidates in the fall term. Our curriculum consists of three Field experience courses, one practicum course and two internship experiences. As candidates move through the program, faculty will offer consistent skill development feedback, clinical practice and professional development opportunities.

What will I learn?

- Counseling theories, skills, and techniques for diverse populations with various counseling issues or needs
- Understanding and awareness of the role and influence of the counselor in providing services to diverse cultural, ethnic, religious, gendered and social populations
- Knowledge of legal, ethical, and moral responsibilities related to the practice of professional or school counseling



- Application of relevant empirical research to broaden knowledge of delivery and counseling services
- Understanding and knowledge of effective and appropriate assessment and evaluation of clients or students in placements and delivery of intervention

What can I do with my degree?

Alumni find employment in diverse settings, including:

- K-12 schools
- Community Colleges and Universities
- Mental and health care facilities
- College Counselor
- Community Agency Counselor
- Probation Counselor
- Career Counselor
- Employee Assistance Program Counselor

For more information, please visit the Master of Education in Counseling web page: <http://www.uh.edu/education/degree-programs/counseling-med/>.

Admission Requirements

The College of Education takes into consideration a number of criteria when determining admission, including prior college or university performance, letters of recommendation, standardized test scores and statement of intent. All applicants must abide by the minimum qualifications for admissions to a masters or doctoral program. All graduate applicants (regardless of citizenship status) must demonstrate proficiency in English to obtain admission to the University. For more information, visit www.uh.edu/graduate-school/admissions/international-students/english-proficiency/.

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Applicant Checklist:

1. Complete online graduate application including statement of interest, resume/c.v., letters of recommendation, and application fee payment.
2. Official transcripts from all previous college/university work sent to the UH Graduate School
3. Official reporting of GRE scores taken in the last five years
4. International students have additional documentation requirements which can be found here: <http://www.uh.edu/graduate-school/international-students/>

Grade Point Average Requirements

Admission requirements for the College of Education require a minimum cumulative grade point average (GPA) of 2.6 for undergraduate coursework or over the last 60 credit hours of coursework. The College requires a minimum cumulative grade point average (GPA) of 3.0 for graduate coursework. The College's admission committees evaluate all credentials submitted by applicants to determine a student's ability and potential to succeed in graduate study. In addition, the committee is interested in the applicant's potential to contribute to his/her program of study and the University community as a whole.

For more information, please visit the Admission Application Instructions web page: <http://www.uh.edu/education/admissions/graduate/admission-app-instructions/>.

Degree Requirements



Clinical Mental Health Counseling

20 Courses

First Year

Fall

- PHLS 6325 - Theories of Counseling Credit Hours: 3.0
- PHLS 6311 - Introduction to Counseling Credit Hours: 3.0
- PHLS 6330 - Human Growth-Developmnt Credit Hours: 3.0

Spring

- PHLS 6370 - Intro To Cross-Cultural Cslng Credit Hours: 3.0
- PHLS 6391 - Counseling Methods and Techniques Credit Hours: 3
- PHLS 6352 - Assessmnt in Educ Psych Credit Hours: 3.0

Summer

- PHLS 6310 - Intro To Educ Research Credit Hours: 3.0
- PHLS 6335 - Intro To Grp Couns Thry Credit Hours: 3.0

Second Year

Fall

- PHLS 6345 - Atypical Growth & Behavior Credit Hours: 3.0
- PHLS 6324 - Addictions Counseling Credit Hours: 3.0
- PHLS 6343 - Ethical Legal Issues in Counsl Credit Hours: 3.0

Spring

- PHLS 6315 - Career Counseling Credit Hours: 3.0
- PHLS 6323 - Psychopathology Credit Hours: 3.0
- PHLS 6312 - Crisis Counseling Credit Hours: 3.0

Summer

- PHLS 7301 - Practicum Credit Hours: 3.0

Third Year

Fall



- PHLS 7302 - Internship I Credit Hours: 3.0
- PHLS 7375 - Intro To Family Counsl Credit Hours: 3.0
- *Optional Elective*

Spring

- PHLS 7303 - Internship II Credit Hours: 3.0
- PHLS 6313 - Professional Orientations & Advanced Ethics Credit Hours: 3.0 ONLINE
- *Optional Elective*

Notes

*student can take electives during any semester with less than 9 credit hours

*students are required to take 1 elective (20 classes total for graduation)

School Counseling

16 Courses

First Year

Fall

- PHLS 6325 - Theories of Counseling Credit Hours: 3.0
- PHLS 6311 - Introduction to Counseling Credit Hours: 3.0
- PHLS 6330 - Human Growth-Developmnt Credit Hours: 3.0

Spring

- PHLS 6370 - Intro To Cross-Cultural Cslng Credit Hours: 3.0
- PHLS 6391 - Counseling Methods and Techniques Credit Hours: 3
- PHLS 6352 - Assessmnt in Educ Psych Credit Hours: 3.0

Summer

- PHLS 7326 - Counseling in the Schools Credit Hours: 3.0 *
- PHLS 6335 - Intro To Grp Couns Thry Credit Hours: 3.0

Second Year

Fall

- PHLS 6345 - Atypical Growth & Behavior Credit Hours: 3.0
- PHLS 6343 - Ethical Legal Issues in Counsl Credit Hours: 3.0
- PHLS 7375 - Intro To Family Counsl Credit Hours: 3.0

Spring



- PHLS 7327 - Counseling Children Credit Hours: 3.0 *
- PHLS 6315 - Career Counseling Credit Hours: 3.0
- PHLS 6312 - Crisis Counseling Credit Hours: 3.0

Third Year

Fall

- PHLS 6393 - Practicum Credit Hours: 3.0
Internship 300hrs
- *Optional Elective*

Spring

- PHLS 6393 - Practicum Credit Hours: 3.0
Internship 300hrs
- *Optional Elective*

Notes

*optional electives are just if needed for Full- Time Status but not required

* School Counseling ONLY has the option to move up the Internship I & II

DUAL DEGREE PLAN - School Counseling & Clinical Mental Health Track

66.0 Credit Hours, 22 Courses

First Year

Fall

- PHLS 6325 - Theories of Counseling Credit Hours: 3.0
- PHLS 6311 - Introduction to Counseling Credit Hours: 3.0
- PHLS 6330 - Human Growth-Developmnt Credit Hours: 3.0

Spring

- PHLS 6370 - Intro To Cross-Cultural CsIng Credit Hours: 3.0
- PHLS 6391 - Counseling Methods and Techniques Credit Hours: 3
- PHLS 6352 - Assessmnt in Educ Psych Credit Hours: 3.0

Summer

- PHLS 6310 - Intro To Educ Research Credit Hours: 3.0
- PHLS 6335 - Intro To Grp Couns Thry Credit Hours: 3.0
- PHLS 7326 - Counseling in the Schools Credit Hours: 3.0 *



Second Year

Fall

- PHLS 6345 - Atypical Growth & Behavior Credit Hours: 3.0
- PHLS 6324 - Addictions Counseling Credit Hours: 3.0
- PHLS 6343 - Ethical Legal Issues in Counsl Credit Hours: 3.0

Spring

- PHLS 6315 - Career Counseling Credit Hours: 3.0
- PHLS 6323 - Psychopathology Credit Hours: 3.0
- PHLS 6312 - Crisis Counseling Credit Hours: 3.0
- PHLS 7327 - Counseling Children Credit Hours: 3.0 *

Summer

- PHLS 7301 - Practicum Credit Hours: 3.0

Third Year

Fall

- PHLS 7302 - Internship I Credit Hours: 3.0
School Counseling Internship/Practicum 200hrs (SU, Fall or Sp Term) *
- PHLS 7375 - Intro To Family Counsl Credit Hours: 3.0

Spring

- PHLS 7301 - Practicum Credit Hours: 3.0
- PHLS 6313 - Professional Orientations & Advanced Ethics Credit Hours: 3.0

Measurement, Quantitative Methods, and Learning Sciences, PhD

The Doctor of Philosophy in Measurement, Quantitative Methods, and Learning Sciences prepares students for employment as faculty members at colleges and universities. Graduates also find employment in areas such as directors of educational components of health care institutions and social service agencies. Typically, these students develop an individually tailored Ph.D. program which emphasizes theory and research in one or more areas related to learning and development, special populations, higher education, health education and/or measurement and statistics.

Originally named the Ph.D. Educational Psychology and Individual Differences, the Ph.D. program in Measurement, Quantitative Methods, & Learning Sciences continues to represent core elements of the definition of Educational Psychology, which includes "Instruction in learning theory, human growth and development, and research methods, and psychological evaluations" (according to IPEDS [Integrated Post-secondary Education Data System]), but enhances the employment prospects of program graduates.

The MQM-LS degree qualifies students as university and college instructors, program evaluators, researchers in psychological, educational, and community environments, and professionals within various related fields. In addition, it provides them with the skills necessary to fill a variety of roles in other settings in which knowledge of human development, learning theory, research and evaluation methods are essential. Graduates are trained for teaching, research, and leadership careers in academic positions and non-academic settings such as local, state and national agencies that deal with educational policy and practices.



For further information, please see Measurement, Quantitative Methods, and Learning Sciences.

Admission Requirements

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Grade Point Average Requirements

Admission requirements for the College of Education require a minimum cumulative grade point average (GPA) of 2.6 for undergraduate coursework or over the last 60 credit hours of coursework. The College requires a minimum cumulative grade point average (GPA) of 3.0 for graduate coursework. The College's admission committees evaluate all credentials submitted by applicants to determine a student's ability and potential to succeed in graduate study. In addition, the committee is interested in the applicant's potential to contribute to his/her program of study and the University community as a whole.

Please visit the program's Admission Application Instructions page for more information.

Degree Requirements

Credit hours required for this degree: 69.0

The curriculum for the MQM-LS Ph.D. program involves the completion of specific coursework that includes foundations of psychological and educational theory, statistics, and research methodology. This coursework is designed to be consistent with the American Psychological Association's principles for learner-centered education and with the College of Education's conceptual model. Completion of the program typically requires four years of full time study, inclusive of coursework, candidacy research project, comprehensive examination portfolio, and dissertation. Courses required for the degree are described below.

Department/Foundations Core Courses (21 hours)

All students in the MQM-LS doctoral program are required to complete a Program Area Core consisting of seven courses (21 hours).

- PHLS 8302 - Research Methods in Psychological and Educational Research Credit Hours: 3.0
- PHLS 8319 - Inferential Statistics in Psychological and Educational Research Credit Hours: 3.0
- PHLS 8322 - Intermediate Statistical Analysis in Psychological and Educational Research Credit Hours: 3.0
- PHLS 8324 - Multivariate Analysis in Psychological and Educational Research Credit Hours: 3.0
- PHLS 8300 - Advanced Educational & Psychological Measurement Credit Hours: 3.0
- PHLS 8350 - Educational Psychology Credit Hours: 3.0
- PHLS 8397 - Selected Topics Credit Hours: 3.00



Topic(s) :

- Psychology of Learning in STEM 3

Program Area Core Requirements (21 hours)

All students in the MQM-LS doctoral program are required to complete a Program Area Core consisting of seven courses (21 hours). Three of these courses (9 hours) must be in the area of Learning and Development, and four of these courses (12 hours) must be in the area of Research Methods, Measurement and Statistics.

Learning and Development (9 hours total)

- PHLS 8335 - Sem-Adv Top-Human Development Credit Hours: 3.0
- PHLS 8342 - Seminar Learning Theories Credit Hours: 3.0
- PHLS 8397 - Selected Topics Credit Hours: 3.00

Topic(s) :

- Educational Disparities and Social Inequality

Research Methods, Measurement, and Statistics (12 hours total)

Required (6 hours):

- PHLS 8321 - Structural Equation Modeling in Psychological and Educational Research Credit Hours: 3.0
- PHLS 8328 - Hierarchical Linear Modeling in Psychological & Educational Research Credit Hours: 3.0
- PHLS 8327 - Longitudinal Data Analysis in Psy/Educ Research Credit Hours: 3.0
- PHLS 8397 - Selected Topics Credit Hours: 3.0 (Topic approved by advisor)
- SAER 8321 - Survey Mthds in Educ Credit Hours: 3.0
- SAER 8370 - Program Eval Research Credit Hours: 3.0
- SAER 8320 - Ethnogr Mthds Educ Credit Hours: 3.0
- CUIN 8377 - Qualitative Inquiry in Education I Credit Hours: 3.0
- CUIN 8378 - Qualitative Inquiry in Education II Credit Hours: 3.0

Independent Research Requirements (9 hours minimum)

All students in the MQM-LS doctoral program are required to satisfy two major research requirements:

1. the candidacy research paper, and
2. a doctoral dissertation.

Both of these projects typically involve the collection, analysis, and interpretation of quantitative or mixed-methods data.

- PHLS 7398 - Candidacy Research Credit Hours: 3.0
- PHLS 8399 - Doctoral Dissertation Credit Hours: 3

Specialization Electives (18 hours minimum)

All students in the MQM-LS doctoral program are required to pursue one of two Areas of Specialization: Measurement & Quantitative Methods, or Learning Sciences. For these electives, students are encouraged to pursue coursework pertinent to their individual career goals, including courses offered by faculty within the Department of Psychological, Health, and Learning Sciences, as well as courses offered by the Department of Psychology, and those related to the fields of sociology and other behavioral and social sciences. These electives should be identified in consultation with the student's academic advisor. A maximum of two (6 hours) independent study courses (e.g., PHLS 8398) can be used to satisfy this requirement.

Academic Policies



Professional Development Activities

Students in the MQM-LS PhD program are required to satisfy a Professional Development requirement during their first year in the program. Students are required to complete a separate Residency Report for the Fall and Spring semesters of their first year in the program that will serve to satisfy their doctoral residency/professional development requirement. These forms must be approved by the student's academic advisor, the chair of the department, and the Dean or his/her designee.

The following professional development activities are required for doctoral students in the MQM-LS program. Activities completed each semester should be listed on separate Residency Reports for each semester. Students should consult with their advisor regarding selection of additional activities that will augment their academic preparation in scholarship, teaching, and service, such as attending presentations of scholarly speakers at the University of Houston or elsewhere (e.g., Rice University, the Medical Center, in the community), assisting other doctoral students with data collection, etc.

1. Attend at least one defense of a candidacy research proposal in Educational Leadership and Policy Studies.☐
2. Attend at least one defense of a candidacy research final paper in Educational Leadership and Policy Studies.
3. Attend at least one defense of a dissertation proposal in Educational Leadership and Policy Studies.☐
4. Attend at least one defense of a dissertation final paper in Educational Leadership and Policy Studies
5. Attendance at a local, state, or national conference that pertains to education or a relevant social science. The sessions attended may be listed as additional activities.☐
6. Attendance at the Houston Symposium for Research in Education, sponsored by the College of Education, when it is offered.
7. Membership in the Graduate Students Organization
8. Student membership in a professional organization (e.g., American Educational Research Association, American Association for the Study of Higher Education)

Candidacy Research Paper

MQM-LS doctoral students must complete a candidacy research paper before they are eligible to have their Comprehensive Examination Portfolio submission materials officially reviewed. Students are expected to conduct a research project within the general domain of higher education. The scope of this research project should be equivalent to what would be expected from a master's level thesis. Students who previously have completed a Master's Thesis may petition to have the thesis count for the candidacy research requirement and should consult with their academic advisor regarding this matter.

School Psychology, PhD

Accredited by the American Psychological Association and adhering to a scientist-practitioner training model, the School Psychology program develops professional school psychologists. Graduates engage in applied research and apply critical analysis and inquiry to identify, select, implement, and evaluate evidence-based practices with sensitivity to cultural and linguistic considerations, and in consideration of diverse client preferences. Embedded throughout the training experience, sensitivity to diversity issues becomes an essential tool, in part because the UH is one of the most culturally and linguistically diverse research institutions in the nation.

Varied practicum placements provide opportunities in numerous school districts, as well as specialized assessment and intervention clinics in hospital and community-based settings within the Houston area. These settings provide opportunities for students to obtain supervised experience with diverse populations, conditions, professionals, settings, and procedures as they matriculate through the program. Program graduates typically meet requirements for licensure in Texas as a licensed psychologist, a licensed specialist in school psychology, and a nationally certified school psychologist.

For more information, please visit <http://www.uh.edu/education/degree-programs/school-psyc-phd/>.

Admission Requirements

The College of Education takes into consideration a number of criteria when determining admission, including prior college or university performance, letters of recommendation, standardized test scores and statement of intent. All applicants must abide by the minimum qualifications for admissions to a masters or doctoral program. All graduate applicants (regardless of citizenship status) must demonstrate proficiency in English to



obtain admission to the University. For more information, visit <http://www.uh.edu/graduate-school/admissions/international-students/english-proficiency/>.

An applicant is responsible for ensuring that all required materials for the evaluation of admissions are received by the College before the program's deadline. If the application is not complete by the program's deadline, it will not be evaluated for the admissions. Full details of the online application process can be found at www.uh.edu/graduate-school/admissions/how-to-apply.

Applicant checklist:

1. Complete online graduate application including statement of interest, resume/c.v., writing sample, letters of recommendation, and application fee payment
2. Official transcripts from all previous college/university work sent to the UH Graduate School
3. Official reporting of GRE scores taken in the last five years
4. International students have additional documentation requirements which can be found at www.uh.edu/graduate-school/admissions/international-students/

Grade Point Average Requirements

Admission requirements for the College of Education require a minimum cumulative grade point average (GPA) of 2.6 for undergraduate coursework or over the last 60 credit hours of coursework. The College requires a minimum cumulative grade point average (GPA) of 3.0 for graduate coursework. The College's admission committees evaluate all credentials submitted by applicants to determine a student's ability and potential to succeed in graduate study. In addition, the committee is interested in the applicant's potential to contribute to his/her program of study and the University community as a whole.

Please visit the program's Admission Application Instructions page for more information.

Degree Requirements

Credit hours required for this degree: 107.0

Students are required to complete all 107 hours of coursework listed below in three categories:

- A. School Psychology Doctoral Courses
- B. Department /College Required Courses
- C. Additional Courses

Students must also demonstrate that they have achieved the Program's knowledge and competency requirements .

No courses from Category A can be waived or transferred. In very rare instances, with appropriate documentation and demonstration of competency, students may waive or transfer courses from Category B. Students entering with waived courses or transferable credit (no more than 30 hrs.) would take all courses in categories A and B as well as courses from Category C that are necessary to ensure that the student has (a) achieved the Program's knowledge and competency requirements , and (b) completed no less than the 107 hours of graduate coursework necessary for degree completion (including transfer or waived coursework credits).

Students may complete additional elective courses to broaden or deepen their competencies. Students are encouraged to discuss the advantages and disadvantages associated with such choices with their advisor before registering for an additional course.

School Psychology Specialty Courses

Category A: Required Doctoral School Psychology Specialty Courses (47 credit hours)

- PHLS 7193 - Internship and Practicum Credit Hours: 1.0
- PHLS 7393 - Internship and Practicum Credit Hours: 3.0
- PHLS 8305 - Supervision in Counseling Credit Hours: 3.0
- PHLS 8341 - Professional Seminar Credit Hours: 3.0
- PHLS 8346 - Pediatric Psychopharmacology Credit Hours: 3.0



- PHLS 8348 - Evidence-Based Practice Credit Hours: 3.0
- PHLS 8361 - Ecological-Behavioral Interventions Credit Hours: 3.0
- PHLS 8362 - Innovative Academic Assessment & Intervention: RTI Credit Hours: 3.0
- PHLS 8363 - Research in School Psychology Credit Hours: 3.0
- PHLS 8364 - Professional Practice in Psyc: Ethics, Law, & Professional Issues Credit Hours: 3.0
- PHLS 8193 - Internship in Psychology Credit Hours: 1.0
(2 terms, one credit hour each term)
- PHLS 8699 - Doctoral Dissertation Credit Hours: 6
(or two sections of EPSY 8399 - 6 hours total)
- PHLS 8393 - Doctoral Practicum in Psy Credit Hours: 3.0
 - Advanced Practicum 1,
 - Advanced Practicum 2,
 - Advanced Practicum 3, and
 - Advanced Practicum 4

Department/College Required Courses

Category B: Department/College Required Courses (15 credit hours)

- PHLS 8300 - Advanced Educational & Psychological Measurement Credit Hours: 3.0
- PHLS 8322 - Intermediate Statistical Analysis in Psychological and Educational Research Credit Hours: 3.0
- PHLS 8324 - Multivariate Analysis in Psychological and Educational Research Credit Hours: 3.0
- PHLS 8351 - Hist & Philosophy of Psyc Syst Credit Hours: 3.0
- PHLS 7398 - Candidacy Research Credit Hours: 3.0

Additional Courses

Category C: Additional Required Courses (39 credit hours)

This list identifies additional required courses that also may be eligible for transfer credit.

33 required hours

- PSYC 6304 - Fndtns-Dev Psy Credit Hours: 3.0
 - PHLS 7393 - Internship and Practicum Credit Hours: 3.0
 - PHLS 7393 - Internship and Practicum 2 Credit Hours: 3.0
 - PHLS 8319 - Inferential Statistics in Psychological and Educational Research Credit Hours: 3.0
 - PHLS 8337 - Multicul Iss Coun Psych Credit Hours: 3.0
 - PHLS 8347 - Assessment of Cognitive Abilities Credit Hours: 3.0
 - PHLS 8366 - Assessment of Child & Adolescent Affect, Behavior, and Personality Credit Hours: 3.0
 - PHLS 8367 - Behavioral Consultation Credit Hours: 3.0
 - EDRS 8380 - Rsch Mthds in Educ Credit Hours: 3.0
 - PHLS 6397 - Selected Topics Credit Hours: 3
Topic(s) :
 - Child Psychopathology
 - PHLS 8397 - Selected Topics Credit Hours: 3.00
Topic(s) :
 - Cognitive and Affective Bases of Behavior
- 6 elective hours**
Biological Bases of Behavior (3 credit hours)
- PSYC 6308 - Foundations of Neuropsychology Credit Hours: 3.0



- PSYC 7342 - Bio Bases of Behav Credit Hours: 3.0
Social Psychological Processes (3 credit hours)
- PSYC 6338 - Fndtns of Social Psyc Credit Hours: 3.0
- PSYC 6380 - Pers Relationships:Theory Res Credit Hours: 3.0

Academic Policies

Ongoing and Annual Review

During the summer, or no later than the first week of classes in the fall term, the student's academic advisor formally conducts an annual review of each advisee's progress (first year students may also complete a preliminary review at the end of their first term). However, to ensure that emerging issues and concerns are addressed in a timely fashion, any or all of the following may also occur at any time.

At this review meeting, the student must submit proof of current membership in two professional organizations and proof of attendance at two professionally relevant continuing education activities during the prior year.

Department of Educational Leadership and Policy Studies

Chair: Dr. Catherine Horn

The Department of Educational Leadership & Policy Studies (DELPS) in the College of Education at the University of Houston strives to be among the nation's premier departments of graduate study for the development, management, and evaluation of K-20 educational organizations. Faculty and staff prepare aspiring educational leaders who will develop innovative, efficient, and socially just educational policy solutions through collaborative research, praxis, and practice activities. In addition, DELPS faculty and staff continuously maintain - and pursue - mutually beneficial school, district, college, university, legislative, and corporate partnerships to improve educational environments, organizations, and learning outcomes for all students. DELPS offers doctoral and master degree programs preparing university faculty, policy analysts, organizational managers, and educational administrators.

Administration and Supervision, MEd

The Master's Program in Administration and Supervision provides a strong foundation of knowledge, skills, real world experience, and innovative research to prepare students to be educational leaders. Graduates fill an important need in the community, serving in diverse positions in both public and private educational institutions. The degree fulfills requirements for the Texas Standard Principal Certificate. However, graduates also pursue positions across the educational community and in business settings.

The M.Ed. degree also fulfills requirements for the Texas Examinations of Educator Standards for Principal certification.

The Administration & Supervision program develops professional leadership, ethical, interpersonal and intrapersonal skills. Through specialized coursework, preparing for the Texas principal examinations, and clinical -based internships, students will have the ability to:

- Work in complex, fast-paced, and often-uncertain contexts unique to schools
- Have a high commitment to the safety and dignity of students
- Maintain a strong work ethic
- Understand the professional knowledge base for school administration and use it to think reflectively, critically and creatively in dealing with problems and dilemmas
- Show confidence in self to be an independent learner and act based on researched-based skills and knowledge
- Exhibit leadership with students, teachers, support staff, parents, and other community members to build and maintain a learning community within the school district and community
- Recognize the moral dimensions of schooling and maintain a high level of caring and ethics in motives, judgments, and interpersonal behavior



Unique features of this program:

- Faculty, including adjunct professors, have experience as campus and/or district leadership
- Internship experiences are embedded into the curriculum; the supervising mentor is compensated with a stipend (restrictions apply).

The program prepares graduates for academic leadership positions in public and non-public settings. It prepares professionals to work in a variety of roles as educators and mid to high-level administrative positions in:

- K-12 schools
- Community colleges
- Universities
- Technical schools
- Adult schools
- Educational agencies

Graduates of the M.Ed. in Administration and Supervision may pursue the following careers:

- Community College Professor
- School Principal
- Assistant School Principal
- K-12 School Administrator
- K-12 Team Leader
- K-12 Department Chair

Admission Requirements

- See Also: University Admission Requirements

The College of Education takes into consideration a number of criteria when determining admission, including prior college or university performance, letters of recommendation, standardized test scores and statement of intent. All applicants must abide by the minimum qualifications for admissions to a masters or doctoral program. All graduate applicants (regardless of citizenship status) must demonstrate proficiency in English to obtain admission to the University. For more information, visit <http://www.uh.edu/graduate-school/admissions/international-students/english-proficiency/>.

An applicant is responsible for ensuring that all required materials for the evaluation of admissions are received by the College before the program's deadline. If the application is not complete by the program's deadline, it will not be evaluated for the admissions. Full details of the online application process can be found at www.uh.edu/graduate-school/admissions/how-to-apply.

Applicant checklist:

1. Complete online graduate application including statement of interest, resume/c.v., letters of recommendation, and application fee payment.
2. Official transcripts from all previous college/university work sent to the UH Graduate School
3. Official reporting of GRE scores taken in the last five years
4. International students have additional documentation requirements which can be found at www.uh.edu/graduate-school/admissions/international-students/

Grade Point Average Requirements

Admission requirements for the College of Education require a minimum cumulative grade point average (GPA) of 2.6 for undergraduate coursework or over the last 60 credit hours of coursework. The College requires a minimum cumulative grade point average (GPA) of 3.0 for graduate coursework. The College's admission committees evaluate all credentials submitted by applicants to determine a student's ability and potential to succeed in graduate study. In addition, the committee is interested in the applicant's potential to contribute to his/her program of study and the University community as a whole.



Degree Requirements

Credit hours required for this degree: 30.0

To obtain a Master in Education for Administration and Supervision, students must complete **30 term hours and successfully pass the TExES Principal Certification Exam(s) or a program comprehensive exam.**

These hours will be derived from:

Classroom Instruction

(21 Credit Hours)

- ELCS 6301 - Leadership for Equity in Diverse Schools Credit Hours: 3
- ELCS 6304 - Law & Policy for School Leaders Credit Hours: 3
- ELCS 6310 - Strategic Engagement of School/Community Stakeholders Credit Hours: 3.0
- ELCS 6350 - School Leadership, The Principalship Credit Hours: 3
- ELCS 6370 - Research for Educational Leaders Credit Hours: 3.0
- ELCS 6330 - Finance & School-Based Budgeting Credit Hours: 3
- SPEC 6367 - Special Education for School Leaders Credit Hours: 3

Clinical-Based Internships

(3 Courses/9 Credit Hours)

- ELCS 6302 - Data-Informed Decision Making for School Leaders Credit Hours: 3
- ELCS 6320 - Instructional Supervision Credit Hours: 3.0
- ELCS 6393 - Practicum Credit Hours: 3.0

TExES Principal - M.Ed. in Administration and Supervision

Due to the critical role the principal plays in campus effectiveness and student achievement, and consistent with the Texas Education Code (TEC), §21.046(c), the rules adopted by the State Board for Educator Certification ensure that each candidate for the Principal Certificate is of the highest caliber and possesses the knowledge and skills necessary for success (Title 19, TAC §241). The M.Ed. in Administration and Supervision program emphasizes the training and coursework necessary for obtaining the knowledge, skills, and attributes for becoming an educational leader.

The Texas principal certification is offered through the M.Ed. program. Students are expected to complete all pre-requisite courses and internship requirements for the degree and certification.

Please review the COE Certification web page for application and additional information.

Disability Support, Certificate

Students in the Disability Support Certificate program will learn about: disabilities and disability law for educational and professional settings and will focus on the characteristics, intervention strategies, and services for individuals with disabilities; theory and principles of behavioral analysis in a variety of school and professional settings; how to conduct behavioral observations; design and use data collection tools; link interventions with appropriate data tools; and make evidence-based decisions; how to examine and apply evidence-based instructional strategies, programs, and tools for addressing the learning needs of individuals with disabilities; engage in discussions on state and federal laws as they pertain to the acquisition and use of assistive technology, navigate a range and variety of assistive technology, devices, services, and resources, including internet resources for



individuals with disabilities; and, collaborative, consult and coach with parents, families, teachers, administrators, and other professionals within the community.

Certificate Requirements

Credit hours required for this degree: 15.0

The certificate program is offered online.

- SPEC 6360 - Individuals with Disabilities Credit Hours: 3
- SPEC 6362 - Behavior: Evidence-Based Decisions Credit Hours: 3.00
- SPEC 6365 - Data-Based Individualization of Instruction Credit Hours: 3.00
- SPEC 6353 - Technology in Special Populations Credit Hours: 3
- SPEC 7391 - Collaborative Consultation and Coaching Credit Hours: 3

Higher Education Leadership and Policy Studies, PhD

College of Education > Department of Educational Leadership and Policy Studies > Higher Education Leadership and Policy Studies, PhD

This 66-hour doctoral program prepares students to conduct research and generate scholarship aimed at furthering a critical understanding of higher education and its role in society while providing service to our local, state, and national communities through the improvement of higher education, and in general the furthering of education for all people.

To accomplish those broad aims, the Ph.D. curriculum in Higher Education provides students multi-disciplinary opportunities to develop specific competency in key areas. A solid framework for understanding educational challenges and opportunities; the inherently global nature of all educational experiences and their outcomes; and the critical contribution of rigorous research to adequate policy development; and the connected enterprise of increasing educational opportunity and success among schools, communities, and businesses.

For more information, please visit <http://www.uh.edu/education/degree-programs/higher-ed-phd/>.

Admission Requirements

The College of Education takes into consideration a number of criteria when determining admission, including prior college or university performance, letters of recommendation, standardized test scores and statement of intent. All applicants must abide by the minimum qualifications for admissions to a master's or doctoral program. All graduate applicants (regardless of citizenship status) must demonstrate proficiency in English to obtain admission to the University. For more information, visit <http://www.uh.edu/graduate-school/admissions/international-students/english-proficiency/>.

An applicant is responsible for ensuring that all required materials for the evaluation of admissions are received by the College before the program's deadline. If the application is not complete by the program's deadline, it will not be evaluated for the admissions. Full details of the online application process can be found at www.uh.edu/graduate-school/admissions/how-to-apply.

Applicant checklist:

1. Complete online graduate application including statement of interest, resume/c.v., writing sample, letters of recommendation, and application fee payment
2. Official transcripts from all previous college/university work sent to the UH Graduate School.
3. Official reporting of GRE scores taken in the last five years
4. International students have additional documentation requirements which can be found at www.uh.edu/graduate-school/admissions/international-students/

Grade Point Average Requirements



Admission requirements for the College of Education require a minimum cumulative grade point average (GPA) of 2.6 for undergraduate coursework or over the last 60 credit hours of coursework. The College requires a minimum cumulative grade point average (GPA) of 3.0 for graduate coursework. The College's admission committees evaluate all credentials submitted by applicants to determine a student's ability and potential to succeed in graduate study. In addition, the committee is interested in the applicant's potential to contribute to his/her program of study and the University community as a whole.

Please visit the program's Admission Application Instructions page for more information

Degree Requirements

Credit hours required for this degree: 66.0

The curriculum for the HELPS Ph.D. program involves the completion of specific coursework that includes foundations of psychological and educational theory, statistics, and research methodology. Completion of the program typically requires three years of full time study, inclusive of coursework, candidacy research project, comprehensive exam, and dissertation.

Since degree plans are enhanced periodically to support continuous improvement planning objectives, students will follow their approved degree plan that is in place at the time in which they complete an official, approved degree plan. The most current sample degree plan and academic benchmarks are provided below.

In the first two full years of studies (i.e., fall, spring and summer in each year), students in the HELPS doctoral program are required to complete at least 6 hours of coursework each term (i.e., Fall, Spring, and Summer) to satisfy doctoral residency requirements. Students should reference the schedule of course offerings and, in consultation, identify the courses required for a given term.

Program Core Requirements (30 hours)

- CUST 8378 - Current Issues in Educ Credit Hours: 3.0
 - CUST 8375 - Hist & Phil of Higher Educ Credit Hours: 3.0
 - ELCS 7371 - Higher Educ Law Credit Hours: 3.0
 - ELCS 8331 - Finance in Higher Education Credit Hours: 3.0
 - ELCS 8332 - Student Dev in Post Sec. Inst Credit Hours: 3.0
 - ELCS 8338 - Admin Higher Educ Multiculset Credit Hours: 3.0
 - ELCS 8355 - Policy Pol & Gov of Education Credit Hours: 3.0
 - ELCS 8360 - Studies Post Secondary Educatn Credit Hours: 3.0
 - ELCS 8397 - Sem Top Ed Ldshp&Cul St Credit Hours: 3.0
- Topic(s):
- Economics of Education

Research Methods Core Requirements (15 hours)

- EDRS 8380 - Rsch Mthds in Educ Credit Hours: 3.0
- EDRS 8382 - Statistical Analyses in Educatn Credit Hours: 3.0
- SAER 8320 - Ethnog Mthds Educ Credit Hours: 3.0
- ELCS 8330 - Statistical Analyses Credit Hours: 3.0
- ELCS 8322 - Advanced Ethnographic Methods Credit Hours: 3.0

Independent Research Requirements (9 hours min)

Students in the HELPS program are required to satisfy two major research requirements:



1. the candidacy research paper, and
2. a doctoral dissertation.

Both of these projects typically involve the collection, analysis, and interpretation of quantitative and/or qualitative data.

- SAER 8388 - Sem-Res Ed Ldshp Pol St Credit Hours: 3.0
- ELCS 8399 - Doctoral Dissertation Credit Hours: 3 (for a total of at least 6 hours)

Specialization Electives (minimum 12 hours)

Students in the program are required to pursue one of the four Areas of Specialization within the program. These areas include Equity and Social Justice, International Perspectives, Policy and Politics, and Research Methods. Although all students in the program gain some background in these areas through the Program Area Core courses, students within each area add to their expertise by selecting electives relevant to a particular area of specialization. For these electives, students are encouraged to pursue coursework pertinent to their individual career goals, including courses offered by faculty within the Educational Leadership and Policy Studies Department as well as courses offered by other departments in the College of Education, and those related to the fields of sociology, economics, political science, and other behavioral and social sciences. These electives should be identified in consultation with the student's academic advisor.

Academic Policies

Professional Development Activities

Students in the HELPS program are required to satisfy a Professional Development requirement during their first year in the program. Students are required to complete a separate Residency Report for the Fall and Spring terms of their first year in the program that will serve to satisfy their doctoral residency/professional development requirement. These forms must be approved by the student's academic advisor, the chair of the department, and the Dean or his/her designee.

The following professional development activities are required for doctoral students in the HELPS program. Activities completed each term should be listed on separate Residency Reports for each term. Students should consult with their advisor regarding selection of additional activities that will augment their academic preparation in scholarship, teaching, and service, such as attending presentations of scholarly speakers at the University of Houston or elsewhere (e.g., Rice University, the Medical Center, in the community), assisting other doctoral students with data collection, etc.

1. Attend at least one defense of a candidacy research proposal in Educational Leadership and Policy Studies
2. Attend at least one defense of a candidacy research final paper in Educational Leadership and Policy Studies
3. Attend at least one defense of a dissertation proposal in Educational Leadership and Policy Studies
4. Attend at least one defense of a dissertation final paper in Educational Leadership and Policy Studies
5. Attendance at a local, state, or national conference that pertains to education or a relevant social science. The sessions attended may be listed as additional activities.☐
6. Attendance at the Houston Symposium for Research in Education, sponsored by the College of Education, when it is offered
7. Membership in the Graduate Students Organization
8. Student membership in a professional organization (e.g., American Educational Research Association, American Association for the Study of Higher Education)

Candidacy Research Paper

HELPS doctoral students must complete a candidacy research paper before they are eligible to have their Comprehensive Examination Portfolio submission materials officially reviewed. Students are expected to conduct a research project within the general domain of higher education. The scope of this research project should be equivalent to what would be expected from a master's level thesis. Students who previously have completed a Master's Thesis may petition to have the thesis count for the candidacy research requirement and should consult with their academic advisor regarding this matter.

Higher Education, MEd



The Higher Education Program at University of Houston is grounded in a philosophical belief in the transformational nature of higher education as an institution of social change. We believe our nation's future depends on our ability to make effective use of the enormous talent and resources represented by the diversity of our people and our ideas.

The Master's of Education (M.Ed.) in Higher Education prepares those who aspire to leadership positions in student affairs and other key administrative areas within a college or university. The Higher Education Program is grounded in a philosophical belief in the transformational nature of higher education as an institution of social change.

The M.Ed. in Higher Education is offered in both face-to-face and online formats. Both delivery methods use a cohort model that enables students to earn their master's degree in two years. The coursework addresses critical issues impacting college students and post-secondary institutions, and emphasizes the connection between theory and practice. Reflecting our strong commitment to experiential learning, our program provides a wide array of Graduate Assistantship, internship, and professional development opportunities.

Houston, the nation's fourth-largest city, is bustling with culture and energy and has recently gained recognition as America's next great global city. Our students come to study with us from all over the United States and internationally, and represent a diverse array of backgrounds and experiences. Students learn and study alongside a distinguished higher education faculty that includes current or former university chancellors and presidents, provosts, deans of students, and internationally renowned researchers. The Higher Education faculty and students are committed to solving critical issues related to college access, equity, affordability, student engagement and learning, and degree completion.

For further information, please see <http://www.uh.edu/education/degree-programs/higher-ed-m/>.

Admission Requirements

The College of Education takes into consideration a number of criteria when determining admission, including prior college or university performance, letters of recommendation, standardized test scores and statement of intent. All applicants must abide by the minimum qualifications for admissions to a masters or doctoral program. All graduate applicants (regardless of citizenship status) must demonstrate proficiency in English to obtain admission to the University. For more information, visit <http://www.uh.edu/graduate-school/admissions/international-students/english-proficiency/>.

An applicant is responsible for ensuring that all required materials for the evaluation of admissions are received by the College before the program's deadline. If the application is not complete by the program's deadline, it will not be evaluated for the admissions. Full details of the online application process can be found at www.uh.edu/graduate-school/admissions/how-to-apply.

Applicant checklist:

- Complete online graduate application including statement of interest, resume/c.v., letters of recommendation, and application fee payment.
- Official transcripts from all previous college/university work sent to the UH Graduate School.
- Official reporting of GRE scores taken in the last five years
- International students have additional documentation requirements which can be found at www.uh.edu/graduate-school/admissions/international-students/

GRE Waiver Option

The GRE requirement is waived for applicants to the M.Ed. in Higher Education who have at least one of the following from an institution accredited by one of the six regional accrediting associations as specified in the UH Minimum Qualifications for Admission to Masters and Doctoral Programs:

- an overall undergraduate grade point average of 3.00 or higher (on a 4-point scale), or
- a master's or terminal degree.



Grade Point Average Requirements

Admission requirements for the College of Education require a minimum cumulative grade point average (GPA) of 2.6 for undergraduate coursework or over the last 60 credit hours of coursework. The College requires a minimum cumulative grade point average (GPA) of 3.0 for graduate coursework. The College's admission committees evaluate all credentials submitted by applicants to determine a student's ability and potential to succeed in graduate study. In addition, the committee is interested in the applicant's potential to contribute to his/her program of study and the University community as a whole.

Degree Requirements

Credit hours required for this degree: 36.0

Our 36 credit hour M.Ed. curriculum adheres to recommendations for higher education graduate programs as outlined by the Council for the Advancement of Standards in Higher Education (CAS) and the Association for the Study of Higher Education (ASHE).

Each student completes a semester-long internship, and this experience is attached to a three credit hour course (ELCS 6393).

Required Courses (33 hours):

- CUST 6370 - Cultural Found Amer Edu Credit Hours: 3.0
- ELCS 6322 - Org & Admin Stud. Support Serv Credit Hours: 3.0
- ELCS 6332 - Student Develop/Student Affair Credit Hours: 3.0
- ELCS 6334 - Assessment & Evaluation in Higher Education Credit Hours: 3.0
- ELCS 6338 - American Higher Education Credit Hours: 3.0
- ELCS 6342 - Critical Issues in Higher Education Credit Hours: 3.0
- ELCS 6370 - Research for Educational Leaders Credit Hours: 3.0
- ELCS 6380 - Educational Planning & Policy Credit Hours: 3.0
- ELCS 6393 - Practicum Credit Hours: 3.0
- ELCS 7330 - Admin of Higher Educ I Credit Hours: 3.0
- ELCS 7354 - Leadership for Change Credit Hours: 3.0

Approved Electives List (3 hours)

Academic Policies

Internships in Higher Education

Students in the M.Ed. in Higher Education program complete a term-long internship that is connected to a three credit hour course (ELCS 6393: Internship in Educational Leadership). Internships engage students in educationally-related work and learning experiences that integrate knowledge and theory learned from their coursework with practical application in a professional setting. The internship is an essential component of the M.Ed. experience, as it affords students the opportunity to gain exposure to new administrative areas in higher education and clarify their career goals.

With guidance from their faculty advisor and the ELCS 6393 instructor, M.Ed. students are allowed to select an internship that supports their professional interests and career aspirations. While many of our students seek out their own internship experience, there are also established internship opportunities at UH offered through the Division of Student Affairs and Enrollment Services.

Professional Leadership - K-12, EdD

The EdD in Professional Leadership is a 51-credit hour program providing intensive research and applied skills for students grappling with real-world concerns in education. Students bring the most pressing concerns experienced by the educational community to each course. A Laboratory of



Practice and Doctoral Thesis provide students an avenue to apply the specifics of these problems to their other courses and their research. Students complete requirement for the Texas Examinations of Educator Standards (TExES) Superintendent (195) Certification.

Doctor of Education or Doctor of Philosophy

- Prerequisites
- Degree Requirements
- Residency Requirements
- Candidacy Project and Advancement to Candidacy
- Doctoral Comprehensive Exam Requirements
- Doctoral Thesis/Dissertation Requirements
- Graduation Requirements

Prerequisites

Students admitted to the EdD program in Curriculum and Instruction typically complete 18 semester credit hours of professional education courses and two years of teaching or the equivalent prior to academic study. The PhD programs consider applicants both with and without prior graduate credit.

Degree Requirements

Programs vary in length from 51 hours (the three specializations of Professional Leadership EdD) to, in some cases, more than 100 hours (Counseling Psychology and School Psychology if students have no prior graduate credit). The following represents minimal expectations regarding the completion of a doctoral degree in the College of Education. Some programs and/or departments may have additional degree requirements.

- At least six hours of doctoral thesis/dissertation credit.
- The completion of all degree requirements, including successful doctoral thesis/dissertation defense and internship, must take place within ten years from the date of admission to a degree program.
- A degree plan is required; students must complete a degree plan in MyAdvisor.
- All transfer and subsequent work require a minimum 3.00 grade point average (A=4.00). The college cannot give graduate credit for grades lower than a C.
- A graduate student receiving a grade of C+ or lower in 12 semester hours of credit at the University of Houston, whether or not in repeated courses, is ineligible for any advanced degree and cannot re-enroll for graduate study. Departments or programs may have grade point average or course performance expectation exceeding these requirements.
- The College of Education accepts a maximum of nine graduate credit hours from an accredited university, with the approval of a faculty advisor and the college's Associate Dean of Graduate Studies.
 - The University of Houston will not accept the transfer of courses with grades lower than B-, completed more than five years prior to the date of admission to the University, and/or applied to a previously completed degree program.
- The doctoral level courses number at the 7000- and 8000-levels. However, doctoral students are eligible to take graduate level courses numbered 6000. Students may consult course descriptions in this catalog for information on courses requiring prerequisites or special authorization.
- The College of Education requires a doctoral-level introduction to educational research. After successfully completing these requirements, all doctoral students must complete course work in qualitative and/or quantitative research methods. Selection of these courses should be consistent with the student's doctoral thesis or dissertation.

Residency Requirements



To fulfill residency requirements, students are in full-time status for two consecutive academic terms, an academic term, a consecutive 12-week summer session, or three consecutive 12-week summer sessions. The specific residency requirements vary among departments. At the end of each term of residency, students must complete a Residency Report in MyAdvisor for approval by their faculty advisor and college administration.

Candidacy Project and Advancement to Candidacy

Students must complete their candidacy project under the direction of a faculty member or advisor and successfully defend the paper to a departmental examining committee. At least 10 working days before the oral examination, the departmental examining committee members should receive copies of the candidacy paper. Candidates should consult their departmental office for additional and specific information regarding the candidacy project. After successful completion of a candidacy project, students must complete a Candidacy Report in MyAdvisor for approval by their faculty advisor and college administration.

In order to Advance to Candidacy, students complete a candidacy project, successfully defend their candidacy paper, pass a comprehensive examination, and effectively defend their doctoral thesis/dissertation proposal.

Doctoral Comprehensive Exam Requirements

Students must pass a comprehensive examination* after completing at least thirty-six (36) hours of course work. The student must also have an approved degree plan, residency application (if applicable), and a candidacy report documented in MyAdvisor. Students should not have incomplete grades and must maintain a 3.0 grade point average on all graduate coursework. Specific programs or departments may have additional requirements. Document the Doctoral Comprehensive Exam application and grade in MyAdvisor.

A student who fails the comprehensive examination on the first attempt may take the examination a second time with the written recommendation of the student's faculty advisor, program coordinator, and department chair. The Associate Dean of Graduate Studies will determine final approval for second examination attempt. **

Denial of a request for re-examination or if the second re-examination is a failing, the student shall be ineligible for a doctoral degree in the College of Education at the University. The college requires a re-examination if a student does not successfully defend their Doctoral Thesis/Dissertation within five years of their initial comprehensive examination.

**The Professional Leadership, EdD in Administration and Supervision (K-12) requires the TExES Superintendent Exam and Certification in lieu of a Doctoral Comprehensive Exam.*

***The Professional Leadership, EdD in Administration and Supervision (K-12) will allow two attempts for the TExES Superintendent Exam. Denial of a request for re-examination by the EPLS department may occur if a student fails the state exam twice. If denied, the student is ineligible for a doctoral degree in the College of Education at the University.*

Doctoral Thesis/Dissertation Requirements

Students must complete their doctoral thesis/dissertation to the satisfaction of their research committee and successfully defend their doctoral thesis/dissertation before their committee chair and appointed committee members.

Once enrolled in doctoral thesis/dissertation hours, enrollment must be continuous, with the exception of summers. Students who will graduate in the summer, however, must enroll in doctoral thesis/dissertation credit hours during this term.

The college requires students to submit their doctoral thesis/dissertation abstract and oral defense announcement in MyAdvisor. MyAdvisor automatically selects an oral defense date, 10 days in advance. The student will have the option to coordinate the oral defense time, location, and set date in MyAdvisor. Once the oral defense date, time, and location is determined, the student notifies their committee chair and appointed committee members. The committee chair and appointed committee members should receive a copy of the doctoral thesis/dissertation 10 days prior the defense date. The faculty Advisor documents the successful or unsuccessful oral defense in MyAdvisor.



The College requires a completed doctoral thesis/dissertation for MyAdvisor and the Texas Digital Libraries prior to graduation approval. For more information, visit the college's Office of Graduate Studies, 256 Farish Hall.

Graduation Requirements

The College requires completion of all applicable graduate coursework and benchmarks prior to proposed graduation. Students should file an application for graduation in MyUH early in the final term of their degree. The university's Academic Calendar lists the application filing deadlines per semester. For more information, visit the college's Office of Graduate Studies, 256 Farish Hall.

Required Courses:

To obtain a Doctorate in professional leadership, students must complete **51 semester hours, successfully pass the TExES Superintendency Exam (0195), and defend their Doctoral Thesis.**

These hours will be derived from:

- ELCS 8310 - The Superintendency Credit Hours: 3.0
 - ELCS 7392 - Internship in Superintendent Credit Hours: 3.0
 - ELCS 8315 - Transformational Leadership for School Administrators Credit Hours: 3
 - ELCS 8301 - Leadership Theory for School Administrators Credit Hours: 3
 - ELCS 7354 - Leadership for Change Credit Hours: 3.0
 - ELCS 8356 - Program Policy Evaluation Credit Hours: 3.0
 - ELCS 8361 - Public & Community Relations Credit Hours: 3.0
 - ELCS 8350 - Resource Management Credit Hours: 3
 - EDRS 8380 - Rsch Mthds in Educ Credit Hours: 3.0 (Part 1)
 - EDRS 8381 - Rsch Mthds in Educ Credit Hours: 3.0 (Part 2)
 - ELCS 8341 - Adult Learning Theory Credit Hours: 3
 - ELCS 8397 - Sem Top Ed Ldshp&Cul St Credit Hours: 3.0
- Total Hours of Required Courses: 39.0 Hours

Laboratory of Practice (1 Course/6 Hours)

- CUIIN 8310 - Laboratory of Practice Credit Hours: 3

Doctoral Thesis (1 Course/6 Hours)

- CUIIN 8690 - Doctoral Thesis Credit Hours: 6

Professional Leadership - Special Populations, EdD

College of Education > Department of Educational Leadership and Policy Studies > Professional Leadership - Special Populations, EdD

The Executive EdD in Professional Leadership-Special Populations prepares graduates for Professional and Instructional Leadership positions in a variety of settings and provides them with the tools to meet the needs of ALL students.



The EdD in Professional Leadership Special Populations is a 51-credit hour program providing intensive research and applied skills for students grappling with real-world concerns in education. Students bring the most pressing challenges experienced by the educational community to each course. A Laboratory of Practice and Doctoral Thesis provide students an avenue to apply the specifics of these problems to their other courses, their research, and provide support to their community.

The program prepares graduates for Professional and Instructional Leadership positions in a variety of settings and provides them with the tools to meet the needs of ALL students. Graduates are ready to assume positions as coaches, consultants, directors, and instructional leaders who grapple with the challenges faced by many students in the nation's schools.

For more information, please visit the Professional Leadership - Special Populations, EdD program page.

Admission Requirements

Students admitted to the EdD in Professional Leadership Special Populations program in the Department of Educational Leadership and Policy Studies (DELPS) typically have earned a Master's Degree in Education or a related field. Many prospective students work in educational, philanthropic, or healthcare fields.

Admission requirements for the College of Education require a minimum cumulative grade point average (GPA) of 2.6 for undergraduate coursework or over the last 60 credit hours of coursework. The College requires a minimum cumulative GPA of 3.0 for graduate coursework. The College's admission committees evaluate all credentials submitted by applicants to determine a student's ability and potential to succeed in graduate study. In addition, the committee is interested in the applicant's potential to contribute to his/her program of study and the University community as a whole.

Visit <http://www.uh.edu/graduate-school/admissions/how-to-apply> to start the application process.

Admission Materials

1. ApplyWeb Application
2. Transcripts
3. Official Test Scores
4. Statement of Interest
5. Resume or Curriculum Vitae
6. Letters of Recommendation
7. Application fee (\$80 domestic/\$75 international)

For more on admissions, please visit the College of Education Graduate Admissions page.

Degree Requirements

Credit hours required for this degree: 51.0

The Professional Leadership-Special Populations is designed to be completed in less than three years. Specifically, students will take fifty-one (51) credit hours of coursework across eight (8) semesters to complete the degree. Since degree plans are enhanced periodically to support continuous



improvement planning objectives, students will follow their approved degree plan that is in place at the time in which they complete an official, approved degree plan.

Research Core Coursework

9 credit hours

- EDRS 8380 - Rsch Mthds in Educ Credit Hours: 3.0
- EDRS 8381 - Rsch Mthds in Educ Credit Hours: 3.0
- SPEC 8375 - Research for Special Populations Credit Hours: 3
- SPEC 8376 - Research Methods for Low Incidence Populations Credit Hours: 3

Special Populations Coursework

15 credit hours

- SPEC 7341 - Assessment of Learning Difficulties Credit Hours: 3
- SPEC 7391 - Collaborative Consultation and Coaching Credit Hours: 3
- SPEC 8360 - Instructional Problems in Special Populations Credit Hours: 3.00
- SPEC 8365 - Administration and Supervision of Special Education Credit Hours: 3
- SPEC 8375 - Research for Special Populations Credit Hours: 3
- SPEC 8376 - Research Methods for Low Incidence Populations Credit Hours: 3

Cognate Supporting Courses

9 credit hours

- CUIIN 7373 - Instr Strat Tchng Adult Credit Hours: 3.0
 - PHLS 8345 - Adult Cognition and Learning Credit Hours: 3.0
- Choose one from the following:
- CUIIN 8303 - Seminal Thinkers Affecting American Education Credit Hours: 3

Professional Leadership Courses

9 credit hours

- ELCS 8325 - Instnl Leadercurri&Prof Develop Credit Hours: 3.0
 - ELCS 8340 - Organizatn & Admin Curriculum Credit Hours: 3.0
- Choose one from the following:
- ELCS 8345 - School-Based Budgeting and Practical Law Credit Hours: 3.0
 - ELCS 8355 - Policy Pol & Gov of Education Credit Hours: 3.0

Applied Research Coursework

9 credit hours

- CUIIN 8310 - Laboratory of Practice Credit Hours: 3



- CUIIN 8690 - Doctoral Thesis Credit Hours: 6

Registration for Doctoral Thesis Credits/Independent Study Courses

Once students sign up for doctoral thesis credits they must continuously enroll for a minimum of 3 credits of doctoral thesis every subsequent semester until the doctoral thesis is completed

Ongoing and Annual Review

The overall progress of all doctoral students is evaluated annually by faculty advisors associated with the DELPS program. Students are given feedback each year concerning the outcome of this evaluation. Students are in good standing if they:

- register continuously at the University in courses consistent with the approved degree plan, or seek a formal leave of absence from the program if they must interrupt their enrollment;
- maintain close contact with their faculty advisor concerning progress toward the degree;
- make adequate progress in their research (e.g., candidacy paper, etc.) in accordance with the length of time that the student has enrolled in the program; and,
- maintain adequate progress and performance in their coursework. Adequate progress includes formally resolving all Incompletes received in any course during the previous semesters.

Laboratory of Practice

Leaders in applied educational settings grapple with the identification and implementation of evidence based interventions and assessments. The program provides intensive research and applied skills development for students who face any of these real-world concerns. In Labs of Practice coursework, students bring the most pressing challenges experienced by the educational community to the experience. They learn as a team to network and support fellow members. Each member works on a grand challenge that faces them in their own professional context. The program offers students the intellectual space to read the research that relates to their challenge, source the interventions that have been tried in various educational settings, design solutions that will result in evidence based outcomes, and generate a plan of action for moving forward. This practical nature of the Labs of Practice experience ensures that students have an avenue to apply the specifics of these problems to their other courses and to their research. The program emphasizes problem solving, student collaboration, and planning for a future as an instructional coach/leader throughout the Labs of Practice 6 credit sequence.

Special Populations, MEd

The Special Populations Master's Program prepares professionals for the high-needs field of Special Education. Graduates find abundant opportunities for challenging and rewarding careers.

The Master's in Special Populations develops professional, interpersonal, and intrapersonal skills through:

- College of Education Core Coursework
- Special Education Content Coursework
- Comprehensive Exam

The Special Populations Master's Program prepares educators to assume positions in:

- Public and Private Early Childhood - 12th-grade school settings
- Educational and Social Agencies
- Foundations
- Public and Private Research Organizations
- Residential Facilities

Graduates with an MEd in Special Populations may pursue the following careers:



- Community College Instructors
- Educational Diagnosticians
- Special Education Teachers
- EC-12 Team Leaders
- EC-12 Department Chairs
- EC-12 Special Education Coordinators/Administrators*

The program offers five areas of emphasis:

- Special Education Emphasis (Online)
- Special Education Certification Emphasis (Hybrid)
- Educational Diagnostician Certification Emphasis (Hybrid)
- Gifted and Talented Emphasis (Online)
- Special Education Leadership Emphasis (Hybrid)

For further information, please see: <http://www.uh.edu/education/degree-programs/spec-ed-med/>.

Admission Requirements

The College of Education takes into consideration a number of criteria when determining admission, including prior college or university performance, letters of recommendation, standardized test scores and statement of intent. All applicants must abide by the minimum qualifications for admissions to a masters or doctoral program. All graduate applicants (regardless of citizenship status) must demonstrate proficiency in English to obtain admission to the University. For more information, visit <http://www.uh.edu/graduate-school/admissions/international-students/english-proficiency/>.

An applicant is responsible for ensuring that all required materials for the evaluation of admissions are received by the College before the program's deadline. If the application is not complete by the program's deadline, it will not be evaluated for the admissions. Full details of the online application process can be found at www.uh.edu/graduate-school/admissions/how-to-apply.

Applicant checklist:

1. Complete online graduate application including statement of interest, resume/CV, letters of recommendation, and application fee payment. Students applying to the Educational Diagnostician Certification emphasis area need to include a copy of their valid teaching certificate.
2. Official transcripts from all previous college/university work sent to the UH Graduate School
3. Official reporting of GRE scores taken in the last five years. For information about the GRE waiver, see this link: <http://www.uh.edu/education/admissions/graduate/admission-app-instructions/delops-gre-waiver.php#spec-pops>.
4. International students have additional documentation requirements, which can be found at <http://www.uh.edu/graduate-school/international-students/>.

Grade Point Average Requirements

Admission requirements for the College of Education require a minimum cumulative grade point average (GPA) of 2.6 for undergraduate coursework or over the last 60 credit hours of coursework. The College requires a minimum cumulative grade point average (GPA) of 3.0 for graduate coursework. The College's admission committees evaluate all credentials submitted by applicants to determine a student's ability and potential to succeed in graduate study. In addition, the committee is interested in the applicant's potential to contribute to his/her program of study and the University community as a whole.

Degree Requirements

Credit hours required for this degree: 30.0

The curriculum for the MEd in Special Populations Program involves the completion of specific coursework. This coursework is designed to be consistent with State of Texas Certification requirements and with the College of Education's conceptual model.



Core Coursework

9.0 Credit Hours

- SPEC 6360 - Individuals with Disabilities Credit Hours: 3
OR
- SPEC 6367 - Special Education for School Leaders Credit Hours: 3

- SPEC 6340 - Learning and Education Sciences Credit Hours: 3
- SPEC 6327 - Introduction to Educational and Psychological Measurement Credit Hours: 3.00

Special Education Emphasis

21.0 Credit Hours

Offered Online

This emphasis focuses on obtaining the necessary capacity for working with students with disabilities.

Students who complete the **Special Education** Emphasis:

- Understand, assess, and evaluate the needs of students with disabilities to make instructional decisions.
- Skillfully manage the teaching environment, including the use of assistive technology.
- Promote students' educational, behavioral and social performance.
- Apply knowledge of transition issues and teaching across the lifespan.
- SPEC 6353 - Technology in Special Populations Credit Hours: 3
- SPEC 6361 - Behavior: Interventions Credit Hours: 3.00
- SPEC 6362 - Behavior: Evidence-Based Decisions Credit Hours: 3.00
- SPEC 6363 - Instructional Interventions Credit Hours: 3.00
- SPEC 6365 - Data-Based Individualization of Instruction Credit Hours: 3.00
- SPEC 7391 - Collaborative Consultation and Coaching Credit Hours: 3
- SPEC 7343 - Psychological Processes of Reading Credit Hours: 3

Special Education Certification Emphasis

21.0 Credit Hours

Offered Online

This emphasis focuses on obtaining the necessary capacity for working with students with disabilities.

Students who complete the **Special Education** Emphasis:

- Understand, assess, and evaluate the needs of students with disabilities to make instructional decisions.
- Skillfully manage the teaching environment, including the use of assistive technology.
- Promote students' educational, behavioral and social performance.
- Apply knowledge of transition issues and teaching across the lifespan.
- Engage in the roles and responsibilities of the teaching profession.
- SPEC 6353 - Technology in Special Populations Credit Hours: 3
- SPEC 6361 - Behavior: Interventions Credit Hours: 3.00
- SPEC 6362 - Behavior: Evidence-Based Decisions Credit Hours: 3.00



- SPEC 6363 - Instructional Interventions Credit Hours: 3.00
- SPEC 6365 - Data-Based Individualization of Instruction Credit Hours: 3.00
- SPEC 7391 - Collaborative Consultation and Coaching Credit Hours: 3
- SPEC 7343 - Psychological Processes of Reading Credit Hours: 3

Additional information about certification requirements can be found at: <http://www.uh.edu/education/degree-programs/spec-ed-med/>.

Educational Diagnostician Certification Emphasis

21.0 Credit Hours

Offered Hybrid (Online and Classroom)

This emphasis prepares students for certification as Educational Diagnosticians in Texas Public Schools. Students in this program currently hold a teaching certificate in the State of Texas. This program extends teachers' special education expertise by developing the necessary skillset to assess and identify learning problems in children, consult with parents and teachers in a multidisciplinary setting, and assume leadership roles.

Students who complete the **Educational Diagnostician Certification** Emphasis:

- Understand federal and state disability criteria and identification procedures for determining the presence of an educational need.
- Recognize the significance of diversity for evaluation, planning, and instruction.
- Select, administer and interpret appropriate assessments and evaluations.
- Understand appropriate curricula and instructional strategies for developing the academic, behavioral and social skills of students with disabilities.
- Engage the roles and responsibilities of the teaching profession.

Required Courses

- SPEC 7391 - Collaborative Consultation and Coaching Credit Hours: 3
- SPEC 7341 - Assessment of Learning Difficulties Credit Hours: 3
- SPEC 7343 - Psychological Processes of Reading Credit Hours: 3

Electives (12 hours/4 courses)

Students without special education certification must choose SPEC 6361, SPEC 6362, SPEC 6363, and SPEC 6365.

Students with special education certification may request approval from the faculty advisor to substitute up to 3 of the special education content courses (SPEC 6361, SPEC 6362, SPEC 6363, and SPEC 6365) with leadership courses.

- SPEC 6361 - Behavior: Interventions Credit Hours: 3.00
- SPEC 6362 - Behavior: Evidence-Based Decisions Credit Hours: 3.00
- SPEC 6363 - Instructional Interventions Credit Hours: 3.00
- SPEC 6365 - Data-Based Individualization of Instruction Credit Hours: 3.00
- ELCS 6301 - Leadership for Equity in Diverse Schools Credit Hours: 3
- ELCS 6304 - Law & Policy for School Leaders Credit Hours: 3
- ELCS 6350 - School Leadership, The Principalship Credit Hours: 3

Additional information about certification requirements can be found at: <http://www.uh.edu/education/degree-programs/spec-ed-med/>.

Gifted and Talented Emphasis



21.0 Credit Hours

Offered Online

This emphasis prepares students to complete supplemental certification as Gifted and Talented while providing a thorough understanding of theory, research strategies, and best practices of gifted education.

Students who complete the **Gifted and Talented** Emphasis:

- Understand the standards for providing comprehensive services incorporating research-based best practices for gifted and talented learners.
- Recognize the significance of diversity for evaluation, planning, and instruction.
- Demonstrate knowledge of assessment instruments and gifted/talented identification procedures that provide students an opportunity to demonstrate their diverse talents and abilities.
- Meets the needs of gifted and talented students by modifying the depth, complexity, and pacing of the curriculum and instruction ordinarily provided by the school.
- **SPEC 6361 - Behavior: Interventions Credit Hours: 3.00**
- **SPEC 6363 - Instructional Interventions Credit Hours: 3.00**
- **SPEC 6365 - Data-Based Individualization of Instruction Credit Hours: 3.00**
- **SPEC 7391 - Collaborative Consultation and Coaching Credit Hours: 3**
- **SPEC 6349 - Introduction to the Education of Students with Gifts and Talents Credit Hours: 3**
- **SPEC 6350 - Nature of Needs of Students with Gifts and Talents Credit Hours: 3**

Special Education Leadership Emphasis

21.0 Credit Hours

Offered Hybrid (Online and Classroom)

This emphasis prepares students who are working with learners with disabilities and other special needs to assume administrative roles* in special education in a K-12 school or at the district level. Develops students into special education leaders* that have the skills to address the complex issues surrounding educating students with challenges related to learning, social, and emotional needs.

Students who complete the **Special Education Leadership** Emphasis:

- Apply current special education laws and policies to design and deliver inclusive special education and/or support for diverse students.
- Provide leadership* and expertise in assessing, identifying, and implementing special education needs and to collaborate with related services and other personnel, including school psychologists, educational diagnosticians, speech therapists, administrators, and teachers.
- Understand ethical decision making, innovative problem solving, and professional growth.
- Understand appropriate curricula and instructional strategies for developing the academic, behavioral and social skills of students with disabilities.
- **SPEC 6362 - Behavior: Evidence-Based Decisions Credit Hours: 3.00**
- **SPEC 6363 - Instructional Interventions Credit Hours: 3.00**
- **SPEC 6365 - Data-Based Individualization of Instruction Credit Hours: 3.00**
- **SPEC 7391 - Collaborative Consultation and Coaching Credit Hours: 3**
- **ELCS 6301 - Leadership for Equity in Diverse Schools Credit Hours: 3**
- **ELCS 6304 - Law & Policy for School Leaders Credit Hours: 3**
- **ELCS 6350 - School Leadership, The Principalship Credit Hours: 3**

Academic Policies



Comprehensive Exam

Students in the MEd in Special Populations Program may elect to complete either a written Comprehensive Examination or take and pass the relevant TExES Examination as part of a capstone to the program.

- **Comprehensive Exam**

The Department of Educational Leadership and Policy Studies regularly schedules written exams that test a student's comprehensive knowledge of the Special Populations Program area. Students have the option of taking a traditional written comprehensive examination. Students seeking certification may take the appropriate TExES Certification exam in lieu of the traditional written comprehensive examination. Students should apply for the exam in the last two semesters of their program through MyAdvisor. All students in the MEd in Special Populations program must successfully complete the Master's Comprehensive Examination.



Department of Curriculum and Instruction

Department of Curriculum and Instruction

Curriculum and Instruction, MEd - with Specializations

College of Education > Department of Curriculum and Instruction > Curriculum and Instruction, MEd - with Specializations

The Department of Curriculum and Instruction offers an M.Ed. in Curriculum & Instruction in the following specializations:

- Art Education
- Early Childhood Education
- Elementary Education
- Health Science Education
- Learning, Design, and Technology
- Mathematics Education
- Reading, Language Arts, and Literature Education
- Science Education
- Social Education/Social Studies
- STEM Education
- Teaching

The Department of Curriculum and Instruction prepares teachers and other educators to meet the special demands of educational, health, cultural, and other human service settings. The UH Teacher Education Program at the University of Houston has received the Distinguished Program in Teacher Education Award from the Association of Teacher Educators - the only competitive award for excellence in teacher education in the United States.

Admission Requirements

The College of Education takes into consideration a number of criteria when determining admission, including

- prior college or university performance,
- letters of recommendation,
- standardized test scores and
- statement of intent.

All applicants must abide by the minimum qualifications for admissions to a masters or doctoral program.

All graduate applicants (regardless of citizenship status) must demonstrate proficiency in English to obtain admission to the University.

- For more information, visit <http://www.uh.edu/graduate-school/admissions/international-students/english-proficiency/>.

An applicant is responsible for ensuring that all required materials for the evaluation of admissions are received by the College before the program's deadline. If the application is not complete by the program's deadline, it will not be evaluated for the admissions. Full details of the online application process can be found at www.uh.edu/graduate-school/admissions/how-to-apply.

Applicant checklist:

1. Complete online graduate application including statement of interest, resume/c.v., letters of recommendation, and application fee payment.
2. Official transcripts from all previous college/university work sent to the UH Graduate School.
3. Official reporting of GRE scores taken in the last five years



4. International students have additional documentation requirements which can be found at www.uh.edu/graduate-school/admissions/international-students/

Grade Point Average Requirements

- Admission requirements for the College of Education require a minimum cumulative grade point average (GPA) of 2.6 for undergraduate coursework or over the last 60 credit hours of coursework.
- The College requires a minimum cumulative grade point average (GPA) of 3.0 for graduate coursework.
- The College's admission committees evaluate all credentials submitted by applicants to determine a student's ability and potential to succeed in graduate study.
- In addition, the committee is interested in the applicant's potential to contribute to his/her program of study and the University community as a whole.

Degree Requirements

The Master of Education degree requires

- Completion of a minimum of 30 credit hours
 - In the areas of Mathematics Education and Social Education/Social Studies, there is also a 36-credit hour option.
 - All students, regardless of specialization, must complete the Curriculum and Instruction Core.
 - For the remaining requirements, please visit the pages for each specialization (list and links above)
- Successful capstone project.

Curriculum and Instruction Core

6.0 Credit Hours

- CUIIN 7303 - Professional Seminar I **Credit Hours: 3.0**
- CUIIN 7304 - Professional Seminar II **Credit Hours: 3.0**

Curriculum and Instruction, PhD

College of Education > Department of Curriculum and Instruction > Curriculum and Instruction, PhD

The PhD in Curriculum and Instruction prepares aspiring scholars and researchers to meet today's challenges to education in multicultural urban settings. The Houston metropolitan area, with over one and a half million K-12 students, is a laboratory of practice for our PhD students from nearby and from around the world. Here, they can engage in inquiry on critical issues and needs germane to education in an increasingly diverse society.

Graduates of the PhD program in Curriculum and Instruction typically pursue the following careers:

- University faculty members
- Researchers in educational settings
- Curriculum design experts
- Content area and program evaluation directors
- Advocates for policy improvements

Innovation, diversity and excellence are words that characterize this PhD program at the University of Houston. UH is recognized as one of only three national Tier One Hispanic-serving public research universities. It is also designated as an Asian-American serving institution. It is now welcoming the best and brightest local, national and international students into its PhD program in Curriculum and Instruction.

Specialization Areas



There are eight areas of emphasis within the Doctor of Education program that reflect specific career aspirations. Questions about a specialization should be directed to the faculty advisor in each of the areas described below.

Art Education. The doctoral program with specialization in Art Education is designed to prepare graduates for leadership roles in the teaching of art. Course work includes curriculum design, current issues and trends, and new technology in art. Students in the doctoral program are required to complete original research and are encouraged to be involved with professional organizations through publication and presentation. Study in this area prepares students for leadership roles as university teachers, curriculum coordinators for the public schools, and educational leadership in non-school settings such as museum education.

Early Childhood Education. The Early Childhood Education emphasis is designed to meet the educational needs of researchers who seek to improve their investigative and instructional skills in early childhood education settings within urban environments. Courses, field experiences, and research studies are complemented with progressively more involved curricula encompassing young children in group settings within public and private settings. Such training is the best possible preparation for careers in higher education, in schools as educational leaders and in child-related agencies.

Learning, Design, and Technology. The Learning, Design, and Technology emphasis prepares graduates to be active leaders in the use of instructional technologies in education at all levels, from early childhood through post-secondary, in business and industry, and in other organizations with educational components. The program emphasizes scholarly exploration in the areas of design and development of technology-based resources, curriculum development, teaching, design of learning environments, and assessment of programs and learning outcomes. Doctoral students develop broad understandings of current instructional technology trends and issues, as well as focus on a field of specialty that will provide for rich scholarly exploration in the future.

Mathematics Education. The doctoral program with an emphasis in Mathematics Education integrates curriculum and instructional theories, technology, issues of equity and social justice, research, and practice in order to prepare graduates to fill a variety of leadership positions. Graduates have assumed positions as mathematics education researchers, professional developers, mathematics supervisors in school districts, and mathematics teachers at elementary, secondary, and post-secondary levels. The degree offers students with opportunities to investigate mathematics education at all grade levels (pre-school through secondary).

Reading, Language Arts, and Literature. The doctoral program in Reading, Language Arts, and Literature concentrates on the effective teaching of reading, writing, and communicating. Literacy development, content area reading, clinical diagnosis, psychology of reading, reading comprehension, and the analysis of reading programs and other curriculum materials in language arts are studied in advanced seminars. In addition, this program provides for advanced study in literature for children and young adults. Graduates from the program are university professors, literacy curriculum specialists, school administrators, and campus literacy coaches.

Science Education. The doctoral program with emphasis in Science Education prepares graduates to fill a variety of leadership positions in education. The many graduates have assumed positions as: science education researchers and teacher trainers at universities; science supervisors in school systems; science teachers at pre-college and college levels; educational specialists at zoos, planetariums, and museums; and directors of training programs in business and industry. The degree serves to bridge the career aspirations of the candidate with his or her expertise and experiences. It places emphasis upon research and scholarly activity in the areas of curriculum development, teaching skills and instructional strategies, and theories of learning. A major focus is the improvement of scientific and technological literacy of school-age children and adults in the U.S.

Social Education. The doctoral program in Social Studies Education is designed to prepare college instructors, researchers, curriculum leaders, and teachers who are able to draw upon the social and behavioral sciences to understand and investigate problems in education. Program students are encouraged to select course work and learning experiences that are relevant to their own professional academic goals. The student may select a theme that will provide an interdisciplinary basis for his or her program. The program also provides for attention to the teaching of social issues, the social sciences and history as well as to such topics as curriculum construction, controversial issues, the conduct of inquiry, and political socialization.

Teaching and Teacher Education. This area of emphasis provides the student with an intensive study of curricular and teacher effectiveness. It has been designed to enable educational practitioners -teachers, supervisors, staff developers, administrators, and those who aspire to be involved in curriculum development or teacher preparation and training at the university or college level to engage in stimulating, in-depth study and research with nationally recognized faculty. The experiences have been carefully planned to provide a mixture of knowledge, research, and practical experience.

Admission Requirements



The College of Education takes into consideration a number of criteria when determining admission, including prior college or university performance, letters of recommendation, standardized test scores and statement of intent. All applicants must abide by the minimum qualifications for admissions to a masters or doctoral program. All graduate applicants (regardless of citizenship status) must demonstrate proficiency in English to obtain admission to the University. For more information, visit <http://www.uh.edu/graduate-school/admissions/international-students/english-proficiency>.

An applicant is responsible for ensuring that all required materials for the evaluation of admissions are received by the College before the program's deadline. If the application is not complete by the program's deadline, it will not be evaluated for the admissions. Full details of the online application process can be found at www.uh.edu/graduate-school/admissions/how-to-apply.

Applicant checklist:

1. Complete online graduate application including statement of interest, resume/c.v., writing sample, letters of recommendation, and application fee payment.
2. Official transcripts from all previous college/university work sent to the UH Graduate School.
3. Official reporting of GRE scores taken in the last five years
4. International students have additional documentation requirements which can be found at www.uh.edu/graduate-school/admissions/international-students/

Grade Point Average Requirements

Admission requirements for the College of Education require a minimum cumulative grade point average (GPA) of 2.6 for undergraduate coursework or over the last 60 credit hours of coursework. The College requires a minimum cumulative grade point average (GPA) of 3.0 for graduate coursework. The College's admission committees evaluate all credentials submitted by applicants to determine a student's ability and potential to succeed in graduate study. In addition, the committee is interested in the applicant's potential to contribute to his/her program of study and the University community as a whole.

Degree Requirements

Credit hours required for this degree: 66.0

Research Core (15.0 hours)

- CUIIN 8370 - Intro to Educational Research Credit Hours: 3.0
- CUIIN 8371 - Introduction to Quantitative Research Credit Hours: 3.0
- CUIIN 8372 - Introduction to Qual Research Credit Hours: 3.0
- Two **research methods** courses from the elective list below

Curriculum and Instruction Core (24.0 hours)

- CUIIN 7360 - Curriculum Theory Credit Hours: 3.0
- CUIIN 8345 - Curriculum and Instruction Seminar Credit Hours: 3.0
- CUIIN 8393 - Adv Internship & Prac Credit Hours: 3.0
- CUIIN 8341 - Critical Issues & Research in Urban Education Credit Hours: 3.0
- CUIIN 8342 - Social Justice and Equity Credit Hours: 3.0
- CUIIN 8352 - Adv Seminar in Instruct Tech Credit Hours: 3.0
- CUIIN 8361 - The State of the Curriculum Field in Education Credit Hours: 3.0
- CUIIN 7373 - Instr Strat Tchng Adult Credit Hours: 3.0

Program Area Emphasis/Electives (21.0 hours)



Research Methods Electives

After successful completion of the nine-hour introductory sequence (CUIN 8370, 8371, 8372), all doctoral students are required to complete two additional research courses (6 hours) in **quantitative or qualitative research methods** from the lists below, in consultation with their advisor.

Qualitative Methods

- CUIN 8365 - Organizational Psychology in Health Science Education Credit Hours: 3.0
- CUIN 8377 - Qualitative Inquiry in Education I Credit Hours: 3.0
- CUIN 8378 - Qualitative Inquiry in Education II Credit Hours: 3.0
- CUIN 8386 - Advanced Issues in Qualitative Research Credit Hours: 3.0
- SAER 8320 - Ethnographic Methods in Education Credit Hours: 3.0

Survey Methods & Measurement

- PHLS 8300 - Advanced Educational & Psychological Measurement Credit Hours: 3.0
- PHLS 8327 - Longitudinal Data Analysis in Psychology/Education Research Credit Hours: 3.0

Quantitative Methods

- PHLS 8321 - Structural Equation Modeling in Psychological and Educational Research Credit Hours: 3.0
- PHLS 8322 - Intermediate Statistical Analysis in Psychological and Educational Research Credit Hours: 3.0
- PHLS 8324 - Multivariate Analysis in Psychological and Educational Research Credit Hours: 3.0
- SAER 8321 - Survey Methods in Education Credit Hours: 3.0

Program Evaluation

- SAER 8370 - Program Evaluation Research Credit Hours: 3.0

Dissertation (6.0 hours)

- CUIN 8399 - Doctoral Dissertation Credit Hours: 3

Academic Policies

- About the College of Education

During the first term of the program, all PhD students will receive a reading list of articles and books that are considered required reading for the program. Students are responsible for studying the entire list before they apply for the qualifying examination. Specialization area will provide separate reading lists.

Qualifying Examination

The CUIN doctoral qualifying examination is intended to assess the student's understanding of educational research methodologies, of the chosen field of study, and of how this chosen field is situated in the broader field of Curriculum and Instruction. It is also intended to assess the student's capacity to move into the dissertation phase of the program. The CUIN doctoral qualifying examination will be offered only in the fall and spring terms.

Designing and Developing Educational Graphics Certificate

Education > Graduate Certificate Programs > Designing and Developing Educational Graphics Certificate

This program prepares professionals working in education or private industry who desire to enhance their ability to design, create, and evaluate educational multimedia.

Criteria include 12 graduate credit hours and program certificate requirements. The program area is in the Department of Curriculum and Instruction.



For further information, please see <http://www.uh.edu/education/degree-programs/cuin-ldt-med/certifications/>.

Admission Requirements

Applicant checklist:

- Online Application
- A bachelor's or master's degree from an accredited institution with a GPA that reflects the ability to achieve a 3.0 GPA in graduate courses
- Official transcripts showing degree conferral on file
- Personal Statement
- Resume or Curriculum Vitae
- Additional international admission requirements are found at www.uh.edu/graduate-school/admissions/international-students/.

Please note that with the ApplyWeb application, all documents are uploaded in the application and are to be received by the University no later than the deadline. Applicants are required to submit official transcripts (electronically or by mail) to the University's Graduate School.

For details on the graduate application process, visit www.uh.edu/graduate-school/admissions/how-to-apply/.

Certificate Requirements

Credit hours required for this certificate: 12.0

In consultation with their advisor, students choose four courses (12 hours total) from the following:

- CUIN 7305 - Design, Development, & Evaluation of Presentations **Credit Hours: 3.0** (Online)
- CUIN 7358 - Educational Uses of Digital Storytelling **Credit Hours: 3.0** (Online)
- CUIN 7368 - Digital Imaging in Education **Credit Hours: 3.0** (Hybrid)
- CUIN 7376 - New Tools for Creating Online Educational Materials **Credit Hours: 3.0** (Online)
- CUIN 7389 - Digital Media **Credit Hours: 3.0** (Online)
- CUIN 7390 - Instructional Design **Credit Hours: 3.0** (Online)

Designing and Developing Educational Multimedia Certificate

Education > Graduate Certificate Programs > Designing and Developing Educational Multimedia Certificate

This program prepares professionals working in education or private industry who desire to enhance their ability to design, create, and evaluate educational multimedia.

Criteria include 12 graduate credit hours and program certificate requirements. The program area is in the Department of Curriculum and Instruction.

For further information please see <http://www.uh.edu/education/degree-programs/cuin-ldt-med/certifications/>.

Admission Requirements

Applicant checklist:

- Online Application
- A bachelor's or master's degree from an accredited institution with a GPA that reflects the ability to achieve a 3.0 GPA in graduate courses
- Official transcripts showing degree conferral on file
- Personal statement
- Resume or curriculum vitae



- Additional international admission requirements are found at www.uh.edu/graduate-school/admissions/international-students/. Please note that with the ApplyWeb application, all documents are uploaded in the application and are to be received by the University no later than the deadline. Applicants are required to submit official transcripts (electronically or by mail) to the University's Graduate School.

For details on the graduate application process, visit www.uh.edu/graduate-school/admissions/how-to-apply/.

Certificate Requirements

Credit hours required for this certificate: 12.0

In consultation with their advisor, students choose four courses from the following:

- CUIIN 7305 - Design, Development, & Evaluation of Presentations **Credit Hours: 3.0** (Online)
- CUIIN 7357 - Collaborative Development of Multimedia **Credit Hours: 3.0** (Must be taken with CUIIN 7327) (Hybrid)
- CUIIN 7358 - Educational Uses of Digital Storytelling **Credit Hours: 3.0** (Online)
- CUIIN 7376 - New Tools for Creating Online Educational Materials **Credit Hours: 3.0** (Online)
- CUIIN 7389 - Digital Media **Credit Hours: 3.0** (Online)
- CUIIN 7390 - Instructional Design **Credit Hours: 3.0** (Online)

Innovative Technologies in Health Science Education, Certificate

Education > Graduate Certificate Programs > Innovative Technologies in Health Science Education, Certificate

The Innovative Technologies in Health Science Education Certificate is designed to provide healthcare professionals with expertise that will aid them as educators facilitating student learning and as managers of education programs, including curriculum leadership and scholarly inquiry into teaching and learning. The courses in this certificate provide students with the knowledge and skills necessary to use innovative technology tools to design interactive and engaging instructional resources that can be used in their professional careers. Courses specifically focus on how create effective, educationally-sound, technology-based learning materials for use in training environments as well as to support the professional development of adult learners.

Students in this certificate program typically work in a wide variety of different vocations. They include physicians, dentists, nurse educators, healthcare administrators, family therapists and others who work in various healthcare fields in the Texas Medical Center, the Houston area and other locations in the state and region.

We anticipate that upon earning the certificate, many of our graduates will apply for the Master's degree program or seek new employment opportunities in academic healthcare institutions or other locations where they will have educational roles and responsibilities in instructional design, curriculum development, teaching and more.

For more information, please visit the Certificate in Integrating Innovative Technologies in Health Science Education program page.

Admission Requirements

The Certificate program is delivered completely online and is open to applicants who:

- are currently working or have worked at a healthcare institution, or in private practice, and
- have earned a baccalaureate degree with an overall Grade Point Average (GPA) of at least 2.6 for undergraduate coursework (A = 4.00).

Applicants with an overall GPA of less than 2.6 cannot be admitted. Since all coursework may be completed online, students in the Certificate program do not need to live in the Houston area or attend any face-to-face classes.

More specific information is online at: <http://medical.coe.uh.edu/admissions.htm>



1. Admissions applications must be submitted online through the UH Graduate School at <http://www.uh.edu/graduate-school/admissions/how-to-apply/>
2. Scanned copies of official transcripts can be uploaded as PDF files and may be used by programs to make admission decisions. Please follow the instructions online to properly scan and upload your transcript. If admitted, however, you will not be able to enroll without the official transcript(s) showing undergraduate degree conferral on file.
Official transcript(s) should be sent to:

Regular Mail:	Express Mail:	Electronic or "Speede" Transcript
<i>University of Houston Graduate Admissions P.O. Box 3947 Houston, TX 77253-3947</i>	<i>University of Houston Graduate Admissions 4302 University Dr., Room 102 Houston, TX 77204-2012</i>	Within the U.S., the fastest way to send your transcript is electronically. Please inquire at your previous institution about this option. Electronic transcripts can be delivered to gradschool@uh.edu .

3. The Graduate Record Exam (GRE) is not required for admission to the Innovative Technologies in Health Science Education Certificate program.
4. There is no application fees for this Certificate program.

Certificate Requirements

Credit hours required for this certificate: 12.0

Students in the Innovative Technologies in Health Science Education Certificate program take a total of four courses (12 credit hours) that provide hands-on experiences with a variety of software applications and instructional strategies. Instruction is provided by faculty in the Learning, Design & Technology (LDT) Program at the University of Houston.

Required Courses

3 credits, choose one from:

- CUIIN 7390 - Instructional Design Credit Hours: 3.0
OR
- CUIIN 7391 - Curriculum Development for Health Sciences Education Credit Hours: 3.0

Elective Choices

9 credits, choose three from:

- CUIIN 7305 - Design, Development, & Evaluation of Presentations Credit Hours: 3.0
- CUIIN 7308 - Educational Uses of CMC Credit Hours: 3.0
- CUIIN 7356 - Issues in Distance Education Credit Hours: 3.0
- CUIIN 7358 - Educational Uses of Digital Storytelling Credit Hours: 3.0
- CUIIN 7368 - Digital Imaging in Education Credit Hours: 3.0
- CUIIN 7376 - New Tools for Creating Online Educational Materials Credit Hours: 3.0
- CUIIN 7389 - Digital Media Credit Hours: 3.0

Museum Education Certificate



The Museum Education Certificate capitalizes on Houston's community needs and assets. The University of Houston (UH) and the Museum District are rich cultural resources for residents. By forming a partnership, these institutions can more fully serve the communities they share. Graduate students looking for engaging ways to expand their horizons will have opportunities to learn and teach in unique environments beyond the K-12 classroom.

Museum Education Certificate Goals:

- Provide a unique set of experiences that expands understanding of museum pedagogy in the core disciplines of art, history, education, or the science
- Link UH with the Houston Museum community to provide "real world" experience and expand professional networks and job opportunities
- Activate understanding of community
- Introduce models of non-profit, cultural, and other educational resources
- Establish new career paths for students outside of traditional classroom settings that include museums, non-profit and cultural community organizations
- Prepare educators to use museums as educational resources and/or work in an art, history, and/or science museum setting

For more information please view the Graduate Certificate in Museum Education webpage.

Admission Requirements

For details on the graduate application process, visit www.uh.edu/graduate-school/admissions/how-to-apply/.

Applicant checklist:

- Online Application
- A bachelor's or master's degree from an accredited institution with a GPA that reflects the ability to achieve a 3.0 GPA in graduate courses
- Official transcripts showing degree conferral on file
- Personal Statement
- Resume or Curriculum Vitae
- Additional International Admission Requirements are found at www.uh.edu/graduate-school/admissions/international-students/

Please note that with the ApplyWeb application, all documents are uploaded in the application and are to be received by the University no later than the deadline. Applicants are required to submit official transcripts (electronically or by mail) to the University's Graduate School.

Certificate Requirements

Credit hours required for this certificate: 15.0

The 15 hour **Museum Education Certificate** program includes a series of three core courses (9 hours) followed by a 6 hour internship. Core courses provide the foundation of museum education and include the history, theory, practice and application of museum education principles. The internship will be at a Houston art, history, or science museum, aligns with the students' area of interest, and is designed in collaboration with the host museum. Students are admitted in the fall term only and can complete their certificate by the end of following summer. Courses are taught by CUIIN faculty in collaboration with museum partners.

Required Coursework

- CUIIN 6358 - Perspectives of Museum Education **Credit Hours: 3.0** (offered fall term)
- CUIIN 7302 - Community Education **Credit Hours: 3.0** (fall term)
- CUIIN 6359 - Museum Education Practice & Application II **Credit Hours: 3.0** (spring term)
- CUIIN 7692 - Internship **Credit Hours: 6.0** (summer term)



Online Teaching and Learning Certificate

Education > Graduate Certificate Programs > Online Teaching and Learning Certificate

This program prepares professionals working in education or private industry who desire to enhance their ability to design, create, and evaluate online learning.

Requirements include 12 graduate credit hours and program certificate criteria. The program area is in the Department of Curriculum and Instruction.

For more information please see the Online Teaching and Learning webpage.

Admission Requirements

Applicant checklist:

- Online Application
- A bachelor's or master's degree from an accredited institution with a GPA that reflects the ability to achieve a 3.0 GPA in graduate courses
- Official transcripts showing degree conferral on file
- Personal Statement
- Resume or Curriculum Vitae
- Additional International Admission Requirements are found at www.uh.edu/graduate-school/admissions/international-students/

Please note that with the ApplyWeb application, all documents are uploaded in the application and are to be received by the University no later than the deadline. Applicants are required to submit official transcripts (electronically or by mail) to the University's Graduate School.

For details on the graduate application process, visit www.uh.edu/graduate-school/admissions/how-to-apply/.

Certificate Requirements

Credit hours required for this certificate: 12.0

In consultation with their advisor, students choose four courses from the following:

- CUIIN 7308 - Educational Uses of CMC **Credit Hours: 3.0** (Online)
- CUIIN 7316 - Design Online Educational Resources **Credit Hours: 3.0** (Online)
- CUIIN 7318 - Current Issues in Learning & Design **Credit Hours: 3.0** (Online)
- CUIIN 7356 - Issues in Distance Education **Credit Hours: 3.0** (Online)
- CUIIN 7376 - New Tools for Creating Online Educational Materials **Credit Hours: 3.0** (Online)
- CUIIN 7390 - Instructional Design **Credit Hours: 3.0** (Online)

Professional Leadership - Health Science Education, EdD

College of Education > Department of Curriculum and Instruction > Professional Leadership - Health Science Education, EdD

The Executive Doctor of Education Degree (Ed.D.) in Professional Leadership with an Emphasis in Health Science Education prepares students for professional and administrative leadership positions in a variety of academic healthcare settings. The program provides intensive research and applied skills for students grappling with real-world educational needs and services in medicine, dentistry, nursing and other health-related areas. The design of the program emphasizes exploration, problem-solving and student collaboration in a variety of courses and research activities. A practical internship or Laboratory of Practice provides students with an avenue to apply the specifics of these problems to their course of study and research projects.



The multi-vocational model is a unique feature of the program that promotes inter-professional education and enhances networking between future healthcare professional leaders. The cohort design also ensures mutual encouragement and support with a low number of students able to complete the program. Physicians, dentists and nurse educators who work in the Texas Medical Center make up a majority of students in this program, however it may also be beneficial for researchers, program coordinators, residents, fellows and others interested in educational and/or leadership positions in academic healthcare settings.

We expect most of our graduates to seek positions in academic healthcare institutions or other locations where they will have leadership roles and responsibilities in several of the following areas:

- instructional design and curriculum development
- teaching
- program evaluation
- research design, data collection and analysis
- grant writing and assessment
- use of emerging technologies for teaching and learning

For more information, please visit the Executive Doctorate in Professional Leadership program page.

Admission Requirements

Applicants must possess a master's degree or higher, and are currently working, have worked, or are interested in working at a healthcare institution, or in private practice. All applicants must have earned a baccalaureate degree with an overall Grade Point Average (GPA) of at least 2.6 for undergraduate coursework (A = 4.00) and a master's degree with an overall GPA of at least 3.0 for master's level coursework.

Graduate Record Examination (GRE)

All applicants who have not already earned a terminal degree (such as an MD, DDS, PhD, etc.) are required to take the Graduate Record Exam (GRE), but there are no minimum scores required for admission. Applicants are expected to score at least at the 35th percentile of each section of the exam, however, GRE scores are just one measure we use to assess suitability for the program.

Admissions Decisions

Each applicant is treated on an individual basis and selected applicants will participate in one or more telephone or Skype interviews with the faculty admissions committee. Final admissions decisions are made by the faculty admissions committee that determines which applicants will be the best fit for this program.

Applying for Admission

1. Applications must be submitted online through the UH Graduate School menu, at <http://www.uh.edu/graduate-school/admissions/how-to-apply>
2. Scanned copies of official transcripts can be uploaded as PDF files and may be used by programs to make admission decisions. Please follow the instructions online to properly scan and upload your transcript. If admitted, however, you will not be able to enroll without the official transcript(s) showing undergraduate degree conferral on file.

Regular Mail:	Express Mail:	Electronic or "Speede" Transcript:
University of Houston Graduate Admissions	University of Houston Graduate Admissions	Within the U.S., the fastest way to send your transcript is electronically. Please inquire at your previous institution about this option. Electronic



P.O. Box 3947 Houston, TX 77253-3947	4302 University Dr., Rm 102 Houston, TX 77204-2012	transcripts can be delivered via email to gradschool@uh.edu
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3. Applicants should request that official results of the Graduate Record Examination test scores be sent to the University of Houston Main Campus.
4. An admission fee of \$80 for a domestic application and \$75 fee for an international application must be submitted.
5. All applicants must also submit the following documents:
 - Statement of Interest
 - Resume or Curriculum Vitae
 - Writing Sample
 - Letters of Recommendation

Degree Requirements

Students in the program will complete a total of 17 courses over approximately 3 years, culminating in writing and defending a doctoral research thesis. Two courses are offered in the fall, spring and summer semesters. Face-to-face classes are held in the Texas Medical Center. These classes are typically held on Mondays and Thursdays from 5:00pm to 8:00pm. Summer classes are usually offered online. Additionally, there are short, intersession classes during the winter break and between the end of the spring and summer semesters.

Required Courses

Year 1

Fall Term

- CUIIN 8397 - Selected Topics in C&I Credit Hours: 3
Topic: Academic Writing for Doctoral Candidates
- CUIIN 8380 - Research Methods in CUIIN Credit Hours: 3.0

Fall Intersession

December - January

- CUIIN 8310 - Laboratory of Practice Credit Hours: 3

Spring Term

- CUIIN 7397 - Selected Topics in CUIIN Credit Hours: 3
Topic: Learning and Development
- CUIIN 8397 - Selected Topics in C&I Credit Hours: 3
Topic: Organizational Psychology

Spring Intersession

May

- CUIIN 8310 - Laboratory of Practice Credit Hours: 3



Summer Term

Odd-numbered years

- CUIIN 7305 - Design, Development, & Evaluation of Presentations Credit Hours: 3.0
- CUIIN 7389 - Digital Media Credit Hours: 3.0

Year 2

Fall Term

- CUIIN 8320 - C&I Doctoral Rsch Sem Credit Hours: 3.0
- CUIIN 8340 - Survey and Research in Early Childhood Education Credit Hours: 3.00

Fall Intersession

December - January

- ELCS 8325 - Instnl Leadercurri&Prof Develop Credit Hours: 3.0

Spring Term

- CUIIN 8318 - Issues in Urban Education Credit Hours: 3.0
- CUIIN 8381 - Research Methods Credit Hours: 3.0

Summer Term

Even-numbered years

- CUIIN 7376 - New Tools for Creating Online Educational Materials Credit Hours: 3.0
- CUIIN 7356 - Issues in Distance Education Credit Hours: 3.0

Year 3

Fall and Spring Terms

- CUIIN 8390 - Doctoral Thesis Credit Hours: 3

Or Fall only

- CUIIN 8690 - Doctoral Thesis Credit Hours: 6

Other Program Requirements

In addition to the courses, students must also complete doctoral comprehensive exam portfolio, a doctoral candidacy paper and a five-chapter doctoral thesis.



- The candidacy paper consists of the first two chapters of the doctoral thesis which are reviewed by a student's advisor and other members of a faculty thesis committee before being orally defended before the committee.
- The Comprehensive Exam Portfolio consists of a series of artifacts that showcase curriculum, research, teaching, and other relevant professional competencies that students have attained from coursework and various academic experiences during their doctoral studies. These are the six required components of the Doctoral Comprehensive Examination Portfolio:
 1. Doctoral Comprehensive Examination Submission Form
 2. Goal Statement and Curriculum Vita
 3. Foundations of the Program
 4. Scholarship
 5. Teaching
 6. Professional Development
- The doctoral thesis proposal consists of the first three chapters of the doctoral thesis which are reviewed by a student's advisor and other members of a faculty thesis committee before being orally defended before the committee.
- The final doctoral thesis consists of the all five chapters of the doctoral thesis which are reviewed by a student's advisor and other members of a faculty thesis committee before being orally defended before the committee. Oral defenses of the candidacy paper, thesis proposal and final thesis take approximately 1 to 1 ½ hours each and are held in the Texas Medical Center or on the University of Houston campus.

Academic Policies

- University of Houston Academic Policies
Upon admission to the Executive Doctoral Program in Professional Leadership with an Emphasis in Health Science Education, students will receive a copy of the Student Handbook. The Student Handbook provides an overview of program requirements, policy, rules, and regulations and is designed to facilitate students' progress toward the attainment of their degree. The purpose of the handbook is to supplement and clarify - not supersede - policies and procedures provided at the College of Education and the University of Houston level.

Professional Leadership - Literacy Education, EdD

College of Education > Department of Curriculum and Instruction > Professional Leadership - Literacy Education, EdD

The Executive EdD in Professional Leadership-Literacy Education is a 51-hour doctoral program focusing on research and applied skills for educators grappling with current issues in education in urban contexts. The program is designed to facilitate the knowledge, skills and dispositions needed for professional and instructional leadership in urban schools, community organizations, museums and related educational institutions. The program is designed as a cohort model with online, hybrid and flipped courses.

For more information, please visit the Executive EdD in Professional Leadership program page.

Admission Requirements

The College of Education takes into consideration a number of criteria when determining admission, including prior college or university performance, letters of recommendation, standardized test scores and statement of intent. All applicants must abide by the minimum qualifications for admissions to a masters or doctoral program. All graduate applicants (regardless of citizenship status) must demonstrate proficiency in English to obtain admission to the University. For more information, visit <http://www.uh.edu/graduate-school/admissions/international-students/english-proficiency>.

An applicant is responsible for ensuring that all required materials for the evaluation of admissions are received by the College before the program's deadline. If the application is not complete by the program's deadline, it will not be evaluated for the admissions. Full details of the online application process can be found at www.uh.edu/graduate-school/admissions/how-to-apply.

Applicant checklist



- Complete online graduate application including statement of interest, resume/c.v., writing sample, letters of recommendation, and application fee payment.
- Official transcripts from all previous college/university work sent to the UH Graduate School.
- Official reporting of GRE scores taken in the last five years
- International students have additional documentation requirements which can be found at www.uh.edu/graduate-school/admissions/international-students/

Grade Point Average Requirements

Admission requirements for the College of Education require a minimum cumulative grade point average (GPA) of 2.6 for undergraduate coursework or over the last 60 credit hours of coursework. The College requires a minimum cumulative grade point average (GPA) of 3.0 for graduate coursework. The College's admission committees evaluate all credentials submitted by applicants to determine a student's ability and potential to succeed in graduate study. In addition, the committee is interested in the applicant's potential to contribute to his/her program of study and the University community as a whole.

For more information, please visit the College of Education Graduate Admissions page.

Degree Requirements

Credit hours required for this degree: 51.0

Core

9 Credit Hours

- CUIIN 8318 - Issues in Urban Education Credit Hours: 3.0
- TBA

Research

9 Credit Hours

- CUIIN 8380 - Research Methods in CUIIN Credit Hours: 3.0
- CUIIN 8381 - Research Methods Credit Hours: 3.0
- TBA

Specialization

12 Credit Hours

Leadership Courses

9 Credit Hours

- TBA

Laboratory of Practice



6 Credit Hours

- CUIIN 8310 - Laboratory of Practice Credit Hours: 3

EdD Doctoral Thesis

6 Credit Hours

- CUIIN 8390 - Doctoral Thesis Credit Hours: 3

Professional Leadership - Mathematics Education, EdD

College of Education > Department of Curriculum and Instruction > Professional Leadership - Mathematics Education, EdD

The EdD in Professional Leadership, with an emphasis in mathematics education, is a 51-hour program at University of Houston Sugarland providing research and applied skills for educators grappling with current issues in urban settings. The program is designed to facilitate the knowledge, skills and dispositions needed for instructional leadership in curriculum and instruction in urban schools, community organizations, museums and related educational institutions. The intent of the program is for graduates of this program to remain in educational settings as instructional leaders.

Graduates of the 51-hour EdD in Professional Leadership will typically pursue the following careers:

- Curriculum managers
- School department leads or heads
- Education directors for community agencies
- Higher education faculty
- District data collectors and evaluators

For more information, please visit the Executive Ed.D. Professional Leadership - Mathematics Education program page.

Admission Requirements

The College of Education takes into consideration a number of criteria when determining admission, including prior college or university performance, letters of recommendation, standardized test scores and statement of intent. All applicants must abide by the minimum qualifications for admissions to a masters or doctoral program. All graduate applicants (regardless of citizenship status) must demonstrate proficiency in English to obtain admission to the University. For more information, visit <http://www.uh.edu/graduate-school/admissions/international-students/english-proficiency>.

An applicant is responsible for ensuring that all required materials for the evaluation of admissions are received by the College before the program's deadline. If the application is not complete by the program's deadline, it will not be evaluated for the admissions. Full details of the online application process can be found at www.uh.edu/graduate-school/admissions/how-to-apply.

Applicant checklist:

1. Complete online graduate application including statement of interest, resume/c.v., writing sample, letters of recommendation, and application fee payment.
2. Official transcripts from all previous college/university work sent to the UH Graduate School.
3. Official reporting of GRE scores taken in the last five years
4. International students have additional documentation requirements which can be found at www.uh.edu/graduate-school/admissions/international-students/

Grade Point Average Requirements



Admission requirements for the College of Education require a minimum cumulative grade point average (GPA) of 2.6 for undergraduate coursework or over the last 60 credit hours of coursework. The College requires a minimum cumulative grade point average (GPA) of 3.0 for graduate coursework. The College's admission committees evaluate all credentials submitted by applicants to determine a student's ability and potential to succeed in graduate study. In addition, the committee is interested in the applicant's potential to contribute to his/her program of study and the University community as a whole.

For more information, please visit the College of Education Graduate Admissions page.

Degree Requirements

Credit hours required for this degree: 51.0

Core

9 Credit Hours

- CUIIN 8318 - Issues in Urban Education Credit Hours: 3.0
- CUIIN 8325 - Research in Math Education Credit Hours: 3.0
- PHLS 8345 - Adult Cognition and Learning Credit Hours: 3.0

Research

9 Credit Hours

- CUIIN 8380 - Research Methods in CUIIN Credit Hours: 3.0
- CUIIN 8381 - Research Methods Credit Hours: 3.0
- EDRS 8383 - Action Research Credit Hours: 3.0

Specialization

12 Credit Hours

- CUIIN 7332 - Teaching and Learning Math Credit Hours: 3.0
- CUIIN 7340 - Issues in Mathematics Education Credit Hours: 3.0
- CUIIN 8326 - Math Education Leadership & Coaching Credit Hours: 3
- CUIIN 8346 - Teaching Mathematics and Science with Technology Credit Hours: 3

Cognate and Supporting Courses

9 Credit Hours

- CUIIN 8366 - Academic Writing for Doctoral Candidates Credit Hours: 3
- ELCS 8340 - Organizatn & Admin Curriculum Credit Hours: 3.0
- ELCS 8356 - Program Policy Evaluation Credit Hours: 3.0

Laboratory of Practice

6 Credit Hours



- CUIIN 8310 - Laboratory of Practice Credit Hours: 3

EdD Doctoral Thesis

6 Credit Hours

- CUIIN 8690 - Doctoral Thesis Credit Hours: 6

Professional Leadership - Social Studies/Social Education, EdD

College of Education > Department of Curriculum and Instruction > Professional Leadership - Social Studies/Social, EdD

The Executive EdD in Professional Leadership-Social Studies/Social Education is a 51-hour doctoral program focusing on research and applied skills for educators grappling with current issues in education in urban contexts. The program is designed to facilitate the knowledge, skills and dispositions needed for professional and instructional leadership in urban schools, community organizations, museums and related educational institutions. The program is designed as a cohort model with online, hybrid and flipped courses.

For more information, please visit Professional Leadership -Social Studies/Social Education, EdD program page.

Admission Requirements

The College of Education takes into consideration a number of criteria when determining admission, including prior college or university performance, letters of recommendation, standardized test scores and statement of intent. All applicants must abide by the minimum qualifications for admissions to a masters or doctoral program. All graduate applicants (regardless of citizenship status) must demonstrate proficiency in English to obtain admission to the University. For more information, visit <http://www.uh.edu/graduate-school/admissions/international-students/english-proficiency>.

An applicant is responsible for ensuring that all required materials for the evaluation of admissions are received by the College before the program's deadline. If the application is not complete by the program's deadline, it will not be evaluated for the admissions. Full details of the online application process can be found at www.uh.edu/graduate-school/admissions/how-to-apply.

Applicant checklist

1. Complete online graduate application including statement of interest, resume/CV, writing sample, letters of recommendation, and application fee payment.
2. Official transcripts from all previous college/university work sent to the UH Graduate School.
3. Official reporting of GRE scores taken in the last five years
4. International students have additional documentation requirements which can be found at www.uh.edu/graduate-school/admissions/international-students/

Grade Point Average Requirements

Admission requirements for the College of Education require a minimum cumulative grade point average (GPA) of 2.6 for undergraduate coursework or over the last 60 credit hours of coursework. The College requires a minimum cumulative grade point average (GPA) of 3.0 for graduate coursework. The College's admission committees evaluate all credentials submitted by applicants to determine a student's ability and potential to succeed in graduate study. In addition, the committee is interested in the applicant's potential to contribute to his/her program of study and the University community as a whole.

For more information, please visit the College of Education Graduate Admissions page.

Degree Requirements



Credit hours required for this degree: 51.0

Core Coursework

9 credit hours

- CUIIN 8318 - Issues in Urban Education Credit Hours: 3.0
- TBA

Research Coursework

9 credit hours

- CUIIN 8380 - Research Methods in CUIIN Credit Hours: 3.0
- CUIIN 8381 - Research Methods Credit Hours: 3.0
- CUIIN 8336 - Research in Social Education Credit Hours: 3.0

Specialization Coursework

12 credit hours

- TBA

Leadership Coursework

9 credit hours

- TBA

Laboratory of Practice

6 credit hours

- CUIIN 8310 - Laboratory of Practice Credit Hours: 3

EdD Doctoral Thesis

6 credit hours

- CUIIN 8390 - Doctoral Thesis Credit Hours: 3



Educational Leadership and Policy Studies

Department of Educational Leadership and Policy Studies

Administration and Supervision, MEd

The Master's Program in Administration and Supervision provides a strong foundation of knowledge, skills, real world experience, and innovative research to prepare students to be educational leaders. Graduates fill an important need in the community, serving in diverse positions in both public and private educational institutions. The degree fulfills requirements for the Texas Standard Principal Certificate. However, graduates also pursue positions across the educational community and in business settings.

The M.Ed. degree also fulfills requirements for the Texas Examinations of Educator Standards for Principal certification.

The Administration & Supervision program develops professional leadership, ethical, interpersonal and intrapersonal skills. Through specialized coursework, preparing for the Texas principal examinations, and clinical -based internships, students will have the ability to:

- Work in complex, fast-paced, and often-uncertain contexts unique to schools
- Have a high commitment to the safety and dignity of students
- Maintain a strong work ethic
- Understand the professional knowledge base for school administration and use it to think reflectively, critically and creatively in dealing with problems and dilemmas
- Show confidence in self to be an independent learner and act based on researched-based skills and knowledge
- Exhibit leadership with students, teachers, support staff, parents, and other community members to build and maintain a learning community within the school district and community
- Recognize the moral dimensions of schooling and maintain a high level of caring and ethics in motives, judgments, and interpersonal behavior

Unique features of this program:

- Faculty, including adjunct professors, have experience as campus and/or district leadership
- Internship experiences are embedded into the curriculum; the supervising mentor is compensated with a stipend (restrictions apply).

The program prepares graduates for academic leadership positions in public and non-public settings. It prepares professionals to work in a variety of roles as educators and mid to high-level administrative positions in:

- K-12 schools
- Community colleges
- Universities
- Technical schools
- Adult schools
- Educational agencies

Graduates of the M.Ed. in Administration and Supervision may pursue the following careers:

- Community College Professor
- School Principal
- Assistant School Principal
- K-12 School Administrator
- K-12 Team Leader
- K-12 Department Chair

Admission Requirements



- See Also: University Admission Requirements

The College of Education takes into consideration a number of criteria when determining admission, including prior college or university performance, letters of recommendation, standardized test scores and statement of intent. All applicants must abide by the minimum qualifications for admissions to a masters or doctoral program. All graduate applicants (regardless of citizenship status) must demonstrate proficiency in English to obtain admission to the University. For more information, visit <http://www.uh.edu/graduate-school/admissions/international-students/english-proficiency/>.

An applicant is responsible for ensuring that all required materials for the evaluation of admissions are received by the College before the program's deadline. If the application is not complete by the program's deadline, it will not be evaluated for the admissions. Full details of the online application process can be found at www.uh.edu/graduate-school/admissions/how-to-apply.

Applicant checklist:

1. Complete online graduate application including statement of interest, resume/c.v., letters of recommendation, and application fee payment.
2. Official transcripts from all previous college/university work sent to the UH Graduate School
3. Official reporting of GRE scores taken in the last five years
4. International students have additional documentation requirements which can be found at www.uh.edu/graduate-school/admissions/international-students/

Grade Point Average Requirements

Admission requirements for the College of Education require a minimum cumulative grade point average (GPA) of 2.6 for undergraduate coursework or over the last 60 credit hours of coursework. The College requires a minimum cumulative grade point average (GPA) of 3.0 for graduate coursework. The College's admission committees evaluate all credentials submitted by applicants to determine a student's ability and potential to succeed in graduate study. In addition, the committee is interested in the applicant's potential to contribute to his/her program of study and the University community as a whole.

Degree Requirements

Credit hours required for this degree: 30.0

To obtain a Master in Education for Administration and Supervision, students must complete **30 term hours and successfully pass the TExES Principal Certification Exam(s) or a program comprehensive exam.**

These hours will be derived from:

Classroom Instruction

(21 Credit Hours)

- ELCS 6301 - Leadership for Equity in Diverse Schools Credit Hours: 3
- ELCS 6304 - Law & Policy for School Leaders Credit Hours: 3
- ELCS 6310 - Strategic Engagement of School/Community Stakeholders Credit Hours: 3.0
- ELCS 6350 - School Leadership, The Principalship Credit Hours: 3
- ELCS 6370 - Research for Educational Leaders Credit Hours: 3.0
- ELCS 6330 - Finance & School-Based Budgeting Credit Hours: 3
- SPEC 6367 - Special Education for School Leaders Credit Hours: 3

Clinical-Based Internships



(3 Courses/9 Credit Hours)

- ELCS 6302 - Data-Informed Decision Making for School Leaders Credit Hours: 3
- ELCS 6320 - Instructional Supervision Credit Hours: 3.0
- ELCS 6393 - Practicum Credit Hours: 3.0

TEXES Principal - M.Ed. in Administration and Supervision

Due to the critical role the principal plays in campus effectiveness and student achievement, and consistent with the Texas Education Code (TEC), §21.046(c), the rules adopted by the State Board for Educator Certification ensure that each candidate for the Principal Certificate is of the highest caliber and possesses the knowledge and skills necessary for success (Title 19, TAC §241). The M.Ed. in Administration and Supervision program emphasizes the training and coursework necessary for obtaining the knowledge, skills, and attributes for becoming an educational leader.

The Texas principal certification is offered through the M.Ed. program. Students are expected to complete all pre-requisite courses and internship requirements for the degree and certification.

Please review the COE Certification web page for application and additional information.

Disability Support, Certificate

Students in the Disability Support Certificate program will learn about: disabilities and disability law for educational and professional settings and will focus on the characteristics, intervention strategies, and services for individuals with disabilities; theory and principles of behavioral analysis in a variety of school and professional settings; how to conduct behavioral observations; design and use data collection tools; link interventions with appropriate data tools; and make evidence-based decisions; how to examine and apply evidence-based instructional strategies, programs, and tools for addressing the learning needs of individuals with disabilities; engage in discussions on state and federal laws as they pertain to the acquisition and use of assistive technology, navigate a range and variety of assistive technology, devices, services, and resources, including internet resources for individuals with disabilities; and, collaborative, consult and coach with parents, families, teachers, administrators, and other professionals within the community.

Certificate Requirements

Credit hours required for this degree: 15.0

The certificate program is offered online.

- SPEC 6360 - Individuals with Disabilities Credit Hours: 3
- SPEC 6362 - Behavior: Evidence-Based Decisions Credit Hours: 3.00
- SPEC 6365 - Data-Based Individualization of Instruction Credit Hours: 3.00
- SPEC 6353 - Technology in Special Populations Credit Hours: 3
- SPEC 7391 - Collaborative Consultation and Coaching Credit Hours: 3

Higher Education Leadership and Policy Studies, PhD

College of Education > Department of Educational Leadership and Policy Studies > Higher Education Leadership and Policy Studies, PhD

This 66-hour doctoral program prepares students to conduct research and generate scholarship aimed at furthering a critical understanding of higher education and its role in society while providing service to our local, state, and national communities through the improvement of higher education, and in general the furthering of education for all people.

To accomplish those broad aims, the Ph.D. curriculum in Higher Education provides students multi-disciplinary opportunities to develop specific competency in key areas. A solid framework for understanding educational challenges and opportunities; the inherently global nature of all



educational experiences and their outcomes; and the critical contribution of rigorous research to adequate policy development; and the connected enterprise of increasing educational opportunity and success among schools, communities, and businesses.

For more information, please visit <http://www.uh.edu/education/degree-programs/higher-ed-phd/>.

Admission Requirements

The College of Education takes into consideration a number of criteria when determining admission, including prior college or university performance, letters of recommendation, standardized test scores and statement of intent. All applicants must abide by the minimum qualifications for admissions to a master's or doctoral program. All graduate applicants (regardless of citizenship status) must demonstrate proficiency in English to obtain admission to the University. For more information, visit <http://www.uh.edu/graduate-school/admissions/international-students/english-proficiency/>.

An applicant is responsible for ensuring that all required materials for the evaluation of admissions are received by the College before the program's deadline. If the application is not complete by the program's deadline, it will not be evaluated for the admissions. Full details of the online application process can be found at www.uh.edu/graduate-school/admissions/how-to-apply.

Applicant checklist:

1. Complete online graduate application including statement of interest, resume/c.v., writing sample, letters of recommendation, and application fee payment
2. Official transcripts from all previous college/university work sent to the UH Graduate School.
3. Official reporting of GRE scores taken in the last five years
4. International students have additional documentation requirements which can be found at www.uh.edu/graduate-school/admissions/international-students/

Grade Point Average Requirements

Admission requirements for the College of Education require a minimum cumulative grade point average (GPA) of 2.6 for undergraduate coursework or over the last 60 credit hours of coursework. The College requires a minimum cumulative grade point average (GPA) of 3.0 for graduate coursework. The College's admission committees evaluate all credentials submitted by applicants to determine a student's ability and potential to succeed in graduate study. In addition, the committee is interested in the applicant's potential to contribute to his/her program of study and the University community as a whole.

Please visit the program's Admission Application Instructions page for more information

Degree Requirements

Credit hours required for this degree: 66.0

The curriculum for the HELPS Ph.D. program involves the completion of specific coursework that includes foundations of psychological and educational theory, statistics, and research methodology. Completion of the program typically requires three years of full time study, inclusive of coursework, candidacy research project, comprehensive exam, and dissertation.

Since degree plans are enhanced periodically to support continuous improvement planning objectives, students will follow their approved degree plan that is in place at the time in which they complete an official, approved degree plan. The most current sample degree plan and academic benchmarks are provided below.

In the first two full years of studies (i.e., fall, spring and summer in each year), students in the HELPS doctoral program are required to complete at least 6 hours of coursework each term (i.e., Fall, Spring, and Summer) to satisfy doctoral residency requirements. Students should reference the schedule of course offerings and, in consultation, identify the courses required for a given term.

Program Core Requirements (30 hours)



- CUST 8378 - Current Issues in Educ Credit Hours: 3.0
- CUST 8375 - Hist & Phil of Higher Educ Credit Hours: 3.0
- ELCS 7371 - Higher Educ Law Credit Hours: 3.0
- ELCS 8331 - Finance in Higher Education Credit Hours: 3.0
- ELCS 8332 - Student Dev in Post Sec. Inst Credit Hours: 3.0
- ELCS 8338 - Admin Higher Educ Multiculset Credit Hours: 3.0
- ELCS 8355 - Policy Pol & Gov of Education Credit Hours: 3.0
- ELCS 8360 - Studies Post Secondary Educatn Credit Hours: 3.0
- ELCS 8397 - Sem Top Ed Ldshp&Cul St Credit Hours: 3.0
- Topic(s):
 - Economics of Education

Research Methods Core Requirements (15 hours)

- EDRS 8380 - Rsch Mthds in Educ Credit Hours: 3.0
- EDRS 8382 - Statistical Analyses in Educatn Credit Hours: 3.0
- SAER 8320 - Ethnog Mthds Educ Credit Hours: 3.0
- ELCS 8330 - Statistical Analyses Credit Hours: 3.0
- ELCS 8322 - Advanced Ethnographic Methods Credit Hours: 3.0

Independent Research Requirements (9 hours min)

Students in the HELPS program are required to satisfy two major research requirements:

1. the candidacy research paper, and
2. a doctoral dissertation.

Both of these projects typically involve the collection, analysis, and interpretation of quantitative and/or qualitative data.

- SAER 8388 - Sem-Res Ed Ldshp Pol St Credit Hours: 3.0
- ELCS 8399 - Doctoral Dissertation Credit Hours: 3 (for a total of at least 6 hours)

Specialization Electives (minimum 12 hours)

Students in the program are required to pursue one of the four Areas of Specialization within the program. These areas include Equity and Social Justice, International Perspectives, Policy and Politics, and Research Methods. Although all students in the program gain some background in these areas through the Program Area Core courses, students within each area add to their expertise by selecting electives relevant to a particular area of specialization. For these electives, students are encouraged to pursue coursework pertinent to their individual career goals, including courses offered by faculty within the Educational Leadership and Policy Studies Department as well as courses offered by other departments in the College of Education, and those related to the fields of sociology, economics, political science, and other behavioral and social sciences. These electives should be identified in consultation with the student's academic advisor.

Academic Policies

Professional Development Activities

Students in the HELPS program are required to satisfy a Professional Development requirement during their first year in the program. Students are required to complete a separate Residency Report for the Fall and Spring terms of their first year in the program that will serve to satisfy their doctoral residency/professional development requirement. These forms must be approved by the student's academic advisor, the chair of the department, and the Dean or his/her designee.



The following professional development activities are required for doctoral students in the HELPS program. Activities completed each term should be listed on separate Residency Reports for each term. Students should consult with their advisor regarding selection of additional activities that will augment their academic preparation in scholarship, teaching, and service, such as attending presentations of scholarly speakers at the University of Houston or elsewhere (e.g., Rice University, the Medical Center, in the community), assisting other doctoral students with data collection, etc.

1. Attend at least one defense of a candidacy research proposal in Educational Leadership and Policy Studies
2. Attend at least one defense of a candidacy research final paper in Educational Leadership and Policy Studies
3. Attend at least one defense of a dissertation proposal in Educational Leadership and Policy Studies
4. Attend at least one defense of a dissertation final paper in Educational Leadership and Policy Studies
5. Attendance at a local, state, or national conference that pertains to education or a relevant social science. The sessions attended may be listed as additional activities.
6. Attendance at the Houston Symposium for Research in Education, sponsored by the College of Education, when it is offered
7. Membership in the Graduate Students Organization
8. Student membership in a professional organization (e.g., American Educational Research Association, American Association for the Study of Higher Education)

Candidacy Research Paper

HELPS doctoral students must complete a candidacy research paper before they are eligible to have their Comprehensive Examination Portfolio submission materials officially reviewed. Students are expected to conduct a research project within the general domain of higher education. The scope of this research project should be equivalent to what would be expected from a master's level thesis. Students who previously have completed a Master's Thesis may petition to have the thesis count for the candidacy research requirement and should consult with their academic advisor regarding this matter.

Higher Education, MEd

The Higher Education Program at University of Houston is grounded in a philosophical belief in the transformational nature of higher education as an institution of social change. We believe our nation's future depends on our ability to make effective use of the enormous talent and resources represented by the diversity of our people and our ideas.

The Master's of Education (M.Ed.) in Higher Education prepares those who aspire to leadership positions in student affairs and other key administrative areas within a college or university. The Higher Education Program is grounded in a philosophical belief in the transformational nature of higher education as an institution of social change.

The M.Ed. in Higher Education is offered in both face-to-face and online formats. Both delivery methods use a cohort model that enables students to earn their master's degree in two years. The coursework addresses critical issues impacting college students and post-secondary institutions, and emphasizes the connection between theory and practice. Reflecting our strong commitment to experiential learning, our program provides a wide array of Graduate Assistantship, internship, and professional development opportunities.

Houston, the nation's fourth-largest city, is bustling with culture and energy and has recently gained recognition as America's next great global city. Our students come to study with us from all over the United States and internationally, and represent a diverse array of backgrounds and experiences. Students learn and study alongside a distinguished higher education faculty that includes current or former university chancellors and presidents, provosts, deans of students, and internationally renowned researchers. The Higher Education faculty and students are committed to solving critical issues related to college access, equity, affordability, student engagement and learning, and degree completion.

For further information, please see <http://www.uh.edu/education/degree-programs/higher-ed-m/>.

Admission Requirements

The College of Education takes into consideration a number of criteria when determining admission, including prior college or university performance, letters of recommendation, standardized test scores and statement of intent. All applicants must abide by the minimum qualifications for admissions to a masters or doctoral program. All graduate applicants (regardless of citizenship status) must demonstrate proficiency in English to obtain admission to the University. For more information, visit <http://www.uh.edu/graduate-school/admissions/international-students/english-proficiency/>.



An applicant is responsible for ensuring that all required materials for the evaluation of admissions are received by the College before the program's deadline. If the application is not complete by the program's deadline, it will not be evaluated for the admissions. Full details of the online application process can be found at www.uh.edu/graduate-school/admissions/how-to-apply.

Applicant checklist:

- Complete online graduate application including statement of interest, resume/c.v., letters of recommendation, and application fee payment.
- Official transcripts from all previous college/university work sent to the UH Graduate School.
- Official reporting of GRE scores taken in the last five years
- International students have additional documentation requirements which can be found at www.uh.edu/graduate-school/admissions/international-students/

GRE Waiver Option

The GRE requirement is waived for applicants to the M.Ed. in Higher Education who have at least one of the following from an institution accredited by one of the six regional accrediting associations as specified in the UH Minimum Qualifications for Admission to Masters and Doctoral Programs:

- an overall undergraduate grade point average of 3.00 or higher (on a 4-point scale), or
- a master's or terminal degree.

Grade Point Average Requirements

Admission requirements for the College of Education require a minimum cumulative grade point average (GPA) of 2.6 for undergraduate coursework or over the last 60 credit hours of coursework. The College requires a minimum cumulative grade point average (GPA) of 3.0 for graduate coursework. The College's admission committees evaluate all credentials submitted by applicants to determine a student's ability and potential to succeed in graduate study. In addition, the committee is interested in the applicant's potential to contribute to his/her program of study and the University community as a whole.

Degree Requirements

Credit hours required for this degree: 36.0

Our 36 credit hour M.Ed. curriculum adheres to recommendations for higher education graduate programs as outlined by the Council for the Advancement of Standards in Higher Education (CAS) and the Association for the Study of Higher Education (ASHE).

Each student completes a semester-long internship, and this experience is attached to a three credit hour course (ELCS 6393).

Required Courses (33 hours):

- CUST 6370 - Cultural Found Amer Edu Credit Hours: 3.0
- ELCS 6322 - Org & Admin Stud. Support Serv Credit Hours: 3.0
- ELCS 6332 - Student Develop/Student Affair Credit Hours: 3.0
- ELCS 6334 - Assessment & Evaluation in Higher Education Credit Hours: 3.0
- ELCS 6338 - American Higher Education Credit Hours: 3.0
- ELCS 6342 - Critical Issues in Higher Education Credit Hours: 3.0
- ELCS 6370 - Research for Educational Leaders Credit Hours: 3.0
- ELCS 6380 - Educational Planning & Policy Credit Hours: 3.0
- ELCS 6393 - Practicum Credit Hours: 3.0



- ELCS 7330 - Admin of Higher Educ I Credit Hours: 3.0
- ELCS 7354 - Leadership for Change Credit Hours: 3.0

Approved Electives List (3 hours)

Academic Policies

Internships in Higher Education

Students in the M.Ed. in Higher Education program complete a term-long internship that is connected to a three credit hour course (ELCS 6393: Internship in Educational Leadership). Internships engage students in educationally-related work and learning experiences that integrate knowledge and theory learned from their coursework with practical application in a professional setting. The internship is an essential component of the M.Ed. experience, as it affords students the opportunity to gain exposure to new administrative areas in higher education and clarify their career goals.

With guidance from their faculty advisor and the ELCS 6393 instructor, M.Ed. students are allowed to select an internship that supports their professional interests and career aspirations. While many of our students seek out their own internship experience, there are also established internship opportunities at UH offered through the Division of Student Affairs and Enrollment Services.

Professional Leadership - K-12, EdD

The EdD in Professional Leadership is a 51-credit hour program providing intensive research and applied skills for students grappling with real-world concerns in education. Students bring the most pressing concerns experienced by the educational community to each course. A Laboratory of Practice and Doctoral Thesis provide students an avenue to apply the specifics of these problems to their other courses and their research. Students complete requirement for the Texas Examinations of Educator Standards (TExES) Superintendent (195) Certification.

Doctor of Education or Doctor of Philosophy

- Prerequisites
- Degree Requirements
- Residency Requirements
- Candidacy Project and Advancement to Candidacy
- Doctoral Comprehensive Exam Requirements
- Doctoral Thesis/Dissertation Requirements
- Graduation Requirements

Prerequisites

Students admitted to the EdD program in Curriculum and Instruction typically complete 18 semester credit hours of professional education courses and two years of teaching or the equivalent prior to academic study. The PhD programs consider applicants both with and without prior graduate credit.

Degree Requirements

Programs vary in length from 51 hours (the three specializations of Professional Leadership EdD) to, in some cases, more than 100 hours (Counseling Psychology and School Psychology if students have no prior graduate credit). The following represents minimal expectations regarding the completion of a doctoral degree in the College of Education. Some programs and/or departments may have additional degree requirements.

- At least six hours of doctoral thesis/dissertation credit.



- The completion of all degree requirements, including successful doctoral thesis/dissertation defense and internship, must take place within ten years from the date of admission to a degree program.
- A degree plan is required; students must complete a degree plan in MyAdvisor.
- All transfer and subsequent work require a minimum 3.00 grade point average (A=4.00). The college cannot give graduate credit for grades lower than a C.
- A graduate student receiving a grade of C+ or lower in 12 semester hours of credit at the University of Houston, whether or not in repeated courses, is ineligible for any advanced degree and cannot re-enroll for graduate study. Departments or programs may have grade point average or course performance expectation exceeding these requirements.
- The College of Education accepts a maximum of nine graduate credit hours from an accredited university, with the approval of a faculty advisor and the college's Associate Dean of Graduate Studies.
 - The University of Houston will not accept the transfer of courses with grades lower than B-, completed more than five years prior to the date of admission to the University, and/or applied to a previously completed degree program.
- The doctoral level courses number at the 7000- and 8000-levels. However, doctoral students are eligible to take graduate level courses numbered 6000. Students may consult course descriptions in this catalog for information on courses requiring prerequisites or special authorization.
- The College of Education requires a doctoral-level introduction to educational research. After successfully completing these requirements, all doctoral students must complete course work in qualitative and/or quantitative research methods. Selection of these courses should be consistent with the student's doctoral thesis or dissertation.

Residency Requirements

To fulfill residency requirements, students are in full-time status for two consecutive academic terms, an academic term, a consecutive 12-week summer session, or three consecutive 12-week summer sessions. The specific residency requirements vary among departments. At the end of each term of residency, students must complete a Residency Report in MyAdvisor for approval by their faculty advisor and college administration.

Candidacy Project and Advancement to Candidacy

Students must complete their candidacy project under the direction of a faculty member or advisor and successfully defend the paper to a departmental examining committee. At least 10 working days before the oral examination, the departmental examining committee members should receive copies of the candidacy paper. Candidates should consult their departmental office for additional and specific information regarding the candidacy project. After successful completion of a candidacy project, students must complete a Candidacy Report in MyAdvisor for approval by their faculty advisor and college administration.

In order to Advance to Candidacy, students complete a candidacy project, successfully defend their candidacy paper, pass a comprehensive examination, and effectively defend their doctoral thesis/dissertation proposal.

Doctoral Comprehensive Exam Requirements

Students must pass a comprehensive examination* after completing at least thirty-six (36) hours of course work. The student must also have an approved degree plan, residency application (if applicable), and a candidacy report documented in MyAdvisor. Students should not have incomplete grades and must maintain a 3.0 grade point average on all graduate coursework. Specific programs or departments may have additional requirements. Document the Doctoral Comprehensive Exam application and grade in MyAdvisor.

A student who fails the comprehensive examination on the first attempt may take the examination a second time with the written recommendation of the student's faculty advisor, program coordinator, and department chair. The Associate Dean of Graduate Studies will determine final approval for second examination attempt. **



Denial of a request for re-examination or if the second re-examination is a failing, the student shall be ineligible for a doctoral degree in the College of Education at the University. The college requires a re-examination if a student does not successfully defend their Doctoral Thesis/Dissertation within five years of their initial comprehensive examination.

**The Professional Leadership, EdD in Administration and Supervision (K-12) requires the TExES Superintendent Exam and Certification in lieu of a Doctoral Comprehensive Exam.*

***The Professional Leadership, EdD in Administration and Supervision (K-12) will allow two attempts for the TExES Superintendent Exam. Denial of a request for re-examination by the EPLS department may occur if a student fails the state exam twice. If denied, the student is ineligible for a doctoral degree in the College of Education at the University.*

Doctoral Thesis/Dissertation Requirements

Students must complete their doctoral thesis/dissertation to the satisfaction of their research committee and successfully defend their doctoral thesis/dissertation before their committee chair and appointed committee members.

Once enrolled in doctoral thesis/dissertation hours, enrollment must be continuous, with the exception of summers. Students who will graduate in the summer, however, must enroll in doctoral thesis/dissertation credit hours during this term.

The college requires students to submit their doctoral thesis/dissertation abstract and oral defense announcement in MyAdvisor. MyAdvisor automatically selects an oral defense date, 10 days in advance. The student will have the option to coordinate the oral defense time, location, and set date in MyAdvisor. Once the oral defense date, time, and location is determined, the student notifies their committee chair and appointed committee members. The committee chair and appointed committee members should receive a copy of the doctoral thesis/dissertation 10 days prior the defense date. The faculty Advisor documents the successful or unsuccessful oral defense in MyAdvisor.

The College requires a completed doctoral thesis/dissertation for MyAdvisor and the Texas Digital Libraries prior to graduation approval. For more information, visit the college's Office of Graduate Studies, 256 Farish Hall.

Graduation Requirements

The College requires completion of all applicable graduate coursework and benchmarks prior to proposed graduation. Students should file an application for graduation in MyUH early in the final term of their degree. The university's Academic Calendar lists the application filing deadlines per semester. For more information, visit the college's Office of Graduate Studies, 256 Farish Hall.

Required Courses:

To obtain a Doctorate in professional leadership, students must complete **51 semester hours, successfully pass the TExES Superintendency Exam (0195), and defend their Doctoral Thesis.**

These hours will be derived from:

- ELCS 8310 - The Superintendency Credit Hours: 3.0
- ELCS 7392 - Internship in Superintendent Credit Hours: 3.0
- ELCS 8315 - Transformational Leadership for School Administrators Credit Hours: 3
- ELCS 8301 - Leadership Theory for School Administrators Credit Hours: 3
- ELCS 7354 - Leadership for Change Credit Hours: 3.0
- ELCS 8356 - Program Policy Evaluation Credit Hours: 3.0
- ELCS 8361 - Public & Community Relations Credit Hours: 3.0
- ELCS 8350 - Resource Management Credit Hours: 3
- EDRS 8380 - Rsch Mthds in Educ Credit Hours: 3.0 (Part 1)
- EDRS 8381 - Rsch Mthds in Educ Credit Hours: 3.0 (Part 2)



- ELCS 8341 - Adult Learning Theory Credit Hours: 3
 - ELCS 8397 - Sem Top Ed Ldshp&Cul St Credit Hours: 3.0
- Total Hours of Required Courses: 39.0 Hours

Laboratory of Practice (1 Course/6 Hours)

- CUIIN 8310 - Laboratory of Practice Credit Hours: 3

Doctoral Thesis (1 Course/6 Hours)

- CUIIN 8690 - Doctoral Thesis Credit Hours: 6

Professional Leadership - Special Populations, EdD

College of Education > Department of Educational Leadership and Policy Studies > Professional Leadership - Special Populations, EdD

The Executive EdD in Professional Leadership-Special Populations prepares graduates for Professional and Instructional Leadership positions in a variety of settings and provides them with the tools to meet the needs of ALL students.

The EdD in Professional Leadership Special Populations is a 51-credit hour program providing intensive research and applied skills for students grappling with real-world concerns in education. Students bring the most pressing challenges experienced by the educational community to each course. A Laboratory of Practice and Doctoral Thesis provide students an avenue to apply the specifics of these problems to their other courses, their research, and provide support to their community.

The program prepares graduates for Professional and Instructional Leadership positions in a variety of settings and provides them with the tools to meet the needs of ALL students. Graduates are ready to assume positions as coaches, consultants, directors, and instructional leaders who grapple with the challenges faced by many students in the nation's schools.

For more information, please visit the Professional Leadership - Special Populations, EdD program page.

Admission Requirements

Students admitted to the EdD in Professional Leadership Special Populations program in the Department of Educational Leadership and Policy Studies (DELPS) typically have earned a Master's Degree in Education or a related field. Many prospective students work in educational, philanthropic, or healthcare fields.

Admission requirements for the College of Education require a minimum cumulative grade point average (GPA) of 2.6 for undergraduate coursework or over the last 60 credit hours of coursework. The College requires a minimum cumulative GPA of 3.0 for graduate coursework. The College's



admission committees evaluate all credentials submitted by applicants to determine a student's ability and potential to succeed in graduate study. In addition, the committee is interested in the applicant's potential to contribute to his/her program of study and the University community as a whole.

Visit <http://www.uh.edu/graduate-school/admissions/how-to-apply> to start the application process.

Admission Materials

1. ApplyWeb Application
2. Transcripts
3. Official Test Scores
4. Statement of Interest
5. Resume or Curriculum Vitae
6. Letters of Recommendation
7. Application fee (\$80 domestic/\$75 international)

For more on admissions, please visit the College of Education Graduate Admissions page.

Degree Requirements

Credit hours required for this degree: 51.0

The Professional Leadership-Special Populations is designed to be completed in less than three years. Specifically, students will take fifty-one (51) credit hours of coursework across eight (8) semesters to complete the degree. Since degree plans are enhanced periodically to support continuous improvement planning objectives, students will follow their approved degree plan that is in place at the time in which they complete an official, approved degree plan.

Research Core Coursework

9 credit hours

- EDRS 8380 - Rsch Mthds in Educ Credit Hours: 3.0
- EDRS 8381 - Rsch Mthds in Educ Credit Hours: 3.0
- SPEC 8375 - Research for Special Populations Credit Hours: 3
- SPEC 8376 - Research Methods for Low Incidence Populations Credit Hours: 3

Special Populations Coursework

15 credit hours

- SPEC 7341 - Assessment of Learning Difficulties Credit Hours: 3
- SPEC 7391 - Collaborative Consultation and Coaching Credit Hours: 3
- SPEC 8360 - Instructional Problems in Special Populations Credit Hours: 3.00
- SPEC 8365 - Administration and Supervision of Special Education Credit Hours: 3
- SPEC 8375 - Research for Special Populations Credit Hours: 3
- SPEC 8376 - Research Methods for Low Incidence Populations Credit Hours: 3

Cognate Supporting Courses

9 credit hours



- CUIIN 7373 - Instr Strat Tchng Adult Credit Hours: 3.0
- PHLS 8345 - Adult Cognition and Learning Credit Hours: 3.0

Choose one from the following:

- CUIIN 8303 - Seminal Thinkers Affecting American Education Credit Hours: 3

Professional Leadership Courses

9 credit hours

- ELCS 8325 - Instnl Leadercurri&Prof Develop Credit Hours: 3.0
- ELCS 8340 - Organizatn & Admin Curriculum Credit Hours: 3.0

Choose one from the following:

- ELCS 8345 - School-Based Budgeting and Practical Law Credit Hours: 3.0
- ELCS 8355 - Policy Pol & Gov of Education Credit Hours: 3.0

Applied Research Coursework

9 credit hours

- CUIIN 8310 - Laboratory of Practice Credit Hours: 3
- CUIIN 8690 - Doctoral Thesis Credit Hours: 6

Registration for Doctoral Thesis Credits/Independent Study Courses

Once students sign up for doctoral thesis credits they must continuously enroll for a minimum of 3 credits of doctoral thesis every subsequent semester until the doctoral thesis is completed

Ongoing and Annual Review

The overall progress of all doctoral students is evaluated annually by faculty advisors associated with the DELPS program. Students are given feedback each year concerning the outcome of this evaluation. Students are in good standing if they:

- register continuously at the University in courses consistent with the approved degree plan, or seek a formal leave of absence from the program if they must interrupt their enrollment;
- maintain close contact with their faculty advisor concerning progress toward the degree;
- make adequate progress in their research (e.g., candidacy paper, etc.) in accordance with the length of time that the student has enrolled in the program; and,
- maintain adequate progress and performance in their coursework. Adequate progress includes formally resolving all Incompletes received in any course during the previous semesters.

Laboratory of Practice

Leaders in applied educational settings grapple with the identification and implementation of evidence based interventions and assessments. The program provides intensive research and applied skills development for students who face any of these real-world concerns. In Labs of Practice coursework, students bring the most pressing challenges experienced by the educational community to the experience. They learn as a team to network and support fellow members. Each member works on a grand challenge that faces them in their own professional context. The program



offers students the intellectual space to read the research that relates to their challenge, source the interventions that have been tried in various educational settings, design solutions that will result in evidence based outcomes, and generate a plan of action for moving forward. This practical nature of the Labs of Practice experience ensures that students have an avenue to apply the specifics of these problems to their other courses and to their research. The program emphasizes problem solving, student collaboration, and planning for a future as an instructional coach/leader throughout the Labs of Practice 6 credit sequence.

Special Populations, MEd

The Special Populations Master's Program prepares professionals for the high-needs field of Special Education. Graduates find abundant opportunities for challenging and rewarding careers.

The Master's in Special Populations develops professional, interpersonal, and intrapersonal skills through:

- College of Education Core Coursework
- Special Education Content Coursework
- Comprehensive Exam

The Special Populations Master's Program prepares educators to assume positions in:

- Public and Private Early Childhood - 12th-grade school settings
- Educational and Social Agencies
- Foundations
- Public and Private Research Organizations
- Residential Facilities

Graduates with an MEd in Special Populations may pursue the following careers:

- Community College Instructors
- Educational Diagnosticians
- Special Education Teachers
- EC-12 Team Leaders
- EC-12 Department Chairs
- EC-12 Special Education Coordinators/Administrators*

The program offers five areas of emphasis:

- Special Education Emphasis (Online)
- Special Education Certification Emphasis (Hybrid)
- Educational Diagnostician Certification Emphasis (Hybrid)
- Gifted and Talented Emphasis (Online)
- Special Education Leadership Emphasis (Hybrid)

For further information, please see: <http://www.uh.edu/education/degree-programs/spec-ed-med/>.

Admission Requirements

The College of Education takes into consideration a number of criteria when determining admission, including prior college or university performance, letters of recommendation, standardized test scores and statement of intent. All applicants must abide by the minimum qualifications for admissions to a masters or doctoral program. All graduate applicants (regardless of citizenship status) must demonstrate proficiency in English to obtain admission to the University. For more information, visit <http://www.uh.edu/graduate-school/admissions/international-students/english-proficiency/>.

An applicant is responsible for ensuring that all required materials for the evaluation of admissions are received by the College before the program's deadline. If the application is not complete by the program's deadline, it will not be evaluated for the admissions. Full details of the online application process can be found at www.uh.edu/graduate-school/admissions/how-to-apply.

Applicant checklist:



1. Complete online graduate application including statement of interest, resume/CV, letters of recommendation, and application fee payment. Students applying to the Educational Diagnostician Certification emphasis area need to include a copy of their valid teaching certificate.
2. Official transcripts from all previous college/university work sent to the UH Graduate School
3. Official reporting of GRE scores taken in the last five years. For information about the GRE waiver, see this link: <http://www.uh.edu/education/admissions/graduate/admission-app-instructions/delps-gre-waiver.php#spec-pops>.
4. International students have additional documentation requirements, which can be found at <http://www.uh.edu/graduate-school/international-students/>.

Grade Point Average Requirements

Admission requirements for the College of Education require a minimum cumulative grade point average (GPA) of 2.6 for undergraduate coursework or over the last 60 credit hours of coursework. The College requires a minimum cumulative grade point average (GPA) of 3.0 for graduate coursework. The College's admission committees evaluate all credentials submitted by applicants to determine a student's ability and potential to succeed in graduate study. In addition, the committee is interested in the applicant's potential to contribute to his/her program of study and the University community as a whole.

Degree Requirements

Credit hours required for this degree: 30.0

The curriculum for the MEd in Special Populations Program involves the completion of specific coursework. This coursework is designed to be consistent with State of Texas Certification requirements and with the College of Education's conceptual model.

Core Coursework

9.0 Credit Hours

- SPEC 6360 - Individuals with Disabilities Credit Hours: 3
OR
- SPEC 6367 - Special Education for School Leaders Credit Hours: 3
- SPEC 6340 - Learning and Education Sciences Credit Hours: 3
- SPEC 6327 - Introduction to Educational and Psychological Measurement Credit Hours: 3.00

Special Education Emphasis

21.0 Credit Hours

Offered Online

This emphasis focuses on obtaining the necessary capacity for working with students with disabilities.

Students who complete the **Special Education** Emphasis:

- Understand, assess, and evaluate the needs of students with disabilities to make instructional decisions.
- Skillfully manage the teaching environment, including the use of assistive technology.
- Promote students' educational, behavioral and social performance.
- Apply knowledge of transition issues and teaching across the lifespan.
- SPEC 6353 - Technology in Special Populations Credit Hours: 3
- SPEC 6361 - Behavior: Interventions Credit Hours: 3.00
- SPEC 6362 - Behavior: Evidence-Based Decisions Credit Hours: 3.00
- SPEC 6363 - Instructional Interventions Credit Hours: 3.00



- SPEC 6365 - Data-Based Individualization of Instruction Credit Hours: 3.00
- SPEC 7391 - Collaborative Consultation and Coaching Credit Hours: 3
- SPEC 7343 - Psychological Processes of Reading Credit Hours: 3

Special Education Certification Emphasis

21.0 Credit Hours

Offered Online

This emphasis focuses on obtaining the necessary capacity for working with students with disabilities.

Students who complete the **Special Education** Emphasis:

- Understand, assess, and evaluate the needs of students with disabilities to make instructional decisions.
- Skillfully manage the teaching environment, including the use of assistive technology.
- Promote students' educational, behavioral and social performance.
- Apply knowledge of transition issues and teaching across the lifespan.
- Engage in the roles and responsibilities of the teaching profession.
- SPEC 6353 - Technology in Special Populations Credit Hours: 3
- SPEC 6361 - Behavior: Interventions Credit Hours: 3.00
- SPEC 6362 - Behavior: Evidence-Based Decisions Credit Hours: 3.00
- SPEC 6363 - Instructional Interventions Credit Hours: 3.00
- SPEC 6365 - Data-Based Individualization of Instruction Credit Hours: 3.00
- SPEC 7391 - Collaborative Consultation and Coaching Credit Hours: 3
- SPEC 7343 - Psychological Processes of Reading Credit Hours: 3

Additional information about certification requirements can be found at: <http://www.uh.edu/education/degree-programs/spec-ed-med/>.

Educational Diagnostician Certification Emphasis

21.0 Credit Hours

Offered Hybrid (Online and Classroom)

This emphasis prepares students for certification as Educational Diagnosticians in Texas Public Schools. Students in this program currently hold a teaching certificate in the State of Texas. This program extends teachers' special education expertise by developing the necessary skillset to assess and identify learning problems in children, consult with parents and teachers in a multidisciplinary setting, and assume leadership roles.

Students who complete the **Educational Diagnostician Certification** Emphasis:

- Understand federal and state disability criteria and identification procedures for determining the presence of an educational need.
- Recognize the significance of diversity for evaluation, planning, and instruction.
- Select, administer and interpret appropriate assessments and evaluations.
- Understand appropriate curricula and instructional strategies for developing the academic, behavioral and social skills of students with disabilities.
- Engage the roles and responsibilities of the teaching profession.

Required Courses

- SPEC 7391 - Collaborative Consultation and Coaching Credit Hours: 3



- SPEC 7341 - Assessment of Learning Difficulties Credit Hours: 3
- SPEC 7343 - Psychological Processes of Reading Credit Hours: 3

Electives (12 hours/4 courses)

Students without special education certification must choose SPEC 6361, SPEC 6362, SPEC 6363, and SPEC 6365.

Students with special education certification may request approval from the faculty advisor to substitute up to 3 of the special education content courses (SPEC 6361, SPEC 6362, SPEC 6363, and SPEC 6365) with leadership courses.

- SPEC 6361 - Behavior: Interventions Credit Hours: 3.00
- SPEC 6362 - Behavior: Evidence-Based Decisions Credit Hours: 3.00
- SPEC 6363 - Instructional Interventions Credit Hours: 3.00
- SPEC 6365 - Data-Based Individualization of Instruction Credit Hours: 3.00
- ELCS 6301 - Leadership for Equity in Diverse Schools Credit Hours: 3
- ELCS 6304 - Law & Policy for School Leaders Credit Hours: 3
- ELCS 6350 - School Leadership, The Principalship Credit Hours: 3

Additional information about certification requirements can be found at: <http://www.uh.edu/education/degree-programs/spec-ed-med/>.

Gifted and Talented Emphasis

21.0 Credit Hours

Offered Online

This emphasis prepares students to complete supplemental certification as Gifted and Talented while providing a thorough understanding of theory, research strategies, and best practices of gifted education.

Students who complete the **Gifted and Talented** Emphasis:

- Understand the standards for providing comprehensive services incorporating research-based best practices for gifted and talented learners.
- Recognize the significance of diversity for evaluation, planning, and instruction.
- Demonstrate knowledge of assessment instruments and gifted/talented identification procedures that provide students an opportunity to demonstrate their diverse talents and abilities.
- Meets the needs of gifted and talented students by modifying the depth, complexity, and pacing of the curriculum and instruction ordinarily provided by the school.
- SPEC 6361 - Behavior: Interventions Credit Hours: 3.00
- SPEC 6363 - Instructional Interventions Credit Hours: 3.00
- SPEC 6365 - Data-Based Individualization of Instruction Credit Hours: 3.00
- SPEC 7391 - Collaborative Consultation and Coaching Credit Hours: 3
- SPEC 6349 - Introduction to the Education of Students with Gifts and Talents Credit Hours: 3
- SPEC 6350 - Nature of Needs of Students with Gifts and Talents Credit Hours: 3

Special Education Leadership Emphasis

21.0 Credit Hours

Offered Hybrid (Online and Classroom)



This emphasis prepares students who are working with learners with disabilities and other special needs to assume administrative roles* in special education in a K-12 school or at the district level. Develops students into special education leaders* that have the skills to address the complex issues surrounding educating students with challenges related to learning, social, and emotional needs.

Students who complete the **Special Education Leadership** Emphasis:

- Apply current special education laws and policies to design and deliver inclusive special education and/or support for diverse students.
- Provide leadership* and expertise in assessing, identifying, and implementing special education needs and to collaborate with related services and other personnel, including school psychologists, educational diagnosticians, speech therapists, administrators, and teachers.
- Understand ethical decision making, innovative problem solving, and professional growth.
- Understand appropriate curricula and instructional strategies for developing the academic, behavioral and social skills of students with disabilities.
- SPEC 6362 - Behavior: Evidence-Based Decisions Credit Hours: 3.00
- SPEC 6363 - Instructional Interventions Credit Hours: 3.00
- SPEC 6365 - Data-Based Individualization of Instruction Credit Hours: 3.00
- SPEC 7391 - Collaborative Consultation and Coaching Credit Hours: 3
- ELCS 6301 - Leadership for Equity in Diverse Schools Credit Hours: 3
- ELCS 6304 - Law & Policy for School Leaders Credit Hours: 3
- ELCS 6350 - School Leadership, The Principalship Credit Hours: 3

Academic Policies

Comprehensive Exam

Students in the MEd in Special Populations Program may elect to complete either a written Comprehensive Examination or take and pass the relevant TExES Examination as part of a capstone to the program.

- **Comprehensive Exam**
The Department of Educational Leadership and Policy Studies regularly schedules written exams that test a student's comprehensive knowledge of the Special Populations Program area. Students have the option of taking a traditional written comprehensive examination. Students seeking certification may take the appropriate TExES Certification exam in lieu of the traditional written comprehensive examination. Students should apply for the exam in the last two semesters of their program through MyAdvisor. All students in the MEd in Special Populations program must successfully complete the Master's Comprehensive Examination.



College of Education Faculty

Faculty Emeriti

Richard F. Abrahamson. Professor Emeritus of Curriculum and Instruction. A.B., College of William and Mary; M.A., University of Maine at Orono; Ph.D., University of Iowa.

W. Arthur Allee. Professor Emeritus of Education. B.S.C., M.A., Ph.D., University of Iowa.

Mary Armsworth. Professor Emerita of Psychological, Health, and Learning Sciences. B.A., Ohio University; M.Ed., Ph.D., University of Cincinnati.

Gene Atkinson. Professor Emeritus of Educational Leadership and Cultural Studies. B.A., Rice University; M.Ed., Ed.D., University of Houston.

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Jacob W. Blankenship. Professor Emeritus of Curriculum and Instruction. B.S., Southeastern Oklahoma State University; M.Ed., East Texas State University; Ph.D., University of Texas at Austin.

Joel Bloom. Professor Emeritus of Psychological, Health, and Learning Sciences. Ph.D., University of Wisconsin.

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Rebecca N. Felts. Assistant Professor Emerita of Curriculum and Instruction. B.A., San Francisco State University; M.A., Ed.S., George Peabody College.

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Larry W. Hughes. Professor of Educational Leadership and Cultural Studies. B.Ed., M.Ed., University of Toledo; Ph.D., The Ohio State University.

Howard Jones. Professor Emeritus of Curriculum and Instruction.

Tom Kubiszyn. Professor Emeritus of Psychological, Health, and Learning Sciences and Co-Director of School Psychology. B.A., State University of New York; M.A., Ph.D., University of Texas at Austin.

David Lieberman. Professor Emeritus of Psychological, Health, and Learning Sciences. B.A., University of Buffalo; M.Ed., Tel-Aviv University; Ph.D., Harvard University.

Charles Meisgeier. Professor Emeritus of Education. B.A., B.A., M.Ed., Ed.D. Pennsylvania State University.

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Paul F. Secord. Professor Emeritus of Educational Leadership and Cultural Studies. B.A., Ripon College; M.A., Ph.D., Stanford University.

Jack M. Sheridan. Professor Emeritus of Curriculum and Instruction. B.A., Central Washington University; M.Ed., Ed.D., University of Oregon.

Dennis Smith. Professor Emeritus of Psychological, Health, and Learning Sciences. B.A., M.Ed., Bowling Green State University; Ph.D., Ohio State University.

Jody L. Stevens. Professor Emeritus of Administration Education. B.A., East Central State College; Ed.M., Ed.D., Oklahoma.

Ida Santos Stewart. Professor Emerita of Curriculum and Instruction. A.B., Florida State University; M.Ed., Ph.D., University of Illinois.

Robert L. Stewart. Professor Emeritus of Education. B.A., M.Ed., Southern Methodist University; D.Ed., Pennsylvania State University.

Richard D. Strahan. Professor of Educational Leadership and Cultural Studies. Attorney at Law. B.S., Texas Wesleyan College; M.Ed., Southern Methodist University; Ed.D., J.D., University of Houston.



Zenobia Christine Brown Verner. Professor Emeritus of Education. A.B., University of Northern Colorado; M.A., Sul Ross State University; Ed.D., Texas Tech University.

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William J. Yost. Professor Emeritus of Education. B.S., East Stroudsburg State College; M.A., University of North Carolina; Ed.D., Columbia University.

Curriculum and Instruction

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Heather Domjan. Clinical Assistant Professor of Curriculum and Instruction. B.S., M.Ed., Ed.D., University of Houston.

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H. Jerome Freiberg. Professor of Curriculum and Instruction and Moores University Scholar. B.S.Ed., Temple University; Ed.D., University of Massachusetts.

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Susie Gronseth. Clinical Assistant Professor of Curriculum and Instruction. B.S., Palm Beach Atlantic University; M.A., Louisiana State University; Ph.D., Indiana University.

Margaret Hale. Clinical Associate Professor of Curriculum and Instruction. B.S., Texas Woman's University; M.Ed., Sam Houston State University; Ed.D., University of Houston.



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Lee Mountain. Professor of Curriculum and Instruction. B.A., George Washington University; M.A., Ed.D., Pennsylvania State University.

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About the Cullen College of Engineering

Engineering Dean's Office

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Associate Dean for Graduate Programs

Suresh Khator, Ph.D.

Assistant Dean of Administration

Roshawnda Anderson, Ph.D.

Director of the Division of Undergraduate Programs and Student Success

Fritz Claydon, Ph.D.

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Biomedical Engineering - Graduate Program

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Chemical & Biomolecular Engineering - Graduate Program



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Mechanical Engineering - Graduate Program

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Materials Science and Engineering

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Petroleum Engineering - Graduate Program

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Subsea Engineering



Contact: Cecily Smith, Academic Advisor
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General Information

The programs and courses listed in this section of the catalog describe Cullen College of Engineering offerings as of the date of publication. While the degree programs are expected to remain unchanged, the courses themselves will change to meet the demands of the engineering profession.

Facilities

The college is housed in several buildings on and off-campus. Biomedical Engineering recently populated the second floor of the Science and Engineering Research Center (SERC), a multidisciplinary center focused on UH Health initiatives. Part of the first floor of SERC houses the UH Nanofabrication Facility, a state-of-the-art clean room managed by the Materials Science and Engineering Program and supported by the UH Division of Research. The Petroleum Engineering Program opened in a newly renovated facility at UH Technology Bridge (formerly Energy Research Park) in January 2011. The park is also home to several Cullen College research efforts, including the Texas Center for Clean Engines, Emissions and Fuels, and the National Wind Energy Center.



Admission Requirements: Cullen College of Engineering

In general, applicants seeking admission to graduate study into a Master's, PhD, or certificate program in one of the major disciplines, must have a Bachelor's degree in Engineering from an accredited program or from a related program in Science or Mathematics from an accredited program. A grade point average of 3.0/4.0 and officially-reported scores from the Graduate Record Examination (GRE) is required for unconditional admission. For specific requirements, consult the individual department or interdisciplinary program.

To apply for admission to an Engineering graduate programs, the prospective student must complete the application process as described on the Graduate School admissions website, including completed online application, application fee payment, and document submission.

- Note: Application fees are non-refundable. Letters of recommendation should be from professors or employment supervisors on company stationery or on forms provided by the department of your intended program of study, with at least one recommendation coming from a former professor.

Application files must be complete before applicants can be admitted to a graduate program.

The admission requirements for international students include the above criteria and additional items, as described on the Graduate School international applicants website.

Conditional Admissions

Under certain circumstances a student may be admitted conditionally. The conditions will be specified on the admissions letter. It will be a student's responsibility to make sure those conditions are satisfied by the stipulated time period.



Degree Requirements: Cullen College of Engineering

In general, no 3000-level courses are applicable to a graduate degree program. The use of junior-level engineering courses by engineering students should be for leveling courses only. Any use of junior-level courses for graduate credit must be approved in advance by petition.

All course work taken to satisfy the master's degree requirements must be approved in advance by the departmental or program graduate advisor. The student is expected to be familiar with the various requirements of his or her particular department or program.



Graduate Academic Policies: Cullen College of Engineering

University Academic Regulations and Degree Requirements

Students must satisfy all the university academic regulations and degree requirements. See the Policies section of the Graduate Catalog.

Transfer Credit

The Cullen College of Engineering only allows a maximum of six credit hours of graduate transfer credit (with a grade of A or B) toward a Master's or PhD degree, upon approval of your departmental Graduate Advisor and the Associate Dean of Graduate Studies and Research of the College. For further transfer credit guidelines, visit the Transfer Credit section of the Graduate Catalog.

Credit Level Changes

- A graduate student may apply up to six semester credit hours taken as a post-baccalaureate (PB) student toward a Master's degree with departmental and college approval. No course applied to complete the requirements for a prior degree can be used to satisfy the requirements for a later degree. A written request to change credit-level must be submitted through the departmental Graduate Advisor to the departmental Graduate Admissions Assistant for approval within one year after receiving notice of acceptance into the graduate program.
- Courses taken by a PB student who does not qualify for admission to graduate school because of a deficient GPA cannot be transferred to graduate credit after the PB student has been admitted to a graduate program.



Enrollment and Time Limitations

General Guidelines

- In general, graduate students are expected to be enrolled in consecutive long semesters (i.e., fall and spring) until the degree is completed and awarded. If you cannot enroll in a given term, then you must apply by general petition to your college through your department for a leave of absence. The five-year rule on master's coursework still applies.
- Full-time enrollment means that you must enroll and complete the minimum number of hours each term as outlined below. We expect supported graduate students to progress toward their degrees at a reasonable pace. This means that dropping of courses by full-time graduate students is discouraged. Requests for full-time graduate students to drop courses below full-time status must have the approval of the Departmental Graduate Advisor, Chair and the Graduate Associate Dean and will be granted only in exceptional circumstances.
- Students with a major in any aspect of engineering must obtain information on the number of hours for enrollment from their major department or the Dean's Office, not from the International Student Services and Scholars Office.
- Students on in-state tuition waiver (\$1,000 scholarship or work on campus) must complete a minimum of 7 courses (21 hours) in the first two semesters, which can be done several ways. The recommendation is to take three courses in the fall and four courses in the spring. Please visit your department regarding the various options.

	Supported (RA/GA/GA-NE/TA/IA or Scholarship-Fellowship)		Unsupported Temporary Visa (F-1, J-1)	
Term	M/MS Spring and Fall	PhD	M/MS	PhD
Spring	9 or 12 Hours	9 Hours	9 Hours	9 Hours
Summer	6 Hours	6 Hours(if required to enroll)		
Fall	9 or 12 Hours	9 Hours	9 Hours	9 Hours

- Students who receive a waiver based on a scholarship are required to enroll full-time.
- Full-time enrollment is expected of the following categories of graduate students:
 1. Students who receive financial support from the University of Houston.
 2. Students who are making significant use of campus resources.
 3. Students who are meeting PhD residency requirements.
 4. Non-Immigrant visa-holding students (F-1, J-1, or other temporary visas).
 5. Students during their last term can enroll for the hours required to meet their degree requirements by filing a petition for a reduced course load (RCL).

*If a Masters supported student does not complete the required hours (21 credit hours) during the first two semesters, the student will forfeit the in-state tuition waiver.

Thesis/Research Enrollment

- Master's students first enroll in the 6x98 as soon as you begin work on your master's research. You must be continuously enrolled in research until you graduate, including summers if you are working on your research with your advisor.
- Master's students first enroll in the 6399-7399 (thesis courses) the term they submit their proposal and committee appointment page to their major department.
- Master's students continue to enroll in 6x98 (research course) each term until they graduate (including the term of graduation).
- Master's students are awarded a final thesis grade in 6399 and 7399 from their thesis chair after successfully defending their thesis and submitting a minimum of 1-2 copies of their thesis to the Engineering Dean's Office for binding.



- If you expect to graduate in a given term, you must enroll in and complete that term at the University of Houston (or the University of Houston-Clear Lake if you had also been taking courses there).

Dissertation/Research Enrollment

- Doctoral students first enroll in the 8x98 as soon as you begin work on your Doctoral research. You must be continuously enrolled in research until you graduate, including summers if you are working on your research with your advisor.
- Doctoral students first enroll in the 8399, 8699 and/or 8999 (12 hours of dissertation courses) the term they submit their proposal and committee appointment page to their major department.
- Doctoral students continue to enroll in 8x98 (research course) each term until they graduate (including the term of graduation).
- Doctoral students are awarded a final dissertation grade in 8399, 8699 and/or 8999 (12 hours of dissertation courses) from their dissertation chair after successfully defending their dissertation and submitting a minimum of 1-2 copies of their dissertation to the Engineering Dean's Office for binding.
- If you expect to graduate in a given term, you must enroll in and complete that term at the University of Houston (or the University of Houston-Clear Lake if you had also been taking courses there).

Time Limitation

The university has a five-year time-limit rule for Master's degree programs (this includes PB credit level changes and graduate transfer credit). Students who enroll at the University of Houston must complete the usual master's degree program within five years of the date of admission to the master's program at the University of Houston. Students who are in the joint MIE/MBA program have 7 years in which to complete this joint-degree program.

No course over five years old at the time of graduation can be used to satisfy the master's degree course requirements. This includes PB courses changed to graduate credit and transfer graduate courses approved for graduate credit. No PB courses from another university can be used for graduate credit.

Doctoral students must complete their dissertation within five years after completion of the comprehensive/qualifying exam. Otherwise, the exam must be repeated. The overall time limit for completing a PhD degree is ten years from the first day of enrollment.

The following comment is taken directly from the Graduate and Professional Studies Catalog: "Graduate students may hold a graduate assistantship (teaching or research) for no more than three years in pursuit of a master's degree, no more than five years in pursuit of a doctorate, and for no more than six years if pursuing a doctorate directly after entering a graduate program with a baccalaureate degree. This means that financial aid is not available when the assistantship limit is exceeded. Normally, no individual may hold an assistantship at the University of Houston for more than a total of six years. Any exception to this policy must receive the approval of the dean of the college and the senior vice president for academic affairs."



Cullen College of Engineering

Programs

Graduate Certificate

Engineering Data Science, Certificate

Data science is all around us. Major examples are Google, Uber, Amazon, Walmart, Facebook, YouTube and a host of others. Virtually all aspects of contemporary life already are or soon will be affected by it: air and terrestrial transport, pattern detection and image analysis, personalized medicine, material testing, pollutant concentration and modeling, business intelligence, marketing and customer service, logistics, self-driving cars to name a few examples. Far from being a technology useful in restricted areas, data science offers tools that are impacting the entire structure of modern society.

World-wide many companies - large and small - have made major investments in data science and are hiring personnel with some degree of data science expertise at a clip. Many thousands of positions are open and many more will become available in the future. The job market is totally tilted in favor of sellers: there are not enough people with the required preparation and the few available easily change jobs to pursue a higher salary. In this exciting atmosphere, a certificate combining one of the engineering disciplines with basic data science tools and concepts is a winning springboard from which to launch an interesting and profitable career.

Admission Requirements

Who should apply?

Practicing engineers and recent Bachelor of Science in engineering graduates are qualified to apply, and so are students pursuing an MS or PhD degree at UH. The five-course curriculum combines foundational courses in data science with data-science-intensive engineering courses. Students will gain a solid, diverse base in data science and its applications to an engineering discipline. Courses are part of a graduate engineering program and are taught at the graduate level.

Student Qualifications

- A four-year bachelor's degree in engineering or related field is required.
- The GRE exam is waived for Engineering Data Certificate applicants.
- Applicants for admission to the Certificate program must meet the same admissions standards and requirements as other applicants for graduate study.
- Students already pursuing an MS or PhD degree at the University of Houston will be enrolled in the Certificate program simply upon request.

Application Materials

- An online application
- Application Fee (\$25.00 for domestic applicants/\$75 for international applicants)
- 1 official transcript should be mailed to one of the following addresses below:



Regular Mail: *University of Houston
Graduate Admissions
P.O. Box 3947
Houston, TX 77253-3947*

Express Mail: *University of Houston
Graduate Admissions
4302 University Drive,
Room 102
Houston, TX 77204-2012*

For further information on how to apply, please review the following website: [How to Apply](#)

- Additional documentation for international applicants, including English language proficiency requirements, are found at: [International Applicants](#)

Degree Requirements

Credit hours required for this certificate: 15.0

The Certificate can be completed in two semesters.

In order to complete the Engineering Data Science Certificate, you will need to complete 5 graduate-level courses, 3 foundational for data science and 2 chosen, with the approval of the student's advisor, from the data-science oriented courses offered by the various departments of the College of Engineering. The three data-science foundational courses are to be chosen from the lists of Group A and Group B below, with at least one course from each group.

Group A

- MATH 6382 - Probability Statistics Credit Hours: 3.0 OR
- MATH 6383 - Probability Statistics Credit Hours: 3.0
- MATH 6358 - Probability Models and Statistical Computing Credit Hours: 3.0
- MATH 6380 - Programming Foundation for Data Analytics Credit Hours: 3.0

Group B

- COSC 6335 - Data Mining Credit Hours: 3.0
- COSC 6336 - Natural Language Processing Credit Hours: 3.0
- COSC 6339 - Big Data Analytics Credit Hours: 3.0
- COSC 6380 - Digital Image Processing Credit Hours: 3.0

Additional Courses

Additional courses deemed suitable by the Mathematics and Computer Science Departments may be added to each list once they have been approved.

A non-exhaustive list of data-science-oriented engineering courses is as follows:

- BIOE 6305 - Brain Machine Interfacing Credit Hours: 3.0
- BIOE 6309 - Neural Interfaces Credit Hours: 3
- BIOE 6340 - Quantitative Systems Biology & Disease Credit Hours: 3.0
- BIOE 6342 - Biomedical Signal Processing Credit Hours: 3.0
- BIOE 6345 - Biomedical Informatics Credit Hours: 3.0
- BIOE 6346 - Advanced Medical Imaging Credit Hours: 3.0
- BIOE 6347 - Introduction to Optical Sensing and Biophotonics Credit Hours: 3.0
- CHEE 6367 - Advanced Proc Control Credit Hours: 3.0



- CIVE 6380 - Introduction to Geomatics and Geosensing Credit Hours: 3
- CIVE 6382 - Lidar Systems and Applications Credit Hours: 3.0
- CIVE 7336 - Finite Element Methods Credit Hours: 3
- ECE 6326 - Power Systems Analysis Credit Hours: 3
- ECE 6333 - Signal Detec & Est Thry Credit Hours: 3.0
- ECE 6342 - Digital Signal Process Credit Hours: 3.0
- ECE 6355 - Intro To Well-Logging Tech Credit Hours: 3.0
- ECE 6376 - Digital Pattrn Recogntn Credit Hours: 3.0
- ECE 6397 - Selected Topics Credit Hours: 3
Topic(s):
 - GPU Programming
 - Sparse Representations in Signal Processing
 - High Performance Computing
- INDE 6336 - Reliability Engineering Credit Hours: 3.0
- INDE 6363 - Statistical Process Control Credit Hours: 3.0
- INDE 6370 - Operation Research-Digital Simulation Credit Hours: 3.0
- INDE 6372 - Advanced Linear Optimization Credit Hours: 3.0
- INDE 7340 - Integer Programming Credit Hours: 3.0
- INDE 7342 - Nonlinear Optimization Credit Hours: 3.0
- INDE 7390 - Supply Chain Management Credit Hours: 3.0
- INDE 7397 - Selected Topics Credit Hours: 3
Topic(s):
 - Engineering Analytics
- MECE 6397 - Selected Topics Credit Hours: 3
Topic(s):
 - Data Analysis Methods
- PETR 6322 - Practical Aspects of Integrated Petroleum Reservoir Management Credit Hours: 3.0
- PETR 6397 - Selected Topics Credit Hours: 3.00
Topic(s):
 - Big Data and Analytics for Petroleum Engineers
 - Application of Data Analytics to Petroleum Engineering
- SUBS 6397 - Selected Topics Credit Hours: 3
Topic(s):
 - Guide to Engineering Data Science
 - Real-Time Data Processing

Academic Policies

Students and prospective students should contact the student advisor in College of Engineering for guidance and to choose appropriate courses.

- University of Houston Academic Policies

Each student assumes responsibility for being familiar with the academic program requirements as stated in the current catalogs of the college and university and this website.

A minimum grade point average of 3.00 over all graduate courses attempted is required for the successful completion of the Certificate.

Department of Biomedical Engineering



Program Overview

The Department of Biomedical Engineering offers graduate programs leading to the following degrees:

- Doctor of Philosophy in Biomedical Engineering, from Bachelor's
- Doctor of Philosophy in Biomedical Engineering, from Master's
- Masters of Science in Biomedical Engineering, Thesis Option
- Masters of Science in Biomedical Engineering, Non-Thesis Option

We focus on three specific emerging academic and research fields:

1. *Neural and Rehabilitation Engineering* - We focus on neural implants, neurogenesis, neurochips, cognitive engineering, neural signal and image processing and modeling, and brain-computer interface from hardware to experimentation.
2. *Biomedical Imaging* - We focus on in vivo molecular and cellular imaging research with strong emphasis on the imaging of cancer biomarkers, therapy assessment, and cancer biology models etc. We also focus on clinical cardiovascular and brain imaging and develop an advanced interdisciplinary research field based on human cardiovascular and brain imaging.
3. *Genomics, Proteomics and Bionano Engineering and Science* - We focus on gene regulatory networks, genetics of systems biology, computational biology, and infectious diseases. We also focus on innovative drug discovery and design, translational research and personalized medicine, as well as the recent advances in bionano science and engineering.

Admissions

The graduate programs are open to all qualified individuals with a Bachelor of Science (B.S.) or Masters of Science (M.S.) in Biomedical Engineering or related field. For specific details on the application process and required documentation, please visit the Biomedical Engineering Graduate Admissions webpage.

Master

Biomedical Engineering, MSBE

The program's main goal is to develop leadership in academia, government, and industry nationally and globally. The importance of global scientific, social, and cultural interaction and the demands of the dynamic, ever-changing global healthcare economy have been strongly emphasized in our undergraduate and graduate programs. The research in the graduate program focuses on three main areas, neural, cognitive, and rehabilitation engineering, biomedical imaging, and bionanoscience.

The Master of Science (MSBE) Program offers a thesis and a non-thesis track. The MSBE with a thesis degree is a research-oriented degree that requires the selection of a faculty advisor. Selection of an advisor is critical to completing the degree and therefore should be done as soon as possible.

Admission Requirements

The graduate programs are open to all qualified individuals with a Bachelor of Science (BS) or Masters of Science (MS) in Biomedical Engineering or a related field.

- **Minimum Requirements for Application Review**

Students must meet or exceed these requirements in order for their application to be reviewed:

- BS Degree: Biomedical Engineering or related field
- GPA: 3.00/4.00 on last 60 hours or Graduate hours if hold MS degree
- Recommended GRE*: (Current scale) Q-159, V-150 (Prior scale) Q-750, V-450



*These scores reflect those of a competitive applicant but admission into our program is based on a holistic review of your application.

- **Course Requirements**

Upon admission, students with degrees in related fields will be evaluated on a case-by-case basis and may be required to take additional leveling courses. These leveling courses do not count towards the graduate degree. Generally, every graduate student should have taken:

- 2 years of Calculus (through differential equations)
- 1 year of Engineering Physics (calculus based physics)
- 1 year of Biology
- 1 year of Chemistry

- **Applicant Checklist**

Acceptance into the program is based on a competitive combination of academic background, GRE scores, recommendation letters, resume, and the statement of purpose. The Checklist below list all requirements for the application submission:

- UH Graduate School Application
- Application Fee - \$25 Domestic/\$75 International (cannot be waived)
- Official Transcripts from all colleges and universities you have attended (Scanned copies of official transcripts can be uploaded as PDF files and may be used to make admission decisions. If admitted, however, you will not be able to enroll without the official transcript(s) showing undergraduate degree conferral on file.)
- GRE scores (University code is 6870)
- Statement of Purpose* (Upload into Application)
- Resume/CV* (Upload into Application)
- 3 Letters of Recommendation (Submit emails within the Application and forms will be sent to Recommenders)
- International applications have additional documentation requirements, including fulfilling English language proficiency requirements with either degree completion or submitted test scores. For more information, visit www.uh.edu/graduate-school/admissions/international-students/

*When preparing your Resume/CV and Personal Statement for submission, please be sure to highlight your past research, current research interests, and UH Biomedical Engineering faculty that you are interested in working with. There is no prompt or length requirement for the statement of purpose.

For more information about the Graduate School Admissions, please visit: <http://www.uh.edu/graduate-school/prospective-students/how-to-apply/index.php>

Degree Requirements

MS in Biomedical Engineering with Thesis

The program requires the completion of a **minimum of 30.0 Credit Hours**, including a thesis, of approved graduate work distributed as follows:

- BIOE 6300 - Mathematical Methods in Biomedical Engineering **Credit Hours: 3.0**
- BIOE 6301 - Statistical Methods in Biomedical Engineering **Credit Hours: 3.0**
- BIOE 6350 - Genomic and Proteomic Engineering **Credit Hours: 3.0**
- Research course credits **Credit Hours: 3.0**
- Thesis course credits **Credit Hours: 6.0**
- Seminar Attendance (required with excess research enrollment)
- Elective courses **Credit Hours: 12.0**

The elective courses must be relevant to the student's research and approved by their advisor.

Two of the four elective courses must be taken within the BIOE department (effective Fall 2016).

Courses taken outside of the department for elective credit must be pre-approved by the department.

Formation of Thesis Committee



- The Thesis Committee members are determined by the student and their Advisor.
 - A Thesis Committee must consist of at least three members, with
 - the advisor as chair,
 - at least one additional faculty members from the Biomedical Engineering Department, and
 - at least one additional University of Houston tenure-track faculty member;
 - In total, you need a minimum of three tenure-track faculty members from the University of Houston.
- The Committee members must fill out the Committee Appointment Form with their acknowledgment that they will participate. The form must be submitted well before the proposal defense is scheduled since the committee must be approved by the Department and Dean's Office prior to the defense. A student need not be enrolled while requesting to form a committee but must be enrolled when the defense takes place.
- If a Committee member is outside of the University of Houston, that member's CV must be sent to the Graduate Advisor.
- Master's Thesis Committee formation Deadline:
 - The Committee must be formed by the ORD of the semester the student plans to defend.

MS in Biomedical Engineering without Thesis

The program requires the completion of a **minimum of 30.0 Credit Hours** of approved coursework distributed as follows:

- BIOE 6300 - Mathematical Methods in Biomedical Engineering **Credit Hours: 3.0**
- BIOE 6301 - Statistical Methods in Biomedical Engineering **Credit Hours: 3.0**
- BIOE 6350 - Genomic and Proteomic Engineering **Credit Hours: 3.0**
- Elective courses **Credit Hours: 12.0**

Four of the seven elective courses must be taken within the BIOE department (effective Fall 2016).

Courses taken outside of the department for elective credit must be pre-approved by the department.

Please consult the graduate advisor for the most updated list of approved electives.

Seminar

- The Seminar course (BIOE 6111) is not a traditional lecture/lab course.
- BIOE 6111 is a professional development opportunity aimed at engaging students outside of the classroom by bringing in professionals within the field as well as an opportunity for students to present their research endeavors.
- Students are required to enroll in **one** Seminar course per **term** if they are enrolled in excess research hours.
- BIOE 6111 is a one credit course, but the credit does not count towards the overall credit hours. For example, if a student is completing their Masters and doing a Thesis, their credit hour total is 30.0. In adding BIOE 6111, at least once a semester during their academic program, they will roughly have taken 32.0 credit hours. The additional 2.0 are from the Seminar courses and do not count towards the 30.0 credits needed to complete the degree but do count towards the overall semester credit count.
- BIOE 6111 - Graduate Bioengineering Seminar **Credit Hours: 1.0**

Transfer of Credits

A student may transfer up to 6.0 Credit Hours of graduate-level work completed elsewhere or at the University of Houston upon the approval of the Director of Graduate Studies. The student must file a general petition within one semester after admission to the graduate program to request the acceptance of the transfer credit.

Cumulative Grade Point Average (GPA)

The GPA is based on all courses attempted at the university during the graduate program. Students must maintain an overall GPA of 3.0 or better in order to remain in good academic standing for the graduate program. Students who drop below a 3.0 cumulative GPA will be placed on Academic Warning. Failure to bring up the cumulative GPA to 3.0 in the following semester may result in dismissal of the program.



- Cumulative Grade Point Average (GPA) for supported students:
 - The cumulative GPA must be 3.0 or better at all times in order to maintain eligibility for assistantships or in-state tuition waivers when applicable.
- Cumulative Grade Point Average (GPA) for scholarship students:
 - The cumulative GPA must be 3.0 or better at all times in order to receive the in-state tuition waiver. If you do not meet this requirement, you will lose the scholarship and no longer be eligible for in-state tuition. If you drop below the 3.0 GPA in the first semester, you may not receive the 2nd installment of the scholarship.

BIOE Graduate Policies

- BIOE 6111 - Seminar is required every semester for Master's students taking extra research hours, unless the student has received an exception from their PI, due to interference with their confirmed graduation date.
- Math Methods (BIOE 6300) is the first required BIOE math course, and Stats Methods for BME is the required BIOE statistics course. Stats is generally offered in the fall, and Math Methods will be offered in the spring.
- Once you enroll in research and thesis, respectively, you have to remain continuously enrolled in research and dissertation.
- All first-semester BIOE students may only take BIOE courses.

Doctoral

Biomedical Engineering, PhD

In addition to continued study of a broad range of engineering fundamentals, candidates for the doctoral degree enjoy intensive exposure to a specific field of engineering research. Individual research is the major focal point for these students, who are expected to expand the frontiers of knowledge in their area of endeavor. Moreover, candidates learn and experience the general philosophy, methods, and concepts of research and scholarly inquiry, so that they may contribute after graduation to substantive issues completely unrelated to their doctoral research.

Please visit the Biomedical Engineering website for more information.

Admission Requirements

The graduate programs are open to all qualified individuals with a Bachelor of Science (B.S.) or Masters of Science (M.S.) in Biomedical Engineering or related field. Selection of an advisor is critical to completing the degree and therefore should be done as soon as possible. If a student is admitted to the Ph.D. program without an advisor, an advisor will not be assigned to them.

Students must meet or exceed these requirements in order for their application to be reviewed.

- B.S. Degree: Biomedical Engineering or related field
- GPA: 3.00/4.00 on last 60 hours or Graduate hours if hold MS degree
- Recommended GRE*: (Current scale) Q-159, V-150 (Prior scale) Q-750, V-450
- (International Applicants) TOEFL: PBT- 580, CBT- 236, IBT- 92
- (International Applicants) IELTS: 7.0

**These scores reflect those of a competitive applicant but admission into our program is based on a holistic review of your application.*

Course Requirements

Upon admission, students with degrees in related fields will be evaluated on a case-by-case basis and may be required to take additional leveling courses. These leveling courses do not count towards the graduate degree. Generally, every graduate student should have taken:

- 2 years of Calculus (through differential equations)
- 1 year of Engineering Physics (calculus based physics)
- 1 year of Biology



- 1 year of Chemistry

Acceptance into the program is based on a competitive combination of academic background, GRE scores, recommendation letters, resume, and the statement of purpose. The Checklists below list all requirements for the Application Submission:

Applicant Checklist

- UH Graduate School Application
- Application Fee - \$25 Domestic/\$75 International (cannot be waived)
- Official Transcripts from all colleges and universities you have attended (Scanned copies of official transcripts can be uploaded as PDF files and may be used to make admission decisions. If admitted, however, you will not be able to enroll without the official transcript(s) showing undergraduate degree conferral on file.)
- GRE scores (University code is 6870)
- Statement of Purpose (Upload into Application)
- Resume/CV (Upload into Application)
- 3 Letters of Recommendation (Submit emails within the Application and forms will be sent to Recommenders)
- *International applications have additional documentation requirements, including fulfilling English language proficiency requirements with either degree completion or submitted test scores. For more information, visit the International Graduate Students website.*

Note: When preparing your Resume/CV and Personal Statement for submission, please be sure to highlight your past research, current research interests, and UH Biomedical Engineering faculty that you are interested in working with. There is no prompt or length requirement for the statement of purpose.

For more information about the Graduate School Admissions, please visit [How to Apply to the UH Graduate School](#).

Doctor of Philosophy in Biomedical Engineering (with prior M.S. Degree)

Credit hours required for this degree: 54.0

The program requires a minimum of 54 credit hours of approved graduate work distributed as follows:

- One (1) math course (beyond M.S. level): **BIOE 6300 - Mathematical Methods in Biomedical Engineering Credit Hours: 3.0**
- One (1) core course: **BIOE 6350 - Genomic and Proteomic Engineering Credit Hours: 3.0**
- Six (6) elective courses
- Eighteen (18) research credits
- Twelve (12) dissertation credits
- **BIOE 6111 - Graduate Bioengineering Seminar Credit Hours: 1.0** (required with research enrollment)

The elective courses must be relevant to the student's research and approved by their advisor.

Five of the eight elective courses must be taken within the BIOE department (effective Fall 2016). Courses taken outside of the department for elective credit must have previously been approved by the department.

Doctor of Philosophy in Biomedical Engineering (directly from Undergraduate)

Credit hours required for this degree: 84.0

The program requires a minimum of 84 credit hours of approved graduate work distributed as follows:

- Two (2) math courses: **BIOE 6300 - Mathematical Methods in Biomedical Engineering Credit Hours: 3.0** and approved MATH elective
- One (1) statistics course **BIOE 6301 - Statistical Methods in Biomedical Engineering Credit Hours: 3.0**
- One (1) core course: **BIOE 6350 - Genomic and Proteomic Engineering Credit Hours: 3.0**
- Eight (8) elective courses



- Thirty six (36) research credits
- Twelve (12) dissertation credits
- **BIOE 6111 - Graduate Bioengineering Seminar Credit Hours: 1.0**

The elective courses must be relevant to the student's research and approved by their advisor.

Five of the eight elective courses must be taken within the BIOE department (effective Fall 2016). Courses taken outside of the department for elective credit must have previously been approved by the department.

Degree Requirements

Seminar:

- The Seminar Course (BIOE 6111) is not a traditional lecture/lab course.
- BIOE 6111 is a professional development opportunity aimed at engaging students outside of the classroom by bringing in professionals within the field as well as an opportunity for students to present their research endeavors.
- Students are required to enroll in **ONE** Seminar course per **TERM** as they are enrolled in research hours.
- BIOE 6111 is a one credit course, but the credit does not count towards the overall credit hours. For example, if a student is completing their Masters and doing a Thesis, their credit hour total is 30. In adding BIOE 6111, at least once a term during their academic program, they will roughly have taken 32 credit hours. The additional 2 are from the Seminar courses and do not count towards the 30 credits needed to complete the degree but do count towards the overall semester credit count.
- Adding this One Credit Course to the Term Course Schedule can cause the student to enroll in 10 credits instead of the traditional 9. In this case, students can reduce their research credits by 1, so the total credit hours equal 9 or simply take an extra credit.

Qualifying Exam:

- **Eligibility**
 - Doctoral students are eligible to sit for the Qualifying Exam after the second term of graduate studies. Doctoral students **MUST** complete the Qualifying Exam by the end of their fourth term, but traditionally complete it by the end of their third term.
 - Students must confirm with the Graduate Advisor that they plan to complete their Qualifying Exam in a given term.
- **Components of Exam**
 - The Qualifying Exam is administered orally and students must submit two abstracts (1) current research and (2) future research, one week prior to the exam.
 - Notes, PowerPoint slides or electronic displays are **prohibited**.
- **Committee**
 - The Graduate Advisor will create the Qualifying Exam committee based on faculty availability and the student's schedule.
 - The committee will consist of at least four (4) members: candidate's Research Advisor, Department Chair, and two (2) additional faculty members from the department. Additional faculty should represent the candidate's research focus area and are primarily responsible for the examination of the candidate.
 - The Research Advisor may ask questions but is expected to fulfill the advocate role for the candidate as he/she prepares for the examination. The Chair's primary function is to ensure that there is consistency across all candidate qualifying examinations.
- **Overview**
 - Qualifying Exam Committees are coordinated by the Graduate Advisor. Students will be notified of the date and time of their Exam via email.
 - Examinations are expected to span about 1 hour but may vary between 1 to 1.5 hours.
 - The oral component will start with a general overview provided by the candidate on their research thrust area and prospective research project.
 - Committee members will be given hard copies of the two abstracts (supplied by the Doctoral student).
 - The Exam Committee will then ask questions and engage in discussions with the student for the remainder of the session. The following is the goal and scope of the oral exam:
 - Determine student's depth of understanding of the Biomedical Engineering graduate core.
 - Assess student's capacity to think critically and apply engineering tools to solve problems.
 - Assess student's capacity to integrate skills in an area of research in biology and/or biomedical engineering.



- A successful student will be knowledgeable, able to think critically, and demonstrate the ability to integrate and/or apply course information to topics pertinent to their research area.
 - Immediately following the oral examination session, the Exam Committee will meet in a closed session to discuss the student's performance and determine the results of the exam. The following results are possible.
 - **Pass:** the candidate may continue in the PhD program, complete course work, and prepare to defend a prospectus.
 - **Fail:** the candidate will be removed from the PhD program. A contingent plan may be developed to enter the Masters program, either thesis or non-thesis. The candidate may petition to retake the qualifying exam during which time he/she may be retained in the PhD program until the petition is resolved. If the petition is not accepted, he/she will be removed from the PhD program. If the petition is accepted, a continuation in the PhD program will be contingent upon results of a re- examination.
 - The **Qualifying Exam Score Sheet** will be filled out and turned into the Graduate Advisor, so the results can be put into the students file.

Formation of Dissertation Committee:

- The Dissertation Committee members are determined by the student and their Advisor.
 - A Dissertation Committee must consist of at least five members, with
 - the advisor as chair,
 - at least two additional faculty members from the Biomedical Engineering Department, and
 - at least one additional University of Houston tenure-track faculty;
 - In total, you need a minimum of **four** tenure-track faculty members from the University of Houston. The fifth committee member may be from UH, or from an external institution.
- The Committee members must fill out the **Committee Appointment Form** with their acknowledgement that they will participate. The form must be submitted well before the proposal defense is scheduled since the committee must be approved by the Department and Dean's Office prior to the defense. A student need not be enrolled while requesting to form a committee but must be enrolled when the defense takes place.
- If a Committee member is outside of the University of Houston, that member's CV must be sent to the Graduate Advisor.
- **Doctoral Dissertation Committee formation Deadline:**
 - The Committee must be formed at least two weeks prior to the Prospectus.

Prospectus:

Doctoral students must complete their Prospectus at least one term before Graduation.

- **Components**
 - A rough draft of a research proposal should be shown to the student's research advisor for approval of content prior to scheduling the oral presentation.
 - The oral presentation of the dissertation prospectus is made to the student's Dissertation committee. Other interested members of the faculty are invited to attend the presentation but are encouraged to leave prior to the questioning by the dissertation committee.
- **Overview**
 - The student's presentation should take advantage of appropriate audio and visual aids and should be limited to no more than 50 minutes.
 - Copies of the written dissertation prospectus must be distributed to all members of the student's dissertation committee no later than one week prior to the oral presentation. In the oral examination, the student is expected to defend their prospectus and justify that the proposed research is of the acceptable quality and magnitude consistent with quality doctoral education.
 - Following the oral presentation of the research proposition, questions are welcomed from members of the departmental faculty. Following general questions, departmental faculty members other than those on the student's dissertation committee are excused and the student's dissertation committee and interested faculty from the student's major will remain to ask questions of the candidate regarding his proposed research. Generally, the oral discussion of the dissertation prospectus is limited to three hours.
 - After questioning, the candidate is excused from the room while the dissertation committee conducts its deliberations.
- **Committee**
 - The Prospectus Committee is comprised of the Dissertation Committee members that were listed on the approved Committee form.



- The decision regarding whether or not the dissertation prospectus is acceptable is the decision of the dissertation committee alone.
- The student's dissertation committee conveys its evaluation of the acceptability of the dissertation prospectus to the chair of the departmental graduate committee by signing the **Prospectus Approval Form**.
- If the student's dissertation prospectus is considered acceptable, the chair of the departmental graduate committee will recommend to the Graduate College that the student be advanced to PhD candidacy status.
- If the student's dissertation prospectus is unacceptable, the chair of the dissertation committee formulates recommendations for future action and submits them to the chair of the departmental graduate committee and the chair of the department. Either of two recommendations is possible:
 - A re-examination may be scheduled and the entire process repeated, or
 - The student may be removed from the doctoral program. The results of the dissertation prospectus presentation are conveyed to the student by the chair of the departmental graduate committee.

Dissertation Defense:

- The student will coordinate their Defense date with their committee and Advisor.
- If a room needs to be reserved, the student can contact the Graduate Advisor.
- Results should be reported to the Graduate Advisor, either via email or in person.
- **Dissertation/Thesis Defense Deadline:**
 - The Graduate School and Cullen College of Engineering has set a deadline for defending. All students must defend by the given date or they will not be able to graduate that term. The deadline changes each term; the Academic Calendar will note the date.
 - For example, in Fall 2014, all students planning to defend, had to have their defense completed by Friday, December 05.
- All information necessary for submission can be found on the Guide for Preparation of Theses/Dissertations page.

BIOE Graduate Policies

- CORE Coursework must be completed before your Qualifying Exams - this includes:
 - BIOE 6300 - Math Methods in BME
 - BIOE 6301 - Stats Methods in BME
 - BIOE 6350 - Genomic and Proteomic Engineering
- The Qualifying Exam **must** be completed at the end of the 3rd term, unless an exception has been approved by the Department Chair and Graduate Director.
- BIOE 6111 - Seminar is required every term for all PhD students enrolled in research hours, unless the student has received an exception from their PI, due to interference with their confirmed graduation date.
- Math Methods (BIOE 6300) is the first required BIOE math course, and Stats Methods for BME (BIOE 6301) is the required BIOE statistics course. Stats is generally offered in the fall, and Math Methods will be offered in the spring.
- Once you enroll in research and dissertation, respectively, **you have to remain continuously enrolled in research and dissertation.**
- All first term BIOE students may only take BIOE courses.
- Students who started in and after Fall 2016: Only 25% of your courses may be taken outside of the department. If the course has not previously been approved by the department as an elective, a petition for the course must be submitted and approved prior to the start of the term of intended enrollment. The petition must be approved by your PI and should include an explanation of why the course is relevant to your research. Petitions can be turned in to the Graduate Advisor.
- Students who started prior to Fall 2016: Please check with the Graduate Advisor regarding elective courses outside of the department. If the course has not previously been approved by the department as an elective, a petition for the course must be submitted and approved prior to the start of the term of intended enrollment. The petition must be approved by your PI and should include an explanation of why the course is relevant to your research. Petitions can be turned in to the Graduate Advisor.

Transfer of Credits



A student may transfer up to 6 hours of graduate-level work completed elsewhere or at the University of Houston upon the approval of the Director of Graduate Studies. The student will need to file a general petition within one term after admission to graduate program.

Cumulative Grade Point Average (GPA)

This average is on all courses attempted at the university during the graduate program. Students must maintain an overall GPA of 3.0 or better in order to remain in good academic standing for the graduate program. Students who drop below a 3.0 cumulative GPA will be placed on Academic Warning. Failure to bring up the cumulative GPA to 3.0 in the following term may result in dismissal of the program.

- Cumulative Grade Point Average (GPA) for supported students:
 - The cumulative GPA must be 3.0 or better at all times in order to maintain eligibility for assistantships or in-state tuition waivers when applicable.
- Cumulative Grade Point Average (GPA) for scholarship students:
 - The cumulative GPA must be 3.0 or better at all times in order to receive the in-state tuition waiver. If you do not meet this requirement, you will lose the scholarship and no longer be eligible for in-state tuition. If you drop below the 3.0 GPA in the first term, you may not receive the 2nd installment of the scholarship.

Department of Chemical and Biomolecular Engineering

The Department of Chemical and Biomolecular Engineering has research programs in four core areas: materials science and engineering (including polymeric and electronic), biomolecular engineering, energy engineering, and reaction and systems engineering. Specific research areas include biochemical engineering, chemical reaction engineering, chemical vapor deposition, catalysis, colloid science, combinatorial chemistry, applied molecular biology, process control, interfacial phenomena, numerical simulation, molecular recognition, rheology, fluid flow and phase behavior in porous media, polymer and macromolecular solutions, processing of electronic materials, thin-films materials fuel cells, two-phase flow, solid-fluid separation, reliability theory, super-conductivity, thermochemical energy storage, and petroleum production engineering.

The department occupies more than 50,000 square feet in the two modern buildings that house the Cullen College of Engineering. All full-time graduate students are provided office and laboratory space to carry out their studies and research. Excellent facilities and equipment are available in the aforementioned research program areas. Typical equipment includes scanning electron microscopes, an X-ray diffractometer, pulsed excimer-pumped dye laser, quasi-elastic laser light scattering spectroscopy unit, atomic force microscopes, ellipsometers, and confocal microscopes systems. In addition, the department has laser anemometers, rheometers, gas chromatograph/mass spectrometer system, ultraviolet spectrometers, microscope-video recorder and microscope-move camera systems, and automatic image analyzers. New facilities include systems for infrared thermal imaging, plasma processing and etching, semiconductor processing equipment, high-pressure centrifuge for porous medium analysis, X-ray scattering equipment, advance rheometer, TGA/DSC, Fourier transform infrared spectrometers, parallel array diagnostic equipment, polymer chain reactor devices, cell culture facilities and fluorimeters. The faculty and students in the department participate in the Texas Diesel Testing and Research Center and the National Wind Energy Center.

Please select for more information about the Chemical and Biomolecular Engineering Program degrees offered.

Materials Science and Engineering Program

The Materials Science and Engineering Program at the University of Houston is an interdisciplinary program with faculty from Mechanical, Chemical and Electrical Engineering Departments. In addition, significant collaboration occurs with the materials faculty in the College of Natural Sciences and Mathematics. The principal objectives of the materials engineering program may be summarized as follows: to study the mechanical, optical, electrical and electronic behavior of engineering and engineered materials used in all engineering applications. The specific areas covered by this program range from metallic alloys, polymers, ceramics and composites for advanced mechanical/aerospace engineering applications to thin films and coatings for electronics and superconducting ceramics for energy-related applications.

Please select for more information about the Materials Science and Engineering Program degrees offered.



Master

Chemical Engineering, MChE

Cullen College of Engineering > Department of Chemical and Biomolecular Engineering > Chemical Engineering, MChE

The Master of Chemical Engineering (MChE) degree is offered as a non-thesis program for the working professional. The program has been designed for those persons who plan careers in plant operations, design and management. It is not intended to be competitive with the Master of Science degree, which is specifically consist of research based courses.

The goal of this program is not only to permit earlier productive use of the young engineer's technical skills, but also to introduce the engineer to the broad concepts of systems, analysis, advanced process economics, and technical management.

The program is aimed at improving opportunities for chemical engineers in the chemical process industry and related industries.

Please visit the Master of Chemical Engineering Degree program page.

Admission Requirements

- Professionals working in the chemical process industry with BS in chemical engineering.
- Minimum undergraduate grade-point average (GPA) of 3.00 (based on 4.00)
- Typically total GRE score over 300 (Verbal + Quantitative).
- Professionals working in the industry or related industries with degrees other than but related to chemical engineering (such as mechanical engineering or chemistry) are encouraged to apply. If admitted to the MChE program, such students are required to take a number of undergraduate chemical engineering courses that will prepare them to take the graduate-level MChE courses.
- Preparatory courses are composed by the MChE Director on an individual basis, depending on the student's background. A typical list of preparatory courses can be found on the department website.

Acceptance into the program is based on a competitive combination of academic background, GRE scores, recommendation letters, resume, and the statement of purpose. The Checklists below list all requirements for the Application Submission:

Applicant Checklist

- UH Graduate School Application
- Scanned copies of official transcript will be used for the application evaluation (upload). However IF admitted Official Transcript with the date your degree was Conferred/Awarded must be submitted to the Graduate School before enrollment can take place.
- GRE scores (University code is 6870)
- Statement of Purpose (uploaded- if possible no longer than 2 pages)
- Resume (uploaded)
- 3 Letters of Recommendation (emails must be listed on the online application)
- Application Fee (cannot be waived)

Degree Requirements

Credit hours required for this degree: 30.0

Program Study for the Master of Chemical Engineering (MChE):

The program requires the completion of 30 credit hours of approved graduate work. Which consist of five core courses and five elective courses.



GRADUATE CORE COURSES (15 Credit hrs.)

- CHEE 6368 - Chemical Process Economics I Credit Hours: 3.0
- CHEE 6369 - Chemical Process Economics II Credit Hours: 3.0
- CHEE 6383 - Adv Unit Operations Credit Hours: 3.0
- CHEE 6367 - Advanced Proc Control Credit Hours: 3.0 *
- INDE 6372 - Advanced Linear Optimization Credit Hours: 3.0

*Offered every two years

GRADUATE ELECTIVE COURSES (15 Credit hrs.)

The five elective courses may be chosen based on student's interest from the department or any of the engineering departments in the College of Engineering. Also some graduate Business courses can be taken as electives. However prior to enrolling you are required to receive approval from the Advisor/Program Director.

Chemical Engineering, MSChE

The MSChE degree is obtained through coursework only. This program focuses on advanced engineering fundamentals. Students with a BS degree in Chemical Engineering or related field obtain a course-based MSChE degree.

Recipients of the MSChE are broadly qualified for continued studies towards PhD or a job industry.

For more information, please visit the Chemical and Biomolecular Engineering MS and PhD Programs page.

Admission Requirements

- Students with BS in chemical engineering.
- Minimum undergraduate grade-point average (GPA) of 3.0 (based on 4.0); accepted students typically are in the top 10% of class (3.35 or better based on 4.0)
- Accepted students typically have total GRE score 300 or better (Quantitative of 155 or better).

Be advised that meeting these criteria does not guarantee admission.

Acceptance into the program is based on a competitive combination of academic background, GRE scores, recommendation letters, resume, and the statement of purpose. The Checklists below list all requirements for the Application Submission:

Applicant Checklist

- UH Graduate School Application
- Scanned copies of official transcript will be used for the application evaluation (upload). However IF admitted Official Transcript with the date your degree was Conferred/Awarded must be submitted to the Graduate School before enrollment can take place.
- GRE scores (University code is 6870)
- Statement of Purpose (uploaded- if possible no longer than 2 pages)
- Resume (uploaded)
- 3 Letters of Recommendation (emails must be listed on the online application)
- Application Fee [\$25 domestic applicants/\$75 international applicants] (cannot be waived)
- International applications have additional documentation and English language proficiency requirements. Please visit the English Language Proficiency Requirements page for more information.

Degree Requirements

Credit hours required for this degree: 30.0



Program Study for the Master of Science in Chemical Engineering (MS):

The program requires the completion of 30 credit hours of approved graduate work. Which consist of four core courses and six elective courses.

GRADUATE CORE COURSES (12 Credit hrs.)

- CHEE 6333 - Transport Processes Credit Hours: 3.0
- CHEE 6335 - Classical-Statistical Thermo Credit Hours: 3.0
- CHEE 6337 - Advanced Reactor Engr Credit Hours: 3.0 (in lieu of CHEE 6360) OR
- CHEE 6360 - Biomolecular Engr Fundamentals Credit Hours: 3.0 (in lieu of CHEE 6337)

GRADUATE ELECTIVE COURSES (18 Credit hrs.)

The six graduate-level elective courses may be chosen from the department offerings. **ONLY** two elective graduate-level courses (6 credit hours) from other departments may be substituted for chemical electives. It is possible to cross-enroll to Rice or Baylor College of Medicine in some cases. Basic computer science (COSC) classes, as well as the finance and accounting courses offered in the MChE program (e.g. CHEE 6368, CHEE 6369 and CHEE 6383); need the Graduate Director approval before enrolling as electives.

Doctoral

Chemical Engineering, PhD

The mission of the PhD program is to train graduate students and contribute to the development of fundamental knowledge in the field of chemical engineering. The department's diverse research is at the forefront of traditional and emerging chemical engineering disciplines including biomolecular engineering, nano-materials, environmental reaction engineering, energy, control theory, polymers, transport, catalysis, separation processes and plasma processing science and applications. The department offers courses in the core disciplines of chemical engineering, as well as a broad range of electives on current and developing topics. Students' education is broadened by a series of seminars by internationally known speakers from academia and industry. Many of our students also participate in internships during their Ph.D. tenure.

For more information, please visit the Chemical and Biomolecular Engineering MS and PhD Programs page.

Admission Requirements

- Students with BS can apply directly to the PhD program.
- Minimum undergraduate grade-point average (GPA) of 3.0 (based on 4.0); accepted students typically are in the top 10% of class (3.35 or better based on 4.0)
- Accepted students typically have total GRE score 300 or better (Quantitative of 155 or better).
- Must meet English language proficiency requirement (US degree, TOEFL, etc). Full details are on the English Language Proficiency Requirements page.

Be advised that meeting these criteria does not guarantee admission.

Acceptance into the program is based on a competitive combination of academic background, GRE scores, recommendation letters, resume, and the statement of purpose. Full details on the application process are found on the How to Apply to UH Graduate School page. The Checklists below list all requirements for the Application Submission:

Applicant Checklist

- UH Graduate School Application
- Scanned copies of official transcript will be used for the application evaluation (upload). However IF admitted Official Transcript with the date your degree was Conferred/Awarded must be submitted to the Graduate School before enrollment can take place.
- GRE scores (University code is 6870)



- Statement of Purpose (uploaded- if possible no longer than 2 pages)
- Resume (uploaded)
- 3 Letters of Recommendation (emails must be listed on the online application)
- Application Fee [\$25 domestic applicants/\$75 international applicants] (cannot be waived)
- International applications have additional documentation and English language proficiency requirements. Please visit the Graduate International Students page for more information.

Degree Requirements

Credit hours required for this degree: 72.0

Program Study for the Doctor of Philosophy in Chemical Engineering (PhD):

The program requires the completion of 30 credit hours of approved graduate coursework. Which consist of Four Core, Two Semi Core and Four Elective courses. Also students required to have 12 Dissertation hours and 30 Research hours.

CORE COURSES (12 Credit hrs.)

- CHEE 6331 - Math Mtds in Chem Engr Credit Hours: 3.0
- CHEE 6333 - Transport Processes Credit Hours: 3.0
- CHEE 6335 - Classicl-Statist Thermo Credit Hours: 3.0
- CHEE 6337 - Advanced Reactor Engr Credit Hours: 3.0 (in lieu of CHEE 6360) OR
- CHEE 6360 - Biomolecular Engr Fundamentals Credit Hours: 3.0 (in lieu of CHEE 6337)

GRADUATE ELECTIVE COURSES (18 Credit hrs.)

The remaining six (elective) courses, at least two must be Chemical Engineering graduate courses. Graduate-level courses from other departments may be approved on a case-by-case basis. It is possible to enroll in Rice graduate courses in some cases.

NOTE: All students are **REQUIRED** to attend the Department Seminars, enrolled or not.

Graduate Certificate

Process Engineering and Modeling Certificate

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This University of Houston certificate program was created out of necessity for industry and has widespread applications for engineers through the chemical engineering field.

Process design and chemical companies are seeking advanced/professional training for their employees to sustain the knowledge necessary to compete with the increasing demands of complex engineering and management. The ongoing development of technology and critical demand of products and services can create challenges for the safety and efficient operation of any chemical company.

The Graduate Executive Certificate in Chemical Engineering offers practicing engineers the opportunity to review current industry best practices, discuss challenges and solutions relating to safe and effective plant design and operation, and also to study management techniques that are optimized for the chemical industry.

Admission Requirements

All applicants must have a minimum of two (2) years of chemical industry experience. The applicants will have a minimum of a BS degree in Engineering. Applicants with non-engineering bachelor's degrees will be evaluated by the program on a case-by-case basis. This is a non-degree



option; therefore, the GRE is not required.

Note: This program is not intended for F-1 Visa Holders.

Students must have a cumulative GPA of 3.0 or better to receive the certificate. Successful completion of a certificate does not guarantee admission into a Master's degree program.

Requirements

The certificate will consist of three courses, and all three will be required for the certificate in Process Engineering and Modeling:

1. Process Design and Modeling
 - Defining and converting concepts to engineering design
 - Design practices industry
 - Process simulation and design
 - Issues with real equipment
 - Value engineering and optimization of new plants
 - Design reviews
2. Process Economics and Project Management
 - Basic economics of chemical processes and products
 - Development of decision-making methods using oil/chemical industry examples
 - Project management concepts and practices for chemical engineers
3. Advanced Unit Operations (currently taught as CHEE 6383).
 - Property prediction of multicomponent fluids
 - Advanced principals of heat exchanger design
 - Multicomponent fractionation
 - Absorption, stripping and extraction

More information about this certificate can be found at the Chemical and Biomolecular Engineering web site: <http://www.che.uh.edu/certificates>.

Department of Civil and Environmental Engineering

The Department of Civil Engineering offers graduate study in environmental, geosensing systems, geotechnical, materials, hydraulic/water resources, and structural engineering. The department has well-equipped research laboratories fitted with state-of-the-art instruments. The structural laboratory has more than 2,500 square feet of strong floor with a 2.5-million-pound MTS testing system, a large panel tester with forty 100-ton jacks, a biaxial fatigue tester and a walk-in chamber for large scale environmental testing. The materials testing laboratory is equipped with a 2-foot-deep strong floor and a 400-kip Tinius-Olsen universal testing machine. The geotechnical facility includes a laboratory with triaxial testing capability, sophisticated pile test chambers and fully equipped grouting and soil mechanics laboratories. The hydraulic facility is equipped with a fluid mechanics/wave mechanics laboratory with a 50-ft long tilting flume and state-of-the-art ADV and LSPIV. The environmental laboratories encompass a 2,000 square foot analytical research facility with state-of-the-art instrumentation that allows for analysis of most contaminants in soil, water and air as well as microbial and molecular analysis. The geosensing laboratory includes an optical laboratory and specialized airborne and terrestrial-based remote sensing equipment.

Master

Civil Engineering, MSCE

Cullen College of Engineering > Department of Civil and Environmental Engineering > Civil Engineering, MSCE



The Department of Civil Engineering offers graduate study in environmental, geosensing systems, geotechnical, materials, hydraulic/water resources, and structural engineering. The department has well equipped research laboratories fitted with state-of-the-art instruments. The structural laboratory has more than 2,500 square feet of strong floor with a 2.5-million-pound MTS testing system, a large panel tester with forty 100-ton jacks, a biaxial fatigue tester and a walk-in chamber for large scale environmental testing. The materials testing laboratory is equipped with a 2-foot-deep strong floor and a 400-kip Tinius-Olsen universal testing machine. The geotechnical facility includes a laboratory with triaxial testing capability, sophisticated pile test chambers and fully equipped grouting and soil mechanics laboratories. The hydraulic facility is equipped with a fluid mechanics/wave mechanics laboratory with a 50-ft long tilting flume and state-of-the-art ADV and LSPIV. The environmental laboratories encompass a 2,000 square foot analytical research facility with state-of-the-art instrumentation that allows for analysis of most contaminants in soil, water and air as well as microbial and molecular analysis. The geosensing laboratory includes an optical laboratory and specialized airborne and terrestrial based remote sensing equipment.

For more information, please visit the Department of Civil & Environmental Engineering website.

Admission Requirements

- A complete admissions application, including official transcripts from all colleges attended, official test scores, and application fee (\$25 domestic applicants/\$75 international applicants).
- A B.S.C.E. degree, or the equivalent, from an ABET accredited (or similar) program. Students with degrees in fields related to Civil Engineering may be admitted with certain prerequisite courses specified.
- A grade point average (GPA) of at least 3.0/4.0 (B-Average grade) on the last 60 hours attempted.
- Satisfactory scores on the Quantitative and Verbal tests of the Graduate Record Examination (GRE).
- Fulfillment of the English Language Proficiency requirements. For details, visit the International Graduate Students web page.
- Conditional admission may be granted to domestic applicants if the applicant meets a minimum GPA of 2.7 and an acceptable GRE score. Students who are admitted conditionally must achieve a B-average (3.0 GPA) or better in their first four graduate courses (or 12 hours).

For more on the application process, please visit the Civil Engineering Program - Admission Requirements page.

Degree Requirements

Credit hours required for this degree: non-thesis - 31.0; thesis - 31.0 (includes 9 thesis hours)

Course Requirements

Non thesis students are required to take 31 credit hours of organized courses, 10 courses (3 hours each) plus a 1 hour seminar. The information presented in all but items 3 and 6 below apply to the non thesis degree.

The thesis program requires 21 semester credit hours of courses plus a thesis as follows:

1. Civil Engineering Courses

15 to 21 credit hours of Civil Engineering courses at the 5000 level or above. No more than 3 credit hours may be 5000 level, and must include a sequence of at least 12 credit hours in the student's major area of interest of 6000 level courses or above.

2. Approved Courses Outside Civil Engineering

At most, 6 credit hours of graduate courses in approved related fields outside Civil Engineering may be counted toward the degree.

3. Nine Credit Hours of Thesis

Registration in:

- CIVE 6398 - Msce Research Project **Credit Hours: 3.0** and



- CIVE 6399 - Master's Thesis **Credit Hours: 3** in one term is followed by registration in
- CIVE 7399 - Master's Thesis **Credit Hours: 3** in subsequent terms and is repeated continuously until the thesis is completed. Other research courses (CIVE 6198 through 6598) may be required. Registration in thesis should be continuous and uninterrupted.

4. Course Approval

The courses must be in accordance with a degree plan approved by the student's Advisor and the Director of Graduate Studies.

5. Transfer Credit

No more than 6 hours of graduate credit may be transferred from another institution.

6. Graduate Seminar

The student is required to take:

- CIVE 6111 - Graduate Seminar **Credit Hours: 1.0** during his/her registration in the thesis or research courses. This is in addition to the 21 hours of courses and 9 hours of thesis and research course requirements described above. Full-time, supported students must enroll in CIVE 6111 every term unless permission is granted by the department chairman and the Advisor for an exception.

7. Grade Requirement

No course in which a grade less than C is received will count within the degree program.

8. Technology Courses

Technology courses will not be counted within the degree program.

9. Course Attempts

A course cannot be attempted more than three times; a grade of "W" is considered an attempt.

Thesis Requirements

A student performs research under the direction of an advisor during the period of study at UH. During the term the student is ready to graduate the following requirements must be met.

1. The Advisor, after consulting with the student, will request the appointment of the thesis committee through the Director of Graduate Studies. This request should be submitted no later than the start of the term in which the student is enrolled in CIVE 6399. The committee shall consist of at least two Civil and Environmental Engineering faculty members from the student's major area (including the Advisor), and at least one University of Houston faculty member from outside the Civil and Environmental Engineering Department.
2. At the completion of the research, the student must defend the final, written thesis in a public meeting before the committee. This meeting should be publicized in advance by a memorandum distributed to the Civil and Environmental Engineering faculty indicating the title and abstract of the thesis, and the date, time, and place of the meeting. The student must get the written approval of the committee that the thesis is acceptable in final form for submission to the College Dean's Office and to the Library.

Academic Policies



Advising and Planning

- Close to the end of the first term, the student in consultation with the Director of Graduate Studies, shall choose an Advisor. The advisor shall counsel the student for the remainder of his/her study program and supervise the thesis. By agreement of all concerned, the initial relationship may be dissolved and a new one established, but the student must have an Advisor at all times after the first term.
- Prior to completion of the first term, the student and the advisor will submit to the Director of Graduate Studies the student's Preliminary Degree Plan. The degree plan will list the specific courses, which must be completed to obtain the M.S.C.E. degree. Changes in this plan, if required, will be approved in writing by the advisor and the Director of Graduate Studies. Only those studies undertaken in accordance with this approved degree plan shall be credited towards the M.S.C.E. degree.
- No later than the first week of the last term of registration, the student and the advisor must submit the final degree plan to the Director of Graduate Studies. The student must also apply for graduation to the University's Office of Graduation in accordance with university requirements.
- Depending on the type of support, full-time students must enroll in 12 or 10 hours per long term, including CIVE 6111, and 9 or 6 hours per 12-week summer session. A student must complete his/her M.S.C.E. program within 5 years from the date of first enrollment.

Environmental Engineering, MS

Cullen College of Engineering > Environmental Engineering, MS

The Environmental Engineering Program of the University of Houston is an interdisciplinary graduate engineering program within the Cullen College of Engineering, administratively housed in the Department of Civil and Environmental Engineering. The Program and its faculty are internationally known for their research and teaching in water, wastewater, microbiology, bioremediation, soil and hazardous waste treatment and modeling, and airborne particulates.

The Environmental Engineering program offers the degrees of Master of Science (M.S.), with thesis and non-thesis options.

Courses are scheduled to accommodate both part-time and full-time students; 24-30 hours of required course work can usually be completed in one calendar year of full-time or three years of part-time study. Full time thesis students generally can complete the masters of science degree in 2 years of consecutive study.

Admission Requirements

Admission requirements are the same for both the thesis and non-thesis options:

- A B.S. degree in engineering or in a science related to engineering from an accredited college or university or the foreign equivalent of an accredited American B.S. or M.S. degree in engineering. Non-engineers with degrees in related fields may be considered for admission after certain prerequisite courses are completed. A list of pre-requisites and leveling courses can be found on the Information for Non-engineers page. Applicants with non-science bachelor's degrees in fields such as technology, management, business, and the arts must obtain an accredited engineering degree before applying.
- A minimum grade point average (GPA) of "B", i.e., 3.0 on a 4.0 scale on the last 60 hours of course work attempted.
- Satisfactory scores on the General Aptitude test of the Graduate Record Examination (GRE). The Quantitative + Verbal scores combined should be at least 1100 using the prior GRE scale (Verbal minimum is 450 and Quantitative minimum is 650) or 301 using the current GRE scale (Verbal minimum is 150 and Quantitative minimum is 151); however, these scores do not guarantee admission.
- Satisfactory TOEFL scores for international students. Requirements can be found on the English Language Proficiency and Exemptions page.

Degree Requirements

Credit hours required for this degree: 32.0

Master of Science - Thesis



A minimum of 30 semester hours, with two (2) additional seminar hours of CIVE 6111 (for a total of 32 hours) are required for the degree of Master of Science. This is a research-oriented degree that is open only to full-time students under the guidance of a faculty advisor. All students selecting the thesis option must satisfactorily defend the thesis in the presence of the thesis committee prior to its acceptance.

Required Courses: 20 credits

- CIVE 6111 - Graduate Seminar Credit Hours: 1.0 (taken twice)
- CIVE 6361 - Engineering Hydrology Credit Hours: 3.0
- CIVE 6377 - Environmental Chemistry Credit Hours: 3
- CIVE 6378 - Principles of Environmental Modeling Credit Hours: 3
- CIVE 6391 - Environmental Engineering Microbiology Credit Hours: 3
- CIVE 6399 - Master's Thesis Credit Hours: 3
- CIVE 7399 - Master's Thesis Credit Hours: 3

Elective Courses (choose 4): 12 credits

- CIVE 5360 - Urban-Regional Planning Credit Hours: 3.0
- CIVE 6322 - Stormwater Management Credit Hours: 3.0
- CIVE 6331 - Hydraulics of Open Channel Flow Credit Hours: 3
- CIVE 6362 - Water Quality Engineering Credit Hours: 3.0
- CIVE 6387 - Physicochemical Treatment Processes Credit Hours: 3.0
- CIVE 6388 - Hazardous Waste Processes Credit Hours: 3.0
- CIVE 6390 - Municipal Drinking Water Treatment Credit Hours: 3.0
- CIVE 6392 - Mass Transfer in Environmental Systems Credit Hours: 3.0
- CIVE 7342 - Engineering Geographic Information Systems Credit Hours: 3
- CIVE 7397 - Selected Topics Credit Hours: 3

Topic(s)

- Hazardous Waste Management and Risk Assessment
- CHEE 6368 - Chemical Process Economics I Credit Hours: 3.0
- CHEE 6386 - Air Polltn Probs&Contrl Credit Hours: 3.0
- CHEE 6390 - Energy and the Environment Credit Hours: 3.0
- INDE 6332 - Egr Project Mgt Credit Hours: 3.0
- INDE 6333 - Probability Stat For Engineers Credit Hours: 3.0
- IEEM 6335 - Engineering Management of Organizations Credit Hours: 3
- INDE 6364 - Experimental Design and Regression Credit Hours: 3.0
- GEOL 6325 - Remote Sensing Credit Hours: 3.0
- GEOL 6332 - Air Pollution Meteorology Credit Hours: 3.0
- GEOL 6334 - Atmospheric Chemistry Credit Hours: 3.0
- GEOL 6343 - Organic Geochemistry Credit Hours: 3.0
- GEOL 6366 - Hydrogeology Credit Hours: 3.0
- GEOL 6388 - Geospatial Analysis and Applications Credit Hours: 3.0

All students selecting the thesis option must satisfactorily defend the thesis in the presence of the thesis committee prior to its acceptance.

Master of Science - Non-Thesis

A non-thesis option in the Master of Science degree is also offered in Environmental Engineering. Similar to the thesis option, the degree requires a minimum of 30 hours with 2 additional seminar hours. Non-thesis option students may attend part-time.

Required Courses: 14 credits

- CIVE 6111 - Graduate Seminar Credit Hours: 1.0



- CIVE 6361 - Engineering Hydrology Credit Hours: 3.0
- CIVE 6377 - Environmental Chemistry Credit Hours: 3
- CIVE 6378 - Principles of Environmental Modeling Credit Hours: 3
- CIVE 6391 - Environmental Engineering Microbiology Credit Hours: 3

Elective Courses (choose 6): 18 credits

- CIVE 5360 - Urban-Regional Planning Credit Hours: 3.0
- CIVE 6322 - Stormwater Management Credit Hours: 3.0
- CIVE 6331 - Hydraulics of Open Channel Flow Credit Hours: 3
- CIVE 6362 - Water Quality Engineering Credit Hours: 3.0
- CIVE 6387 - Physicochemical Treatment Processes Credit Hours: 3.0
- CIVE 6388 - Hazardous Waste Processes Credit Hours: 3.0
- CIVE 6390 - Municipal Drinking Water Treatment Credit Hours: 3.0
- CIVE 6392 - Mass Transfer in Environmental Systems Credit Hours: 3.0
- CIVE 7342 - Engineering Geographic Information Systems Credit Hours: 3
- CIVE 7397 - Selected Topics Credit Hours: 3

Topic(s)

- Hazardous Waste Management and Risk Assessment
- CHEE 6368 - Chemical Process Economics I Credit Hours: 3.0
- CHEE 6386 - Air Polltn Probs&Contrl Credit Hours: 3.0
- CHEE 6390 - Energy and the Environment Credit Hours: 3.0
- INDE 6332 - Egr Project Mgt Credit Hours: 3.0
- INDE 6333 - Probability Stat For Engineers Credit Hours: 3.0
- IEEM 6335 - Engineering Management of Organizations Credit Hours: 3
- INDE 6364 - Experimental Design and Regression Credit Hours: 3.0
- GEOL 6325 - Remote Sensing Credit Hours: 3.0
- GEOL 6332 - Air Pollution Meteorology Credit Hours: 3.0
- GEOL 6334 - Atmospheric Chemistry Credit Hours: 3.0
- GEOL 6343 - Organic Geochemistry Credit Hours: 3.0
- GEOL 6366 - Hydrogeology Credit Hours: 3.0
- GEOL 6388 - Geospatial Analysis and Applications Credit Hours: 3.0

Academic Policies

Full-time students may substitute CIVE 6X98 (X Credit Hours of Research) for academic course work in any term. Enrollment in CIVE 6X98 requires a faculty research advisor who will assign a grade - "S" for Satisfactory or "U" for Unsatisfactory.

Completion of a Masters of Science with thesis requires that each student perform original research advised by one of the core faculty of the Environmental Engineering program, this faculty member will be the Chair of the thesis defense committee. A thesis Master's degree typically requires two years (or more) of full-time effort to complete the course work, plan and perform the research, and write and defend the thesis.

Geosensing Systems Engineering and Sciences, MS

In addition to continued study of a broad range of Geosensing fundamentals, candidates for the MS degree enjoy intensive exposure to a specific field of geosensing systems engineering research.

Both thesis and non-thesis tracks are offered in the Master of Science in Geosensing Systems & Engineering Sciences.



Completion of a Master of Science with thesis requires that each student perform original research advised by one of the core faculty of the Geosensing Systems Engineering and Sciences program. This faculty member will be the Chair of the thesis defense committee. Ordinarily, the Thesis Committee Chair will arrange financial support for the student and the research. A thesis master's degree typically requires two years (or more) of full-time effort to complete the course work, plan and perform the research, and write and defend the thesis.

Please visit the Geosensing Systems Engineering & Sciences page for more information.

Admission Requirements

Admission requirements are the same for both the thesis and non-thesis options:

- A B.S. degree in engineering or in a science related to engineering from an accredited college or university or the foreign equivalent of an accredited American B.S. or M.S. degree in engineering. Non-engineers with degrees in related fields may be considered for admission after certain prerequisite courses are completed. A list of pre-requisites and leveling courses can be found on the Information for Non-Engineers page. Applicants with non-science bachelor's degrees in fields such as technology, management, business, and the arts must obtain an accredited engineering degree before applying.
- A minimum grade point average (GPA) of 3.0 on a 4.0 scale on the last 60 hours of course work attempted.
- Competitive scores on the General Aptitude test of the Graduate Record Examination (GRE). While there is no minimum GRE requirement, most students must have a quantitative + verbal combined score of 301 to be competitive; however, these scores do not guarantee admission.
- International students must fulfill the English language proficiency requirement, including TOEFL/IELTS score. Details are found on the International Graduate Students website.

Degree Requirements

Credit hours required for this degree: 30.0

Master of Science - Thesis Option

- 15 credit hours of structured academic course work
- Three hours of research **CIVE 6398 - Msce Research Project Credit Hours: 3.0**
- Six hours of electives (course work and or research)
- Six credit hours of thesis **CIVE 6399 - Master's Thesis Credit Hours: 3** and **CIVE 7399 - Master's Thesis Credit Hours: 3**
- Enrollment in seminar at least once **CIVE 6111 - Graduate Seminar Credit Hours: 1.0**

Full-time M. S. students receiving financial support must enroll in 12 credit hours each fall and spring semester, and 6 hours each summer semester.

Full-time students may substitute CIVE 6X98 (X credit hours of research) for academic course work in any semester. Enrollment in CIVE 6X98 requires a faculty research advisor who will assign a grade - "S" for Satisfactory or "U" for Unsatisfactory. **Leveling and prerequisite courses are not counted in the above 12- or 6-hr requirements** (see non-engineers for more information).

Master of Science - Non-Thesis Degree

- Student take 30 credit hours of course work
Non-thesis students are self-supporting and usually attend classes part time. Taking two classes per long semester and one class each summer semester, a student can complete the non-thesis master's degree in 2 years. Students are required to take the seminar class CIVE 6111 one semester as part of the non-thesis degree. CIVE 6111 seminar hours are not counted in the 30-hour requirement.

Academic Policies

After completing the research and writing the thesis, the candidate defends the thesis in a public meeting of the committee, interested faculty, staff, and students. The result is pass or fail with a pass usually being accompanied by recommended changes to the final draft.



All graduate students must maintain a "B" average (GPA 3.0). Any graduate student who earns three "C" grades in graduate courses will be dropped from the Program. Doctoral students who fail to complete their dissertation within five years after completion of the comprehensive examination must retake the exam.

Doctoral

Civil Engineering, PhD

Cullen College of Engineering > Department of Civil and Environmental Engineering > Civil Engineering, PhD

The Doctor of Philosophy in Civil Engineering requires 24 hours of coursework beyond the Master's Degree. The student first registers as a post-MS student until they pass the Qualifying Examination, they are then Ph.D. students. Once the student passes the Candidacy Exam, they are considered Ph.D. Candidates. During the period of study, the students are expected to carry out original research, which must be written up in a dissertation and defended before a committee.

Generally, Ph.D. students are offered financial aid in the form of teaching and/or research assistantship. Financial support includes medical insurance and qualifies the student for the lower, Texas-Resident Tuition. A tuition scholarship may also be awarded that covers up to nine hours of tuition per term.

For more information, please visit the Civil & Environmental Engineering website.

Admission Requirements

- The applicant must have B.S. and M.S. (with thesis generally) degrees in Civil Engineering from an accredited college or university. Students with degrees in fields closely related to Civil Engineering may be admitted with certain prerequisite courses specified to make their backgrounds equivalent, in general, to the Civil Engineering graduates. All prerequisite courses should be completed prior to starting the Ph.D. program.
- The applicant must have a minimum GPA of 3.5/4.0 on all graduate work attempted and a satisfactory undergraduate record (at least 3.0/4.0 over the last 60 hours attempted).
- Satisfactory scores on the Quantitative and Verbal tests of the Graduate Record Examination (GRE).
- The applicant must meet English language proficiency requirements, either via degree completion in the U.S. or another certified English-speaking nation, or via submission of TOEFL/IELTS scores. Full details are found on the International Graduate Students page.
- Favorable recommendation for admission to the Ph.D. program is required from the student's M.S. thesis advisor and two of his/her graduate professors. The consent of a Civil Engineering Faculty member to act as the student's Ph.D. Major Advisor is recommended.
- Complete application & payment of application fee (\$25 domestic/\$75 international) must be completed via the online application found on the How to Apply to UH Graduate School page

Admission to the Ph.D. program is highly selective. Satisfying the minimum admission requirements does not guarantee admission. All applicants must be approved by the Civil Engineering Admissions Committee and the Associate Dean of Engineering for Graduate Programs. Since a research dissertation is required of all Ph.D. candidates, it is highly recommended that a prospective Ph.D. student's contact individual faculty members whose research programs are of interest and a match to the student's skill sets to discuss the possibilities of performing research under their guidance.

Degree Requirements

Credit hours required for this degree: 54.0

The following are minimum requirements that may be exceeded in any case:

- A total of at least 24-credit hours of course work beyond the M.S. (excluding prerequisites and remedial courses) is required for the Ph.D. degree in the following way:
 - A minimum of 12 hours of credit in Civil Engineering courses (6000 level or above-numbered courses) in the student's major and supporting areas.



- A minimum of 9-credit hours in related fields of study outside Civil Engineering. At least 6 hours of these should constitute a coherent minor field.
- At least 30-credit hours in research and dissertation; this includes Ph.D. research (any combination of CIVE 8198 through CIVE 8598) and a minimum of 12 hours of dissertation (Ph.D. Thesis) (CIVE 8399, CIVE 8399, or CIVE 8999). Registration in the dissertation must be continuous after the first registration in the 8399 series of the program.
- The courses must be in accordance with a preliminary degree plan, approved by the student's Major Advisor, two other Civil Engineering Faculty members in the student's major or supporting areas, and the Director of Graduate Studies. The degree plan shall be kept in the student's file, with copies distributed to all concerned. The final degree plan should be approved by the Comprehensive examination and Dissertation Committees and the Director of Graduate Studies.
- Normally, no more than 6 graduate credit hours may be transferred into a Ph.D. program from another institution (transferred graduate courses grade must be "B" or better).
- The student is required to take CIVE 6111 (Graduate Seminar) during his/her registration in the dissertation and research courses (this is in addition to the course load described above).
- No Civil Engineering courses with a grade of less than "B" shall count within the degree program. No grade of less than "C+" is acceptable within degree requirements; a maximum of 6 hours of courses outside Civil Engineering with a grade of "C+" may be counted within the degree program. A grade of "C+" or less in three courses attempted during the program may result in dismissal from Ph.D. studies. A grade of "C+" or less in four courses attempted during the UH graduate program shall result in dismissal from graduate studies. A GPA of at least 3.5/4.0 overall work attempted in the Ph.D. program is generally required for graduation.
- Technology courses will not count within the requirements of the Ph.D. degree program.

Academic Policies

- A student intending to pursue a Ph.D. must arrange, in writing, a relationship with a faculty member as Major Advisor for the student's research project. The arrangement shall be approved by the Departmental Chairman and Director for Graduate Studies. The Major Advisor shall counsel the student for the remainder of their study program and supervise their dissertation. Being without a Major Advisor after the first term will subject the student to transfer to the non-degree objective (NDO) program. By agreement of all concerned, the initial relationship may be dissolved and a new one established, but the student must have a Major Advisor at all times.
- Prior to completion of the first term, the student and the Major Advisor shall recommend to the Director of Graduate Studies the student's preliminary degree plan. This plan will list the specific courses that must be completed to obtain the Ph.D. degree. Changes in the degree plan, if required, shall be recommended in writing by the Major Advisor to the Director of Graduate Studies. Only those studies undertaken in accordance with this approved degree plan shall count towards the degree.
- Prior to the beginning of the last term, the student and the Major Advisor must submit the final degree plan to the Director of Graduate Studies to be certified for graduation. This plan must show the dates the comprehensive and candidacy exams were passed and the expected date of dissertation defense and completion. The student must also contact the department's Graduate Analyst or the Engineering Dean's Office for graduation information.
- The student must enroll in any term in which they intend to use University facilities and/or seek the advice of the advisor. Registration in dissertation must be continuous after the first registration in dissertation courses (8399, 8699 or 8999). Full-time students must enroll in 9 hours or more per term and 6 hours per summer session.
- The doctoral student who fails to complete their dissertation within 5 years after completion of the comprehensive examination may then be required to retake the examination.
- The primary intent of the Civil Engineering Ph.D. Qualifying Examination is to identify potential weaknesses in a Ph.D. candidate's background.
- This exam is for students pursuing the Ph.D. Degree in Civil Engineering and is monitored and administered by the Civil Engineering Graduate Program Director. Separate qualifying exam procedures apply to Ph.D. candidates pursuing degrees in Environmental or Geosensing Engineering.
- All Civil Engineering Ph.D. candidates who have already completed at least five graduate courses will be recommended to take the written Ph.D. Qualifying Exam before the beginning of their third term in the UH graduate program. The written exam will be closed-book and offered twice a year: on the first Friday after the spring commencement and two Fridays before the beginning of the spring semester.
- Students going directly from the BS degree to the Ph.D. degree are recommended to take the written qualifying exam by the term after they complete five courses in their graduate programs.
- Passing criteria:



- Score \geq 80%: pass (may be accompanied by the requirement of additional coursework in specific areas).
 - Score \geq 70% but $<$ 80%: oral exam required. After administration of the oral exam, the student may receive a grade of pass (may be accompanied by the requirement of additional coursework in specific areas) or a grade of unacceptable. If an unacceptable grade is assigned, the student will be allowed a second attempt at the written exam in the regularly scheduled qualifying exam period of the following term.
 - Score $<$ 70%: unacceptable. The student will be allowed a second attempt at the written exam in the regularly scheduled qualifying exam period of the following term.
- If an oral exam is required it will be administered by a committee of at least three civil engineering faculty members. The oral exam committee must be submitted to the Civil Graduate Program Director at least 24 hours before the oral exam. The Chair of the Oral Exam Committee will be selected by the Civil Graduate Program Director.
 - After the exam(s) a memo from the Civil Graduate Program Director documenting the student's performance (pass or fail, with any additional requirements or recommendations) will be placed in the student's Departmental file.
 - The student must prepare and defend a research proposal for their dissertation research as the candidacy exam. The objectives of the examination are to ensure that the research topic is appropriate and manageable, the student is capable and prepared to undertake the proposed research, they have investigated the research point thoroughly and that they are proposing a reasonable approach. The candidacy examination should be taken after the student passes the comprehensive examination.
 - The student will prepare a written dissertation proposal and submit it to the dissertation committee (see below) in advance of the oral examination. During the examination, the student should present his/her proposal to the committee orally, and answer their questions. The proposal should include:
 - tentative title, objectives, and scope of the proposed research;
 - the results of a literature search on the subject (with a selected bibliography) indicating the present status of related work;
 - a discussion of the proposed problem;
 - preliminary data collected to date;
 - plans for completing the research; and
 - requirements of any computer work that is included.
 - As soon as the student passes the examination (which implies the committee's approval of their proposal), the student can formally proceed with the research plan and enroll in the dissertation (CIVE 8399, 8699, or 8999). Upon successful completion of the Candidacy Examination the student is formally considered a Ph.D. candidate.
 - The candidacy examination is administered by the student's dissertation committee. This committee consists of at least three civil engineering faculty members from the student's major and supporting (if needed) areas, including the major advisor as committee chairman, and two faculty members from outside the department. The advisor will ask the Departmental Chairman (through the Director of Graduate Studies) to appoint the dissertation committee. The advisor's request should propose the committee's membership, which should include those faculty members with the most expertise in the proposed research topic (that enables them to contribute effectively and to judge adequately). This request should be submitted as early as possible after the student passes their comprehensive examination and selects their research topic (form). The Departmental Chairman, after consulting faculty members in the major area, will appoint the committee (with any appropriate changes in the proposed membership judged necessary).
 - The major advisor is responsible for arranging the candidacy examination and transmitting its results (i.e., the committee's decisions) in writing, to the student, to the members of the committee, and to the Department Chairman and Director of Graduate Studies.
 - The dissertation committee has the responsibility of passing final judgment on the student's degree plan (and imposing additional courses, if necessary), administering and grading the candidacy examination, supervising the dissertation research, passing judgment on the student's defense of their dissertation, and approving and signing the completed final copy of the dissertation document.
 - The Dissertation Committee shall pass judgment on the adequacy of the Ph.D. research and the oral defense of the dissertation by the student. The committee's approval of the final copy of the written dissertation is required to ascertain satisfactory performance of the research.
 - Combined registration in the Ph.D. research courses (CIVE 8198 through 8598) and the dissertation courses (CIVE 8399, 8699, or 8999) shall be limited to 9 hours in any one term or 6 hours for a combined summer session. Registration in the dissertation courses shall be normally limited to 6 hours during these periods.
 - Each Ph.D. candidate shall be required to spend one continuous calendar year in full-time residence while enroll in the research and dissertation courses.
 - Full-time residence is defined as enrollment in 9 semester credit hours for a fall or spring semester or 6 hours for a twelve-week summer session, and no substantial off-campus employment.



- The College of Engineering requires that all full-time Ph.D. graduate students receiving support from the University enroll in at least 9-credit hours per term and 6 hours during the summer. Only full-time graduate students receive support from the University.
- Registration in the Ph.D. research and dissertation courses will normally be limited to three calendar years from the time the student passes the Candidacy Examination. At the end of the final year, the candidate may be dropped from the Ph.D. program, or, be granted additional time for registration in their research, with the approval of their committee and the Director of Graduate Studies.
- The doctoral research must constitute a contribution to the field of knowledge in an area of Civil Engineering, worthy of publication. Each candidate is required to present and successfully defend their completed dissertation at a public meeting before the committee. The dissertation committee shall pass final judgment as to the acceptance or rejection of the dissertation. This meeting should be publicized in advance by a memorandum distributed to all Civil Engineering and interested Engineering Faculty indicating the title and abstract of the dissertation and the date, time and place of the meeting.

Environmental Engineering, PhD

The Environmental Engineering Program of the University of Houston is an interdisciplinary graduate engineering program within the Cullen College of Engineering, administratively housed in the Department of Civil and Environmental Engineering. The Program and its faculty are internationally known for their research and teaching in water, wastewater, microbiology, nano- and biotechnologies, bioremediation, soil and hazardous waste treatment and modeling, and airborne particulates. The emphasis of study and research is placed on municipal and industrial water and wastewater treatment, water reuse, hazardous-waste management, and groundwater restoration with elective courses in the fields of air pollution modeling, measurement and control, engineering management, business and public policy, environmental law, water resources engineering, chemical engineering, chemistry, biochemistry and geosciences.

In addition to continued study of a broad range of environmental engineering fundamentals, candidates for the doctoral degree enjoy intensive exposure to a specific field of environmental engineering research. Individual research is the major focal point for doctoral students, who are expected to expand the frontiers of knowledge in their area of endeavor. Moreover, candidates learn and experience the general philosophy, methods, and concepts of research and scholarly inquiry. Acceptance into the full-time Ph.D. program is generally accompanied by financial support.

A fast-track Ph.D. program (B.S. to Ph.D.), available to undergraduate students upon completion of a bachelor's degree within that program, is also available in Environmental Engineering.

Admission to the Ph.D. program is highly selective. Satisfying the minimum admission requirements does not guarantee admission. All applicants must be approved by the Environmental Engineering Admissions Committee and the Associate Dean of Engineering for Graduate Programs. Since a research dissertation is required of all Ph.D. candidates, it is highly recommended that a prospective Ph.D. student contact individual faculty members whose research programs are of interest and a match to the student's skill sets to discuss the possibility of performing research under their guidance.

Admission Requirements (B.S. to Ph.D.)

- A BS degree in engineering or in a science related to engineering from an accredited college or university or the foreign equivalent of an accredited American BS or MS degree in engineering. Non-engineers with degrees in related fields may be considered for admission after certain prerequisite courses are completed. A list of pre-requisites and leveling courses can be found on the Information for Non-Engineers page. Applicants with non-science bachelor's degrees in fields such as technology, management, business, and the arts must obtain an accredited engineering degree before applying.
- A minimum grade point average (GPA) of "B", i.e., 3.0 on a 4.0 scale on the last 60 hours of course work attempted.
- Satisfactory scores on the General Aptitude test of the Graduate Record Examination (GRE). The Quantitative + Verbal scores combined should be at least 1100 using the prior GRE scale (Verbal minimum is 450 and Quantitative minimum is 650) or 301 using the current GRE scale (Verbal minimum is 150 and Quantitative minimum is 151); however, this does not guarantee admission.
- The applicant must meet English language proficiency requirements, either via degree completion in the US or another certified English-speaking nation, or via submission of TOEFL/IELTS scores. Full details are found on the International Graduate Students page.
- Complete application & payment of application fee (\$25 domestic/\$75 international) must be completed via the online application found on the How to Apply to UH Graduate School page.



Admission Requirements (MS to PhD)

- Met the requirements listed above for BS to PhD
- Completed an MS degree with thesis in Chemical, Environmental, or Civil Engineering with an Environmental emphasis with a GPA of 3.5 on a 4.0 scale from an ABET- accredited engineering program or a foreign equivalent thereof. A copy of the title page, signature page, and thesis abstract as well as excellent letters of reference from faculty familiar with the research must be submitted with the application.

Degree Requirements

Credit hours required for this degree: 52.0

The Ph.D. degree requires 52 credit hours of approved study beyond the M.S. degree. These requirements translate to a minimum of 24 credit hours of organized course work (eight 3-credit non-research courses) beyond the Master's Degree plus 28 hours of Ph.D. research and dissertation. It is also possible to obtain the Ph.D. degree without obtaining the M.S. degree (a total of 14 3-credit non-research courses are required for this option). A maximum of 100 credit hours as a Ph.D. student also applies. After 100 hours, the student is no longer eligible for the lower, Texas-Resident Tuition.

A Post-M.S. student becomes a Ph.D. student after passing the qualifying examination, which is usually taken after two semesters in residence (three semesters for B. S. to Ph. D. option). The qualifying exam consists of a critical review of a manuscript published in the peer-reviewed literature, and related to the student's research area chosen by the chairman of the student's dissertation committee. The student has 10 calendar days to write a comprehensive critique of the article and then, approximately two weeks after submitting the written critique to the examination committee (consisting of the core faculty members) the student presents and defends the critique in front of the committee. The result is pass (excellent, good or fair) or fail (poor). The examination may be retaken once.

After the student has completed 1-2 years of course work and preliminary research, they prepare a formal research proposal as their Candidacy Exam and select a dissertation committee consisting of a chair, two program faculty members and two faculty members from outside the CEE Department. Members are chosen by agreement between the student, the chair, and the potential member. All committee appointments must be approved by the Program Director and the Associate Dean for Graduate Studies. A candidacy examination consists of a formal proposal presentation and defense in front of the dissertation committee. The result is pass or fail. If the result is pass, the Ph.D. student becomes a Ph.D. Candidate. Even with a pass, the committee may point out deficiencies in the proposed research and recommend additional course work or require that specific experiments be completed. The exam may be retaken once.

After completing the research and writing the dissertation, the candidate defends the dissertation in a public meeting of the committee, interested faculty, staff, and students. The result is pass or fail with a pass usually being accompanied by recommended changes to the final draft.

Although all graduate students must maintain a "B" average (GPA 3.0), a Doctoral student should aim for a GPA of 3.5.

Academic Policies

Regulations for Comprehensive Screening Examination

- The qualifying exam may be taken any time after core coursework or equivalent has been completed. Student's graduate GPA at UH should be 3.50 or greater. Exceptions may be made in the case of students required to take particularly difficult courses outside the EnvE Program.
- Student's major advisor (Chair of Dissertation Committee) will select one or more related technical publications for the student to review and critique.
- Advisor will circulate publication(s) to other EnvE faculty members for advice and counsel. Faculty with comments should respond within one week.
- Students will have ten calendar days to analyze the publication, read related material, and prepare a written review in the format requested. One copy of the written review will be delivered to each EnvE faculty (mailbox or personal delivery) by the due date.
- Candidate will present and defend the written review before the EnvE faculty. The oral exam will be held 7-14 days after the written exam is submitted. Effort must be made to schedule the exam when all EnvE faculty can attend. If this is not possible, the exam may be held with no more than one missing EnvE faculty.



- Written and oral presentations will be judged by all core EnvE faculty. Grading will be "Excellent", "Good", "Fair", or "Poor" with "Fair" or better required for passing. Separate written and oral grades will be assigned based on the student's demonstrated analytical and writing abilities, presentation skill, and ability to answer faculty questions. If failed, the test may be retaken only once.

Format for Written Critical Review

Abstract: A 300-word abstract of what the candidate thinks the authors are saying.

Overall Evaluation: Student's general impression of the paper- what is the contribution? Approximately 150 words in length supported by the following Detailed Evaluation.

Detailed Evaluation of Strengths and Weaknesses: The following factors should be considered and reported upon in some logical fashion in the written critique. *This list is not an outline to be rigorously followed for the written critique.*

- Is the presentation clear?
- Is the literature search adequate?
- What is the quality of the experimental data?
- Do the models make sense; are they built on sound assumptions with correct equations?
- Is approach innovative, creative, unique?
- Are results and conclusions believable?
- Are results useful?
- Is the work significant?
- Is work state-of-the-art?
- What additional experimental work or modeling might have been performed?
- How does this work extend, contradict, or confirm the literature?
- Are the findings in this paper related to your doctoral research? If so, how?

NOTE: Total length of critique is not to exceed 10 double-spaced typed pages exclusive of references and additional figures.

Candidacy Examination:

The student must prepare and defend a research proposal for their dissertation research as the candidacy exam. The objectives of the examination are to ensure that the research topic is appropriate and manageable, the student is capable and prepared to undertake the proposed research, they have investigated the research point thoroughly and that they are proposing a reasonable approach. The candidacy examination should be taken after the student passes the comprehensive examination.

The student will prepare a written dissertation proposal and submit it to the dissertation committee (see below) in advance of the oral examination. During the examination, the student should present his/her proposal to the committee orally, and answer their questions. The proposal should include:

1. tentative title, objectives and scope of the proposed research;
2. the results of a literature search on the subject (with a selected bibliography) indicating the present status of related work;
3. a discussion of the proposed problem;
4. preliminary data collected to date;
5. plans for completing the research; and
6. requirements of any computer work that is included.

As soon as the student passes the examination (which implies the committee's approval of their proposal), the student can formally proceed with the research plan and enroll in the dissertation (CIVE 8399, 8699, or 8999). Upon successful completion of the Candidacy Examination, the student is formally considered a Ph.D. candidate.

The candidacy examination is administered by the student's dissertation committee. This committee consists of at least three environmental engineering faculty members from the student's major and supporting (if needed) areas, including the major advisor as committee chair, and two faculty members from outside the CEE department. The advisor will ask the program director to appoint the dissertation committee. The advisor's



request should propose the committee's membership, which should include those faculty members with the most expertise in the proposed research topic (that enables them to contribute effectively and to judge adequately). This request should be submitted as early as possible after the student passes their comprehensive examination and selects their research topic (form). The program director, after consulting faculty members in the major area, will appoint the committee (with any appropriate changes in the proposed membership judged necessary).

The major advisor is responsible for arranging the candidacy examination and transmitting its results (i.e., the committee's decisions) in writing, to the student, to the members of the committee, and to the program director. The candidacy exam result is pass (excellent, good, fair) or fail (poor).

The dissertation committee has the responsibility of passing final judgment on the student's degree plan (and imposing additional courses, if necessary), administering and grading the candidacy examination, supervising the dissertation research, passing judgment on the student's defense of their dissertation, and approving and signing the completed final copy of the dissertation document.

Geosensing Systems Engineering and Sciences, PhD

Colleges > Cullen College of Engineering > Department of Civil and Environmental Engineering > Geosensing Systems Engineering and Sciences, PhD

In addition to continued study of a broad range of Geosensing fundamentals, candidates for the doctoral degree enjoy intensive exposure to a specific field of geosensing systems engineering research. Individual research is the major focal point for doctoral students, who are expected to expand the frontiers of knowledge in their area of endeavor. Moreover, candidates learn and experience the general philosophy, methods, and concepts of research and scholarly inquiry. Acceptance into the full-time Ph.D. program is generally accompanied by financial support.

A fast-track Ph.D. program (B.S. to Ph.D.), available to undergraduate students upon completion of a bachelor's degree within that program, is also available in Geosensing Systems Engineering and Sciences.

Admission to the Ph.D. program is highly selective. Satisfying the minimum admission requirements does not guarantee admission. All applicants must be approved by the Geosensing Systems Engineering Admissions Committee and the Associate Dean of Engineering for Graduate Programs. Since a research dissertation is required of all Ph.D. candidates, it is highly recommended that a prospective Ph.D. student contact individual faculty members whose research programs are of interest and a match to the student's skill sets to discuss the possibility of performing research under their guidance.

For more information, please visit the Doctor of Philosophy in Geosensing Systems Engineering and Sciences program page.

Admission Requirements

B.S. to Ph.D.

- A B.S. degree in engineering or in a science related to engineering from an accredited college or university or the foreign equivalent of an accredited American BS or MS degree in engineering. Non-engineers with degrees in related fields may be considered for admission after certain prerequisite courses are completed. A list of pre-requisites and leveling courses can be found on the Information for Non-Engineers page. Applicants with non-science bachelor's degrees in fields such as technology, management, business, and the arts must obtain an accredited engineering degree before applying.
- Complete application & payment of application fee (\$25 domestic/\$75 international) must be completed via the online application found at How to Apply to UH Graduate School.
- A minimum grade point average (GPA) of "B", i.e., 3.0 on a 4.0 scale on the last 60 hours of course work attempted.
- Satisfactory scores on the General Aptitude test of the Graduate Record Examination (GRE). The Quantitative + Verbal scores combined should be at least 1100 using the prior GRE scale (Verbal minimum is 450 and Quantitative minimum is 650) or 301 using the current GRE scale (Verbal minimum is 150 and Quantitative minimum is 151); however, this does not guarantee admission.
- The applicant must meet English language proficiency requirements, either via degree completion in the US or another certified English-speaking nation, or via submission of TOEFL/IELTS scores. Full details are found on the International Graduate Students website.

M.S. to Ph.D.



- Met the requirements listed above for BS to PhD
- Completed an MS degree with thesis in Chemical, Environmental, or Civil Engineering with an Environmental emphasis with a GPA of 3.5 on a 4.0 scale from an ABET- accredited engineering program or a foreign equivalent thereof. A copy of the title page, signature page, and thesis abstract, as well as excellent letters of reference from faculty familiar with the research, must be submitted with the application.

Degree Requirements

Credit hours required for this degree: **84.0 (B.S. to Ph.D.)** or **54.0 (M.S. to Ph.D.)**

Direct B.S. to Ph.D.

A Ph.D. degree for a student whose highest prior degree is a B.S. requires 84 credit hours of approved study beyond the B.S. degree. These requirements translate to a minimum of 39 credit hours of organized course work (thirteen 3-credit non-research courses) beyond the Bachelor's Degree plus 45 hours of Ph.D. research, dissertation and unrestricted electives. A maximum of 100 credit hours as a Ph.D. student also applies. After 100 hours, the student is no longer eligible for the lower, Texas-Resident Tuition.

M.S. to Ph.D.

The Ph.D. degree requires 54 credit hours of approved study beyond the M.S. degree. These requirements translate to a minimum of 18 credit hours of organized course work (six 3-credit non-research courses) beyond the Master's Degree plus 36 hours of Ph.D. research, dissertation and unrestricted electives. After 100 hours, the student is no longer eligible for the lower, Texas-Resident Tuition.

A B.S. or M.S. student becomes a Ph.D. student after passing the qualifying examination which is usually taken after two or three semesters in residence. The qualifying exam consists of a critical review of a manuscript published in the peer-reviewed literature, and related to the student's research area chosen by the chairman of the student's dissertation committee. The student has 15 calendar days to write a comprehensive critique of the article and then, approximately two weeks after submitting the written critique to the examination committee (consisting of the core faculty members) the student presents and defends the critique in front of the committee. The result is pass (excellent, good or fair) or fail (poor). The examination may be retaken only once.

After the student has completed 1-2 years of course work and preliminary research, they prepare a formal research proposal as their thesis proposal and select a dissertation committee consisting of a chair, two program faculty members and two faculty members from outside the GSES Program Department. Members are chosen by agreement between the student, the chair, and the potential member. All committee appointments must be approved by the Program Director and the Associate Dean for Graduate Studies. A candidacy examination consists of a formal proposal presentation and defense in front of the dissertation committee. The result is pass or fail. If the result is pass, the Ph.D. student becomes a Ph.D. Candidate. Even with a pass, the committee may point out deficiencies in the proposed research and recommend additional course work or require that specific experiments be completed. The exam may be retaken once. If the student fails the retaken exam, the student will be terminated with a M.S. degree.

After completing the research and writing the dissertation, the candidate defends the dissertation in a public meeting of the committee, interested faculty, staff, and students. The result is pass or fail with a pass usually being accompanied by recommended changes to the final draft.

All graduate students must maintain a "B" average (GPA 3.0). Any graduate student who earns three "C" grades in graduate courses will be dropped from the Program. Doctoral students who fail to complete their dissertation within five years after completion of the comprehensive examination must retake the exam.

Graduate Certificate

Global Climate, Energy, and Environment, Certificate

Cullen College of Engineering > Department of Civil and Environmental Engineering > Global Climate, Energy, and Environment, Certificate



The certificate program in Global Climate, Energy and Environment focuses on current activities influencing Global Climate, Energy Sources, and Environmental effects. Students interested in this certificate would likely come from the Energy, Environment, and Government sectors. The certificate provides comprehensive instruction in the areas of the formulation of the hypothesis, data collection, and interpretation of the available results related to climate.

Certificate Requirements

Certificate Total: 9.0 Credit Hours

The courses are independent and can be taken in any order.

- GCEE 6310 - Global Climate: Energy, Environment, and Economy
- GCEE 6320 - Global Climate: Physical Models
- GCEE 6330 - Global Climate: Economic Models

Department of Electrical and Computer Engineering

The Department of Electrical and Computer Engineering offers graduate study in the specialized fields of applied electromagnetics and antennas, biomedical engineering, computers, control systems, electron beams, high-temperature superconductivity devices, neural networks, neuro-engineering, pattern recognition, power systems, robotics, seismic exploration, signal image processing, solid-state microelectronics, and well logging.

The department has extensive research facilities for work in antenna measurements, biomedical engineering, digital systems, electron beam lithography, micro-electronics fabrication, microwaves, neuro-engineering, power systems, well logging applications, and other areas.

Programs

Master

- Computer and Systems Engineering, MS
- Electrical Engineering, MSEE

Doctoral

- Electrical Engineering, PhD

Master

Computer and Systems Engineering, MS

Cullen College of Engineering > Department of Electrical and Computer Engineering > Computer and Systems Engineering, MS

- Admission Requirements
- Degree Requirements
- Academic Policies

The Computer and Systems Engineering (CSE) degree offered by the University of Houston (UH) is a graduate level interdisciplinary program administered by the Department of Electrical and Computer Engineering (ECE) that provides specialization in Computer Engineering. Applicants can have a BS. in any one of the following fields: Electrical Engineering, Computer Engineering, Computer Science or a degree in any Engineering field or Quantitative Science. Depending on previous background a set of prerequisites might have to be satisfied before the student starts the graduate program in CSE. A student can complete the degree either on a full or part time basis and has the option of doing a thesis or not.



For more information, please visit: <http://www.ece.uh.edu/graduate/degree-programs>.

Admission Requirements

Unconditional Admission

- A bachelor's degree in Engineering from an ABET accredited program, a degree in Computer Science, or a degree in Quantitative Science, with a grade point average of at least 3.0/4.0 on the last 60 hours of the undergraduate degree and on any coursework completed since graduation.
- General GRE scores must be submitted. While no minimum GRE scores are used to exclude students, typically students entering the program have GRE scores greater than 150 on the Verbal, greater than 159 on the Quantitative and greater than 4.0 on the Writing Assessment.
- International students submitting an official TOEFL score to satisfy the English Language Proficiency requirements should have a score of 92 or better
 - Full details on international application requirements can be found at www.uh.edu/graduate-school/admissions/international-students/

Conditional Admission

- Requirements are the same as unconditional admission except that the grade point average may be between 2.6 and 3.0 on the last 60 hours with high GRE scores.
- Student must be a citizen or permanent resident of the United States. NOTE: The conditionally admitted student must earn a GPA of at least 3.0 on the first 12 hours of graduate work after enrolling in the program.

Detailed information on the application process can be obtained from the web at <http://www.ee.uh.edu/graduate/prospective-graduate-students>.

Degree Requirements

Credit hours required for this degree: thesis/non-thesis 30.0

Prerequisites

Upon admission to the program, each student will meet with the Director of the CSE Program who will review the student's background and inform the student of the prerequisite courses, if any, that the student must complete before taking any graduate level courses.

A. Mathematics

A student must have a mathematics background that includes calculus, differential equations, linear algebra, and numerical methods. These prerequisites may be satisfied by the following courses at UH or similar courses at another university:

- MATH 1431 Calculus I
- MATH 1432 Calculus II
- MATH 2432 Calculus III
- MATH 3331 Differential Equations

B. Computers

A student must have had courses in high-level and assembly language programming, elementary data structures, and in digital logic design and microcomputers. These prerequisites may be satisfied by the following courses at UH or similar courses at another university:

- ECE 1331 Computer and Problem Solving
- ECE 3441 Digital Logic Design
- ECE 4436 Microprocessor Systems
- COSC 6304 Data Structures
- COSC 6310 Fundamental of Operating Systems

C. Circuits and Electronics



A student must have had courses in circuits and electronics. These prerequisites may be satisfied by the following courses at UH or similar courses at another university:

- ECE 2300 and ECE 2100 Circuit Analysis and Circuit Analysis Lab
- ECE 3355 and ECE3155 Electronics and Electronics Lab
- ECE 3457 Digital Electronics

Required Graduate Courses

To receive the degree of Master of Science, the student is required to complete (on a part-time or full-time basis), with a grade point average of at least 3.0, a minimum of 30 semester credit hours for both the non-thesis or thesis options.

Upon admission to the program, the student will meet with the Director of the CSE Program to develop a plan that involves any required prerequisite courses as well as the appropriate courses for the degree plan. If the student follows the thesis option he/she will be advised to find an advisor who will supervise and direct his/her research. The thesis advisor will subsequently advise the student about his/her degree plan.

Non-thesis Option:

A student that follows the non-thesis option should complete a minimum of 30 semester credit hours of coursework (10 courses).

- Four of these courses should be from the list of Required ECE Courses while the remaining can be from the list of Suggested Elective ECE courses.
- A minimum of six courses should be from the Department of Electrical & Computer Engineering.
- A maximum of four courses can be from outside the ECE department. These courses must be from the Department of Computer Science, College of Engineering, or College of Business Administration. No courses from the College of Technology can be used on the Degree Plan.

Before graduation, the student's degree plan will have to be approved by the ECE Academic Advisor and the Director of the Computer and Systems Engineering Program.

Thesis Option:

A student who follows the thesis option should complete a minimum of 30 semester hours.

- A minimum of 18 semester credit hours of coursework (6 courses)
- Four of these courses should be from the List of Required ECE Courses
- Six hours of thesis (ECE 6399 and ECE 7399) and
- Six hours of research (ECE 6398)

Before graduation the student's degree plan will have to be approved by the thesis advisor, the ECE Academic Advisor, and the Director of the Computer and Systems Engineering Program.

Required ECE Courses

Choose 4 courses from the following required course list:

- ECE 6321 - Principles of Internetworking Credit Hours: 3.0
- ECE 6370 - Advanced Digital Design Credit Hours: 3.0
- ECE 6346 - Vlsi Design Credit Hours: 3.0
- ECE 6373 - Adv Computer Arch Credit Hours: 3.0
- ECE 7373 - Adv Topics in Comp Arch Credit Hours: 3.0
- ECE 6372 - Advanced Hardware Design Credit Hours: 3.0
- ECE 6328 - Cmos Analog Integrated Circuit Credit Hours: 3.0

Suggested ECE Elective Courses



To satisfy the coursework requirements and form a meaningful coherent program of study, a student may choose the remaining courses from the following list of Suggested ECE Elective Courses:

- ECE 5367 - Computer Architecture and Design **Credit Hours: 3.0**
 - ECE 6313 - Neural Networks **Credit Hours: 3.0**
 - ECE 6321 - Principles of Internetworking **Credit Hours: 3.0**
 - ECE 6323 - Optical Fiber Communications **Credit Hours: 3.0**
 - ECE 6325 - State-Space Control Systems **Credit Hours: 3.0**
 - ECE 6328 - Cmos Analog Integrated Circuit **Credit Hours: 3.0**
 - ECE 6331 - Advanced Telecommunications **Credit Hours: 3.0**
 - ECE 6332 - Wireless Telecomm Systems **Credit Hours: 3.0**
 - ECE 6335 - Digital Contrl Systems **Credit Hours: 3.0**
 - ECE 6336 - Intro to Architecture of RTOS and IoT **Credit Hours: 3**
 - ECE 6337 - Stochastic Processes in Signal Processing and Data Science **Credit Hours: 3**
 - ECE 6342 - Digital Signal Process **Credit Hours: 3.0**
 - ECE 6353 - Rf & Microwave Electronics **Credit Hours: 3.0**
 - ECE 6354 - Digital Video **Credit Hours: 3.0**
 - ECE 6356 - Introduction to Machine Learning **Credit Hours: 3.00**
 - ECE 6364 - Digital Imag Processing **Credit Hours: 3.0**
 - ECE 6372 - Advanced Hardware Design **Credit Hours: 3.0**
 - ECE 6376 - Digital Pattn Recogntn **Credit Hours: 3.0**
 - ECE 6390 - Lin Multivar Contrl Sys **Credit Hours: 3.0**
 - ECE 6397 - Selected Topics **Credit Hours: 3**
- Topic(s)
- Robotics in Healthcare **Credit Hours: 3.0**
 - Introduction to Cybersecurity **Credit Hours: 3.0**
 - ECE 6466 - Integrtd Circ Engr **Credit Hours: 4.0**
 - ECE 7349 - Adv Tpcs-Mcroelectrnics **Credit Hours: 3.0**
 - ECE 7366 - Advanced Process Integrat Vlsi **Credit Hours: 3.0**

The above list is subject to change, and other graduate ECE courses can be taken with the approval of the Director of the CSE Program.

In all cases no credit will be given for courses that are equivalent to courses used in the student's undergraduate degree.

Restrictions for courses outside the ECE Department:

- All CS courses should be at the 4000 level or higher.
 - COSC 6301, 6302, 6303, and 6304, 6305, 6306, 6308, 6309, and 6310 cannot be used on the degree plan.
 - All courses from the College of Business Administration should be at the 6000 level or higher.
 - Courses from the General Business Administration (GENB) cannot be used on the degree plan.
 - All the courses of the College of Engineering should be at the 4000 level or higher.
 - Courses that do not receive a letter grade but are graded S, U or W will not be counted towards the degree plan.
 - Non-ECE courses with similar content as ECE courses: In case a graduate level (6000 or above) course is offered in another department with similar content to a regularly offered ECE graduate course, graduate ECE students must take the ECE version. If the course in question is not offered regularly, or in the graduating semester, then the students may be allowed to take the non-ECE version by submitting a general petition. Under no circumstances will graduate credit be awarded for both the ECE and the non-ECE on of the course.
- IMPORTANT NOTE: Students must refer to ECE Department Policies and Procedures for any information not covered in this document, including those found at <http://www.ee.uh.edu/graduate/procedures-requirements-standards>.

Academic Policies



Appropriate Coursework

- Courses used to satisfy structured course requirements must receive a letter grade (i.e., *not* S, U, or W).
- Some departments other than ECE offer graduate level courses (6000 or above) with similar content to ECE graduate courses. In those situations, ECE graduate students must take the ECE version of the course. If the ECE course in question is not offered around the time of the graduating semester, then the student may be allowed to take the non-ECE version by general petition. Please see related deadlines on the department calendar.
- Graduate credit will not be awarded for both the ECE and non-ECE versions of a course.
- Courses offered by other institutions, such as Rice University/UT Health, etc., may be taken with prior approval from both the student's advisor and the director of the graduate program if a similar class is not offered at UH. For permission to take a non-UH course, complete a general petition and an inter-institutional form, which are linked in our forms page.
- Courses taken for personal enrichment will not count towards the degree and must be approved by the advisor and the Director of Graduate Studies prior to enrollment. Enrichment hours cannot be used to satisfy minimum enrollment requirements when an assistantship is being received.

Leveling Courses

Students who do not have a Bachelor of Science in Electrical or Computer Engineering must show competency in four areas:

- Electronic devices
- Circuit theory
- Electromagnetics
- Computers

Students may accomplish this through leveling coursework or by passing a core competency exam. The Graduate Admissions Committee will identify leveling requirements with the assistance of the thesis advisor.

Competence in each area can be demonstrated by passing the following course(s) with a grade of B or better, respectively:

- Circuit Analysis (ECE 2201 and ECE 2202) and its Laboratory (ECE 2100)
- Applied EM Waves (ECE 3317)
- Signal & System Analysis (ECE 3337)
- Electronics (ECE 3355)
- Microprocessor Systems (ECE 4436)

The graduate level courses, Microwave engineering and Computer architecture, may be taken in place of Applied EM Waves (ECE3317) and Microprocessor Systems (ECE4436), respectively, with instructor permission.

Dissertation and Thesis Guidelines

The Dissertation document is written as part of the Ph.D. degree program and the Thesis is written as part of the M.S. degree. The dissertation should be at such a level as to be a significant contribution to the field of knowledge in electrical and computer engineering, and worthy of publication in one of the recognized professional journals. This section describes the common elements in these documents and specifies any differences.

Here is a summary of the steps a student takes to complete this requirement.

1. Form a Thesis/Dissertation Committee
2. Write a Proposal and submit it to the Committee for approval. Ph.D. students must also defend their proposal orally
3. Prepare the Thesis/Dissertation document
4. Defend the Thesis/Dissertation in a public setting with an announcement filed at least two weeks prior to the defense

More details for each step are provided in the next sections.



Committee

The student should form a Thesis/Dissertation Committee with the Advisor as chair as soon as the research topic is selected.

A *Thesis Committee* must consist of at least three members, with

- the advisor as chair,
- at least one additional faculty members from the Electrical and Computer Engineering Department, and
- at least one University of Houston tenure-track faculty member outside this Department.

A *Dissertation Committee* must consist of at least five members, with

- the advisor as chair,
- at least two additional faculty members from the Electrical and Computer Engineering Department, and
- at least two University of Houston tenure-track faculty member outside this department.

In either case, the advisor can assist the student in forming an appropriate committee. A committee form must be submitted well before the proposal defense is scheduled since the committee must be approved by the Department and Dean's Office prior to the defense. A student need not be enrolled while requesting to form a committee but must be enrolled when the defense takes place.

Should changes to the committee membership be necessary, the student simply submits an updated committee form listing all committee members. Only the new member(s) have to sign the form, but please complete this at least two weeks prior to defending the proposal or the Thesis/Dissertation.

Proposal

Once the Thesis/Dissertation Committee has been formed and approved, the student should prepare and, for Ph.D. students, defend a Thesis/Dissertation Proposal. During the semester where the proposal submission takes place, the student must be enrolled in ECE 6399 (MSEE) or ECE 8399 (Ph.D.). The Thesis/Dissertation Committee will approve the proposal by signing the Proposal Form. This form, together with a copy of the proposal document, has to be submitted to the ECE Department by the deadline specified on the semester calendar. The forms for the Thesis/Dissertation Committee formation and the Thesis/Dissertation Proposal defense can be obtained from the Department of Electrical and Computer Engineering.

The proposal document should outline the scope of the research, and it should contain, at least, a statement of the objectives, a review of the relevant literature, and a description of the principal methods to be used. Copies of this proposal should be provided to the members of the Committee.

Since the Committee may request substantial changes in the research objectives, the proposal should be prepared during the early stages of the dissertation research. *In no case should a proposal and dissertation defense occur in the same semester.*

After the successful defense of the Thesis/Dissertation Proposal, students should register for ECE 7399 (MSEE) or continue to enroll in ECE 8399 (Ph.D.). MSEE students should ideally enroll in ECE 7399 during the semester in which the thesis is defended and in which the student plans to graduate. The student should adhere to the thesis submission deadlines posted on the department calendar. In case the student does not complete the thesis while enrolled in ECE 7399, he/she should enroll in research courses (ECE 6x98) in future semesters until the thesis is completed to the satisfaction of the committee.

Thesis/Dissertation Document

When most of the research has been completed, the student should describe the main results to the committee and describe plans for the contents and structure of the thesis/dissertation. A student may request that the members of the committee review and comment on a preliminary version of the dissertation. This procedure is encouraged since it should provide the student with ideas of how to enhance the quality of the dissertation and should facilitate its acceptance.

When preparing the Thesis/Dissertation, it is critical to follow the guidelines defined by the College of Engineering.



A student should provide the members of the committee with the final version of the dissertation *no later than two weeks prior to the dissertation presentation and defense*. The student should be aware that he/she may be required to make substantial changes in the dissertation in order to satisfy the requirements of the committee.

Thesis/Dissertation Defense

Each candidate is required to present and defend his/her thesis/dissertation at a public meeting and post an announcement with an abstract with the ECE office at least two weeks before defense date. Please check with the ECE Department for further details. The Thesis/Dissertation Committee will make the final judgment of the acceptance of the defense of the document.

The thesis/dissertation announcement is to let the public know that the student has completed successfully his/her research and that he/she is ready for graduation. The announcement must be distributed to all faculty and students. One additional copy must be submitted to the ECE Department for filing. Refer to the web site given for more information.

Note: The student may request that the members of the Thesis/Dissertation Committee review and comment on a preliminary version of the thesis. This practice is encouraged since it should provide the student with ideas on how to improve the quality of the thesis and should also facilitate its acceptance. The student is required to present the final draft of the thesis to the members of the committee no later than two weeks prior to the date of the thesis defense. The student should be aware that he/she may be required to make substantial changes, before and after the defense, in the thesis in order to satisfy the requirements of the committee.

Submission Form

Upon successful defense of the thesis, and once all signatures of the committee members have been obtained, the student must submit one copy of the thesis to the Director of Graduate Studies for review. A thesis submission form and this copy, together with the correct number of signature pages, must be submitted to the ECE front desk before the deadline stated in the Department calendar.

Obtaining ECE Department's Chair signature

Once the thesis has been approved by the director of graduate studies, thesis and official signature pages will be submitted to the chairman for his signature. The student will be notified by staff for pick up. Department process for thesis submission is now complete. Students must now submit the Department approved thesis submission form with appropriate documents to the Dean's office for review.

Official thesis submission for binding

The college web site provides instructions on how to submit the thesis once the dean's office has given approval for binding. Once the student is at this stage, he/she must submit a copy of the thesis binding agreement received from the Dean's office to the ECE Department so that appropriate letter grade(s) can be awarded.

Electrical Engineering, MSEE

Colleges > Cullen College of Engineering > Department of Electrical and Computer Engineering > Electrical Engineering, MSEE

Master of Science in Electrical Engineering (MSEE, with thesis)

The Master of Science (MSEE) degree is a research-oriented degree and requires the completion of a thesis that describes the results of research conducted under the guidance of a faculty advisor. This is a good option for students who haven't yet decided if they want to pursue an R&D career and/or aren't set on their exact area of study. As such, it is very important that students select an advisor as soon as possible, ideally prior to beginning the program.



Master of Science in Electrical Engineering (MSEE, Non-thesis option)

The Master of Science in Electrical Engineering (MSEE) non-thesis master's program provides advanced instruction emphasizing engineering practice, making it well suited for practicing engineers who want to grow their knowledge and skillset but aren't necessarily pursuing a career in R&D. In fact, the MEE program can be counted as one year's experience towards registration as a Professional Engineer.

The program focuses on electrical engineering design, systems operation, manufacturing, and management. Students may specialize in one of four areas of strength in the Department of Electrical and Computer Engineering. These areas are: Control and Power Systems, Electromagnetics and Microelectronics, Electronics and Computers, and Signals and Communications. Under the guidance of a faculty member, students may complete the MSEE with a capstone project focusing on a practical engineering problem.

In addition, students can select electives outside the electrical and computer engineering department. Options include courses in other Cullen College departments, the College of Business Administration, and the College of Natural Sciences and Mathematics. This flexibility allows students to design a degree program that best matches their goals for the future.

Although the thesis and non-thesis programs are open to both part-time and full-time students, part-time students and working engineers typically find the non-thesis program is the better fit. Students who do not wish to pursue the degree can take individual classes as a Non-Degree Objective (NDO) student.

For more information, please visit the [Electrical & Computer Engineering program page](#).

Admission Requirements

- A Bachelor of Science degree in electrical or computer engineering or closely related field.
- GPA \geq 3.0/4.0 (or equivalent) for the last 60 hours of the undergraduate degree and on any coursework completed since graduation.
- Recommended GRE scores: Verbal of 150, Quantitative of 159, Analytical Writing of 4.0.
- TOEFL of 92 or IELTS of 7 (Required if applicant does not have a degree from a US institution).
- Three letters of recommendation on official letterhead that includes the mailing address, phone number, and email of the recommender.

For full details on application process, visit the [How to Apply to UH Graduate School page](#).

Degree Requirements

Credit hours required for this degree: 30.0

Master of Science (MSEE, with Thesis) Program

1. To receive the degree of Master of Science in Electrical Engineering, a student is required to complete, on a part-time or full-time basis, a minimum of 30 semester credit hours of graduate studies, to include at least 18 hours of coursework, and 12 hours of thesis and research. Specifically,
 - At least 15 hours of structured coursework in ECE, at or higher than the 6000 level. Out of these, at least 6 hours should be in the area of concentration of the student.
 - Out of the minimum of 18 hours of coursework, at most 3 hours could be in a related technical field. These courses should be deemed appropriate for the professional development of the student (i.e., courses related to the thesis topic), and must be from a department outside ECE at the 4000 level or higher. Both the student's thesis advisor and the Director of Graduate Studies must approve them. In any case, no credit will be given for courses that are equivalent to courses used in the student's undergraduate degree.
 - Six hours of thesis (ECE 6399 and ECE 7399) and at least 6 hours of research (ECE 6x98).



2. Preparation of a written thesis and an oral defense thereof.
3. Completion of all work above in accordance with the procedures described in the Procedures, Requirements, and Standards Section

Master of Science in Electrical Engineering (MSEE, Non-thesis) Program

To receive the degree, Master of Science in Electrical Engineering, non-thesis, a student must complete, on a part-time or full-time basis, a minimum of 30 semester credit hours of approved graduate courses. There is no thesis requirement. A maximum of two courses (i.e., a maximum of 6 hours of coursework) taken from Course Categories A (Core) and B (Electives) can be replaced by an approved project to be completed under the supervision of a faculty member from the Electrical and Computer Engineering Department.

Specifically:

- **Core.** A minimum of 18 hours of course work from 6000-level or higher ECE courses.
 - A maximum of 6 hours of 6000-level courses equivalent to 5000-level courses is allowed in this category.
 - All the courses in this category must be chosen from one of the four specialization areas, as described below.
 - Other courses may be used in this category only with the prior approval of the Director of Graduate Studies.
- **Electives.** Three to six hours* of course work offered in the College of Engineering or in the College of Business Administration.
 - The non-ECE courses must be graduate level.
 - Courses in ECE must be at the 6000 level or higher.
 - In all cases, no credit will be given for courses that are equivalent to courses used in the student's undergraduate degree.
 - Business courses should be selected from the approved list (see below).
 - Other courses may only be used in this category with the prior approval of the Director of Graduate Studies.
- **Breadth.** Six to nine hours* of course work outside of your chosen specialization area in the College of Engineering or in the College of Natural Sciences and Mathematics (NSM).
 - NSM courses must be at the graduate level and should be selected from the approved list (see below).
 - Other courses may only be used in this category with the prior approval of the Director of Graduate Studies.

*Elective and Breadth course hours must add up to 12 hours.

Special Projects

Special projects are sometimes initiated by an advisor or by the graduate director. These projects require a committee consisting of at least two regular, tenure-track, ECE faculty, one of which will serve as project advisor. A student desiring to complete a special project needs to identify a project advisor and committee member(s). The student should prepare a project description and secure approval from the committee members. A general petition, together with the approved project description, should be filed well in advance of the start of the semester in which the special project will take place. Once the Director of Graduate Studies has approved the project and project committee, the student may enroll in ECE 6393.

At the end of the semester, the student must prepare a written report, which must be successfully defended in the presence of the committee. If desired, and warranted by the progress made, the student may request to enroll in ECE 7393 for another semester to continue work on the project. This request should be petitioned by a general petition, accompanied by the approved progress report and a statement of work. Such requests must be made at least three weeks before the start of the semester.

Please use the special project request form.

Approved List Of Non-ECE Courses

- **College of Engineering**
 - All courses at the 6000 level or higher unless approved by the Director of Graduate Studies.
- **College of Natural Sciences and Mathematics**
 - All Graduate level courses, with the exception of the following:
 - COSC 6301, 6302, 6303, 6304, 6305, 6306, 6308, 6309, 6310
 - GEOL 6321, 6322



- MATH 5310
- PHYS 5311, 5312, 5397
- **College of Business Administration:**
 - All courses at the 6000 level or higher, with the exception of any courses in General Business Administration (GENB).
 - Reminder: course(s) that do not receive a letter grade, but are graded S, U, or W will not be counted towards the degree plan.

Regarding the Industrial Power Systems (IPS) specialization, the department of Electrical and Computer Engineering also offers a non-thesis **online** MSEE program.

For detailed information on the online IPS program click [here](#).

Academic Policies

Appropriate Coursework

- Courses used to satisfy structured course requirements must receive a letter grade (i.e., *not* S, U, or W).
- Some departments other than ECE offer graduate level courses (6000 or above) with similar content to ECE graduate courses. In those situations, ECE graduate students must take the ECE version of the course. If the ECE course in question is not offered around the time of the graduating semester, then the student may be allowed to take the non-ECE version by general petition. Please see related deadlines on the department calendar.
- Graduate credit will not be awarded for both the ECE and non-ECE versions of a course.
- Courses offered by other institutions, such as Rice University/UT Health, etc., may be taken with prior approval from both the student's advisor and the director of the graduate program if a similar class is not offered at UH. For permission to take a non-UH course, complete a general petition and an inter-institutional form, which are linked in our forms page.
- Courses taken for personal enrichment will not count towards the degree and must be approved by the advisor and the Director of Graduate Studies prior to enrollment. Enrichment hours cannot be used to satisfy minimum enrollment requirements when an assistantship is being received.

Leveling Courses

Master's students who do not have a Bachelor of Science in Electrical or Computer Engineering must show competency in four areas:

- Electronic devices
- Circuit theory
- Electromagnetics
- Computers

Students may accomplish this through leveling coursework or by passing a core competency exam. The Graduate Admissions Committee will identify leveling requirements with the assistance of the thesis advisor.

Competence in each area can be demonstrated by passing the following course(s) with a grade of B or better, respectively:

- Circuit Analysis (ECE 2201 and ECE 2202) and its Laboratory (ECE 2100)
- Applied EM Waves (ECE 3317)
- Signal & System Analysis (ECE 3337)
- Electronics (ECE 3355)
- Microprocessor Systems (ECE 4436)



The graduate level courses Microwave engineering (ECE 5317) and Computer architecture (ECE 5367) may be taken in place of Applied EM Waves (ECE 3317) and Microprocessor Systems (ECE 4436), respectively, with instructor permission.

Dissertation and Thesis Guidelines

The Dissertation document is written as part of the Ph.D. degree program and the Thesis is written as part of the M.S. degree. The dissertation should be at such a level as to be a significant contribution to the field of knowledge in electrical and computer engineering, and worthy of publication in one of the recognized professional journals. This section describes the common elements in these documents and specifies any differences.

Here is a summary of the steps a student takes to complete this requirement.

1. Form a Thesis/Dissertation Committee
2. Write a Proposal and submit it to the Committee for approval. Ph.D. students must also defend their proposal orally
3. Prepare the Thesis/Dissertation document
4. Defend the Thesis/Dissertation in a public setting with an announcement filed at least two weeks prior to the defense

More details for each step are provided in the next sections.

Committee

The student should form a Thesis/Dissertation Committee with the Advisor as chair as soon as the research topic is selected.

A *Thesis Committee* must consist of at least three members, with

- the advisor as chair,
- at least one additional faculty members from the Electrical and Computer Engineering Department, and
- at least one University of Houston tenure-track faculty member outside this Department.

A *Dissertation Committee* must consist of at least five members, with

- the advisor as chair,
- at least two additional faculty members from the Electrical and Computer Engineering Department, and
- at least two University of Houston tenure-track faculty member outside this department.

In either case, the advisor can assist the student in forming an appropriate committee. A committee form must be submitted well before the proposal defense is scheduled since the committee must be approved by the Department and Dean's Office prior to the defense. A student need not be enrolled while requesting to form a committee but must be enrolled when the defense takes place.

Should changes to the committee membership be necessary, the student simply submits an updated committee form listing all committee members. Only the new member(s) have to sign the form, but please complete this at least two weeks prior to defending the proposal or the Thesis/Dissertation.

Proposal

Once the Thesis/Dissertation Committee has been formed and approved, the student should prepare and, for Ph.D. students, defend a Thesis/Dissertation Proposal. During the semester where the proposal submission takes place, the student must be enrolled in ECE 6399 (MSEE) or



ECE 8399 (Ph.D.). The Thesis/Dissertation Committee will approve the proposal by signing the Proposal Form. This form, together with a copy of the proposal document, has to be submitted to the ECE Department by the deadline specified on the semester calendar. The forms for the Thesis/Dissertation Committee formation and the Thesis/Dissertation Proposal defense can be obtained from the Department of Electrical and Computer Engineering.

The proposal document should outline the scope of the research, and it should contain, at least, a statement of the objectives, a review of the relevant literature, and a description of the principal methods to be used. Copies of this proposal should be provided to the members of the Committee.

Since the Committee may request substantial changes in the research objectives, the proposal should be prepared during the early stages of the dissertation research. *In no case should a proposal and dissertation defense occur in the same semester.*

After the successful defense of the Thesis/Dissertation Proposal, students should register for ECE 7399 (MSEE) or continue to enroll in ECE 8399 (Ph.D.). MSEE students should ideally enroll in ECE 7399 during the semester in which the thesis is defended and in which the student plans to graduate. The student should adhere to the thesis submission deadlines posted on the department calendar. In case the student does not complete the thesis while enrolled in ECE 7399, he/she should enroll in research courses (ECE 6x98) in future semesters until the thesis is completed to the satisfaction of the committee.

Thesis/Dissertation Document

When most of the research has been completed, the student should describe the main results to the committee and describe plans for the contents and structure of the thesis/dissertation. A student may request that the members of the committee review and comment on a preliminary version of the dissertation. This procedure is encouraged since it should provide the student with ideas of how to enhance the quality of the dissertation and should facilitate its acceptance.

When preparing the Thesis/Dissertation, it is critical to follow the guidelines defined by the College of Engineering.

A student should provide the members of the committee with the final version of the dissertation *no later than two weeks prior to the dissertation presentation and defense*. The student should be aware that he/she may be required to make substantial changes in the dissertation in order to satisfy the requirements of the committee.

Thesis/Dissertation Defense

Each candidate is required to present and defend his/her thesis/dissertation at a public meeting and post an announcement with an abstract with the ECE office at least two weeks before defense date. Please check with the ECE Department for further details. The Thesis/Dissertation Committee will make the final judgment of the acceptance of the defense of the document.

The thesis/dissertation announcement is to let the public know that the student has completed successfully his/her research and that he/she is ready for graduation. The announcement must be distributed to all faculty and students. One additional copy must be submitted to the ECE Department for filing. Refer to the web site given for more information.

Note: The student may request that the members of the Thesis/Dissertation Committee review and comment on a preliminary version of the thesis. This practice is encouraged since it should provide the student with ideas on how to improve the quality of the thesis and should also facilitate its acceptance. The student is required to present the final draft of the thesis to the members of the committee no later than two weeks prior to the date of the thesis defense. The student should be aware that he/she may be required to make substantial changes, before and after the defense, in the thesis in order to satisfy the requirements of the committee.

Submission Form

Upon successful defense of the thesis, and once all signatures of the committee members have been obtained, the student must submit one copy of the thesis to the Director of Graduate Studies for review. A thesis submission form and this copy, together with the correct number of signature pages, must be submitted to the ECE front desk before the deadline stated in the Department calendar.



Obtaining ECE Department's Chair signature

Once the thesis has been approved by the director of graduate studies, thesis and official signature pages will be submitted to the chairman for his signature. The student will be notified by staff for pick up. Department process for thesis submission is now complete. Students must now submit the Department approved thesis submission form with appropriate documents to the Dean's office for review.

Official thesis submission for binding

The college web site provides instructions on how to submit the thesis once the dean's office has given approval for binding. Once the student is at this stage, he/she must submit a copy of the thesis binding agreement received from the Dean's office to the ECE Department so that appropriate letter grade(s) can be awarded.

Doctoral

Electrical Engineering, PhD

The PhD is a research-intensive degree that prepares students for a research and development career in industry or academia. Given the research focus of the PhD, applicants must have a deep affinity for their research topic and be fully committed to completing their degree and contributing to their discipline.

There are two paths to the PhD:

1. Directly from BS to PhD, bypassing the MS degree, which is recommended for motivated, top-performing candidates with a clear idea of what they want to accomplish in their field of study.
2. Obtaining a MS degree (at UH or elsewhere) prior to PhD studies. This is recommended for students who are still forming a clear vision of their future career objectives.

For more information, please visit the Electrical and Computer Engineering program website.

Admission Requirements

While there are no minimum test scores or GPA required for admission, most successful candidates meet the following criteria. We recommend that a lower score in one area be balanced by higher scores in another area.

- A Bachelor of Science (B.S.) or Master of Science (M.S.) degree in electrical or computer engineering or closely related field.
- GPA \geq 3.3/4.0.
- Recommended GRE scores: Verbal of 151, Quantitative of 159, and Analytical Writing of 4.0.
- TOEFL of 92 or IELTS of 7 (Required if applicant does not have a degree from a US institution).
- Three letters of recommendation on official letterhead that includes the mailing address, phone number, and email address of the recommender.

Degree Requirements

Credit hours required for this degree: 72.0 (BS to PhD) or 54.0 (MS to PhD)

Students entering the program with a B.S. will follow the coursework requirements for the *B.S. to Ph.D. Degree Plan* while those entering with an M.S. will follow the *M.S. to Ph.D. Degree Plan*. The remaining requirements are identical for both programs.

1. Coursework for the **B.S. to Ph.D. Degree Plan**



- All structured coursework must follow the Appropriate Coursework Standards
 - At least 72 semester hours of graduate credit beyond the BS, with at least 33 hours in structured course work, and at least 27 hours of research (ECE8x98) and 12 hours of dissertation (ECE 8399). Additionally,
 - All of the structured coursework must be at the 6000 level or higher.
 - At least 21 of the 33 hours of structured course work must be in ECE courses.
 - Non-ECE courses used to satisfy the structured course requirement must be related to the field of study and be approved by the student's advisor.
 - Non-ECE courses must be at the graduate level (6000 level or higher) unless approved by the Director of Graduate Studies.
 - Enrollment in a dissertation course (ECE 8399) is required during the semester the dissertation proposal is defended.
2. Coursework for the **M.S. to Ph.D. Degree Plan**
 - All structured coursework must follow the Appropriate Coursework Standards
 - At least 54 semester hours of graduate credit, of which at least 15 hours should be in structured course work and at least 27 hours in research (ECE8x98) and 12 hours of dissertation (ECE 8399). Additionally,
 - All of the 15 hours in structured coursework must be at the 6000 level or higher.
 - At least 9 of the 15 hours in structured coursework must be in ECE courses.
 - Non-ECE courses used to satisfy the structured course requirement must be related to the field of study and be approved by the student's advisor.
 - Non-ECE courses must be at the graduate level (6000 level or higher) unless approved by the Director of Graduate Studies.
 - No credit will be given for any course that is equivalent to a course taken in the student's undergraduate degree program.
 - Enrollment in a dissertation course (ECE 8399) is required during the semester the dissertation proposal is defended.
 3. Fulfillment of the Breadth Coursework requirement.
 4. Completion of the Qualifying Exam.
 5. Preparation of a written dissertation and an oral defense thereof.
 6. Completion of all work above in accordance with the procedures described in the Procedures, Requirements, and Standards Section

Academic Policies

Appropriate Coursework

- Courses used to satisfy structured course requirements must receive a letter grade (i.e., *not* S, U, or W).
- Some departments other than ECE offer graduate level courses (6000 or above) with similar content to ECE graduate courses. In those situations, ECE graduate students must take the ECE version of the course. If the ECE course in question is not offered around the time of the graduating semester, then the student may be allowed to take the non-ECE version by general petition. Please see related deadlines on the department calendar.
- Graduate credit will not be awarded for both the ECE and non-ECE versions of a course.
- Courses offered by other institutions, such as Rice University/UT Health, etc., may be taken with prior approval from both the student's advisor and the director of the graduate program if a similar class is not offered at UH. For permission to take a non-UH course, complete a general petition and an inter-institutional form, which are linked in our forms page.
- Courses taken for personal enrichment will not count towards the degree and must be approved by the advisor and the Director of Graduate Studies prior to enrollment. Enrichment hours cannot be used to satisfy minimum enrollment requirements when an assistantship is being received.

Breadth Coursework - Ph.D. only



Student must complete, with a B or better, at least two graduate level courses in Electrical and Computer Engineering outside their area of research. These courses should be selected from the following approved list. Courses completed by the student as an M.S. candidate, while at UH or elsewhere, will be considered.

- **Signal and Image Processing**
- ECE 6342 - Digital Signal Process Credit Hours: 3.0
- ECE 6337 - Stochastic Processes in Signal Processing and Data Science Credit Hours: 3
- ECE 6364 - Digital Imag Processing Credit Hours: 3.0
- **Applied Electromagnetics and Well-Logging**
- ECE 6340 - Interm Electromag Waves Credit Hours: 3.0
- ECE 6351 - Microwave Engineering Credit Hours: 3.0
- ECE 6352 - Antenna Engineering Credit Hours: 3.0
- ECE 6382 - Engineering Analysis I Credit Hours: 3.0
- **Electronic Materials and Devices**
- ECE 6346 - Vlsi Design Credit Hours: 3.0
- ECE 6358 - Optoelectronics and Photonics: Principles and applications Credit Hours: 3.0
- ECE 6323 - Optical Fiber Communications Credit Hours: 3.0
- **Micro- and Nanofabrication**
- ECE 6309 - Microlithography for Micro-and Nano-system Manufacturing Credit Hours: 3.0
- ECE 6314 - Nanoscale Design & Fabrication Credit Hours: 3.0
- ECE 6348 - Material Science of Thin Films Credit Hours: 3.0
- ECE 6466 - Integrted Circ Engr Credit Hours: 4.0
- **Control Systems**
- ECE 6325 - State-Space Control Systems Credit Hours: 3.0
- ECE 6335 - Digital Contrl Systems Credit Hours: 3.0
- ECE 6397 - Selected Topics Credit Hours: 3
Topic: Smart Grid Technology
- **Computer Engineering**
- ECE 6370 - Advanced Digital Design Credit Hours: 3.0
- ECE 6336 - Intro to Architecture of RTOS and IoT Credit Hours: 3
- ECE 6373 - Adv Computer Arch Credit Hours: 3.0
- ECE 7373 - Adv Topics in Comp Arch Credit Hours: 3.0
- **Intelligent Systems**
- ECE 6376 - Digital Pattrn Recognntn Credit Hours: 3.0
- ECE 6313 - Neural Networks Credit Hours: 3.0

Qualifying Examination - Ph.D. only

Ph.D. students must pass a qualifying exam (QE), consisting of an oral and/or written component. The exact format of the exam is defined by the research groups and the advisor will inform the student what format is to be used. The qualifying exam is to be administered prior to the *fourth* long semester for a B.S.-Ph.D. student and prior to the *third* long semester for a M.S.-Ph.D. student. The qualifying exam committee must be approved by the Director of Graduate Studies *before* the QE can take place. Once the QE has taken place, the Chair of the QE committee will inform the student and the Director of Graduate Studies on the outcome of the exam. If a student chooses to change advisors and has completed the qualifying exam, it is up to the new advisor to choose to accept the status or request that the student repeat the exam.

There are currently two exam formats, the General and the Electromagnetics formats. Please ask your advisor which you are to follow.

General Qualifying Exam Instructions



General Qualifying Exam Instructions

The exam committee will consist of the advisor and two additional members of the research group. The chair of the committee will be one of the members other than the advisor. The advisor, in consultation with the other committee members, will assign a small research project to the candidate, who may also receive an initial selection of relevant literature. The project should be assigned no later than the beginning of the semester in which the exam is to take place and should be designed to test the candidate's ability to independently conduct research at a level commensurate with his/her education.

The candidate will prepare a written report and an oral presentation of the project results. The advisor may provide feedback during the preparation of the written report, but the report should be substantially the student's own work. The report should include a critical review of the relevant literature, a statement of the problem, methods, results, and discussion. The length of the report should be similar to a standard journal paper. The report, copies of the most relevant literature, and a list of courses completed by the candidate should be given to the committee two weeks prior to the oral exam. The oral exam consists of a public presentation of the project, followed by a closed-door oral examination.

The candidate will either pass or fail the exam, and this decision, based on a majority vote of the committee, will be communicated to the candidate immediately after the conclusion of the exam. Failing students may request a second attempt. In that case, the committee will assign additional work, which should be completed (and presented) at the end of the next long semester. Should the student fail the second attempt as well, he/she will be dropped from the ECE department's Ph.D. program. Once the student passes, he/she may proceed with the preparation of the dissertation proposal. Please note that the student's dissertation advisor is not required to continue serving in that role after the student passes the qualifying exam.

Qualifying Exam Instructions for Students Studying Electromagnetics

The Applied Electromagnetics (EM) Group requires students do an oral examination as part of the department qualifying examination. As per department regulations, the exam should be taken before the end of the third semester of graduate work. The following guidelines should be followed in the administration of the exam.

1. The examination committee should consist of three or four faculty members, including the student's advisor and the Chair of the Committee (the chair should be different from the advisor).
2. The exam should test over material covered in the following courses:
 - General electro- and magneto-statics, electromagnetic waves, and applied mathematics
 - ECE 6340 (Intermediate Electromagnetic Waves)
 - ECE 6351 (Microwaves) or ECE 6352 (Antennas)

If the student has had both ECE 6351 and ECE 6352, then the student may choose which course the test will cover.

No materials are brought to the oral exam.

3. The oral exam normally lasts two hours, and is interactive between the committee members and the students.

The outcome of the examination is either pass or fail, and this decision will be communicated to the candidate immediately after the conclusion of the oral exam. A majority vote is needed to pass the student (two out of three or three out of four). Students who fail the oral exam may request a second and final attempt, which must be taken before the end of the next long semester.

Grade Point Average and Minimum Performance

The *grade point average (GPA)* is computed as an average of *all* courses attempted at the university while enrolled in the graduate program. Graduate students must maintain an overall GPA of 3.0 or better in order to remain in good academic standing.

Should a student's GPA fall below the minimum, an academic stop will be placed on the student's record. Students must then seek assistance from their advisor to register and to have this stop removed when he GPA is greater than 3.0.

- *Minimum Cumulative Grade Point Average (GPA) for supported students* Students must maintain a cumulative GPA of 3.0 or better in order to remain eligible for GATF or in-state tuition waivers, when applicable.



- *Minimum Cumulative Grade Point Average (GPA) for scholarship students* Students must maintain a cumulative GPA of 3.0 or better in order to remain eligible for tuition waivers and scholarships.
- *Major Grade Point Average* This average is computed for courses that apply to the degree and must be 3.0 or higher prior to applying for graduation.
- *Four C-rule* The university has a specific rule regarding the maximum number of C+ or lower grades that a student may earn. The rule states,

A student who receives a grade of C+ or lower in 12 semester hours of credit attempt at this institution for graduate credit or for application toward the graduate degree, whether or not in repeated courses, is ineligible for any advanced degree at this institution and will not be permitted to re-enroll for graduate study.

Dissertation and Thesis Guidelines

The Dissertation document is written as part of the Ph.D. degree program and the Thesis is written as part of the M.S. degree. The dissertation should be at such a level as to be a significant contribution to the field of knowledge in electrical and computer engineering, and worthy of publication in one of the recognized professional journals. This section describes the common elements in these documents and specifies any differences.

Here is a summary of the steps a student takes to complete this requirement.

1. Form a Thesis/Dissertation Committee
2. Write a Proposal and submit it to the Committee for approval. Ph.D. students must also defend their proposal orally
3. Prepare the Thesis/Dissertation document
4. Defend the Thesis/Dissertation in a public setting with an announcement filed at least two weeks prior to the defense

More details for each step are provided in the next sections.

Committee

The student should form a Thesis/Dissertation Committee with the Advisor as chair as soon as the research topic is selected.

A *Thesis Committee* must consist of at least three members, with

- the advisor as chair,
- at least one additional faculty members from the Electrical and Computer Engineering Department, and
- at least one University of Houston tenure-track faculty member outside this Department.

A *Dissertation Committee* must consist of at least five members, with

- the advisor as chair,
- at least two additional faculty members from the Electrical and Computer Engineering Department, and
- at least two University of Houston tenure-track faculty member outside this department.

In either case, the advisor can assist the student in forming an appropriate committee. A committee form must be submitted well before the proposal defense is scheduled since the committee must be approved by the Department and Dean's Office prior to the defense. A student need not be enrolled while requesting to form a committee but must be enrolled when the defense takes place.



Should changes to the committee membership be necessary, the student simply submits an updated committee form listing all committee members. Only the new member(s) have to sign the form, but please complete this at least two weeks prior to defending the proposal or the Thesis/Dissertation.

Proposal

Once the Thesis/Dissertation Committee has been formed and approved, the student should prepare and, for Ph.D. students, defend a Thesis/Dissertation Proposal. During the semester where the proposal submission takes place, the student must be enrolled in ECE 6399 (MSEE) or ECE 8399 (Ph.D.). The Thesis/Dissertation Committee will approve the proposal by signing the Proposal Form. This form, together with a copy of the proposal document, has to be submitted to the ECE Department by the deadline specified on the semester calendar. The forms for the Thesis/Dissertation Committee formation and the Thesis/Dissertation Proposal defense can be obtained from the Department of Electrical and Computer Engineering.

The proposal document should outline the scope of the research, and it should contain, at least, a statement of the objectives, a review of the relevant literature, and a description of the principal methods to be used. Copies of this proposal should be provided to the members of the Committee.

Since the Committee may request substantial changes in the research objectives, the proposal should be prepared during the early stages of the dissertation research. *In no case should a proposal and dissertation defense occur in the same semester.*

After the successful defense of the Thesis/Dissertation Proposal, students should register for ECE 7399 (MSEE) or continue to enroll in ECE 8399 (Ph.D.). MSEE students should ideally enroll in ECE 7399 during the semester in which the thesis is defended and in which the student plans to graduate. The student should adhere to the thesis submission deadlines posted on the department calendar. In case the student does not complete the thesis while enrolled in ECE 7399, he/she should enroll in research courses (ECE 6x98) in future semesters until the thesis is completed to the satisfaction of the committee.

Thesis/Dissertation Document

When most of the research has been completed, the student should describe the main results to the committee and describe plans for the contents and structure of the thesis/dissertation. A student may request that the members of the committee review and comment on a preliminary version of the dissertation. This procedure is encouraged since it should provide the student with ideas of how to enhance the quality of the dissertation and should facilitate its acceptance.

When preparing the Thesis/Dissertation, it is critical to follow the guidelines defined by the College of Engineering.

A student should provide the members of the committee with the final version of the dissertation *no later than two weeks prior to the dissertation presentation and defense*. The student should be aware that he/she may be required to make substantial changes in the dissertation in order to satisfy the requirements of the committee.

Thesis/Dissertation Defense

Each candidate is required to present and defend his/her thesis/dissertation at a public meeting and post an announcement with an abstract with the ECE office at least two weeks before defense date. Please check with the ECE Department for further details. The Thesis/Dissertation Committee will make the final judgment of the acceptance of the defense of the document.

The thesis/dissertation announcement is to let the public know that the student has completed successfully his/her research and that he/she is ready for graduation. The announcement must be distributed to all faculty and students. One additional copy must be submitted to the ECE Department for filing. Refer to the web site given for more information.

Note: The student may request that the members of the Thesis/Dissertation Committee review and comment on a preliminary version of the thesis. This practice is encouraged since it should provide the student with ideas on how to improve the quality of the thesis and should also facilitate its acceptance. The student is required to present the final draft of the thesis to the members of the committee no later than two weeks prior to the



date of the thesis defense. The student should be aware that he/she may be required to make substantial changes, before and after the defense, in the thesis in order to satisfy the requirements of the committee.

Submission Form

Upon successful defense of the thesis, and once all signatures of the committee members have been obtained, the student must submit one copy of the thesis to the Director of Graduate Studies for review. A thesis submission form and this copy, together with the correct number of signature pages, must be submitted to the ECE front desk before the deadline stated in the Department calendar.

Obtaining ECE Department's Chair signature

Once the thesis has been approved by the director of graduate studies, thesis and official signature pages will be submitted to the chairman for his signature. The student will be notified by staff for pick up. Department process for thesis submission is now complete. Students must now submit the Department approved thesis submission form with appropriate documents to the Dean's office for review.

Official thesis submission for binding

The college web site provides instructions on how to submit the thesis once the dean's office has given approval for binding. Once the student is at this stage, he/she must submit a copy of the thesis binding agreement received from the Dean's office to the ECE Department so that appropriate letter grade(s) can be awarded.

Leveling Courses

Master's students who do not have a Bachelor of Science in Electrical or Computer Engineering must show competency in four areas:

- Electronic devices
- Circuit theory
- Electromagnetics
- Computers

Students may accomplish this through leveling coursework or by passing a core competency exam. The Graduate Admissions Committee will identify leveling requirements with the assistance of the thesis advisor.

Competence in each area can be demonstrated by passing the following course(s) with a grade of B or better, respectively:

- Circuit Analysis (ECE 2201 and ECE 2202) and its Laboratory (ECE 2100)
- Applied EM Waves (ECE 3317)
- Signal & System Analysis (ECE 3337)
- Electronics (ECE 3355)
- Microprocessor Systems (ECE 4436)

Graduate Certificate

Power Electronics and Renewable Energy Technologies, Certificate

Cullen College of Engineering > Department of Electrical and Computer Engineering > Power Electronics and Renewable Energy Technologies, Certificate



The certificate program in Power Electronics and Renewable Energy Technologies focuses on power electronics, electric machines, adjustable drive systems, and renewable energy technologies. These courses are relevant to the industries such as oil and gas, power industries, utilities, and renewable energy. The primary audience for this certificate course includes a broad range of practicing engineers in the oil and gas industries, utilities, and power industries. These trained engineers should be able to apply the latest trends in power electronics related technologies, and be able to efficiently operate and manage complex power generation and control for various applications.

Certificate Requirements

Certificate Total: 9.0 Credit Hours

Core Courses

6.0 Credit Hours

- ECE 6305 - Power Electronics Converters and Control Credit Hours: 3
- ECE 6343 - Renewable Energy and Distributed Power Generation Credit Hours: 3

Elective Course Options

3.0 Credit Hours

- ECE 6317 - Adjustable Speed Motor Drive Systems Credit Hours: 3
- ECE 6319 - Dynamics of Electric Machines Credit Hours: 3

Power Systems and Smart Grid, Certificate

Cullen College of Engineering > Department of Electrical and Computer Engineering > Power Systems and Smart Grid, Certificate

The certificate program in Power Systems and Smart Grid focuses on power systems and its protection and control, smart grid technologies, and substations. These courses are relevant to the industries such as oil and gas, power industries, utilities, and renewable energy. The primary audience for this certificate course includes a broad range of practicing engineers in the oil and gas industries, utilities, and power industries. The engineers trained through the proposed certification program should be able to apply the latest trends in smart-grid technologies and be able to manage a complex power generation, control and distribution system, and operate it efficiently. This will lead to uninterrupted electrical power for transmission and distribution to industrial and residential customers.

Certificate Requirements

Certificate Total: 9.0 Credit Hours

Core Courses

6.0 Credit Hours

- PES 6332 - Smart Grid Systems Credit Hours: 3.0

Elective Course Options

3.0 Credit Hours



- ECE 6329 - Power System Protection, Monitoring and Control Credit Hours: 3
- PES 6336 - High Voltage Electrical Substations Design and Architecture Credit Hours: 3.0

Department of Industrial Engineering

Graduate Program Overview

The Department of Industrial Engineering at the University of Houston offers graduate programs leading to:

- Master of Industrial Engineering (MIE)
- Master of Science in Industrial Engineering (MSIE)
- MIE/MBA Concurrent Degree
- Doctor of Philosophy in Industrial Engineering (PhD)

Our students typically draw upon the wide spectrum of expertise and resources available at the UH campus, including those of the other departments in the Cullen College of Engineering as well as the departments of Decision and Information Sciences, Mathematics, and Computer Science. Areas of study range from the traditional IE domains of reliability, facility location and layout design, automated manufacturing, safety, quality control and project management to topics such as large scale optimization, statistical analysis, simulation, systems engineering and heuristic optimization. Excellent library and computing facilities are available to support both instructional and research work.

Educational Background

The Industrial Engineering Department considers graduate admission applicants with a variety of undergraduate majors. However, all applicants are expected to have completed a minimal core of mathematics, science and engineering courses before admission can be granted. This core background is described below. Listed courses (or their equivalents) are required.

- MATH 1431 - Calculus I
- MATH 1432 - Calculus II
- MATH 2433 - Calculus III
- MATH 3321 - Engineering Math/Differential Equations
- INDE 1331 - Computing for Engineers
- INDE 2333 - Probability and Statistics I

Students who have completed all but six hours of the above core requirements and also satisfy all other admission requirements may be admitted for graduate study in Industrial Engineering. Completion of remaining core requirements remains a pre-requisite to graduate degree completion.

Domestic Graduate Application

Each applicant must submit the following:

Application Checklist - All documents must be uploaded BEFORE ADMISSIONS

- Online Application
- 1 Official Transcript should be mailed to:

University of Houston

Graduate Admissions

P.O. Box 3947

Houston, Texas 77253-3947

- 1 Unofficial copy of Transcript (uploaded)
- Resume (uploaded)



- GRE scores - Valid for 5 years from the original date taken (Upload to University code 6870)
- TOEFL scores - Valid for 2 years from the original date taken (University code is 6870) uploaded
- IELTS scores - Valid for 2 years from the original date taken (University code is 6870)
- 3 Recommendation Letters - With e-mail addresses must be listed on the online application. At least two from former or current instructors who can comment on applicant's academic work in detail.
- Statement of Purpose Essay (uploaded)
- \$25 Application fee (cannot be waived) must be paid by credit card through online application website (not using VISA)
- Residency Information (on the Application form)
- Bacterial Meningitis (must be sent to the Admissions Office)

NOTE: If you have not taken or need to retake GRE and/or TOEFL, please contact:

University of Houston
Counseling and Testing
 226 Student Service Center 1
 Houston, Texas 77204-3026
 Telephone: 713-743-5444

Please read the following carefully:

1. NO DECISION WILL BE MADE unless the application, fee, transcripts with ALL TERMS' grades posted, proof of degree earned, GRE are uploaded through your UH account and NOT SENT to the department.
2. Official GRE scores must be received by the University of Houston (NOT to the Department). 6870 campus institution code must be on them. Do not use our department code.
3. 6870 code is for both University of Houston Central Campus at 4800 Calhoun and University of Houston-University Park at 4800 Calhoun, since they are one and the same.
4. If you are in the last term of your degree program, please request your transcript from your university and send it to the graduate school address (above); we must have the last term transcript as soon as possible as the final decision cannot be made without it.
5. The awarded degree/diploma/degree certificate is required. If your institution issues a PROVISIONAL degree/diploma it is temporarily acceptable UNTIL the official original is received to the IE Department. It is mandatory that if you are approved for admission, your official original proof of degree awarded must be posted on our student records when you enroll in courses; if not, this will delay the review process when you apply for graduation.

Important Information to Remember:

- ALL DOCUMENTS MUST BE UPLOADED, FAILURE TO UPLOAD ANY OR ALL DOCUMENTS LISTED IN THE ADMISSION PROCEDURE WILL RESULT IN THE DECISION BEING DELAYED.
- FALL APPLICATION PROCESS WILL BEGIN IN LATE FEBRUARY.
- SPRING APPLICATION PROCESS WILL BEGIN IN LATE OCTOBER.
- ONCE ALL DOCUMENTS HAVE BEEN UPLOADED AND OFFICIAL TRANSCRIPTS HAVE BEEN SENT TO THE GRADUATE SCHOOL ADDRESS, PLEASE ALLOW THE DEPARTMENT TO CONTACT YOU THROUGH E-MAIL WITH YOUR DECISION. DO NOT CONTINUALLY E-MAIL ABOUT YOUR APPLICATION PACKAGE -- THAT WILL DELAY YOUR PROCESS.
- TRANSCRIPT TO-DO LIST ITEM WILL BE REMOVED MANUALLY.

International Graduate Application

Each applicant must submit the following:

Application Checklist - All documents must be uploaded BEFORE ADMISSIONS:

- Online Application
- 1 Official Transcript in English should be mailed to:

University of Houston
Graduate Admissions



P.O. Box 3947

Houston, Texas 77253-3947

- ALL term coursework completed and ALL earned grades/marks posted. Note: Transcripts/mark sheets must come from the university that the college is affiliated with AND must be recognized as being an accredited institution by U of H - see next bullet.
- It is mandatory that any institution attended which is not accredited for recognition by our university must have their country's Ministry of Education send a letter verifying the degree received is equivalent to a U.S. Bachelor of Science Degree -and- the institution attended is accredited for recognition by our university. You can also go to your country's consulate here for a letter verifying the same information. Please check on this to avoid delays in processing the paperwork.
- Proof of Diploma, Degree, or Degree Certificate received IS REQUIRED IF not posted on official original transcripts.
- 1 Unofficial copy of Transcript in English (uploaded)
- Resume (uploaded)
- GRE scores - Valid for 5 years from the original date taken (Upload to University code 6870)
- TOEFL scores - Valid for 2 years from the original date taken (University code is 6870) uploaded
- IELTS scores - Valid for 2 years from the original date taken (University code is 6870)
- 3 Recommendation Letters - With e-mail addresses must be listed on the online application. At least two from former or current instructors who can comment on applicant's academic work in detail.
- Statement of Purpose Essay (uploaded)
- \$75 Application fee (cannot be waived) must be paid by credit card through online application website (not using VISA).
- Financial Backing Form w/ Bank Statements (uploaded) if you are being supported please.
- International Address Form (uploaded)
- Bacterial Meningitis (must be sent to the Admissions Office)
- Passport Copy (Uploaded)
- Letter of Financial Backing - only valid for 6 months from the date written on them and the I-20 is not issued if the date is expired. (Uploaded)
- Issuing of I-20 to the IE Department for the term you want to attend (Upload)

NOTE: If you have not taken or need to retake GRE and/or TOEFL, please contact:

University of Houston

Counseling and Testing

226 Student Service Center 1

Houston, Texas 77204-3026

Telephone: 713-743-5444

Please read the following carefully:

1. NO DECISION WILL BE MADE unless the application, fee, transcripts with ALL TERMS' grades/marks posted, proof of degree earned, GRE, TOEFL, are uploaded through your UH account and NOT SENT to the department.
2. Official GRE and TOEFL scores must be received by the University of Houston (NOT to the Department). IELTS Scores should be mailed DIRECTLY to the department.
3. 6870 campus institution code must be on them. Do not use our department code.
4. 6870 code is for both University of Houston Central Campus at 4800 Calhoun and University of Houston-University Park at 4800 Calhoun, since they are one and the same.
5. If you are in the last term of your degree program, please request your transcript from your university and send it to the graduate school address (above). We must have the last term transcript as soon as possible as the final decision cannot be made without it.
6. The awarded degree/diploma/degree certificate is required. If your institution issues a PROVISIONAL degree/diploma it is temporarily acceptable UNTIL the official original is received to the IE Department. It is mandatory that if you are approved for admission, your official original proof of degree awarded must be posted on our student records when you enroll in courses; if not, this will delay the review process when you apply for graduation.

Important Information to Remember:

- ALL DOCUMENTS MUST BE UPLOADED, FAILURE TO UPLOAD ANY OR ALL DOCUMENTS LISTED IN THE ADMISSION PROCEDURE WILL RESULT IN THE DECISION BEING DELAYED.



- FALL APPLICATION PROCESS WILL BEGIN IN LATE FEBRUARY.
- SPRING APPLICATION PROCESS WILL BEGIN IN LATE OCTOBER.
- ONCE ALL DOCUMENTS HAVE BEEN UPLOADED AND OFFICIAL TRANSCRIPTS HAVE BEEN SENT TO THE GRADUATE SCHOOL ADDRESS, PLEASE ALLOW THE DEPARTMENT TO CONTACT YOU THROUGH EMAIL WITH YOUR DECISION.
- TRANSCRIPT TO-DO LIST ITEM WILL BE REMOVED MANUALLY.

Application Deadlines and Start of Classes

Further inquiries regarding admission deadlines should be directed to Ms. Cyrena Edwards or Dr. May Feng. Please refer to UH's academic calendar for start of classes and important dates.

Applicants	Application Deadlines
Applicants Living Overseas	April 1 for Fall
	September 1 for Spring
U.S. and Permanent Residents	April 15 for Fall
	September 15 for Spring

Tuition, Fees and Financial Support

Tuition and fee information can be found under Graduate Tuition & Fee. More information can be found under Student Financial Services (SFS).

Information can also be found on the University Web Page for any information related to graduate studies in the Industrial Engineering Department.

Financial support from the department, in the form of teaching or research assistantships, is only provided to Ph.D. students and it is highly competitive. Qualified graduate students are considered for an annual \$1,000 scholarship for the first year. This scholarship also waives the out-of-state tuition and pays in-state tuition and fees.

For further information on financial aid and scholarships offered to students, please refer to UH's website on Fellowships & Scholarships.

Master

Industrial Engineering, MIE

Cullen College of Engineering > Department of Industrial Engineering > Industrial Engineering, MIE

The Master in Industrial Engineering (MIE) degree program is a coursework-based program that provides graduate-level education in the broad field of industrial engineering. The program offers graduate-level courses in operations research, statistics, manufacturing, quality and reliability engineering, project management, and systems engineering. Students in the MIE program do not need to complete a research thesis.

For more information, please visit the MIE Degree Program website.

Admission Requirements

- The Cullen College of Engineering requires a minimum of 3.0/4.0 G.P.A. over the last 60 semester hours or 90-quarter hours for the admission to the graduate programs.



- Students who transfer from another graduate program must have at least a 3.0/4.0 G.P.A. on all graduate work completed.

*Applicants must submit a complete graduate application including non-refundable application fee (\$25 domestic applicants/\$75 international applicants).

- Applicants for all graduate programs must submit official GRE scores taken in the last five years.
- International students must submit additional documentation and demonstrate English language proficiency. Full details, including minimum TOEFL scores, are found on the English Language Proficiency Requirements page.
- A degree in an engineering discipline is recommended. However, applicants with degrees in closely related fields may be accepted to the graduate program subject to completion of leveling courses approved by the IE Graduate Program Director. The students must obtain a grade of B or better in all leveling courses. Note that leveling courses are not counted toward the graduate program course requirement.

Degree Requirements

Credit hours required for this degree: 30.0

- 30 semester hours of graduate courses are required for the MIE degree.
- These requisite degree program hours are in addition to any leveling courses.
- Students whose primary language is not English may be required to complete compulsory engineering communications course (INDE 6359). Engineering communications course is not required for the international students who scored 150 or higher on the verbal section of the GRE exam.
- All MIE students must take INDE 6111 (graduate seminar course) at least once during their studies.

Students are required to take five core courses based on the following options:

Students are required to take the following two mandatory core courses:

- INDE 6372 - Advanced Linear Optimization Credit Hours: 3.0
- INDE 6333 - Probability Stat For Engineers Credit Hours: 3.0

Students are required to take at least one course from each of the following three categories:

CATEGORY 1

- INDE 6321 - System Safety Engineering Credit Hours: 3.0
- INDE 6337 - Human Factors Syst Dsgn Credit Hours: 3.0
- INDE 6365 - Engineering Economy II Credit Hours: 3.0

CATEGORY 2

- INDE 6336 - Reliability Engineering Credit Hours: 3.0
- INDE 6363 - Statistical Process Control Credit Hours: 3.0
- INDE 6370 - Operation Research-Digital Simulation Credit Hours: 3.0

CATEGORY 3

- INDE 6361 - Prod Planning & Invent Control Credit Hours: 3.0
- INDE 6383 - Engineering Design and Prototyping Credit Hours: 3.0
- INDE 7390 - Supply Chain Management Credit Hours: 3.0

15 additional hours of graduate-level courses in industrial engineering, as approved by the program advisor.

Industrial Engineering, MSIE

The Master of Science in Industrial Engineering (MSIE) degree program is a thesis-based program that provides graduate-level education in the broad field of industrial engineering. The program offers graduate-level courses in operations research, statistics, manufacturing, quality and reliability engineering, project management, and systems engineering. Students in the MSIE program are required to complete a research thesis.

Please visit the MSIE Degree Program page for more information.



Admission Requirements

- The Cullen College of Engineering requires a minimum of 3.0/4.0 G.P.A. over the last 60 semester hours or 90-quarter hours for the admission to the graduate programs.
- Students who transfer from another graduate program must have at least a 3.0/4.0 G.P.A. on all graduate work completed.

*Applicants must submit a complete graduate application including non-refundable application fee (\$25 domestic applicants/\$75 international applicants).

- Applicants for all graduate programs must submit official GRE scores taken in the last five year.
- International students must submit additional documentation and demonstrate English language proficiency. Full details, including minimum TOEFL scores, are found on the English Language Proficiency Requirements page.
- A degree in an engineering discipline is recommended. However, applicants with degrees in closely related fields may be accepted to the graduate program subject to completion of leveling courses approved by the IE Graduate Program Director. The students must obtain a grade of B or better in all leveling courses. Note that leveling courses are not counted toward the graduate program course requirement.

Degree Requirements

Credit hours required for this degree: 30.0

- 30 semester hours of graduate courses are required for the MIE degree. This includes 21 hours of course work, 3 hours of research, and 6 hours of thesis.
- These requisite degree program hours are in addition to any leveling courses.
- Students whose primary language is not English may be required to complete compulsory engineering communications course (INDE 6359). Engineering communications course is not required for the international students who scored 150 or higher on the verbal section of the GRE exam.
- All MIE students must take INDE 6111 (graduate seminar course) at least once during their studies.

Students are required to take five core courses based on the following options:

Students are required to take the following two mandatory core courses:

- INDE 6372 - Advanced Linear Optimization Credit Hours: 3.0
- INDE 6333 - Probability Stat For Engineers Credit Hours: 3.0
- INDE 6337 - Human Factors Syst Dsgn Credit Hours: 3.0
- INDE 6365 - Engineering Economy II Credit Hours: 3.0

CATEGORY 2

- INDE 6336 - Reliability Engineering Credit Hours: 3.0
- INDE 6363 - Statistical Process Control Credit Hours: 3.0
- INDE 6370 - Operation Research-Digital Simulation Credit Hours: 3.0

CATEGORY 3

- INDE 6361 - Prod Planning & Invent Control Credit Hours: 3.0
- INDE 6383 - Engineering Design and Prototyping Credit Hours: 3.0
- INDE 7390 - Supply Chain Management Credit Hours: 3.0

15 additional hours of graduate-level courses in industrial engineering, as approved by the program advisor.

Academic Policies

Thesis Advisory Committee for M.S. Candidates



The candidate must select a thesis advisory committee as soon as possible, but no later than the end of the first academic year. The advisory committee must be approved by the IE Director of Graduate Programs and the IE Department Chair.

The advisory committee must be composed of at least three faculty members, of which at least two must be from the IE department at UH.

The Director of Graduate Programs and the IE Department Chair must approve any subsequent changes in this advisory committee.

A formal thesis proposal must be submitted to the Advisory Committee and the Director of Graduate Programs within one term after the Advisory Committee is selected and approved.

The thesis draft should be prepared, submitted, and defended to the thesis advisory committee. The final thesis must be submitted and approved by the thesis advisory committee, the Director of Graduate Programs and the IE Department Chair.

The guidelines for thesis preparation and submission deadlines can be found [here](#).

Doctoral

Industrial Engineering, PhD

The PhD degree program in Industrial Engineering provides doctoral students with rigorous academic preparation for positions in both academia and the private or public sector. In addition to required coursework, students conduct independent research that results in original scholarly work.

For more information, please visit the [Industrial Engineering PhD Degree Program page](#).

Admission Requirements

- The Cullen College of Engineering requires a minimum of 3.0/4.0 G.P.A. over the last 60 semester hours or 90-quarter hours for admission to the graduate programs.
- Students who transfer from another graduate program must have at least a 3.0/4.0 G.P.A. on all graduate work completed.
- Complete application & payment of application fee (\$25 domestic/\$75 international) must be completed via the online application found on the [How to Apply to UH Graduate School](#).
- Applicants for all graduate programs must submit official GRE scores.
- The applicant must meet English language proficiency requirements, either via degree completion in the US or another certified English-speaking nation, or via submission of TOEFL/IELTS scores. Full details are found on the [International Graduate Students website](#).
- All Ph.D. applicants should have completed an appropriate Master's program with thesis or demonstrated ability for research and technical writing. Students who have not written a thesis will be required to demonstrate such capabilities through work at UH. Highly qualified students with a BS degree can also be considered for our Ph.D. program.
- A degree in an engineering discipline is recommended. However, applicants with degrees in closely related fields may be accepted to the graduate program subject to completion of leveling courses approved by the IE Graduate Program Director. The students must obtain a grade of B or better in all leveling courses. Note that leveling courses are not counted toward the graduate program course requirement.

Educational Background

The Industrial Engineering Department considers graduate admission applicants with a variety of undergraduate majors. However, all applicants are expected to have completed a minimal core of mathematics, science and engineering courses before admission can be granted. This core background is described below. Listed courses (or their equivalents) are required.

- MATH 1431 Calculus I
- MATH 1432 Calculus II
- MATH 2433 Calculus III



- MATH 3321 Engineering Math / Differential Equations
- INDE 1331 Computing for Engineers
- INDE 2333 Probability & Statistics I

Students who have completed all but six hours of the above core requirements and also satisfy all other admission requirements may be admitted for graduate study in Industrial Engineering. Completion of remaining core requirements remains a pre-requisite to graduate degree completion.

Degree Requirements

Credit hours required for this degree: BS to PhD, 72.0; MA to PhD, 54.0

PhD Degree Programs in the Cullen College of Engineering

Degree Completion Requirements (BS to PhD)	SCH
Minimum credit hours required excluding seminars	72.0
Minimum approved core credit hours	36.0
Minimum research hours	24.0
Dissertation hours	12.0

Degree Completion Requirements (Masters in IE to PhD)	SCH
Minimum credit hours required excluding seminars	54.0
Minimum approved core credit hours	24.0
Minimum Research hours	18.0
Dissertation hours	12.0

List of the IE Graduate Courses and Research Areas

Operations Research

- INDE 6333 - Probability Stat For Engineers Credit Hours: 3.0
- INDE 6364 - Experimental Design and Regression Credit Hours: 3.0
- INDE 6370 - Operation Research-Digital Simulation Credit Hours: 3.0
- INDE 6372 - Advanced Linear Optimization Credit Hours: 3.0
- INDE 7340 - Integer Programming Credit Hours: 3.0
- INDE 7342 - Nonlinear Optimization Credit Hours: 3.0
- INDE 7397 - Selected Topics Credit Hours: 3
Topic(s)
 - Stochastic Processes



Manufacturing and Production Systems

- INDE 6333 - Probability Stat For Engineers Credit Hours: 3.0
- INDE 6336 - Reliability Engineering Credit Hours: 3.0
- INDE 6339 - Materials Handling Credit Hours: 3.0
- INDE 6361 - Prod Planning & Invent Control Credit Hours: 3.0
- INDE 6363 - Statistical Process Control Credit Hours: 3.0
- INDE 6364 - Experimental Design and Regression Credit Hours: 3.0
- INDE 6370 - Operation Research-Digital Simulation Credit Hours: 3.0
- INDE 6372 - Advanced Linear Optimization Credit Hours: 3.0
- INDE 6383 - Engineering Design and Prototyping Credit Hours: 3.0
- INDE 7397 - Selected Topics Credit Hours: 3

Topic(s)

- Manufacturing Systems

Engineering Management

- INDE 6323 - Economics of Disaster Credit Hours: 3.0
- INDE 6332 - Egr Project Mgt Credit Hours: 3.0
- INDE 6333 - Probability Stat For Engineers Credit Hours: 3.0
- IEEM 6335 - Engineering Management of Organizations Credit Hours: 3
- INDE 6361 - Prod Planning & Invent Control Credit Hours: 3.0
- INDE 6365 - Engineering Economy II Credit Hours: 3.0
- INDE 6372 - Advanced Linear Optimization Credit Hours: 3.0
- INDE 6386 - Innovation Management and Entrepreneurship Credit Hours: 3
- INDE 7383 - Systems Engineering Credit Hours: 3.0
- INDE 7397 - Selected Topics Credit Hours: 3

Topic(s)

- Stochastic Processes
- Decision Making in Public Safety Management

Distribution & Logistics

- INDE 6333 - Probability Stat For Engineers Credit Hours: 3.0
- INDE 6336 - Reliability Engineering Credit Hours: 3.0
- INDE 6339 - Materials Handling Credit Hours: 3.0
- INDE 6361 - Prod Planning & Invent Control Credit Hours: 3.0
- INDE 6363 - Statistical Process Control Credit Hours: 3.0
- INDE 6365 - Engineering Economy II Credit Hours: 3.0
- INDE 6372 - Advanced Linear Optimization Credit Hours: 3.0
- INDE 6386 - Innovation Management and Entrepreneurship Credit Hours: 3
- INDE 7340 - Integer Programming Credit Hours: 3.0
- INDE 7390 - Supply Chain Management Credit Hours: 3.0
- INDE 7397 - Selected Topics Credit Hours: 3

Topic(s)

- Stochastic Processes
- Operations Management & Supply Chain



Ergonomics/Occupational Safety/Human Factors Engineering

- INDE 6321 - System Safety Engineering Credit Hours: 3.0
 - INDE 6333 - Probability Stat For Engineers Credit Hours: 3.0
 - INDE 6336 - Reliability Engineering Credit Hours: 3.0
 - INDE 6337 - Human Factors Syst Dsgn Credit Hours: 3.0
 - INDE 6365 - Engineering Economy II Credit Hours: 3.0
 - INDE 6372 - Advanced Linear Optimization Credit Hours: 3.0
 - INDE 6397 - Selected Topics Credit Hours: 3.0
- Topic(s)
- Environmental Health and Safety

Academic Policies

Dissertation Advisory Committee

- The candidate must select a dissertation advisory committee, whose composition is subject to the approval of the IE Graduate Program Director and the IE Department Chair.
- The advisory committee must be composed of at least five faculty members, including at least three members from the IE department and two faculty members outside the department.
- The IE Graduate Program Director and the IE Department Chair must approve any subsequent changes to the composition of this committee.
- Students are not allowed to change committee members without the permission of the Ph.D. Program Director and the department chair. A formal petition must be submitted to the department for changing Ph.D. committee members.

Formal Dissertation Proposal

A formal written dissertation proposal must be submitted to the dissertation advisory committee in a timely manner after completing the Ph.D. screening examination. The student should provide committee members with a copy of the proposal approximately two weeks before the scheduled presentation.

Dual Degree - Graduate

Industrial Engineering, MIE/MBA

Cullen College of Engineering > Department of Industrial Engineering > Industrial Engineering, MIE/MBA

The Cullen College of Engineering and the C. T. Bauer College of Business at the University of Houston offer a concurrent degree program that enables students to prepare for careers in which the understanding of both engineering science and business studies is critical. This program provides students with the opportunity to complete the degree requirements for the Master of Business Administration and the Master of Industrial Engineering in a shorter period of time than if the two degrees were pursued separately.

For more information, please visit the MIE/MBA Concurrent Degree Program page.

Admission Requirements



Students applying for the combined MBA/MIE program are required to have a Bachelor's Degree from an accredited program in engineering.

Students interested in the MIE/MBA concurrent degree program must follow the separate application procedures for admission to the MBA program and the MIE program. Students must be admitted to each of the programs and admission to one has no official bearing upon admission to the other. Upon acceptance, enrollment in both the Cullen College of Engineering (MIE) and the C. T. Bauer College of Business (MBA) academic programs should occur within a period of one year.

Upon acceptance by each program, the applicant must petition the MIE/MBA Directors for admissions to the concurrent degree program. Each school will have a designated Director for the MIE/MBA program to provide academic advising for concurrent degree program students.

For more on the application process, please visit the How to Apply to UH Graduate School web page.

Degree Requirements

Credit hours required for this degree: 30.0

The MIE/MBA course requirements for this degree objective are the same as for the MIE, except that up to four courses from the C. T. Bauer College of Business are accepted as electives. The intent of this program is that, upon completion of the requirements for each degree, the student shall be awarded the two degrees simultaneously.

Department of Mechanical Engineering

The Department of Mechanical Engineering has an active graduate program encompassing advanced study and research in the major areas of dynamics and controls, fluid mechanics and heat transfer, materials science and engineering, and theoretical and computational mechanics. Current research topics include:

- computational fluid dynamics applied to problems ranging from the circulatory system and to the dynamics of offshore platforms;
- control of complex systems such as engine exhaust after-treatment, orbiting spacecraft, and structures built from smart materials;
- health monitoring and design optimization applied to a range of structures from micro-scale devices to bridges;
- biomedical research into biosensing, micro-scale bioreactors and health prognostics of the cardiovascular system;
- experimental studies of turbulent flows occurring in energy systems and two-phase flows in micro-scale heat exchangers.

Research activities in nanomechanics include:

- structure-property relationships
- strain-quantum behavior in quantum dots
- nanoscale piezoelectricity
- the application of magnetic nanostructures to sensors and biomedical devices.

Our materials engineering activities are driven by applications of composite materials to wind turbines and off-shore structures, ceramic components for aerospace systems, and superconducting materials for imaging and energy systems.

Materials Science and Engineering Program

The Materials Science and Engineering Program at the University of Houston is an interdisciplinary program with faculty from Mechanical, Chemical and Electrical Engineering Departments. In addition, significant collaboration occurs with the materials faculty in the College of Natural Sciences and Mathematics. The principal objectives of the materials engineering program may be summarized as follows: to study the mechanical, optical, electrical and electronic behavior of engineering and engineered materials used in all engineering applications. The specific areas covered by this program range from metallic alloys, polymers, ceramics and composites for advanced mechanical/aerospace engineering applications to thin films and coatings for electronics and superconducting ceramics for energy-related applications.

More information about the Materials Science and Engineering Program and degrees offered.



Subsea Engineering Program

Offshore petroleum exploration and production is an increasingly important source of energy, as well as an important driver of the Texas economy. There are billions of barrels of oil and trillions of cubic feet of natural gas predicted to lie within federally controlled waters in the Gulf, including the state of Texas. The curricula content of Subsea Engineering will provide a scientific and technical skillset necessary to create the first generation of Subsea Engineering. The Subsea Engineering curriculum is the first of its kind in the United States and one of only a handful abroad. More information about the Subsea Engineering Program and degrees offered.

Master

Aerospace Engineering, MS

The Houston area is recognized nationally for the strength of its aerospace-oriented companies and its proximity to the NASA Johnson Space Center. The Aerospace Program offers the opportunity for graduate study to those employed or seeking employment in the aerospace field to help them advance in the technical track of this profession. The Aerospace Engineering Program at UH provides graduate education in Aerospace Engineering to those interested in acquiring advanced knowledge, conducting research and pursuing careers in this field. The program offers the opportunity for full-time or part-time graduate study to those employed or seeking employment in Aerospace Engineering to help them advance in the technical track of the profession. This is an interdisciplinary program taught by faculty in the Mechanical Engineering Department with assistance from other colleges and departments at UH.

For more information, please visit: <http://aerospace.egr.uh.edu/about-us/overview>.

Admission Requirements

Admission into the MS program is based on a competitive combination of the following:

- i. academic background
- ii. Graduate Record Examination (GRE) scores
- iii. letters of recommendation
- iv. statement of purpose

Additional documentation for international applicants, including English language proficiency requirements, can be found on the Graduate School website. An undergraduate grade point average (GPA) of at least 3.0 out of 4.0 is required on the last 60 semester credit hours attempted, exclusive extracurricular credits. While there is no minimum required GRE score, average scores for the 2011 - 2015 admission classes for all programs are 157 on the Quantitative section and 156 on the Verbal section.

In special cases, conditional admission may be granted to a student who is not clearly competitive in all areas; however, conditional admission is not available to non-immigrant visa holders. While letters of recommendation from industrial supervisors are accepted, letters from faculty members who have observed the academic performance of the applicant are preferred.

Degree Requirements

Credit hours required for this degree: 30.0

The MS degree has two options: non-thesis and thesis. The MS non-thesis option degree consists of a minimum of thirty term hours of graduate course work. Eighteen of these semester hours should be completed with courses in the following core areas:

- A. Aerodynamics and Heat Transfer,
- B. Structural Mechanics and Materials, and
- C. Controls and Dynamics.



Approved courses in these core areas are listed below under the Courses heading. Students can select a core area of concentration where they take the majority of their core courses. However, as a breadth requirement, students should take at least six term hours of core course work outside their core area of concentration. The remaining twelve semester hours of graduate work should be completed with courses from the above core areas or from approved graduate elective courses listed under the Courses heading. The course work should be selected with the approval of the Aerospace Engineering Program Director. The MS thesis option degree consists of a minimum of twenty-one term hours of course work and nine term hours of thesis work. As in the non-thesis option, eighteen of the course work term hours should be completed in the core areas (A), (B), and (C) with at least six term hours of core course work outside the core area of concentration. The remaining three hours of course work should be completed with a course from the approved elective courses or the core courses. For the M.S. thesis option the course work should be selected based on the recommendations of the student's thesis advisor. For both MS degree options a maximum of six hours of course work may be completed at the 5000 level.

The MS degree requirements are summarized below with the numbers representing semester credit hours.

	Core*	Designated Electives	Thesis or Dissertation Research	Total
MS (non-thesis)	18.0	12.0	0	30.0
MS (thesis)	18.0	3.0	9.0/0	30.0

*At least six term hours should be completed outside a core area of concentration.

The following list shows the approved core courses divided by areas.

Core Area A: Aerodynamics and Heat Transfer

- MECE 5312 - Computational Fluid Dynamics I **Credit Hours: 3.0**
- MECE 5361 - Introduction to Compressible Flow **Credit Hours: 3.0**
- MECE 5363 - Fluid Mechanics **Credit Hours: 3.0**
- MECE 6333 - Conduction and Radiation **Credit Hours: 3.0**
- MECE 6334 - Convection Heat Transfr **Credit Hours: 3.0**
- MECE 6343 - Boundary Layers **Credit Hours: 3.0**
- MECE 6349 - Hydro/Aerodynamics **Credit Hours: 3.0**
- MECE 6353 - Intro Comp Fluid Dynam **Credit Hours: 3.0**

Core Area B: Structural Mechanics and Materials

- MECE 5307 - Fracture of Structural Materials **Credit hours: 3.0**
- MECE 5332 - Introduction to Continuum Mechanics **Credit hours: 3.0**
- MECE 5371 - Vibration Analysis **Credit hours: 3.0**
- MECE 6320 - Composite Materials **Credit Hours: 3.0**
- MECE 6321 - Polymer Materials & Mechanics **Credit Hours: 3.0**
- MECE 6322 - Polymer Viscoelstcty & Failure **Credit Hours: 3.0**
- MECE 6361 - Mechanical Behavior/Materials **Credit Hours: 3.0**
- MECE 6365 - Semiconductor Materials and Photonic and Electronic Devices **Credit Hours: 3.00**
- MECE 6377 - Continuum Mechs I **Credit Hours: 3.0**
- MECE 6382 - Theory of Elasticity **Credit Hours: 3.0**
- MECE 6387 - Intelligent Structural Systems **Credit Hours: 3.0**
- MECE 7320 - Micromechanics of Composites **Credit Hours: 3.0**
- MECE 7321 - Mech of Composite Matls & Stru **Credit Hours: 3.0**
- MECE 7322 - Damage & Failure Mech of Comp **Credit Hours: 3.0**



Core Area C: Controls and Dynamics

- MECE 6367 - Control System Analysis and Design Credit Hours: 3.00
- MECE 6388 - Optimal Control Theory Credit Hours: 3.0
- MECE 6389 - Matrix Inequality Control Credit Hours: 3.0
- ECE 6325 - State-Space Control Systems Credit Hours: 3.0
- ECE 6335 - Digital Control Systems Credit Hours: 3.0
- ECE 6390 - Linear Multivariable Control Systems Credit Hours: 3.0
- PHYS 6309 - Advanced Mechanics I Credit Hours: 3.0
- PHYS 6311 - Advanced Mechanics II: Nonlinear Dynamics Credit Hours: 3.0
- PHYS 7308 - Space & Atmospheric Physics Credit Hours: 3.0
- PHYS 8307 - Advanced Space Physics Credit Hours: 3.0

Elective Courses

The following list shows approved elective courses of the program. Other graduate elective courses can be applied to the program subject to the approval of the Program Director.

- CIVE 6349 - Structural Reliability Credit Hours: 3.0
- ECE 6313 - Neural Networks Credit Hours: 3.0
- ECE 6331 - Advanced Telecommunications Credit Hours: 3.0
- ECE 6333 - Signal Detection & Estimation Theory Credit Hours: 3.0
- ECE 6336 - Introduction to Architecture of RTOS and IoT Credit Hours: 3
- ECE 6337 - Stochastic Processes in Signal Processing and Data Science Credit Hours: 3
- ECE 6342 - Digital Signal Processing Credit Hours: 3.0
- INDE 6332 - Engineering Project Management Credit Hours: 3.0
- IEEM 6335 - Engineering Management of Organizations Credit Hours: 3
- INDE 6336 - Reliability Engineering Credit Hours: 3.0
- INDE 6337 - Human Factors System Design Credit Hours: 3.0
- INDE 6364 - Experimental Design and Regression Credit Hours: 3.0
- INDE 6370 - Operations Research-Digital Simulation Credit Hours: 3.0
- PHYS 6303 - Methods of Mathematical Physics I Credit Hours: 3.0
- PHYS 6304 - Methods of Mathematical Physics II Credit Hours: 3.0
- PHYS 7324 - Plasma Physics Credit Hours: 3.0

Academic Policies

Department/Program Policies

A student must meet the requirements listed below for continued enrollment in, and successful completion of the program. These requirements are in addition to the general requirements of the University as given in the Graduate and Professional Studies Catalog.

- Degree plans must be approved by the Program Director and must meet the specific requirements listed in this document for the degree program.
- Masters students supported as Research Assistants must be enrolled in a minimum of 9 credit hours in each long term.
- Only full-time students are eligible to receive financial support from the University in the form of scholarships, academic fellowships, teaching fellowships or assistantships, research fellowships or assistantships, or other comparable forms of support.
- Up to 6 credit hours of course work may be transferred from another institution with the approval of the Program Director.



Materials Science and Engineering, MS

Our main goal is to develop leadership in academia, government, and industry nationally and globally. The importance of global scientific, social, and cultural interaction and the demands of the dynamic, ever-changing global healthcare economy have been strongly emphasized in our undergraduate and graduate programs. The research in the graduate program focuses on three main areas, neural, cognitive, and rehabilitation engineering, biomedical imaging, and bionanoscience.

The Master of Science (MS) Program offers a thesis and a non-thesis track. The MS with a thesis degree is a research-oriented degree that requires the selection of a faculty advisor. Selection of an advisor is critical to completing the degree and therefore should be done as soon as possible.

For more information, please visit the Materials Science and Engineering website: <http://materials.egr.uh.edu/>.

Admission Requirements

The graduate programs are open to all qualified individuals with a Bachelor of Science (BS) or Masters of Science (MS) in Engineering, Materials Science, Metallurgy, Physics, Chemistry, Geology or related field.

Students must meet or exceed these requirements in order for their application to be reviewed.

- BS Degree: Materials Science or related field
- GPA: 3.00/4.00 on last 60 hours or Graduate hours if hold MS degree
- Recommended GRE*: (Current scale) Q-159, V-150 (Prior scale) Q-750, V-450
- *(International Applicants)* TOEFL: PBT- 580, CBT- 236, IBT- 92
- *(International Applicants)* IELTS: 7.0

**These scores reflect those of a competitive applicant but admission into our program is based on a holistic review of your application.*

Course Requirements

Upon admission, students with degrees in related fields will be evaluated on a case-by-case basis and may be required to take additional leveling courses. These leveling courses do not count towards the graduate degree. Generally, every graduate student should have taken:

- 2 years of Calculus (through differential equations)
- 1 year of Engineering Physics (calculus based physics)
- 1 year of Biology
- 1 year of Chemistry

Acceptance into the program is based on a competitive combination of academic background, GRE scores, recommendation letters, resume, and the statement of purpose. The Checklists below list all requirements for the Application Submission:

Applicant Checklist

- UH Graduate School Application
- Non-refundable Application Fee (cannot be waived) - \$25 domestic applicants; \$75 international applicants
- Official Transcripts from all colleges and universities you have attended (Scanned copies of official transcripts can be uploaded as PDF files and may be used to make admission decisions. If admitted, however, you will not be able to enroll without the official transcript(s) showing undergraduate degree conferral on file.)
- GRE scores (University code is 6870)
- Statement of Purpose (Upload into Application)
- Resume/CV (Upload into Application)
- 3 Letters of Recommendation (Submit emails within the Application and forms will be sent to Recommenders)



- International applications have additional documentation requirements, including fulfilling English language proficiency requirements with either degree completion or submitted test scores. For more information, visit www.uh.edu/graduate-school/admissions/international-students/.

Note: When preparing your Resume/CV and Personal Statement for submission, please be sure to highlight your past research, current research interests, and UH Biomedical Engineering faculty that you are interested in working with. There is no prompt or length requirement for the statement of purpose.

For more information about the Graduate School Admissions, please visit: <http://www.uh.edu/graduate-school/prospective-students/how-to-apply/index.php>.

Degree Requirements

Credit hours required for this degree: 30.0

Program Study for the MS in Materials Science and Engineering with Thesis

The program requires the completion of a minimum of 30 credit hours of approved graduate work distributed as follows:

- Six (6) hours of core course:
 - Three (3) hours in each of the two categories:
 - Thermodynamics and
 - Introduction to Materials
- Nine (9) hours of concentration recommended/assigned by the academic advisor
- Six (6) hours of additional Materials Science and Engineering coursework
- Three (3) research credits (6x98)
- Six (6) hours of thesis credits (6399 and 7399)
- Seminar attendance (required with excess research enrollment)

Program Study for the MS in Materials Science without Thesis

The program requires the completion of a minimum of 30 credit hours of approved coursework distributed as follows:

- Six (6) hours of core course:
 - Three (3) hours in each of the two categories:
 - Thermodynamics and
 - Introduction to Materials
- Nine (9) hours of additional Materials Science and Engineering coursework
- Eighteen (18) hours of coursework offered by the College of Engineering

Seminar

- **MTLS 6111 - Materials Engineering Seminar Credit Hours: 1.0**
The Seminar Course is not a traditional lecture/lab course.
- MTLS 6111 is a professional development opportunity aimed at engaging students outside of the classroom by bringing in professionals within the field as well as an opportunity for students to present their research endeavors.
- Students are required to register for **one** Seminar course per **semester** if they are enrolled in excess research hours.
- MTLS 6111 is a one credit course, but the credit does not count towards the overall credit hours. For example, if a student is completing their Masters and doing a Thesis, their credit hour total is 30. In adding MTLS 6111, at least once a semester during their academic program, they will roughly have taken 32 credit hours. The additional 2 are from the Seminar courses and do not count towards the 30 credits needed to complete the degree but do count towards the overall semester credit count.



Academic Policies

Transfer of Credits

A student may transfer up to 6 hours of graduate-level work completed elsewhere or at the University of Houston upon the approval of the Director of Graduate Studies. The student will need to file a general petition within one semester after admission to graduate program.

Cumulative Grade Point Average (GPA)

This average is on all courses attempted at the university during the graduate program. Students must maintain an overall GPA of 3.0 or better in order to remain in good academic standing for the graduate program. Students who drop below a 3.0 cumulative GPA will be placed on Academic Warning. Failure to bring up the cumulative GPA to 3.0 in the following semester may result in dismissal of the program.

- Cumulative Grade Point Average (GPA) for supported students:
 - The cumulative GPA must be 3.0 or better at all times in order to maintain eligibility for assistantships or in-state tuition waivers when applicable.
- Cumulative Grade Point Average (GPA) for scholarship students:
 - The cumulative GPA must be 3.0 or better at all times in order to receive the in-state tuition waiver. If you do not meet this requirement, you will lose the scholarship and no longer be eligible for in-state tuition. If you drop below the 3.0 GPA in the first semester, you may not receive the 2nd installment of the scholarship.

Formation of Thesis Committee (for students completing MS with a Thesis)

- The Thesis Committee members are determined by the student and their Advisor.
 - A Thesis Committee must consist of at least three members, with
 - the advisor as chair,
 - at least two additional faculty members from the Materials Science and Engineering Department, and
 - in total, you need a minimum of **three** tenure-track faculty members from the University of Houston.
- The Committee members must fill out the **Committee Appointment Form** with their acknowledgment that they will participate. The form must be submitted well before the proposal defense is scheduled since the committee must be approved by the Department and Dean's Office prior to the defense. A student need not be enrolled while requesting to form a committee but must be enrolled when the defense takes place.
- If a Committee member is outside of the University of Houston, that member's CV must be sent to the Graduate Advisor.

Master's Thesis Committee Formation Deadline

The Committee must be formed by the 12th school day/ORD of the semester the student plans to defend.

Graduate Policies

- MTL5 6111 - Seminar is required every semester for Master's students taking extra research hours, unless the student has received an exception from their PI, due to interference with their confirmed graduation date.
- Once you enroll in research and thesis, respectively, you have to remain continuously enrolled in research and dissertation.
- Students who started in and after Fall 2016: Only 25% of your courses may be taken outside of the department. If the course has not previously been approved by the department as an elective, a petition for the course must be submitted and approved prior to the start of



the semester of intended enrollment. The petition must be approved by your PI and should include an explanation of why the course is relevant to your research and/or degree. Petitions can be turned in to the Graduate Advisor.

- Students who started prior to Fall 2016: Please check with the Graduate Advisor regarding elective courses outside of the department. If the course has not previously been approved by the department as an elective, a petition for the course must be submitted and approved prior to the start of the semester of intended enrollment. The petition must be approved by your PI and should include an explanation of why the course is relevant to your research and/or degree. Petitions can be turned in to the Graduate Advisor.

Mechanical Engineering, MME

The Master of Mechanical Engineering (MME) degree is offered as a non-thesis degree program aiming to provide depth of knowledge in selected areas of mechanical engineering, as well as broader knowledge in other engineering, science, business or law topics. The degree is primarily for working professionals in the U.S. seeking to expand their technical skills for employment and advancement in mechanical engineering related fields. The program involves mechanical engineering graduate coursework in traditional areas of mechanical engineering, such as, mechanics, materials, thermo-fluid systems, automation and design. In addition, students can select elective courses outside the mechanical engineering department. Options include courses in other Cullen College of Engineering departments, the Bauer College of Business Administration, the College of Natural Sciences and Mathematics, and the UH Law Center. This flexibility allows students to design a degree program that best matches their career goals.

The MME degree is viewed as a degree that will not lead to entry into the PhD program. MME students are not eligible for financial aid in the form of teaching or research assistantships. The degree is course-based and it could be completed in 1 to 1 ½ years of full-time study or 2 to 3 years of part-time study. The degree is open to individuals with undergraduate degrees in other engineering disciplines, with the completion of appropriate preparatory undergraduate mechanical engineering courses.

Please visit the Mechanical Engineering Graduate Programs page for more information.

Admission Requirements

The MME program is intended primarily for working professionals, and not for international students on temporary visa (such as F-1, J-1, etc.). To be unconditionally admitted to the MME program, an applicant should have:

1. a Bachelor's degree in Mechanical Engineering or in a related field, preferably from an accredited engineering program
2. a grade point average of at least 3.00 out of 4.00 on the last 60 semester credit hours attempted exclusive of grades received for activities such as seminars, physical education, industrial internships, etc.
3. three letters of recommendation attesting to the student's capacity to perform in the classroom and in working environment. A minimum of two letters should be from tenure-track faculty members who have observed the academic performance of the applicant, and one can come from an engineering industry supervisor
4. a statement of purpose that is consistent with the areas of instruction within the Department. The -----"Application for Financial Aid and Statement of Purpose" form available on the Application section of this website allows the applicant to specify areas of interest, and it lists issues to address in the statement of purpose
5. Payment of non-refundable application fee

Please visit the Graduate Program Application page for more information: <http://www.me.uh.edu/graduate/application>.

Degree Requirements

Credit hours required for this degree: 30.0

The MME degree plan consists of the completion of 30 credit hours of graduate course work approved by the graduate advisor. The course work credit hour should comply with the following requirements:

- Twenty-one hours from the MECE 6000-level or above, exclusive of graduate seminar (MECE 6111) and Graduate Project (MECE 6368).
- Nine hours at the 6000-level or above from a list of approved courses in the College of Engineering, the College of Natural Science and Mathematics, the Bauer College of Business, and the UH Law Center, with no more than six hours from one academic unit (department or program). The up-to-date list of approved courses will be posted in the department Graduate Office. Up to six hours of elective coursework



can be completed by enrollment in the design sequence MECE 6368 & 6369. The coursework project typically consists of designing (and if feasible, constructing) an engineering apparatus under the supervision of a faculty member. The student cannot enroll in MECE 6368 until a faculty member has consented to supervise the student. The project may be assigned to the student by the advisor, or it may be submitted to the advisor for approval. Course credit for the project is not awarded until the advisor has approved of the completed project.

- No more than 3 hours of individual study (MECE 6x98), apart from the Project Option.

Academic Policies

Department/Program Academic Policies

- Enrollment Requirements for all Degree Programs

The graduation requirements for this program are at least a 3.00 grade point average over all courses, and separately, at least a 3.00 grade point average on all MECE courses, including MECE 6384. In calculating the grade point average on all MECE courses, if a student receives a grade "C+" or lower on an MECE course, and repeats the course with a better grade, the lower grade is dropped in the calculation.

Transfer Policies

A student admitted to the MSME program may transfer to the MME program by petition to the Graduate Director, if the student has completed twenty-one hours in the MSME program; currently has at least a 2.80 grade point average on all MECE courses.

Mechanical Engineering, MSME

The Department of Mechanical Engineering has an active graduate program encompassing advanced study and research in the major areas of dynamics and controls, fluid mechanics and heat transfer, materials science and engineering, and theoretical and computational mechanics. Current research topics include:

- computational fluid dynamics applied to problems ranging from the circulatory system and to the dynamics of offshore platforms;
- control of complex systems such as engine exhaust after-treatment, orbiting spacecraft, and structures built from smart materials;
- health monitoring and design optimization applied to a range of structures from micro-scale devices to bridges;
- biomedical research into biosensing, micro-scale bioreactors and health prognostics of the cardiovascular system;
- experimental studies of turbulent flows occurring in energy systems and two-phase flows in micro-scale heat exchangers.

Research activities in nanomechanics include:

- structure-property relationships
- strain-quantum behavior in quantum dots
- nanoscale piezoelectricity
- the application of magnetic nanostructures to sensors and biomedical devices.

Our materials engineering activities are driven by applications of composite materials to wind turbines and off-shore structures, ceramic components for aerospace systems, and superconducting materials for imaging and energy systems.

Admission Requirements

To be unconditionally admitted to the MS thesis or non-thesis program, an applicant should have:

- a Bachelor's degree in Mechanical Engineering or in a related field, preferably from an accredited engineering program.
- a grade point average of at least 3.00 out of 4.00 on the last 60 credit hours attempted exclusive of grades received for activities such as seminars, physical education, industrial internships, etc.



- an adequate score on the Graduate Record Examination (GRE). Texas law prohibits the definition of minimum acceptable scores on the GRE. However, 160 to 163 is a typical average score on the Quantitative section across all degree programs for an admission class.
- a minimum score of 6.5 on the IELTS or 79 on the internet-based TOEFL examination for students whose native language is not English.
- three letters of recommendation attesting to the student's capacity to perform in the classroom and (for applicants to the thesis program) in a research capacity. A minimum of two letters should be from tenure-track faculty members who have observed the academic performance of the applicant, and one can come from an engineering industry supervisor.
- a statement of purpose that is consistent with the areas of instruction and (for applicants to the thesis program) the current research areas within the Department. The "Application for Financial Aid and Statement of Purpose" form available on the Application section of this website allows the applicant to specify areas of interest, and it lists issues to address in the statement of purpose.

Degree Requirements

Credit hours required for this degree: 30.0

Program of Study for the MS Program without Thesis

The program requires successful completion of 30 hours of course work distributed as follows:

Methods of Applied Mathematics I

Three hours from the following course:

- MECE 6384 - Methods of Applied Mathematics I Credit Hours: 3.0

Core Courses

Nine hours of core courses, consisting of one course from each of the three areas chosen from:

Controls

- MECE 6367 - Control System Analysis and Design Credit Hours: 3.00
- MECE 6374 - Nonlinear Control Syst Design Credit Hours: 3.0

Materials

- MECE 6361 - Mechanical Behavior/Materials Credit Hours: 3.0
- MECE 6363 - Physical Metallurgy Credit Hours: 3.0
- MECE 6364 - Phase Transform in Materials Credit Hours: 3.0

Mechanics

- MECE 6377 - Continuum Mechs I Credit Hours: 3.0
- Advanced Mechanics of Solids

Thermo-Fluids

- MECE 6334 - Convection Heat Transfr Credit Hours: 3.0
- Advanced Fluid Dynamics I



MECE 6000-level or Above

Nine hours of elective courses from the MECE 6000-level or above, exclusive of graduate seminar (MECE 6111) and Graduate Project (MECE 6368).

6000-level or Above

Nine hours of elective courses at the 6000-level or above from a list of approved courses in the College of Engineering, the College of Natural Science and Mathematics, the Bauer College of Business, and the UH Law Center, with no more than three hours from one academic unit (department or program). The up-to-date list of approved courses will be posted in the department Graduate Office. Three hours can be satisfied by completing the directed-study Graduate Project course, MECE 6368. A statement of the intent of the directed study must be approved by petition to the Graduate Director prior to registration in MECE 6368. A report describing the results of the project must be filed with, and archived by, the instructor at the end of the course.

Note(s):

If a graduate course is dual-listed with an undergraduate 5000-level section, the student must enroll in the graduate section. Approval of any course that falls outside of the description given here must be requested by petition to the Director of Graduate Studies. Approval must be received prior to enrollment in the course. Non-thesis students should not enroll in research or thesis courses (6x98, 6399, 7399).

The graduation requirements for this program are at least a 3.00 grade point average over all courses, and separately, at least a 3.00 grade point average on all MECE courses, including MECE 6384. In calculating the grade point average on all MECE courses, if a student receives a grade "C+" or lower on an MECE course, and repeats the course with a better grade, the lower grade is dropped in the calculation.

Program of Study for the MS Program with Thesis

The program requires completion of a minimum of 30 credit hours distributed as follows:

Thesis Hours

Nine hours of thesis credits:

The first three for:

- MECE 6399 - Masters Thesis Credit Hours: 3

The remaining for:

- MECE 7399 - Masters Thesis Credit Hours: 3

Methods of Applied Mathematics I

Three hours from the following course:

- MECE 6384 - Methods of Applied Mathematics I Credit Hours: 3.0

MECE 6000-level or Above

At least nine hours from the MECE 6000-level or above, exclusive of the seminar (MECE 6111), research credits (MECE 6x98), and thesis credits.

6000-level or Above



The remaining hours must be at the 6000-level or above from a list of approved courses in the College of Engineering, the College of Natural Science and Mathematics, the Bauer College of Business, and the UH Law Center, with no more than three hours from one academic unit (department or program). The up-to-date list of approved courses will be posted in the department Graduate Office.

Note(s):

If a graduate course is dual-listed with an undergraduate 5000-level section, the student must enroll in the graduate section. Approval of any course that falls outside of the description given here must be requested by petition to the Director of Graduate Studies. Approval must be received prior to enrollment in the course.

The graduation requirements for this program are a successfully defended thesis and at least a 3.00 grade point average over all courses. The Director of Graduate Studies must approve the composition of the thesis examining committee prior to the defense date. The committee consists of at least three tenure-track faculty members, with one member from outside the Department.

Academic Policies

Department/Program Academic Policies

- Enrollment Requirements for all Degree Programs

A student must meet the requirements listed here for continued enrollment in, and successful completion of, any of our graduate programs:

- Degree plans must be approved by the Director of Graduate Studies and must meet the specific requirements listed in this document for the degree program. These requirements are in addition to the general requirements of the University as described in the Graduate and Professional Studies Catalog.
- Students on F-1 or J-1 visas are required by U.S. law to be enrolled as full-time students.
- Only full-time students are eligible to receive financial support from the University in the form of scholarships, academic fellowships, teaching fellowships or assistantships, research fellowships or assistantships, or other comparable forms of support.
- Continuous enrollment in MECE 6111 Graduate Seminar is required of full-time students.
- A minimum grade point average of 3.00 over all graduate courses attempted is required for the successful completion of any graduate degree. See the specific degree program descriptions for any additional graduation requirements.
- No grade lower than "C-" can be counted toward the completion of the credit hour requirements for a degree program.
- Up to 6 credit hours of course work may be transferred from another institution with the approval of the Director of Graduate Studies.*Note:Graded homework, mid-term, any exams, and syllabus must be received in order to determine transfer eligibility.
- No course used for a prior degree can be repeated or applied to another degree.
- No more than 6 hours can be transferred from post-baccalaureate to the graduate credit level.
- The Four-C rule: the University requires that a graduate student who receives a grade of C+ or lower in 12 credit hours attempted at this institution for graduate credit or for application toward the graduate degree, whether or not in repeated courses, is ineligible for any advanced degree at this institution and will not be permitted to re-enroll for graduate study. Students wishing to enroll in courses not for graduate credit (hence not subject to the 4-C rule) must submit a written declaration to that effect to the Director of Graduate Studies prior to enrollment in those courses.
- Changing degree programs requires approval of the Director of Graduate Studies and of the research advisor and may result in withdrawal of departmental financial support.

Students requiring Masters/Doctoral Research and Thesis/Dissertation hours should be advised of the following:

MS Thesis Option. A student can only sign up for two thesis courses 6399 and 7399. Most departments also allow Masters Research 6398 course which reduces the course requirement by one course. All our Masters degrees except for Petroleum Engineering are 30 credit hours degrees. An IP grade must be assigned to the first thesis course (6399) and a final letter grade via grade change request be assigned when the thesis is successfully completed (defended and submitted). If a student is not done after registering the required research and thesis hours, additional hours should be enrolled as 6398 (Masters Research) which is graded on S/U basis. In case a student registers for thesis hours over and above the six hours, these additional hours will remain as IP on the student's transcript. This is a Graduate School directive and aimed at avoiding grade inflation.



Space Architecture, MS

Cullen College of Engineering > Department of Mechanical Engineering > Space Architecture, MS

The Sasakawa International Center for Space Architecture (SICSA) is a research and design organization within the University of Houston. SICSA brings more than 30 years of internationally recognized experience in habitat research, planning and design for space and extreme terrestrial environments. Such settings share many urgent problems and issues. They typically impose logistic transport challenges for people, equipment and supplies; present severe facility construction and operational constraints; demand careful attention to habitability, performance and safety under isolated, confined conditions; and heavily rely upon all practical means to optimize energy-efficient, ecologically-responsible strategies. Terrestrial planning applications include remote oil and gas exploration/production camps; emergency natural disaster response operations and shelters; and rapid military troop deployment accommodations for harsh, undeveloped locales.

Please visit the Sasakawa International Center for Space Architecture website for more information.

Admission Requirements

Application Checklist

- Online Graduate Application
- 1 official transcript should be mailed to:
University of Houston Graduate School ([Click here for more information](#))
- 1 scan of official transcript (uploaded)
- resume (uploaded)
- Officially reported GRE scores taken in the last five years (University code is 6870)
- 3 References with email addresses must be listed on the online application. Not listing references will delay your application.
- Essay (uploaded)
- Application fee (cannot be waived) must be paid by credit card thru ApplyWeb website [\$25 domestic applicants/\$75 international applicants]
- Additional documentation required for international applicants, including English language proficiency requirements, can be found on the Graduate International Student web page.

For further information on how to apply, please review the [How to Apply to UH Graduate School](#) web page.

Please visit the [SICSA Admissions](#) page for application deadlines.

Degree Requirements

Credit hours required for this degree: 30.0

Course of Study: Students must have a minimum of 30 credit hours of approved study that include the following courses. All Master students have to submit his/her Master project draft proposal after the first semester of their study.

Full-Time Graduate Student

Fall Semester

- SPAC 6201 - Man Systems Integration **Credit Hours: 2.0**
- SPAC 6401 - Space Systems Tech Studio **Credit Hours: 4.0**
- SPAC 6398 - Special Problems **Credit Hours: 3.0 (elective)**
- 3 Credit Hour Elective Class Eligible for Graduate Program



Spring Semester

- SPAC 6203 - Spacecraft/Habitat Design Credit Hours: 2.0
- SPAC 6403 - Mission Planning and Analysis Credit Hours: 4.0
- SPAC 6398 - Special Problems Credit Hours: 3.0 (elective)
- 3 Credit Hour Elective Class Eligible for Graduate Program

Fall Semester

- SPAC 6298 - Special Problems Credit Hours: 2.0 and
- SPAC 6405 - Advanced Design and Analysis Credit Hours: 4.0
or
- SPAC 7410 - Master's Project: Space Architecture Credit Hours: 4.0

Part-time Curriculum for Professionals

Fall Semester

- SPAC 6201 - Man Systems Integration Credit Hours: 2.0
- SPAC 6401 - Space Systems Tech Studio Credit Hours: 4.0

Fall Semester

- SPAC 6203 - Spacecraft/Habitat Design Credit Hours: 2.0
- SPAC 6403 - Mission Planning and Analysis Credit Hours: 4.0

Fall Semester

- SPAC 6298 - Special Problems Credit Hours: 2.0 and
- SPAC 6405 - Advanced Design and Analysis Credit Hours: 4.0
or
- SPAC 7410 - Master's Project: Space Architecture Credit Hours: 4.0

Academic Policies

Each student assumes responsibility for being familiar with the academic program requirements as stated in the current catalogs of the college and university and this website.

Transfer of Credits

A student may transfer up to 6 hours (2 courses) of graduate-level work completed elsewhere the approval of the Director of Graduate Studies. The student will need to file a general petition within one semester after admission to graduate program.

Subsea Engineering, MS

Welcome to the nation's first Subsea Engineering Graduate Program with the Master of Science in Subsea Engineering located in the world's oil and gas capital of Houston, Texas! In partnership with the world's leading energy engineering companies, the University of Houston has created a relevant 21st-century energy engineering education, comprised of classroom lectures and hands-on software lessons for subsea systems design. Our program is the next step in an international outreach effort resulting in UH emerging as the Energy University. Today, UH offers a seamless curriculum comprised of oil and gas exploration, petroleum engineering through production, and petroleum refining. The master's program is offered both in the classroom and online which allows for international, domestic and the full-time working professionals to take part in the program and pursue their education in subsea engineering.

For more information, please visit the Subsea Engineering website.



Admission Requirements

A four-year bachelor's degree in engineering or engineering related field is required. Admissions for the MS Subsea Engineering program is offered during the Fall and Spring terms.

Application Materials

- Completed Graduate School Online Application
- Application fee [\$25 for domestic applicants/\$75 for international applicants]
- An official transcript should be mailed to one of the following addresses below:

Regular Mail: *University of Houston*
Graduate Admissions
P.O. Box 3947
Houston, TX 77253-3947

Express Mail: *University of Houston*
Graduate Admissions
4302 University Dr., Rm 102
Houston, TX 77204-2012

- GRE scores officially reported to the university (code is 6870)
- Resume (uploaded)
- Areas of Interest Form (uploaded)
- Essay (uploaded)
- 3 Recommendations
- Additional documentation required for international applicants, including English language proficiency requirements, can be found on the Graduate International Student website.

For further information on how to apply, please review the [How to Apply to UH Graduate School website](#).

All application documents must be uploaded to your online application. An application will be delayed if not all application documents are uploaded.

Degree Requirements

Credit hours required for this degree: 30.0

The Master of Science in Subsea Engineering at the University of Houston is a non-thesis, 10-course graduate curriculum. The curriculum is comprised of three primary categories.

Category 1: Required Courses

Every student must take this required three-course sequence. These courses serve as the foundation of the engineering science knowledge base needed for the remaining graduate curriculum.

- MECE 6334 - Convection Heat Transfr **Credit Hours: 3.0**
- MECE 6384 - Methods of Applied Mathematics I **Credit Hours: 3.0**
- SUBS 6310 - Flow Assurance **Credit Hours: 3.0**

Category 2: Restricted Electives

The courses listed below have been specifically developed for the Subsea Engineering Graduate Program. Every student must take at least three of the courses from this prescribed elective list. Additional subsea engineering courses are currently being developed and will be added to this list. Students may submit a graduate petition if deviations from this requirement makes sense for individual career paths.

- SUBS 6305 - Mathematics for Subsea Engineers **Credit Hours: 3.0**
- SUBS 6320 - Riser Design **Credit Hours: 3.0**
- SUBS 6330 - Pipeline Design **Credit Hours: 3.0**



- SUBS 6340 - Subsea Process and Artificial Lift **Credit Hours: 3.0**
- SUBS 6350 - Subsea Controls and System Engineering **Credit Hours: 3.0**
- SUBS 6351 - Design of Subsea Blowout Preventers **Credit Hours: 3.0**
- SUBS 6360 - Subsea Materials and Corrosion **Credit Hours: 3.0**
- SUBS 6370 - Computational Methods & Design Experiments **Credit Hours: 3.0**
- SUBS 6380 - Subsea Systems **Credit Hours: 3.0**
- SUBS 6397 - Selected Topics **Credit Hours: 3**

Topics:

- Advanced Flow Assurance
- Design for Oil and Gas
- Guide to Engineering Data Science
- Additional topics, with the approval from the Program Director

Category 3: Electives

Of the 10 mandatory courses required for the MS in Subsea Engineering, Categories 1 and 2 have prescribed at least 6 courses. This leaves a maximum of 4 courses that can be selected by the student, subject to approval by the Director. Subsea engineering is an interdisciplinary engineering field, so students are strongly encouraged to take at least one course from another department or program within the Cullen College of Engineering. Mechanical Engineering graduate courses applicable to the MS in Subsea Engineering include:

- MECE 6335 - Heat Transf/Phase Chng **Credit Hours: 3.0**
- MECE 6353 - Intro Comp Fluid Dynam **Credit Hours: 3.0**
- MECE 6361 - Mechanical Behavior/Materials **Credit Hours: 3.0**
- MECE 6363 - Physical Metallurgy **Credit Hours: 3.0**
- MECE 6368 - Mechanical Design Proj **Credit Hours: 3.0**
- MECE 7361 - System Identification **Credit Hours: 3.0**
- MECE 63XX - Selected Courses **Credit Hours: 3.0**, requiring approval from the Program Director.

Course from other departments and program within the Cullen College of Engineering are strongly encouraged as subsea engineering is necessarily an interdisciplinary engineering field.

Academic Policies

Academic Requirements

Each student assumes responsibility for being familiar with the academic program requirements as stated in the current catalogs of the college and university and this website.

Transfer of Credits

A student may transfer up to 6 hours (2 courses) of graduate-level work completed elsewhere upon the approval of the Director of Graduate Studies. The student will need to file a general petition within one term after admission to graduate program.

Doctoral

Materials Science and Engineering, PhD

In addition to continued study of a broad range of engineering fundamentals, candidates for the doctoral degree enjoy intensive exposure to a specific field of engineering research. Individual research is the major focal point for these students, who are expected to expand the frontiers of



knowledge in their area of endeavor. Moreover, candidates learn and experience the general philosophy, methods, and concepts of research and scholarly inquiry, so that they may contribute after graduation to substantive issues completely unrelated to their doctoral research.

For more information, please visit the Materials Science and Engineering Program page: <http://materials.egr.uh.edu/graduate-program-overview>.

Admission Requirements

The graduate programs are open to all qualified individuals with a Bachelor of Science (BS) or Masters of Science (MS) in Engineering, Materials Science, Metallurgy, Physics, Chemistry, Geology or related field. Selection of an advisor is critical to completing the degree and therefore should be done as soon as possible. If a student is admitted to the PhD program without an advisor, an advisor will not be assigned to them.

Students must meet or exceed these requirements in order for their application to be reviewed:

- BS Degree: Materials Engineering or related field
- GPA: 3.00/4.00 on last 60 hours or Graduate hours if hold MS degree
- Recommended GRE*: (Current scale) Q-159, V-150 (Prior scale) Q-750, V-450
- *(International Applicants)* TOEFL: PBT- 580, CBT- 236, IBT- 92
- *(International Applicants)* IELTS: 7.0

**These scores reflect those of a competitive applicant but admission into our program is based on a holistic review of your application.*

Course Requirements

Upon admission, students with degrees in related fields will be evaluated on a case-by-case basis and may be required to take additional leveling courses. These leveling courses do not count towards the graduate degree. Generally, every graduate student should have taken:

- 2 years of Calculus (through differential equations)
- 1 year of Engineering Physics (calculus based physics)
- 1 year of Biology
- 1 year of Chemistry

Acceptance into the program is based on a competitive combination of academic background, GRE scores, recommendation letters, resume, and the statement of purpose. The checklist below list all requirements for the Application Submission:

Applicant Checklist

- UH Graduate School Application
- Application Fee (cannot be waived) (\$25 domestic; \$75 international)
- Official Transcripts from all colleges and universities you have attended (Scanned copies of official transcripts can be uploaded as PDF files and may be used to make admission decisions. If admitted, however, you will not be able to enroll without the official transcript(s) showing undergraduate degree conferral on file.)
- GRE scores (University code is 6870)
- Statement of Purpose (Upload into Application)
- Resume/CV (Upload into Application)
- 3 Letters of Recommendation (Submit emails within the Application and forms will be sent to Recommenders)
- International applications have additional documentation requirements, including fulfilling English language proficiency requirements with either degree completion or submitted test scores. For more information, visit www.uh.edu/graduate-school/admissions/international-students/.

Note: When preparing your Resume/CV and Personal Statement for submission, please be sure to highlight your past research, current research interests, and UH Biomedical Engineering faculty that you are interested in working with. There is no prompt or length requirement for the statement of purpose.



Degree Requirements

Credit hours required for this degree: 57.0 or 66.0

Doctor of Philosophy in Material Science Engineering (with prior MS Degree)

The elective courses must be relevant to the student's research and approved by their advisor.

The program requires a minimum of 57 credit hours of approved graduate work distributed as follows:

- Six (6) hours of core course:
 - Three (3) hours in each of the two categories:
 - Thermodynamics and
 - Introduction to Materials
- Nine (9) hours of concentration
- Six (6) hours of additional coursework
- Twenty-four (24) hours of research credits
- Twelve (12) dissertation credits
- **MTLS 6111 - Materials Engineering Seminar Credit Hours: 1.0**
(required with research enrollment)

Doctor of Philosophy in Materials Engineering (directly from Undergraduate)

The program requires a minimum of 66 credit hours of approved graduate work distributed as follows:

- Six (6) hours of core course:
 - Three (3) hours in each of the two categories:
 - Thermodynamics and
 - Introduction to Materials
- Nine (9) hours of concentration
- Fifteen (15) hours of additional coursework offered by the College of Engineering
- Twenty-four (24) research credits
- Twelve (12) dissertation credits
- **MTLS 6111 - Materials Engineering Seminar Credit Hours: 1.0**
(required with research enrollment)

Doctor of Philosophy in Materials Engineering (MS earned outside of UH)

Students are required to complete coursework requirements for MS students with a thesis (21 hours of coursework).

The elective courses must be relevant to the student's research and approved by their advisor.

Three hours of the nine elective courses must be taken within the College of Engineering. Courses taken outside of the department for elective credit must have previously been approved by the department.

Additional Requirements



Seminar

- The Seminar Course (MTLS 6111) is not a traditional lecture/lab course.
- MTLS 6111 is a professional development opportunity aimed at engaging students outside of the classroom by bringing in professionals within the field as well as an opportunity for students to present their research endeavors.
- Students are required to register for **ONE** Seminar course per **SEMESTER** as they are enrolled in research hours.
- MTLS 6111 is a one credit course, but the credit does not count towards the overall credit hours. For example, if a student is completing their Masters and doing a thesis, their credit hour total is 30. In adding MTLS 6111, at least once a semester during their academic program, they will roughly have taken 32 credit hours. The additional 2 are from the Seminar courses and do not count towards the 30 credits needed to complete the degree but do count towards the overall semester credit count.
- Adding this One Credit Course to the Semester Course Schedule can cause the student to register for 10 credits instead of the traditional 9. In this case, students can reduce their research credits by 1, so the total credit hours equal 9 or simply take an extra credit.

Qualifying Exam

- **Eligibility**
 - Doctoral students are eligible to sit for the Qualifying Exam after the second semester of graduate studies. Doctoral students **MUST** complete the Qualifying Exam by the end of their fourth semester, but traditionally complete it by the end of their third semester.
 - Students must confirm with the Graduate Advisor that they plan to complete their Qualifying Exam in a given semester.
- **Components of Exam**
 - The Qualifying Exam is administered orally and students must submit two abstracts (1) current research and (2) future research, one week prior to the exam.
 - Notes, PowerPoint slides or electronic displays are **prohibited**.
- **Committee**
 - The Graduate Advisor will create the Qualifying Exam committee based on faculty availability and the student's schedule.
 - The committee will consist of at least three (3) members: candidate's Research Advisor, at least one Materials Science and Engineering faculty member(s), at most one non-Materials Science and Engineering faculty member (with expertise in relevant materials research). Additional faculty should represent the candidate's research focus area and are primarily responsible for the examination of the candidate.
 - The Research Advisor may ask questions but is expected to fulfill the advocate role for the candidate as he/she prepares for the examination. The Chair's primary function is to ensure that there is consistency across all candidate qualifying examinations.
- **Overview**
 - Qualifying Exam Committees are coordinated by the Graduate Advisor. Students will be notified of the date and time of their Exam via email.
 - Examinations are expected to span about 1 hour but may vary between 1 to 1.5 hours.
 - The oral component will start with a general overview provided by the candidate on their research thrust area and prospective research project.
 - Committee members will be given hard copies of the two abstracts (supplied by the Doctoral student).
 - The Exam Committee will then ask questions and engage in discussions with the student for the remainder of the session. The following is the goal and scope of the oral exam:
 - Determine student's depth of understanding of the Biomedical Engineering graduate core.
 - Assess student's capacity to think critically and apply engineering tools to solve problems.
 - Assess student's capacity to integrate skills in an area of research in biology and/or biomedical engineering.
 - A successful student will be knowledgeable, able to think critically, and demonstrate the ability to integrate and/or apply course information to topics pertinent to their research area.
 - Immediately following the oral examination session, the Exam Committee will meet in a closed session to discuss the student's performance and determine the results of the exam. The following results are possible:
 - **Pass:** the candidate may continue in the PhD program, complete coursework, and prepare to defend a prospectus.



- **Fail:** the candidate will be removed from the PhD program. A contingent plan may be developed to enter the Master's program, either thesis or non-thesis. The candidate may petition to retake the qualifying exam during which time he/she may be retained in the PhD program until the petition is resolved. If the petition is not accepted, he/she will be removed from the PhD program. If the petition is accepted, a continuation in the PhD program will be contingent upon results of a re-examination.
 - The **Qualifying Exam Score Sheet** will be filled out and turned into the Graduate Advisor, so the results can be put into the students file.

Formation of Dissertation Committee

- The Dissertation Committee members are determined by the student and their Advisor.
 - A Dissertation Committee must consist of at least five members, with
 - the advisor as chair,
 - at least three additional faculty members from the Materials Science and Engineering Department, and
 - at least one additional member shall be from outside of the Materials Science and Engineering program;
 - In total, you need a minimum of five tenure-track faculty members from the University of Houston. The fifth committee member may be from UH, or from an external institution.
- The Committee members must fill out the **Committee Appointment Form** with their acknowledgement that they will participate. The form must be submitted well before the proposal defense is scheduled since the committee must be approved by the Department and Dean's Office prior to the defense. A student need not be enrolled while requesting to form a committee but must be enrolled when the defense takes place.
- If a Committee member is outside of the University of Houston, that member's CV must be sent to the Graduate Advisor.
- **Doctoral Dissertation Committee Formation Deadline:**
 - The Committee must be formed at least two weeks prior to the Prospectus.

Prospectus

Doctoral students must complete their Prospectus at least one semester before Graduation.

- **Components**
 - A rough draft of a research proposal should be shown to the student's research advisor for approval of content prior to scheduling the oral presentation.
 - The oral presentation of the dissertation prospectus is made to the student's Dissertation committee. Other interested members of the faculty are invited to attend the presentation but are encouraged to leave prior to the questioning by the dissertation committee.
- **Overview**
 - The student's presentation should take advantage of appropriate audio and visual aids and should be limited to no more than 50 minutes.
 - Copies of the written dissertation prospectus must be distributed to all members of the student's dissertation committee no later than one week prior to the oral presentation. In the oral examination, the student is expected to defend their prospectus and justify that the proposed research is of the acceptable quality and magnitude consistent with quality doctoral education.
 - Following the oral presentation of the research proposition, questions are welcomed from members of the departmental faculty. Following general questions, departmental faculty members other than those on the student's dissertation committee are excused and the student's dissertation committee and interested faculty from the student's major will remain to ask questions of the candidate regarding his proposed research. Generally, the oral discussion of the dissertation prospectus is limited to three hours.
 - After questioning, the candidate is excused from the room while the dissertation committee conducts its deliberations.
- **Committee**
 - The Prospectus Committee is comprised of the Dissertation Committee members that were listed on the approved Committee form.



- The decision regarding whether or not the dissertation prospectus is acceptable is the decision of the dissertation committee alone.
- The student's dissertation committee conveys its evaluation of the acceptability of the dissertation prospectus to the chair of the departmental graduate committee by signing the **Prospectus Approval Form**.
- If the student's dissertation prospectus is considered acceptable, the chair of the departmental graduate committee will recommend to the Graduate College that the student be advanced to PhD candidacy status.
- If the student's dissertation prospectus is unacceptable, the chair of the dissertation committee formulates recommendations for future action and submits them to the chair of the departmental graduate committee and the chair of the department. Either of two recommendations is possible:
 - A re-examination may be scheduled and the entire process repeated, or
 - The student may be removed from the doctoral program. The results of the dissertation prospectus presentation are conveyed to the student by the chair of the departmental graduate committee.

Dissertation Defense

- The student will coordinate their Defense date with their committee and Advisor.
- If a room needs to be reserved, the student can contact the Graduate Advisor.
- Results should be reported to the Graduate Advisor, either via email or in person.
- **Dissertation/Thesis Defense Deadline:**
 - The Graduate School and Cullen College of Engineering has set a deadline for defending. All students must defend by the given date or they will not be able to graduate that semester. The deadline changes each semester; the Academic Calendar will note the date.
 - For example, in Fall 2014, all students planning to defend, had to have their defense completed by Friday, December 05.
- All information necessary for submission can be found here: <https://www.egr.uh.edu/academics/graduate-programs-policies/guide-preparation-thesisdissertations>.

Academic Policies

- Department Policies
 - CORE Coursework must be completed before your Qualifying Exams.
 - The Qualifying Exam **must** be completed at the end of the 3rd semester, unless an exception has been approved by the Department Chair and Graduate Director.
 - MTLS 6111 - Seminar is required every semester for all PhD students enrolled in research hours, unless the student has received an exception from their PI, due to interference with their confirmed graduation date.
 - Once you enroll in research and dissertation, respectively, **you have to remain continuously enrolled in research and dissertation**.
 - Students who started in and after Fall 2016: Only 25% of your courses may be taken outside of the department. If the course has not previously been approved by the department as an elective, a petition for the course must be submitted and approved prior to the start of the semester of intended enrollment. The petition must be approved by your PI and should include an explanation of why the course is relevant to your research. Petitions can be turned in to the Graduate Advisor.
 - Students who started prior to Fall 2016: Please check with the Graduate Advisor regarding elective courses outside of the department. If the course has not previously been approved by the department as an elective, a petition for the course must be submitted and approved prior to the start of the semester of intended enrollment. The petition must be approved by your PI and should include an explanation of why the course is relevant to your research. Petitions can be turned in to the Graduate Advisor.

Mechanical Engineering, PhD

The PhD is the highest degree granted by the University and its possession signifies that the holder has demonstrated the ability to perform original research. The student's principal objective is to produce a dissertation that can be considered a significant contribution to the field of knowledge in



mechanical engineering. Our standard PhD program assumes a completed MS degree prior to admission. Our Direct Admit program allows the exceptional student to be admitted to doctoral candidacy without a completed MS degree.

For more information, please visit the Doctor of Philosophy page.

Admission Requirements

To be admitted for doctoral studies, a student must have an exemplary scholastic record which includes:

- an MS degree (standard admission) or a BS degree (direct-admit program) in Mechanical Engineering or in a related field, preferably from an accredited engineering program.
- three letters of recommendation attesting to the student's capacity to perform in the classroom and in a research capacity. A minimum of two letters should be from tenure-track faculty members who have observed the academic performance of the applicant.
- a Statement of Purpose that is consistent with the current research areas within the Department. An "Application for Financial Aid and Statement of Purpose" form is available on the Application section of this website. It allows the applicant to specify areas of interest and academic goals, and it provides guidance regarding the issues we would like to see addressed in the statement of purpose.
- a minimum score of 79 on the internet-based TOEFL examination for students whose native language is not English.
- a grade point average that demonstrates the potential to perform at the level of 3.40 or better in MECE graduate courses.
- a GRE score that is competitive with the doctoral admission class.

Degree Requirements

Credit hours required for this degree: 51.0

Standard Program

This option assumes that the applicant has completed an MS degree from a recognized university. A minimum of 51 hours of approved graduate study beyond the hours completed for the MS degree are required. These hours include at least 30 hours of Research and Dissertation credit and at least 21 hours of course work (7 classes) at the 6000-level or higher composed of:

Methods of Applied Mathematics I

Three hours of:

- MECE 6384 - Methods of Applied Mathematics I **Credit Hours: 3.0**

MECE Courses

- at least nine hours of MECE courses

Breadth Requirement

- a two-course breadth requirement as described below

College of Engineering or the College of Natural Science and Mathematics Courses

- the remaining courses are from any department in the College of Engineering, or the College of Natural Science and Mathematics.

Qualifying and Dissertation Examinations



A comprehensive qualifying examination is required early in the degree program, and a dissertation examination is required at the end.

Direct-Admit Program

This option assumes that the applicant is being admitted without a completed MS degree. Students who begin in the MS program may petition to transfer into the Direct-Admit PhD if they have demonstrated exemplary course work and research potential. This option requires a minimum of 66 hours of approved graduate study beyond the hours completed for a baccalaureate degree in engineering. These hours include at least 36 hours of Research and Dissertation credit and at least 30 hours of course work (10 classes) at the 6000-level or higher composed of:

Methods of Applied Mathematics I

Three hours of:

- MECE 6384 - Methods of Applied Mathematics I Credit Hours: 3.0

MECE Courses

- at least fifteen hours of MECE courses

Breadth Requirement

- a two-course breadth requirement as described below

College of Engineering or the College of Natural Science and Mathematics Courses

- the remaining courses are from any department in the College of Engineering, or the College of Natural Science and Mathematics.

Qualifying and Dissertation Examinations

A comprehensive qualifying examination is required early in the degree program, and a dissertation examination is required at the end.

More on Requirements

All PhD candidates must have at least one peer-reviewed (archival) journal paper accepted prior to his/her dissertation oral defense. This paper must be based on the student's dissertation research at the University of Houston.

Breadth Requirement

Two courses with content outside of the research concentration area are required to insure a minimum academic breadth in the program. The courses can be in MECE, and suitable courses in the Colleges of Engineering and Natural Sciences. The suitability of courses for the breadth requirement is determined by petition to the Director of Graduate Studies. This petition should be filed well in advance of the dissertation defense.

Comprehensive Qualifying Examination

This oral examination determines whether a student has mastered, and can integrate and apply, the knowledge gained in courses. The student should set aside a period of time to prepare for the examination by reviewing course material and reflecting on how this information can be integrated to solve problems.



To stand for the PhD comprehensive examination, a student must have a grade point average of 3.40 or higher on a minimum of 12 UH graduate hours (4 classes) and no more than the first 21 UH graduate hours (7 classes).

The examination should be scheduled as soon the accumulation of relevant course work allows. For a student with an MS from another university, the exam should be attempted no later than 18 months after study towards the PhD begins. For students who complete the MS here and for students who petition into the direct-admit program, the exam should be attempted within 12 months of the change of program.

The examination committee is set by the Director of Graduate Studies in consultation with the student and the dissertation advisor. The committee is composed of a minimum of four voting members and the dissertation advisor who serves as a nonvoting member. One of the voting members is responsible for examining the student regarding the content in the mathematics requirement described above. The committee can be composed entirely of MECE faculty; however, members from outside the department may be approved if the nature of the student's program warrants such involvement. Judgment of the examination is by vote; two or more negative votes results in failure of the examination. In the case of failure, the committee shall decide whether or not the student should be invited to take the examination a second time.

Dissertation Examination

A dissertation committee should be formed by the advisor, with the approval of the Director of Graduate Studies, during the semester in which the student passes the comprehensive qualifying examination. This committee consists of at least five members including the advisor and at least one member from outside the Department.

Academic Policies

Department/Program Academic Policies

Residency

The College requires a minimum of one academic year (two long semesters) of full-time enrollment at the PhD level.

Ninety-nine Hour Rule

The student is cautioned to be aware of the scheduling involved in meeting these requirements. University regulations require that a student who has accumulated more than 99 hours at the PhD level be charged out-of-state tuition for the hours in excess of 99. This tuition rate applies to Texas residents as well as true out-of-state students.

Dual Degree - Graduate

Aerospace Engineering and Space Architecture, MS

Graduate students interested in the related fields of Aerospace Engineering and Space Architecture can combine their studies in a **Dual Aerospace Engineering/Space Architecture Master of Science degree program**. The dual degree allows students to obtain a MS degree in Aerospace Engineering and a MS degree in Space Architecture by completing 46 credit hours of relevant graduate coursework.

For more information, please visit the Dual MS Degree in Aerospace Engineering and Space Architecture.

Admission Requirements



New students should apply to Mechanical Engineering graduate program for admission and indicate their interest to pursue the dual Aerospace Engineering/Space Architecture MS degree.

To be unconditionally admitted to the Dual MS degree program, an applicant should have:

- A Bachelor's degree in Mechanical Engineering, Aerospace Engineering or a related field, preferably from an accredited engineering program. Students with a Bachelor's degree in architecture, natural sciences or mathematics may apply but will have to meet appropriate coursework prerequisites.
- A grade point average of at least 3.00 out of 4.00 on the last 60 semester credit hours attempted exclusive of grades received for activities such as seminars, physical education, industrial internships, etc.
- An adequate score on the Graduate Record Examination (GRE). Texas law prohibits the definition of minimum acceptable scores on the GRE. However, 160 to 163 is a typical average score on the Quantitative section across all degree programs for an admission class.
- A minimum score of 6.5 on the IEL TS, with a minimum writing score of 6.5, or 79 on the internet-based TOEFL examination, with a minimum writing score of 20, for students whose native language is not English.
- Three letters of recommendation attesting to the student's capacity to perform in the classroom and (for applicants to the thesis program) in a research capacity. A minimum of two letters should be from tenured or tenure-track faculty members who have observed the academic performance of the applicant, and one can come from an engineering industry supervisor.
- A statement of purpose that is consistent with the areas of instruction and (for applicants to the thesis program) the current research areas within the Department.

Acceptance to the program is based on a competitive combination of academic background, GRE scores, recommendation letters and the statement of purpose. Domestic applicants who are not clearly competitive in these areas may be admitted on a conditional basis at the discretion of the Director of Admissions. Nonimmigrant visa holders may not be admitted conditionally.

Students may begin their graduate studies in one program and apply for admission to the dual degree program at a later date. However, the decision by a student to pursue the dual degree should be made prior to the completion of 18 hours of coursework.

Please visit the Dual MS Degree in Aerospace Engineering and Space Architecture for more information.

Degree Requirements

Credit hours required for this degree: 46.0

Within the 46 completed credit hours, students must fulfill the program requirements for each separate degree. Hence, the course selections should simultaneously comply with the course requirements of the Mechanical Engineering MS program and the core area course requirements of the Aerospace Engineering MS program. Completion of the program with a Thesis option is possible and in this case the corresponding degree will be an MS with Thesis degree. Specific plan of study requirements for the Dual MS Program without Thesis and the Dual MS Program with Thesis are outlined below:

Program of Study for the Dual MS Program without Thesis

- A. Eighteen hours of coursework from the approved Aerospace Engineering courses in the core areas of
1. Aerodynamics & Heat Transfer,
 2. Structural Mechanics and Materials, and
 3. Controls and Dynamics.

Students can select a core area of concentration where they take the majority of their core courses. However, as a breadth requirement, students should take at least six semester hours of core course work outside their core area of concentration.

- B. Sixteen hours of coursework from Space Architecture core courses, exclusive of Special Problems/Independent Study (SPAC 6298 and SPAC 6398) and Master's Project (SPAC 7410).
- C. Twelve hours of approved coursework at the 6000-level or above from any department in the College of Engineering or the College of Natural Science and Mathematics. A total of no more than six hours can be from the Gerald D. Hines College of Architecture and Design and the Bauer College of Business and Law.



Program of Study for the Dual MS Program with Thesis

- A. Nine hours of thesis or Master's project credits
- B. Eighteen hours from the approved Aerospace Engineering courses in the core areas of
 - 1. Aerodynamics & Heat Transfer,
 - 2. Structural Mechanics and Materials, and
 - 3. Controls and Dynamics.

As in the non-thesis option, at least six semester hours of core course work should be completed outside a core area of concentration.

- C. Sixteen hours of Space Architecture courses, exclusive of Special Problems/Independent Study (SPAC 6298 and SPAC 6398) and Master's Project (SPAC 7410).
- D. Three hours of approved coursework at the 6000-level or above from any department in the College of Engineering or the College of Natural Science and Mathematics.

If a graduate course is dual-listed with an undergraduate 5000-level section, the student must enroll in the corresponding graduate section. Approval of any course that falls outside of the description given here must be requested by petition to the Director of Graduate Studies. Approval must be received prior to enrollment in the course. Non-thesis students should not enroll in research or thesis courses (6x98, 6399, 7399).

Mechanical and Aerospace Engineering, MS

Graduate students interested in the related fields of Mechanical Engineering and Aerospace Engineering can combine their studies in a Dual Mechanical/Aerospace Master's degree program. The dual degree program allows students to obtain both a master's degree in Mechanical Engineering and a master's degree in Aerospace Engineering completing 45.0 credit hours of relevant graduate coursework. Hence, with the appropriate selection of graduate course within the Mechanical Engineering department and other departments students can be awarded both degrees, thereby significantly reducing the total number of credit hours needed if the two degrees were pursued separately.

Admission Requirements

New students should apply to the Mechanical Engineering graduate program for admission and indicate their interest to pursue the dual Mechanical/Aerospace MS degree. To be unconditionally admitted to the Dual MS program, an applicant should have:

- 1. A Bachelor's degree in Mechanical Engineering, Aerospace Engineering or in a related field, preferably from an accredited engineering program.
- 2. A grade point average of at least 3.00 out of 4.00 on the last 60 semester credit hours attempted exclusive of grades received for activities such as seminars, physical education, industrial internships, etc.
- 3. An adequate score on the Graduate Record Examination (GRE). Texas law prohibits the definition of minimum acceptable scores on the GRE. However, 160 to 163 is a typical average score on the Quantitative section across all degree programs for an admission class.
- 4. A minimum score of 6.5 on the IELTS or 79 on the internet-based TOEFL examination for students whose native language is not English.
- 5. Three letters of recommendation attesting to the student's capacity to perform in the classroom and (for applicants to the thesis program) in a research capacity. A minimum of two letters should be from tenured or tenure-track faculty members who have observed the academic performance of the applicant, and one can come from an engineering industry supervisor.
- 6. A statement of purpose that is consistent with the areas of instruction and (for applicants to the thesis program) the current research areas within the Department.

Degree Requirements

Credit hours required for this degree: 45.0

Within the 45.0 completed credit hours, students must fulfill the program requirements for each separate degree. Hence, the course selections should simultaneously comply with the course requirements of the Mechanical Engineering MS program and the core area course requirements of the Aerospace Engineering MS program. Completion of the program with a Thesis option is possible and in this case the corresponding degree will be



an MS with Thesis degree. Specific plan of study requirements for the Dual MS Program without Thesis and the Dual MS Program with Thesis are outlined below.

Program of Study for the Dual MS Program without Thesis

Graduate-Level Mathematics

Three hours of graduate-level mathematics satisfied by any of the following courses:

- MECE 6384 - Methods of Applied Mathematics I Credit Hours: 3.0
- MECE 6385 - Mtds of Appld Mthmtcs Credit Hours: 3.0
- CHEE 6331 - Math Mtds in Chem Engr Credit Hours: 3.0
- CHEE 6332 - Mathematical Methods in Chemical Engineering II Credit Hours: 3.0
- PHYS 6303 - Methods of Mathematical Physics I Credit Hours: 3.0
- PHYS 6304 - Methods of Mathematical Physics II Credit Hours: 3.0

MECE Courses

Eighteen credit hours of coursework from MECE 6000-level or above, exclusive of the graduate seminar (MECE 6111) and the Graduate Project (MECE 6368).

Aerospace Engineering Courses

Twelve credit hours of coursework from the approved Aerospace Engineering courses in the core areas of:

- A. Aerodynamics & Heat Transfer,
- B. Structural Mechanics and Materials, and
- C. Controls and Dynamics.

Additional Courses

Twelve credit hours of coursework at the 6000-level or above from any department in the College of Engineering or the College of Natural Science and Mathematics. A total of no more than six credit hours can be from each the Bauer College of Business and Law. A total of no more than combined six credit hours can be from Petroleum Engineering, Subsea Engineering and Industrial Engineering. Three credit hours can be satisfied by completing the directed-study Graduate Project course, MECE 6368.

Program of Study for the Dual MS Program with Thesis

Thesis Hours

Complete nine credit hours of thesis.

Graduate-Level Mathematics

Three credit hours of graduate-level mathematics satisfied by any of the following courses:

- MECE 6384 - Methods of Applied Mathematics I Credit Hours: 3.0
- MECE 6385 - Mtds of Appld Mthmtcs Credit Hours: 3.0
- CHEE 6331 - Math Mtds in Chem Engr Credit Hours: 3.0



- CHEE 6332 - Mathematical Methods in Chemical Engineering II Credit Hours: 3.0
- PHYS 6303 - Methods of Mathematical Physics I Credit Hours: 3.0
- PHYS 6304 - Methods of Mathematical Physics II Credit Hours: 3.0

MECE Courses

Nine credit hours from of MECE 6000-level or above, exclusive of graduate seminar (MECE 6111) and Graduate Project (MECE 6368).

Aerospace Engineering Courses

Twelve credit hours from the approved Aerospace Engineering courses in the core areas of:

- Aerodynamics & Heat Transfer,
- Structural Mechanics and Materials, and
- Controls and Dynamics.

College of Engineering or the College of Natural Science and Mathematics

Twelve credit hours at the 6000-level or above from any department in the College of Engineering or the College of Natural Science and Mathematics.

Notes:

If a graduate course is dual-listed with an undergraduate 5000-level section, the student must enroll in the corresponding graduate section. Approval of any course that falls outside of the description given here must be requested by petition to the Director of Graduate Studies. Approval must be received prior to enrollment in the course. Non-thesis students should not enroll in research or thesis courses (6x98, 6399, 7399).

Academic Policies

- University of Houston Academic Policies
 - Graduate Academic Policies: Cullen College of Engineering
- The graduation requirements for the dual-degree program are:

- at least a 3.00/4.00 grade point average over all courses,
- a 3.00/4.00 grade point average on the courses comprised of the MECE courses,
- the course used to satisfy the mathematics requirement and
- the approved Aerospace Engineering core area courses.

Mechanical and Subsea Engineering, MS

Graduate students interested in the related fields of Mechanical Engineering and Subsea Engineering can combine their studies in a Dual Mechanical/Subsea Engineer Master's degree program. The dual degree program allows students to obtain both a master's degree in Mechanical Engineering and a master's degree in Subsea Engineering, completing 45.0 credit hours of relevant graduate coursework. Hence, with the appropriate selection of graduate course within the Mechanical Engineering department and Subsea Engineering program, students can be awarded both degrees, thereby significantly reducing the total number of credit hours needed if the two degrees were pursued separately.

For more information on the Dual MS Degree in Mechanical and Subsea Engineering, please visit their program site:
<http://www.me.uh.edu/graduate/degree-programs/dual-masters-degree-mechanical-subsea-engineering>.



Admission Requirements

New students should apply to the Mechanical or Subsea Engineering graduate program for admission and indicate their interest to pursue the dual Mechanical/Subsea MS degree. To be unconditionally admitted to the Dual MS program, an applicant should have:

1. A Bachelor's degree in Mechanical Engineering or in a related field, preferably from an accredited engineering program.
2. A grade point average of at least 3.00 out of 4.00 on the last 60 semester credit hours attempted exclusive of grades received for activities such as seminars, physical education, industrial internships, etc.
3. An acceptable score on the Graduate Record Examination (GRE).
4. A minimum score of 6.5 on the IELTS or 79 on the TOEFL iBT examination for students whose native language is not English.
5. Three letters of recommendation attesting to the student's capacity to perform in the classroom and (for applicants to the thesis program) in a research capacity. A minimum of two letters should be from tenured or tenure-track faculty members who have observed the academic performance of the applicant, and one can come from an engineering industry supervisor.
6. A statement of purpose that is consistent with the areas of instruction within the Department.

Acceptance to the program is based on a competitive requirements of academic background, GRE scores, recommendation letters and the statement of purpose. Domestic applicants who are not clearly competitive in any of these requirements may be admitted on a conditional basis at the discretion of the Director of Admissions. Nonimmigrant visa holders may not be admitted conditionally.

Students may begin their graduate studies in one program and apply for admission to the dual degree program at a later date. However, the decision by a student to pursue the dual degree should be made prior to the completion of 18 hours of coursework or a maximum of one year into one of the degree programs.

Graduation Requirements

In order to meet the graduation requirements for this dual-degree program, students in addition to earning at least a 3.00/4.00 overall GPA, must also earn 3.00/4.00 GPA in:

- a. all MECE courses,
- b. the course used to satisfy the mathematics requirement and
- c. all SUBS courses.

For more information on the admission requirements, please visit the Graduate Program Application site:
<http://www.me.uh.edu/graduate/application>.

Degree Requirements

Credit hours required for this degree: 45.0

Within the 45 completed credit hours, students must fulfill the program requirements for each separate degree, and also pre-requisite courses, if any. Hence, the course selections should simultaneously comply with the course requirements of the Mechanical Engineering MS program and the core area course requirements of the Subsea Engineering MS program. Specific plan of study requirements for the Dual MS Program without Thesis is outlined below:

Program of Study for the Dual M.S. Program without Thesis

Graduate-Level Mathematics

Three credit hours of graduate-level mathematics satisfied by any of the following courses:

- SUBS 6305 - Mathematics for Subsea Engineers Credit Hours: 3.0
- MECE 6384 - Methods of Applied Mathematics I Credit Hours: 3.0
- MECE 6385 - Mtds of Appld Mthmtcs Credit Hours: 3.0



- CHEE 6330 - Foundations of Mathematical Methods in Chemical Engineering Credit Hours: 3.0
- CHEE 6331 - Math Mtds in Chem Engr Credit Hours: 3.0

MECE Courses

Minimum eighteen hours of approved coursework from MECE 6000-level or above, exclusive of the graduate seminar (MECE 6111) and the Graduate Project (MECE 6368).

SUBS Courses

Minimum twenty-one hours of coursework from the approved Subsea Engineering courses excluding pre-requisite courses, if any.

Additional Relevant Coursework

Three hours of relevant coursework at the 6000-level or above can be from Petroleum Engineering or Bauer College of Business or within the College of Engineering with prior approval from the Program Director.

Additional Requirements

If a graduate course is dual-listed with an undergraduate 5000-level section, the student must enroll in the corresponding graduate section. Approval of any course that falls outside of the description given here must be requested by petition to the Director of Graduate Studies. Approval must be received prior to enrollment in the course. Since this is a non-thesis degree program, students should not enroll in research or thesis courses (6x98, 6399, or 7399).

The students enrolled in the Dual Degree program will be continuously monitored and underperforming students will be carefully advised. The students should do well in both programs. The students will have to be qualified to get admission into individual programs (MECE and SUBS) and who qualify will be given admission to Dual Masters program.

In a rare case, if the students underperforms in one of the programs but does well in the other program, then the student must withdraw from the program of poor performance but can continue in the other program as if it is an individual program and must meet that individual program's requirements.

Approved Course List

MECE Courses

- MECE 6333 - Conduction and Radiation Credit Hours: 3.0
- MECE 6334 - Convection Heat Transfr Credit Hours: 3.0
- MECE 6335 - Heat Transf/Phase Chng Credit Hours: 3.0
- MECE 6343 - Boundary Layers Credit Hours: 3.0
- MECE 6353 - Intro Comp Fluid Dynam Credit Hours: 3.0
- MECE 6361 - Mechanical Behavior/Materials Credit Hours: 3.0
- MECE 6397 - Selected Topics Credit Hours: 3
Topic(s):
 - Feedback Control Systems
 - Additional Topics
 - OR other courses approved by the Program Director

SUBS Courses



- SUBS 6305 - Mathematics for Subsea Engineers Credit Hours: 3.0
- SUBS 6310 - Flow Assurance Credit Hours: 3.0
- SUBS 6320 - Riser Design Credit Hours: 3.0
- SUBS 6330 - Pipeline Design Credit Hours: 3.0
- SUBS 6340 - Subsea Process and Artificial Lift Credit Hours: 3.0
- SUBS 6350 - Subsea Controls and System Engineering Credit Hours: 3.0
- SUBS 6351 - Design of Subsea Blowout Preventers Credit Hours: 3.0
- SUBS 6360 - Subsea Materials and Corrosion Credit Hours: 3.0
- SUBS 6370 - Computational Methods & Design Experiments Credit Hours: 3.0
- SUBS 6380 - Subsea Systems Credit Hours: 3.0
- SUBS 6397 - Selected Topics Credit Hours: 3

Topic(s):

- Advanced Flow Assurance
- Additional Topics
- OR other courses approved by the Program Director

Academic Policies

- University of Houston Academic Policies
- Graduate Academic Policies: Cullen College of Engineering

Graduate Certificate

Advanced Subsea Engineering, Certificate

Welcome to the nation's first Subsea Engineering Graduate Program with the Advanced Subsea Engineering Certificate, located in the world's oil and gas capital of Houston, Texas! The UH Subsea Engineering Program offers two graduate certificates in Subsea Engineering. The graduate Certificate in Subsea Engineering programs are for engineers who seek graduate level education in Subsea Engineering, but do not want to pursue a master's level degree in Subsea Engineering. Admissions to the program requires applicants to have a four-year bachelor's degree in engineering or a related field. A GRE score is not required. Students in the Advanced Subsea Certificate program may later apply to the Subsea Master's program. A maximum of three certificate courses will transfer to the Master of Science in Subsea Engineering program. The Subsea Engineering courses are available face-to-face in a classroom setting and online.

For more information, please visit the Subsea Engineering website or the Subsea Engineering, Certificate page.

Admission Requirements

Who Should Apply?

Practicing engineers and recent Bachelor of Science in engineering graduates are qualified to apply. The curriculum advances both the science and engineering of subsea systems. Participants will gain a solid, diverse knowledge base in subsea engineering as well as an understanding of industry best practices and state and federal regulations governing them. The courses are part of a graduate engineering program and are taught at the graduate level.

Student Qualification

- A four-year bachelor's degree in engineering or engineering related field is required.
- The Advanced Subsea Engineering Certificate is only available for Spring admissions.



- The Advanced Subsea Engineering Certificate program is only available to F-1 visa students in certain terms. Please review the Subsea Engineering Certificate Admission's page for further details.
- The GRE exam is waived for Advanced Subsea Engineering Certificate applicants.

Application Materials

- An online application
- Application Fee (\$25.00 for domestic applicants/\$75 for international applicants)
- Official transcript(s) should be mailed to one of the following addresses below:

Regular Mail:	University of Houston	Express Mail:	University of Houston
	Graduate Admissions		Graduate Admissions
	P.O. Box 3947		4302 University Dr., Rm 102
	Houston, TX 77253-3947		Houston, TX 77204-2012

- For further information on how to apply, please review the following website: [How to Apply](#)
- Additional documentation for international applicants, including English language proficiency requirements, are found at: [International Applicants](#)

Status Selection

Certificate Only Option. The Subsea Engineering Certificate is a graduate-level, non-degree option certificate.

Costs

Each Subsea Engineering course has an associated graduate student fee. Please contact the Academic Advisor for details.

Certificate Requirements

Credit hours required for this certificate: 18.0

In order to complete the Certificate in Advanced Subsea Engineering, you will need to complete 6 graduate level Subsea Engineering courses. Upon completion of your courses, you will potentially gain a certificate. Courses for each certificate program include:

Required Courses

- **SUBS 6310 - Flow Assurance Credit Hours: 3.0**
- Restricted Elective 1
- Restricted Elective 2
- Restricted Elective 3
- Restricted Elective 4
- Restricted Elective 5

Subsea Engineering Courses

Restricted electives are selected among the following classes:

- **SUBS 6320 - Riser Design Credit Hours: 3.0**
- **SUBS 6330 - Pipeline Design Credit Hours: 3.0**
- **SUBS 6340 - Subsea Process and Artificial Lift Credit Hours: 3.0**



- SUBS 6350 - Subsea Controls and System Engineering Credit Hours: 3.0
- SUBS 6351 - Design of Subsea Blowout Preventers Credit Hours: 3.0
- SUBS 6360 - Subsea Materials and Corrosion Credit Hours: 3.0
- SUBS 6370 - Computational Methods & Design Experiments Credit Hours: 3.0
- SUBS 6380 - Subsea Systems Credit Hours: 3.0
- SUBS 6397 - Selected Topics Credit Hours: 3

Topic(s):

- Design for Oil and Gas
- Selected Topics, with approval from the Program Director

Note: Only three Subsea courses will transfer to the MS program.

Academic Policies

- University of Houston Academic Policies
- College Academic Policies
- Department Academic Policies

Each student assumes responsibility for being familiar with the academic program requirements as stated in the current catalogs of the college and university and this website.

Transfer of Credits:

A student may transfer up to 6 hours (2 courses) of graduate-level work completed elsewhere with the approval of the Director of Graduate Studies. Likewise, if a student completes the Advanced Certificate in Subsea Engineering and maintains a 3.0 or higher, then these 3 courses are eligible for being transferred into the Master of Science in Subsea Engineering. The student will need to file a general petition within one term after admission to the graduate program. Please note that no more than 3 courses will transfer from the Advanced Subsea Certificate program into the MS Subsea Engineering program.

Data Analytics and Condition and Performance Monitoring of Engineered Systems, Certificate

The curriculum for the certificate in Data Analytics for Condition and Performance Monitoring of Engineered Systems is built upon physics-based reduced order modeling methods and simulation tools. It addresses the emerging field of condition and performance monitoring (CPM) and its implementation using the Industrial Internet of Things (IIoT). Administered through the Department of Mechanical Engineering and taught in the Subsea Engineering Program, the certificate curriculum focuses on integration of mathematical modeling, simulation and data processing as applied to real-world applications.

Certificate Requirements

Credit hours required for this certificate: 9.0

- SUBS 6350 - Subsea Controls and System Engineering Credit Hours: 3.0
- SUBS 6397 - Selected Topics Credit Hours: 3
Topic: Guide to Engineering Data Science
- MECE 7361 - System Identification Credit Hours: 3.0

Academic Policies

- University Academic Policies



- Graduate Academic Policies: Cullen College of Engineering

Subsea Engineering, Certificate

Welcome to the nation's first Subsea Engineering Graduate Program with the Subsea Engineering Certificate, located in the world's oil and gas capital of Houston, Texas! The UH Subsea Engineering Program offers two graduate certificates in Subsea Engineering. The graduate Certificate in Subsea Engineering is for engineers who seek graduate level education in Subsea Engineering but do not want to pursue a master's level degree in Subsea Engineering. Admission to the program requires applicants to have a four-year bachelor's degree in engineering or a related field. A GRE score is not required. Students in the Subsea Certificate program may later apply to the Subsea Master's program. A maximum of three certificate courses will transfer to the Master of Science in Subsea Engineering program. The Subsea Engineering courses are available face-to-face in a classroom setting and online.

For more information, please visit the Subsea Engineering website or the Advanced Subsea Engineering, Certificate page.

Admission Requirements

Who Should Apply?

Practicing engineers and recent Bachelor of Science in engineering graduates are qualified to apply. The curriculum advances both the science and engineering of subsea systems. Participants will gain a solid, diverse knowledge base in subsea engineering as well as an understanding of industry best practices and state and federal regulations governing them. Courses are part of a graduate engineering program and are taught at the graduate level.

Student Qualification

- A four-year bachelor's degree in engineering or engineering related field is required.
- The Subsea Engineering Certificate program is only available to F-1 visa students in certain semesters. Please review the Subsea Engineering Certificate Admission's page for further details.
- The GRE exam is waived for Subsea Engineering Certificate applicants.

Application Materials

- An online application
- Application Fee (\$25.00 for domestic applicants/\$75 for international applicants)
- 1 official transcript should be mailed to one of the following addresses below:

Regular Mail: University of Houston

Graduate Admissions

P.O. Box 3947

Houston, TX 77253-3947

Express Mail: University of Houston

Graduate Admissions

4302 University Dr., Rm 102

Houston, TX 77204-2012

- For further information on how to apply, please review the following website: [How to Apply](#)
- Additional documentation for international applicants, including English language proficiency requirements, are found at: [International Applicants](#)

Status Selection

Certificate Only Option. The Subsea Engineering Certificate is a graduate-level, non-degree option certificate.

Costs

Each Subsea Engineering course has an associated graduate student fee. Please contact the Academic Advisor for details.



Certificate Requirements

Credit hours required for this certificate: 9.0

In order to complete the Certificate in Subsea Engineering, you will need to complete 3 graduate level Subsea Engineering courses. Upon completion of your courses, you will potentially gain a certificate.

Required Courses

- SUBS 6310 - Flow Assurance Credit Hours: 3.0
- Restricted Elective 1
- Restricted Elective 2

Subsea Engineering Courses

Restricted electives are selected among the following classes:

- SUBS 6320 - Riser Design Credit Hours: 3.0
- SUBS 6330 - Pipeline Design Credit Hours: 3.0
- SUBS 6340 - Subsea Process and Artificial Lift Credit Hours: 3.0
- SUBS 6350 - Subsea Controls and System Engineering Credit Hours: 3.0
- SUBS 6351 - Design of Subsea Blowout Preventers Credit Hours: 3.0
- SUBS 6360 - Subsea Materials and Corrosion Credit Hours: 3.0
- SUBS 6370 - Computational Methods & Design Experiments Credit Hours: 3.0
- SUBS 6380 - Subsea Systems Credit Hours: 3.0
- SUBS 6397 - Selected Topics Credit Hours: 3
Topic: Design for Oil and Gas

Note: Only three Subsea courses will transfer to the MS program.

Academic Policies

- University of Houston Academic Policies
- College Academic Policies
- Department Academic Policies

Each student assumes responsibility for being familiar with the academic program requirements as stated in the current catalogs of the college and university and this website.

Transfer of Credits:

A student may transfer up to 6 hours (2 courses) of graduate-level work completed elsewhere with the approval of the Director of Graduate Studies. Likewise, if a student completes the Certificate in Subsea Engineering and maintains a 3.0 or higher, then these 3 courses are eligible for being transferred into the Master of Science in Subsea Engineering. The student will need to file a general petition within one semester after admission to the graduate program. Please note that no more than 3 courses will transfer from the Subsea Certificate program into the MS Subsea Engineering program.

Department of Petroleum Engineering



Petroleum engineering offers the full spectrum of career opportunities - whether working for large multinational corporations or smaller independent oil companies, or even opportunities for the development of new companies and enterprises. The industry continues to re-invent itself and in recent years there have been major new developments in the horizontal drilling, hydraulic fracturing, production and stimulation, and the production of deep, tight gas formations, to mention a few. Such developments have invigorated the US and global petroleum production industry and will have an important impact in meeting global energy challenges in the future.

Vision

The vision of the University of Houston Department of Petroleum Engineering is to be a center of world-class petroleum engineering education, research and service in Houston, the center of the world petroleum industry.

Mission

The mission of the University Of Houston Department Of Petroleum Engineering is to educate students to become highly qualified petroleum engineers, to conduct innovative research in petroleum engineering and related interdisciplinary areas, and provide service to the profession and to society.

Program Educational Objectives

Graduates of the University of Houston petroleum Engineering Program will:

- address the challenges of the world's energy needs responsibly,
- exceed the evolving expectations of employers in the petroleum and energy industries,
- sustain industry leading skills, and
- be leaders in industry, academe, and government.

Master

Petroleum Engineering, MPetE

The petroleum engineering curriculum emphasizes connecting-the-dots between classroom lessons and their real-world applications through professional development and research opportunities.

Petroleum engineering graduates are prepared to address the challenges of the world's energy needs responsibly, to exceed the evolving expectations of employers in the petroleum and energy industries, to sustain industry-leading skills and to be leaders in industry, academia, and government.

Please visit the Petroleum Engineering Graduate Admissions page for more information: <http://www.petro.uh.edu/graduate>.

Admission Requirements

1. Complete Online Graduate Application: <http://www.applyweb.com/uhouston>.
2. Submit three Letters of Recommendation. Insert the contact information for your three recommenders into your application. Your recommenders will be contacted (via email) after the application has been submitted. They will be able to electronically attach their recommendation letters directly to your application.

***NOTE: The best letters of recommendation speak directly to your abilities and strengths as the recommender knows you. Recommenders should be professors or employment supervisors. Personal recommendations are not desired.**



3. Pay the Non-Refundable Application Fee. (\$25 for domestic applicants/\$75 for international applicants).
4. Be prepared to Upload the following documents to your application when requested:
 - Resume
 - Statement of Purpose
 - Additional documents for Graduate International Applicants: <http://www.uh.edu/graduate-school/international-students/>
5. Request one original Official Transcript from every university/college attended to be sent directly to the address below. Your degree and date of degree completed should appear on the transcript. Have your official transcript sent directly by your institution to the Graduate School. If your institution(s) does not have an electronic transcript delivery service, please provide the address below for hard-copy submission:

Regular Mail Address
University of Houston Graduate Admissions P.O. Box 3947 Houston, Texas 77253-3947
Express Mail Address
UH-Graduate Admissions 4302 University Drive Room 102, E. Cullen Building Houston, Texas 77204-2012

***NOTE: If your official transcript is not available in English, please have it translated by the certified educational credentialing service found at: <http://www.uh.edu/graduate-school/admissions/international-students/transcripts/>.**

Evaluation of course work is NOT required, but the original/official transcript from your university must be received as noted above. This translation document can be scanned and uploaded during the application process in PDF format.

6. Request Educational Testing Service (ETS) to send Official GRE test score to the main University Admissions office using Institutional Code 6870.
7. Fulfill the English Language Proficiency Requirement (info at <http://www.uh.edu/graduate-school/admissions/international-students/english-proficiency/>). If sending TOEFL scores, request Educational Testing Service (ETS) to send Official TOEFL test score to the main University Admissions office using Institutional Code 6870.

Degree Requirements

Credit hours required for this degree: 30.0

Required Courses (4)

- PETR 6302 - Reservoir Engineering II Credit Hours: 3.0
- PETR 6312 - Well Log Evaluation of Petroleum Formations Credit Hours: 3.0
- PETR 6368 - Well Drilling and Completion I Credit Hours: 3.0
- PETR 6372 - Petroleum Production Operations Credit Hours: 3.0

Elective Courses

Advanced elective courses from the below list:

- PETR 6308 - Advanced Petroleum Production Operations Credit Hours: 3.0



- PETR 6310 - Petroleum Production Economics Credit Hours: 3.0
- PETR 6304 - Core Analysis of Petroleum Formations Credit Hours: 3.0
- PETR 6314 - Pressure Transient Testing Credit Hours: 3.0
- PETR 6316 - Well Drilling and Completion II Credit Hours: 3.0
- PETR 6320 - Enhanced Oil Recovery Processes I Credit Hours: 3.0
- PETR 6325 - Integrated Reservoir Characterization Credit Hours: 3.0
- PETR 6326 - Applied Reservoir Simulation Credit Hours: 3.0
- PETR 6330 - Fundamental of Hydraulic Fracturing Credit Hours: 3.0
- PETR 6332 - Deterministic Reserves Estimation Credit Hours: 3.0
- PETR 6350 - Natural Gas Engineering Credit Hours: 3.0
- PETR 6318 - Horizontal Drilling Credit Hours: 3.0
- PETR 6322 - Practical Aspects of Integrated Petroleum Reservoir Management Credit Hours: 3.0
- PETR 6338 - Applied Mathematical Methods in Petroleum Engineering Credit Hours: 3.0
- PETR 6340 - Unconventional Resource Engineering Credit Hours: 3.0
- PETR 6374 - Artificial Lift Credit Hours: 3.0

*Up to 6 credit hours can be taken outside of Petroleum Engineering. Prior approval is required.

Academic Policies

College Academic Policies

University of Houston Academic Policies

Petroleum Engineering, MSPetE

The petroleum engineering curriculum emphasizes connecting-the-dots between classroom lessons and their real-world applications through professional development and research opportunities.

Petroleum engineering graduates are prepared to address the challenges of the world's energy needs responsibly, to exceed the evolving expectations of employers in the petroleum and energy industries, to sustain industry-leading skills and to be leaders in industry, academia, and government.

Admission Requirements

While admitted students may seek a thesis option, we do not offer this through the admissions portal. See admissions information for Master of Petroleum Engineering: <http://www.petro.uh.edu/graduate>.

Degree Requirements

Credit hours required for this degree: 30.0

Degree candidates must complete eight courses (24 credit hours plus 6 credit hours dedicated to research preparation) for the thesis option.

Required Courses (4)

- PETR 6302 - Reservoir Engineering II Credit Hours: 3.0
- PETR 6312 - Well Log Evaluation of Petroleum Formations Credit Hours: 3.0



- PETR 6368 - Well Drilling and Completion I Credit Hours: 3.0
- PETR 6372 - Petroleum Production Operations Credit Hours: 3.0

Elective Courses

Four courses from the below list:

- PETR 6304 - Core Analysis of Petroleum Formations Credit Hours: 3.0
- PETR 6308 - Advanced Petroleum Production Operations Credit Hours: 3.0
- PETR 6310 - Petroleum Production Economics Credit Hours: 3.0
- PETR 6314 - Pressure Transient Testing Credit Hours: 3.0
- PETR 6316 - Well Drilling and Completion II Credit Hours: 3.0
- PETR 6318 - Horizontal Drilling Credit Hours: 3.0
- PETR 6320 - Enhanced Oil Recovery Processes I Credit Hours: 3.0
- PETR 6325 - Integrated Reservoir Characterization Credit Hours: 3.0
- PETR 6326 - Applied Reservoir Simulation Credit Hours: 3.0
- PETR 6330 - Fundamental of Hydraulic Fracturing Credit Hours: 3.0
- PETR 6332 - Deterministic Reserves Estimation Credit Hours: 3.0
- PETR 6336 - Petroleum Energy Markets Credit Hours: 3.0
- PETR 6350 - Natural Gas Engineering Credit Hours: 3.0
- PETR 6398 - Research Credit Hours: 3.0
- PETR 6399 - Masters Thesis Credit Hours: 3
- PETR 7399 - Masters Thesis Credit Hours: 3
- PETR 6322 - Practical Aspects of Integrated Petroleum Reservoir Management Credit Hours: 3.0
- PETR 6338 - Applied Mathematical Methods in Petroleum Engineering Credit Hours: 3.0
- PETR 6340 - Unconventional Resource Engineering Credit Hours: 3.0
- PETR 6374 - Artificial Lift Credit Hours: 3.0

*Up to 6 credit hours of advanced electives can be taken outside of Petroleum Engineering. Prior approval is required.

Academic Policies

- University of Houston Academic Policies
- College Academic Policies

Doctoral

Petroleum Engineering, PhD

The mission of the University of Houston Department of Petroleum Engineering is to educate students to become highly qualified petroleum engineers, to conduct innovative research in petroleum engineering and related interdisciplinary areas, and provide service to the profession and to society.

The Petroleum Engineering PhD curriculum emphasizes connecting-the-dots between classroom lessons and their real-world applications through professional development and research opportunities.



Petroleum Engineering graduates are prepared to address the challenges of the world's energy needs responsibly, to exceed the evolving expectations of employers in the petroleum and energy industries, to sustain industry-leading skills and to be leaders in industry, academia, and government.

For more information, please visit the Petroleum Engineering Graduate Program website: <http://www.petro.uh.edu/graduate>.

Admission Requirements

Admission to the University of Houston PhD Program in Petroleum Engineering will require the following:

1. GRE - An acceptable score within the Cullen College of Engineering standard on the Verbal, Quantitative, and Analytical portions of the Graduate Record Examination.
2. Three letters of recommendation from recognized professionals who can attest to the applicant's capability for independent and creative thinking for the graduate level research in petroleum engineering.
3. A written statement of the applicant's professional goals.
4. English language proficiency, as evidenced by either prior US degree or reported test scores. Details can be found on the Graduate School English Language Proficiency Requirements page: <http://www.uh.edu/graduate-school/admissions/international-students/english-proficiency/>.

Be advised that meeting these criteria does not guarantee admission.

Acceptance into the program is based on a competitive combination of academic background, GRE scores, recommendation letters, resume, and the statement of purpose. The Checklist below lists all requirements for the Application Submission:

Applicant Checklist

- UH Graduate School Application, please visit How to Apply to UH Graduate School for more information: <http://www.uh.edu/graduate-school/admissions/how-to-apply/>
- Scanned copies of an official transcript will be used for the application evaluation (upload). However, if admitted, an official transcript with the date your degree was conferred/awarded must be submitted to the Graduate School before enrollment can take place.
- GRE scores (University code is 6870): <http://www.gre.org/>
- Statement of Purpose (uploaded- if possible no longer than 2 pages)
- Resume (uploaded)
- 3 Letters of Recommendation (emails must be listed on the online application)
- Non-refundable application fee (\$25 domestic applicants/\$75 international applicants)
- Additional documentation and test scores for international students, including English language proficiency requirements as detailed on the International Graduate Student page: <http://www.uh.edu/graduate-school/international-students/>.

Degree Requirements

Credit hours required for this degree: BS to PhD - 66.0/MS to PhD - 54.0

There are two paths to the PhD Degree:

- BS to PhD - Direct from BS to PhD, bypassing the MS degree, or by
- MS to PhD - Obtaining an MS degree first at UH (or elsewhere).

Both BS and MS degrees must have been obtained from an accredited institution in Petroleum Engineering or a relevant engineering or scientific discipline. The applicants must maintain a grade point average of 3.2/4.0 (BS candidate) or 3.3/4.0 (MS candidate).

The chart below demonstrates course requirements for either path to PhD.



Category	Semester Credit Hours BS - PhD	Semester Credit Hours MS - PhD
Required Courses	30	18
Research	18	18
Dissertation	12	12
Seminar	6	6
TOTAL	66	54

Students without sufficient background for the required courses must complete leveling courses that will not count toward the degree. Each PhD student must maintain a grade point average (GPA) above 3.00 throughout the PhD program.

Required Courses

- PETR 6308 - Advanced Petroleum Production Operations Credit Hours: 3.0
- PETR 6314 - Pressure Transient Testing Credit Hours: 3.0
- PETR 6316 - Well Drilling and Completion II Credit Hours: 3.0
- PETR 6318 - Horizontal Drilling Credit Hours: 3.0
- PETR 6374 - Artificial Lift Credit Hours: 3.0
- PETR 7304 - Advanced Numerical Analysis Credit Hours: 3.0
- PETR 7322 - Advanced Formation Evaluation Credit Hours: 3.0
- PETR 7324 - Advanced Geomechanics Credit Hours: 3
- PETR 7342 - Advanced Reservoir Engineering Credit Hours: 3
- PETR 8X98 - Doctoral Research
- PETR 8X99 - Doctoral Dissertation

Leveling Courses

- PETR 6328 - Petroleum Fluid Property & Phase Equilibrium Credit Hours: 3.0
- PETR 6351 - Introduction to Petroleum Engineering Credit Hours: 3.0
- PETR 6362 - Reservoir Engineering I Credit Hours: 3.0
- PETR 6364 - Origin and Development of Oil and Gas Reservoirs Credit Hours: 3.0

Academic Policies

- University of Houston Academic Policies
- Graduate Academic Policies: Cullen College of Engineering

Dual Degree - Graduate

Petroleum and Subsea Engineering, MS

First of Its Kind Dual Degree Program in the World



Graduate students interested in the related fields of Petroleum Engineering and Subsea Engineering can combine their studies in a Dual Petroleum/Subsea Master's degree program. The dual degree program allows students to obtain both a master's degree in Petroleum Engineering and a master's degree in Subsea Engineering completing 45 credit hours of relevant graduate coursework. Hence, with the appropriate selection of graduate course within the Petroleum Engineering department and Subsea Engineering program, students can be awarded both degrees, thereby significantly reducing the total number of credit hours needed if the two degrees were pursued separately. This dual degree potentially broaden students' horizons by studying in the two programs. It will also enhance their network and the chances of landing a successful job.

Admission Requirements

New students may apply to the Petroleum or Subsea Engineering graduate program for admission and indicate their interest to pursue the dual Petroleum/Subsea MS degree. To be unconditionally admitted to the Dual MS program, an applicant should have:

1. A Bachelor's degree in Petroleum Engineering or in a related engineering field.
2. A grade point average of at least 3.00 out of 4.00 exclusive of grades received for activities such as seminars, physical education, industrial internships, etc.
3. An adequate score on the Graduate Record Examination (GRE).
4. A minimum score of 6.5 on the IELTS or 79 on the TOEFL iBT examination for students who do not meet the UH English Language policy.
5. Three letters of recommendation attesting to the student's capacity to perform in the classroom. A minimum of two letters should be from faculty members who have observed the academic performance of the applicant, and one can come from an engineering industry supervisor.
6. A statement of purpose that is consistent with the areas of instruction.

Acceptance to the program is based on a competitive combination of academic background, GRE scores, recommendation letters and the statement of purpose.

Students may begin their graduate studies in one program and apply for admission to the dual degree program at a later date. However, the decision by a student to pursue the dual degree should be made prior to the completion of 18 hours of coursework or a maximum of one year into one of the degree programs.

Program of Study

Within the 45.0 completed credit hours, students must fulfill the program requirements for each separate degree, and leveling and pre-requisite courses, if applicable. Hence, the course selections should simultaneously comply with the course requirements of the Petroleum Engineering MS program and the core area course requirements of the Subsea Engineering MS program.

Petroleum and Subsea engineering are closely related fields as many of the subsea oil and gas processes and systems overlap with petroleum engineering disciplines. There is a need to understand the concepts of petroleum engineering in designing the subsea systems and hence sharing courses makes the student understand many basics of the subjects. For example, reservoir engineering, drilling, production operations, etc. are shared by both engineering disciplines. Hence many of the courses can be shared that are mutually related to each program. Outside the program elective is an optional course between both the programs and that can be shared.

Degree Requirements

Credit hours required for this degree: 45.0

Program of Study for the Dual MS Program without Thesis

1. Minimum twenty one credit hours of approved coursework from PETR required courses and advanced elective courses, excluding leveling courses, if applicable.
2. Minimum twenty one credit hours of coursework from the approved Subsea Engineering courses excluding pre-requisite courses, if any.
3. Three credit hours of approved relevant coursework (optional elective) at the 6000-level or above can be from within the College of Engineering with prior approval from the Program Directors.



Graduation Requirements

To graduate, students must meet UH and the Cullen College of Engineering graduate requirements.

The students enrolled in the Dual Degree program will be continuously monitored and underperforming students will be carefully advised. The students should do well in both programs. The students will have to be qualified to get admission into individual programs (PETR and SUBS) and those who qualify will be given admission to Dual Master's program.

In a rare case, if the students underperforms in one of the programs but does well in the other program, then the student has to withdraw from the program where he/she is performing poor but can continue in the other program as if it is an individual program and has to meet the separate program requirements.

Approved Course List

PETR Courses

Required Courses (four courses)

- PETR 6302 - Reservoir Engineering II Credit Hours: 3.0
- PETR 6312 - Well Log Evaluation of Petroleum Formations Credit Hours: 3.0
- PETR 6368 - Well Drilling and Completion I Credit Hours: 3.0
- PETR 6372 - Petroleum Production Operations Credit Hours: 3.0

Elective Courses (minimum three courses)

- PETR 6304 - Core Analysis of Petroleum Formations Credit Hours: 3.0
- PETR 6308 - Advanced Petroleum Production Operations Credit Hours: 3.0
- PETR 6310 - Petroleum Production Economics Credit Hours: 3.0
- PETR 6314 - Pressure Transient Testing Credit Hours: 3.0
- PETR 6316 - Well Drilling and Completion II Credit Hours: 3.0
- PETR 6318 - Horizontal Drilling Credit Hours: 3.0
- PETR 6320 - Enhanced Oil Recovery Processes I Credit Hours: 3.0
- PETR 6325 - Integrated Reservoir Characterization Credit Hours: 3.0
- PETR 6326 - Applied Reservoir Simulation Credit Hours: 3.0
- PETR 6332 - Deterministic Reserves Estimation Credit Hours: 3.0
- PETR 6336 - Petroleum Energy Markets Credit Hours: 3.0
- PETR 6350 - Natural Gas Engineering Credit Hours: 3.0
- PETR 6374 - Artificial Lift Credit Hours: 3.0
- Or any new PETR course approved by the Program Director

SUBS Courses

Required Courses (three courses)

- SUBS 6305 - Mathematics for Subsea Engineers Credit Hours: 3.0
- SUBS 6310 - Flow Assurance Credit Hours: 3.0
- MECE 6334 - Convection Heat Transfr Credit Hours: 3.0

Elective Courses (minimum four courses)



- SUBS 6320 - Riser Design Credit Hours: 3.0
 - SUBS 6330 - Pipeline Design Credit Hours: 3.0
 - SUBS 6340 - Subsea Process and Artificial Lift Credit Hours: 3.0
 - SUBS 6350 - Subsea Controls and System Engineering Credit Hours: 3.0
 - SUBS 6351 - Design of Subsea Blowout Preventers Credit Hours: 3.0
 - SUBS 6360 - Subsea Materials and Corrosion Credit Hours: 3.0
 - SUBS 6370 - Computational Methods & Design Experiments Credit Hours: 3.0
 - SUBS 6380 - Subsea Systems Credit Hours: 3.0
 - SUBS 6397 - Selected Topics Credit Hours: 3
- Topic(s):**
- Design for Oil and Gas
 - Advanced Flow Assurance
 - Additional Topics
 - Or any new SUBS course approved by the Program Director

Academic Policies

- University of Houston Academic Policies
- Graduate Academic Policies: Cullen College of Engineering

Graduate Certificate

Fundamentals of Petroleum Engineering, Certificate

The objective of the Fundamentals of Petroleum Engineering Certificate is to meet the needs of industry professionals to expand professional skills. This certificate is designed for oil & gas professionals to expand their awareness of petroleum engineering issues.

Certificate Requirements

Credit hours required for this certificate: 12.0 Credit Hours

This certificate is intended as a specialized certificate to meet the current demands of the oil industry for professionals.

- PETR 6328 - Petroleum Fluid Property & Phase Equilibrium Credit Hours: 3.0
- PETR 6351 - Introduction to Petroleum Engineering Credit Hours: 3.0
- PETR 6362 - Reservoir Engineering I Credit Hours: 3.0
- PETR 6364 - Origin and Development of Oil and Gas Reservoirs Credit Hours: 3.0

Academic Policies

- University of Houston Academic Policies
- Graduate Academic Policies: Cullen College of Engineering

Unconventional Energy Resources, Certificate

The objective of the Unconventional Energy Resources is to meet the needs of industry professionals to expand professional skills. This certificate is designed for oil & gas professionals to expand their awareness of petroleum engineering issues.



Certificate Requirements

Certificate Total: 12.0 Credit Hours

This certificate is intended as a specialized certificate to meet the current demands of the oil industry for professionals with better understanding of the exploitation and performance of unconventional resources.

- PETR 6318 - Horizontal Drilling Credit Hours: 3.0
- PETR 6330 - Fundamental of Hydraulic Fracturing Credit Hours: 3.0
- PETR 6332 - Deterministic Reserves Estimation Credit Hours: 3.0
- PETR 6340 - Unconventional Resource Engineering Credit Hours: 3.0
- PETR 6352 - Shale Reservoirs Credit Hours: 3.0

Academic Policies

- University of Houston Academic Policies
- Graduate Academic Policies: Cullen College of Engineering



Aerospace Engineering Program

The Aerospace Engineering Program at UH provides graduate education in Aerospace Engineering to those interested in acquiring advanced knowledge, conducting research and pursuing careers in this field. The program offers the opportunity for full-time or part-time graduate study to those employed or seeking employment in Aerospace Engineering to help them advance in the technical track of the profession. This is an interdisciplinary program taught by faculty in the Mechanical Engineering Department with assistance from other colleges and departments at UH.

Degrees Offered

- Aerospace Engineering, MS



Materials Science and Engineering Program

The Materials Science and Engineering Program prepares engineers and scientists to meet the increasing demand for materials with unusual engineering properties and applications. The program provides an understanding of the methods used in the processing, characterization, control, and improvement of properties of engineering materials. This is achieved by addressing the most current and pressing problems in materials usage associated with thin films, solid state devices, fracture-safe design, elevated temperatures, aggressive environments, and nondestructive evaluation of flaws and residual stresses. Materials of special interest in the program include polymers, ceramics, composites, and high-temperature superconductors.

<http://materials.egr.uh.edu/graduate-program-overview>

Chrisdolyn Dawson

713-743-9257

cdawson@central.uh.edu

Dr. Alamgir Karim

Program Director

713-743-7351

akarim3@central.uh.edu

Background

Recent technological and economic developments, emphasized by the urgent need for new energy sources, have led to increasing demands for materials, which have unusual engineering properties and applications. From both the technical and economic points of view, it is recognized that the controlling factor in these developments is frequently a materials problem. These concerns are further compounded by growing difficulties in assuring continuous availability of various strategic materials. For these reasons, the need for research and graduate education in materials engineering has never been greater.

Because of its broad interdisciplinary nature, and its strong relationship with many engineering disciplines, the Materials Science and Engineering Program leads to an interdisciplinary degree in the Cullen College of Engineering. Relevant research and teaching facilities, however, are developed by individual engineering departments, where continuous efforts are made to expand and to strengthen materials engineering research and graduate programs.

Degrees Offered

- Materials Science and Engineering, MS
- Materials Science and Engineering, PhD



Subsea Engineering Program

Subsea Engineering Program Overview

Subsea engineering is perhaps one of the most important, yet most difficult aspects of the offshore petroleum industry. The underwater production environment presents unique challenges to subsea engineers, particularly deepwater operations where temperature, pressure and corrosion test the durability of submerged equipment and tools. Most subsea engineering operations depend on automation and remote procedures to construct and repair components beneath the surface of the water. A subsea specialization trains offshore engineering professionals to design equipment, tools and infrastructure utilized in offshore petroleum production.

Subsea Engineering at UH

Located in the Energy Capital of the World, the University of Houston is the only institution in the United States providing a certificate training program in subsea engineering.

The University of Houston has two options:

- Subsea Engineering, MS
- Certificate Programs in Subsea Engineering
 - Subsea Engineering, Certificate
 - Advanced Subsea Engineering, Certificate



Graduate Faculty: Cullen College of Engineering

- Engineering Directors
- Biomedical Engineering
- Chemical and Biomolecular Engineering
- Civil and Environmental Engineering
- Electrical and Computer Engineering
- Industrial Engineering
- Materials Science and Engineering
- Mechanical Engineering
- Petroleum Engineering



Engineering Directors

Aerospace Engineering: Karolos Grigoriadis, Ph.D., Professor of Aerospace and Mechanical Engineering.

Biomedical Engineering: Larin Kirill, Ph.D., Instructional and Research Assistant Professor of Biomedical Engineering.

Chemical Engineering: Vince Donnelly, Ph.D., Professor of Chemical and Biomolecular Engineering, Director of Ph.D. and M.S. Programs.

Chemical Engineering: Peter Vekilov, Ph.D., Professor of Chemical and Biomolecular Engineering, Director of MChE - part-time program.

Civil Engineering: K.H. Wang, Ph.D., Professor of Civil Engineering.

Computer and Systems, and Electrical Engineering: Zhu Han, Ph.D., Professor of Electrical and Computer Engineering.

Electrical Engineering: David Jackson, Ph.D., Professor of Electrical and Computer Engineering.

Environmental Engineering: Hanadi Rifai, Ph.D., Professor of Environmental Engineering.

Geosensing and Systems Engineering: Craig Glennie, Ph.D., Professor of Geosensing and Systems.

Industrial Engineering: Qianmei Feng, Ph.D., Associate Professor of Industrial Engineering.

Materials Engineering: Alamgir Karim, Ph.D., Professor of Chemical and Biomolecular Engineering.

Mechanical Engineering: Yi-Chao Chen, Ph.D., Professor of Mechanical Engineering.

Mechanical Engineering: Li Sun, Ph.D., Associate Professor of Mechanical Engineering, Admissions Director for Aerospace Engineering and Mechanical Engineering.

Petroleum Engineering: George Wong, Ph.D., Associate Professor of Petroleum Engineering and Master's Program Director.

Petroleum Engineering: Michael T. Myers, Ph.D., Associate Professor of Petroleum Engineering and Ph.D. Program Director.

Space Architecture: Olga Bannova, Research Associate Professor for Space Architecture.

Subsea Engineering: Phaneendra Kondapi, Ph.D., Instructional Professor of Subsea Engineering.



Department of Biomedical Engineering

Faculty

Chair

Metin Akay, Ph.D., Founding Chair, John S. Dunn Chair, Professor; Ph.D., Rutgers University; Biomedical signal modeling and processing.

Vice Chair

Chandra Mohan, MD, Ph.D., Hugh Roy and Lillie Cranz Cullen Endowed Professor; MD, National University of Singapore; Ph.D., Tufts University; Elucidating the cellular, molecular, and genetic players leading to murine lupus, with corresponding translational studies in human lupus; mining new biomarkers and targets in chronic rheumatic diseases.

Program Directors

Kirill Larin, Ph.D., Director for Graduate Program, Full Professor; Ph.D., University of Texas Medical Branch in Galveston; Biomedical engineering/optics with particular emphasis on diagnostic imaging, biosensing, microscopy and classification of tissues.

Elebeoba E. May, Ph.D., Director for BME Research Program, Associate Professor; Ph.D., North Carolina State University; Bioinformatics, infectious disease and immunity, biomolecular modeling, computational biosensor platform technologies.

Muayyed Al-Ubaidi, Ph.D., Director for Undergraduate Program, Full Professor; Ph.D., Baylor College of Medicine; Transgenic models of inherited retinal disease.

Biomedical Engineering Faculty

Mohammed Reza Abidian, Ph.D., Associate Professor: Ph.D., University of Michigan; Translational neural engineering and neural interfaces; development of micro/nano-medical devices and technologies for neural tissue regeneration, brain tumor treatment, neural recording, and neurochemical sensing that can be used for the diagnosis and the treatment of neural injuries and neurological disorders and diseases.

Yasemin Akay, Ph.D., Instructional Assistant Professor; Ph.D., Rutgers University; Neuroscience and neuroengineering.

Stuart Corr, Ph.D., Adjunct Assistant Professor; Ph.D., Dublin City University, Ireland; Nanomedicine, non-invasive radiofrequency hyperthermia, surgical technology, nanomaterials characterization.

Andrei Dragomir, Ph.D., Adjunct Assistant Professor, SINAPSE, National University of Singapore; Innovative data mining, pattern recognition and machine learning algorithms, time series analysis, complex networks modeling, neural engineering, bioinformatics.

Yong Du, Ph.D., Research Assistant Professor; Ph.D., Sun Yat-sen University, China; Internal medicine/nephrology.

Joe Francis, Ph.D., Professor; Ph.D., The George Washington University; Brain Computer Interface (BCI) hardware and data analysis algorithms.

Howard Gifford, Ph.D., Associate Professor; Ph.D., University of Arizona; Image formation and reconstruction for medical imaging; objective assessment of imaging systems; visual perception and sources of observer variability; image classification and pattern recognition; statistical decision and estimation theory; parallel-computing applications in imaging.

David Gorenstein, Ph.D., Adjunct Professor; Ph.D., Harvard University; Structural biology, drug design, nucleic acid and protein chemistry.

Naze Gul Avci, Ph.D., Research Assistant Professor; Ph.D., University of Houston; Biomedical Engineering

Renita Horton, Ph.D., Assistant Professor; Ph.D., Harvard University; Cardiovascular and cardiac related diseases.



Nuri Ince, Ph.D., Associate Professor; Ph.D., Cukurova University, Adana, Turkey; Clinical neuroengineering, neural signal processing for brain machine interfaces, machine learning for neuromarker discovery and biomedical instrumentation for healthcare and assisted living.

Irina Larina, Ph.D., Adjunct Associate Professor; Ph.D., University of Texas Medical Branch at Galveston; Development and application of highly innovative methods for live dynamic imaging and analysis of mammalian embryonic development.

Sheereen Majd, Ph.D., Assistant Professor; Ph.D., University of Michigan; Biomaterials; development of micro- and nano-scale platforms that enable studying molecular processes on and across biological membranes, and mimic these membranes for drug delivery and biosensing applications.

Muna Naash, Ph.D., John S. Dunn Endowed Professor; Ph.D., Baylor College of Medicine; Genetic mutations associated with hereditary retinal disorders; viral and non-viral ocular gene delivery.

Jinsook Roh, Ph.D., Assistant Professor; Ph.D. Massachusetts Institute of Technology; neural mechanisms of motor coordination in unimpaired and neurologically impaired individuals

Alexander Oraevsky, Ph.D., Adjunct Professor; Ph.D., USSR Academy of Sciences, Russia; Optoacoustic imaging, sensing and monitoring.

Jerome Schultz, Ph.D., Distinguished Professor; Ph.D., University of Wisconsin; Biosensors, Facilitated Diffusion in Membranes, Restricted Diffusion in Membranes, Transport Processes in Tissues, Pharmacokinetics, Immobilized Enzymes, Bioimaging.

Sergey Shevkopyas, Ph.D., Professor; Ph.D., Boston University; Biomedical engineering, improving the safety and efficacy of blood transfusions and making blood products available for life saving transfusions in resource-limited settings.

Tianfu Wu, Ph.D., Assistant Professor; Ph.D., Chinese Academy of Sciences, China; Employing nanotechnologies to develop nano-probes and drug carrier, to achieve the goals of early biomarker detection and novel therapeutics for chronic diseases.

Yingchun Zhang, Ph.D., Associate Professor; Ph.D., Zhejiang University, China; Advancing clinical diagnosis of dysfunction in the human body through the fusion of functional bioelectrical activity/impedance imaging which includes functional neuroimaging, functional muscle activity imaging and functional bioelectrical impedance imaging, electrical stimulation and recording, advanced computational modeling and electrophysiological/biomechanical analysis with applications in investigating the mechanisms of bioelectrical activity in biological tissue and systems.

Faculty with Joint BME Appointments

Yi-Chao Chen, Ph.D. (ME)

Jose L. Contreras-Vidal, Ph.D. (ECE)

Mini Das, Ph.D. (Physics)

Vallabh Das, Ph.D. (Optometry)

Matthew A. Franchek, Ph.D. (ME)

Dan Graur, Ph.D. (NSM)

John R. Glover, Ph.D. (ECE)

Heidi Hoffer, Ph.D. (Optometry)

Ben H. Jansen, Ph.D. (ECE)

Ioannis Kakadiaris, Ph.D. (CS)

Fatima Merchant, Ph.D. (Technology)

Ralph Metcalfe, Ph.D. (ME)



Jason Porter, Ph.D. (Optometry)

Paul Ruchhoeft, Ph.D. (ECE)

Wei-Chuan Shih, Ph.D. (ECE)

Navin Varadarajan, Ph.D. (ChBE)

Richard Willson, Ph.D. (ChBE)

Cunjiang Yu, Ph.D. (ME)

Wanda Zagodzón-Wosik, Ph.D. (ECE)

George Zouridakis, Ph.D. (Technology)



Department of Chemical & Biomolecular Engineering

Faculty

V. Balakotaiah. Cullen Distinguished Professor; Ph.D., University of Houston: reaction and transport processes engineering.

P. Bollini. Assistant Professor; Ph.D., Georgia Institute of Technology: Catalysis, chemical kinetics, separations, materials science.

P. Cirino. Ernest J. and Barbara M. Henley Associate Professor; Ph.D., California Institute of Technology: interfaces Chemical Engineering with the Biological Sciences, with emphases in biomolecular engineering, metabolic engineering, and biocatalysis.

J. Conrad. Assistant Professor; Ph.D., Harvard University: interaction between complex fluids (polymers, colloids, nanoparticles, bacteria, protozoa, cells) and the surfaces that confine or support them.

V.M. Donnelly. John and Rebecca Moores Professor; Ph.D., Pittsburgh: Plasma processing of electronic materials.

D. Economou. Cullen Distinguished Professor; Ph.D., Illinois: electronic materials, and plasma etching and deposition.

L. Grabow. Associate Professor; Ph.D., University of Wisconsin: computational methods to understand and predict chemical processes that occur on solid-gas and solid-liquid interfaces.

M.P. Harold. M.D. Anderson Professor and Chair; Ph.D., University of Houston: PE: chemical reaction systems, multi-functional chemical reactors, reaction-separation materials and devices.

R. Krishnamoorti. Professor; Ph.D., Princeton: Polymeric Materials, Nanotechnology and Drug Delivery.

D. Luss. Cullen Distinguished Professor; Ph.D, Minnesota: Chemical reaction engineering.

M. Nikolaou. Professor; Ph.D., UCLA: computer-aided process engineering, control of microelectronic processes.

M. Orman. Assistant Professor; Ph.D., Rutgers University: Phenotypic heterogeneity in both bacterial and cancer cell populations and explores how this phenotypic heterogeneity impacts our health.

J. Palmer. Professor; Ph.D., North Carolina State University: Molecular simulation, materials design, adsorption and transport, energy storage, catalysis.

J. Rimer. Ernest J. and Barbara M. Henley Associate Professor; Ph.D., University of Delaware: focuses on crystal engineering, nanomaterials self-assembly, and pathological biomineralization at both the microscopic and macroscopic levels to address challenges of material synthesis and design.

M. Robertson. Associate Professor; Ph.D., University of California, Berkeley: Nanostructured polymeric materials, self-assembly, thermodynamics of polymer blends, structural characterization with light, neutron and x-ray scattering, biorenewable and biodegradable materials.

N. Varadarajan. Associate Professor; Ph.D., University of Texas at Austin: developing high throughput screens designed to characterize a wide range of functions ranging from the properties of proteins in single cells to antigen mediated cellular cytotoxicity.

P. Vekilov. John and Rebecca Moores Professor; Ph.D., Russian Academy of Sciences: Phase transitions in protein solutions.

R. Willson. Huffington- Woestemeyer Professor; Ph.D., Massachusetts Institute of Technology: biomolecular engineering, biomolecular recognition, and its applications in separations and molecular diagnostics.

Adjunct Professors



G. Stein. Assistant Professor; Ph.D., University of California, Santa Barbara: Polymer thin films; self-assembly; dynamics at surfaces and interfaces; diffusion in polymer films; optical and electron-beam lithography; alternative nanofabrication techniques; x-ray scattering.

Affiliated Faculty Members

S. Brankovic. Associate Professor of Chemical & Biomolecular Engineering and Electrical & Computer Engineering; Electrochemical Thin Film Growth, Magnetic Materials and Nanostructures, Nanofabrication, Electrocatalysis, Sensors, Physics and Thermodynamics of Electrified Interfaces.

J.M. Briggs. Professor of Biology and Biochemistry: Computational studies of protein structure and function, inhibitor design, investigations of possible inhibitor resistance pathways, and development of methods for the above work.

G. Fox. John and Rebecca Moores Professor of Biology and Biochemistry: Structure, function and evolution of RNA.

A. Jacobson. Robert A. Welch Chair of Science Professor of Chemistry: synthesis and properties of transition metal oxide systems with layered or framework structures.

R.T. Lee. Cullen Distinguished University Chair Professor of Chemistry: Design and synthesis of new types of polymeric materials including polymeric drugs and drug-delivery systems.

D. Litvinov. Professor of Electrical & Computer Engineering: Nanomagnetic materials devices and systems for biosensor, integrated circuit and data storage applications.

V. Tam. Professor of Pharmacy: Pharmacokinetics and Pharmacodynamics of antimicrobials, Mathematical modeling and simulation of biological processes, Mathematical modeling and simulation of biological processes.

Y. Yao. Associate Professor; Ph.D., University of California, LA: Materials design, synthesis and characterization for advanced batteries, polymers and organic materials for energy applications, perovskite solar cells.

Emeritus Faculty

R.W. Flumerfelt. Professor Emeritus; Ph.D., Northwestern: PE: polymer processing and interfacial phenomena, surface science.

E. J. Henley. Professor Emeritus; D.Sc., Columbia: PE: reliability, computer-aided design.

C. Roops. Professor Emeritus; Ph.D., University of Oklahoma; Diesel Emission Controls.



Department of Civil and Environmental Engineering

Faculty

Roberto Ballarini. Thomas and Laura Hsu Professor and Department Chair; Ph.D., Northwestern University; P.E., F.ASCE, F.EMI; solid and structural mechanics, fracture and fatigue, structural testing at very small scales, microelectromechanical systems, bioinspired design of composites.

Abdeldjelil Belarbi. Hugh Roy and Lillie Cranz Cullen Professor; Ph.D., University of Houston; P.E.: structural health monitoring, smart sensors, structural performance and durability in natural disasters, constitutive modeling of reinforced and prestressed concrete structures.

Dennis Clifford. Thomas and Laura Hsu Professor Emeritus; Ph.D. University of Michigan: Development of Electrocoagulation-Microfiltration Systems for Water Treatment.

Mina Dawood. Associate Professor; Ph.D., North Carolina State University; P.Eng.: fiber reinforced polymer (FRP) composites and steel structures.

Amr Elnashai. Fellow of the Royal Academy of Engineering, UK, MSc, DIC, PhD Imperial College London, earthquake response and assessment of buildings and bridges, regional earthquake impact assessment, mitigation, response and recovery, fire-following earthquakes, hybrid analytical-experimental simulation of complex structure-foundation systems.

Osman I. Ghazzaly. Professor Emeritus; Ph.D., University of Texas at Austin: soil-structure interaction, behavior of expansive clays.

Craig L. Glennie. Associate Professor; Ph.D., University of Calgary (Canada); P.Eng.: remote sensing, LiDAR, navigation, kinematic geodesy.

Kye J. Han. Associate Professor Emeritus; D.Sc., Washington University in St. Louis: structural engineering and mechanics. (VMOE)

Reagan Sentelle Herman. Instructional and Research Associate Professor; Ph.D., University of Texas at Austin: structural engineering, bridge engineering, field monitoring.

Thomas T. C. Hsu. Moores Professor; Ph.D., Cornell University; P.E.: reinforced and prestressed concrete structures, structural mechanics, construction materials.

Yandi Hu. Assistant Professor; Ph.D.; Washington University in St. Louis: engineered nucleation and growth of nanomaterials for biomedical and industrial applications.

Hyongki Lee. Associate Professor; Ph.D., Ohio State University: satellite geodesy and remote sensing.

Hong-Yi Li. Assistant Professor; Ph.D., University of Illinois at Urbana-Champaign: Hydrology and Water Resources.

Stacey Louie. Assistant Professor; PhD. Carnegie Mellon University: environmental nanotechnology.

Yi-Lung Mo. Professor; Ph.D., University of Hannover (Germany): structural engineering, earthquake engineering.

Kalyana B. Nakshatrala. Associate Professor; Ph.D., University of Illinois at Urbana-Champaign: computational and theoretical mechanics; flow and transport in heterogeneous porous media, fluid-structure interaction.

Hanadi S. Rifai. Professor; Ph.D., Rice University; P.E.: surface water and groundwater hydrology, contaminant transport and remediation, environmental modeling and geographic information systems.

William G. Rixey. Associate Professor; Ph.D., University of California, Berkeley: contaminant fate and transport, hazardous waste treatment processes.

Debora F. Rodrigues. Associate Professor; Ph.D., Michigan State University: environmental microbiology and biotechnology.

Jerry R. Rogers. Associate Professor Emeritus; Ph.D., Northwestern University; P.E.: water resources and quality, stormwater runoff, urban planning.

David L. Shaffer. Assistant Professor; Ph.D., P.E., Yale University: materials and systems for water treatment.



Ramesh L. Shrestha. Professor; PhD. University of Wisconsin, Madison: geosensing and LiDAR.

James M. Symons. Sc.D., P.E. Professor Emeritus. Massachusetts Institute of Technology.

Joseph W. Tedesco. Professor and Elizabeth D. Rockwell Dean; PhD., Lehigh University; P.E.: finite element modeling of structures, response of structures to dynamic loads, repair of concrete structures with FRP, wave propagation in elastic and inelastic media, high strain rate effects on materials and structures.

Cumaraswamy Vipulanandan. Professor; Ph.D., Northwestern University; P.E.: geomechanics, experimental methods, waste disposal.

Keh-Han Wang. Professor and Director of Engineering Graduate Program; Ph.D., Iowa State University: coastal/estuary hydrodynamics.

Kaspar J. Willam. Hugh Roy & Lillie Cranz Cullen Distinguished University Professor; Dr.-Ing. habil., University of Stuttgart (Germany); Ph.D., University of California, Berkeley: computational mechanics, finite elements.

Adjunct Faculty

Anestis S. Veletsos. Distinguished Adjunct Professor; Ph.D., University of Illinois at Urbana-Champaign: structural engineering and mechanics, structural and foundation dynamics, earthquake engineering, dynamics of offshore platforms.

Mohamad Mansour; Ph.D.; P.E.

Joseph Salanitro; Ph.D.

Affiliated Faculty

Saurabh Prasad; Ph.D.; Mississippi State University.

Gangbing Song; Ph.D.; Columbia University.

Guoquan Wang; Ph.D; Institute of Geology, China: Applications of GPS Geodesy and LIDAR in Geological Hazards Study and Mitigation



Department of Electrical and Computer Engineering

Faculty

J. Bao. Associate Professor; Ph.D., University of Michigan; Applied Physics, Nano-engineering, solar cells.

M. Barati. Assistant Professor, Instructional; Ph.D., Illinois Institute of Technology; Cyber-Physical Systems in Power and Microgrid; Self-healing and Attack-Resilient Control in Power Grids; Electricity Market Operation, Control and Stability; Microeconomics in Smart Grid; Large Scale Optimization in Power Systems; Transactive Energy Management; Power System Protection.

A.T. Becker. Assistant Professor; Ph.D., University of Illinois at Urbana-Champaign; Swarm Robotics: distributed robotics, human-swarm interaction, medical robotics, and motion planning.

S. R. Brankovic. Associate Professor; Ph.D., Arizona State University: Magnetic materials and sensors, nanofabrication.

J. Chen. Professor; Ph.D., U. Illinois: Microprocessor full chip-level interconnect extraction, wireless communication system on chip (SOC) interconnect characterization, computer system EMC/EMI modeling, signal integrity analysis, bioelectromagnetics with applications to MRI systems, computational electromagnetics.

J. Chen. Associate Professor; Ph.D., University of Illinois at Urbana Champaign.

J. Chen. Assistant Professor; Ph.D., Duke University.

Y. Chen. Associate Professor; Ph.D., Washington University, St. Louis: Embedded reconfigurable systems, optical networks and system prototyping.

F. J. Claydon. Professor; Ph.D., Duke: Biomedical engineering.

J. L. Contreras-Vidal. Professor; Ph.D., Boston University: Cognitive and Neural Systems.

R. Faghhi. Assistant Professor; Ph.D., Massachusetts Institute of Technology; Controls, Estimation, and System Identification of Biomedical Systems; Data Science and Computational Methods for Biomedicine; Biomedical Signal Processing; Modeling Neural and Physiological Systems in Health and Disease; Brain-Machine Interface Design.

X.Fu. Assistant Professor; Ph.D., University of Florida; Computer architecture; Energy-efficient computing; High-performance computing; Hardware reliability and variability; Mobile computing; Heterogeneous computing; Emerging technologies; General-purpose computing on graphics processing units (GPGPUs); On-chip interconnection network.

J. R. Glover. Professor; Ph.D., Stanford; PE: Adaptive systems, digital and biomedical signal processing.

Z. Han. Professor; Ph.D., University of Maryland: Wireless Networking and Signal Processing.

T. J. Hebert. Associate Professor; Ph.D., USC: Image and signal processing.

D. R. Jackson. Professor; Ph.D., UCLA: Applied electromagnetics, microstrip antennas, leaky-wave antennas, high-frequency effects, periodic structures, EMI/EMC.

H. S. Krishnamoorthy. Assistant Professor; Ph.D., Texas A & M College Station: High density power converters and control for utility grid integration of renewable energy (wind, solar, etc.), data centers, electric vehicles and adjustable speed drives; power electronics and health analytics for applications involving extreme environments or critical mission profiles such as downhole and subsea.

H. Le. Professor; Ph.D., MIT: Semiconductor, optoelectronics, photonics, sensor systems and homeland security.

H. Le. Assistant Professor; Ph.D.



J. Lim. Assistant Professor, Instructional; Ph.D., Seoul National University; Generation Expansion Planning for Renewable Generation; Incentive and Mandates Design for Renewable Energy; Investment Portfolio Analysis for Renewable Generation; Capacitor Banks Protection; Control of Power Converters in Flexible AC Transmission Systems (FACTS); Economic and Reliable Operation of a Power System with FACT Devices; Probabilistic and Stochastic Approaches for a Power System with High Wind Penetration; Wide Area Frequency Monitoring System for Smart Grid Stability; Design of an Industry-University Consortium to Educate the Future Power Engineering Workforce; Development of Power Engineering Course Materials and Teaching Methods Using Visualization Tools; Development of Online Power Engineering Courses and Online Teaching Methodology.

D. Litvinov. Professor, Vice Provost; Ph.D., Michigan: Micro/Nano fabrication.

S. A. Long. Professor and Associate Dean Honors College; Ph.D., Harvard; PE: Applied electromagnetics and antenna design, printed-circuit and millimeter-wave radiators, microstrip and dielectric resonator antennas.

D. Mayerich. Assistant Professor; Ph.D., Texas A & M University; Biomedical imaging; Microscopy; Image processing; Parallel computing; GPU computing; Visualization and computer graphics.

H. Nguyen. Assistant Professor, Ph.D., University of Maryland; Machine learning; Computer vision; Medical image processing; Deep learning; Hyperspectral image processing; Precision medicine; Cancer diagnosis; Tumor segmentation and classification; Medical image synthesis; Dictionary learning and sparse coding; Domain adaptation and transfer learning; Dimensionality reduction; Rank-constrained optimization; 2D/3D shape representation.

H. Ogmen. Professor; Ph.D., Laval; PE: Neuro-engineering, vision.

M. Pan. Assistant Professor; Ph.D. University of Florida.

S. S. Pei. Professor; Ph.D., SUNY at Stony Brook: Optoelectronic devices, compound semiconductors.

S. Prasad. Assistant Professor, Ph.D., Mississippi State University; Geo-sensing and airborne mapping systems.

K. Rajashekara. Professor, Ph.D., Indian Institute of Science, Bangalore, India; Subsea electrical and power electronics systems, power conversion and drives for industrial and transportation applications, fuel cell based power generation systems, high temperature and high power converters, power conversion and intelligent energy management for renewable electric energy delivery for an efficient electric power grid/micro grid integrating highly distributed and scalable alternative power sources.

R. Reddy. Assistant Professor, Ph.D., Bioengineering, University of Illinois at Urbana Champaign; Medical Devices; Biomedical Imaging; Photonics; Image Processing; Biomedical Instrumentation; Spectroscopic Imaging; Mid-Infrared and Vibrational Spectroscopy; Optical Coherence Tomography; Optical Imaging; Tomography; Inverse Problems.

B. Roysam. Hugh Roy and Lillie Cranz Cullen University Professor and Chairman; D.Sc., Washington University; High Speed Computing for Image Analysis.

P. Ruchhoeft. Associate Professor, Ph.D. Houston. Nanolithography and nanofabrication, modeling of resist exposure and development, etching and thin-film deposition.

X. Shan. Assistant Professor, Ph.D.

D. Shattuck. Associate Professor and Associate Dean; Ph.D., Duke University; Well Logging.

B. R. Sheth. Associate Professor; Ph.D., Massachusetts Institute of Technology; Cognitive neuroscience.

W. C Shih. Associate Professor; Ph.D., Massachusetts Institute of Technology; Nanobiophotonics.

L. P. Trombetta. Associate Professor; Ph.D., Lehigh: Electrical properties of semiconductors and insulators used in electron devices, physics and electrical characterization of the metal-insulator-semiconductor system.

J. C. Wolfe. Professor; Ph.D., Rochester: Materials research, electron devices, microfabrication.



J. Wosik. Research Professor; Ph.D., Institute of Physics, Polish Academy of Science, Warsaw, Poland: Design and fabrication of magnetic resonance imaging probes.

Y. Yao. Assistant Professor; Ph.D., University of California Los Angeles; Nanomaterials and nanostructures for high energy density Li-ion batteries, Low cost and large scale energy storage for electricity grid applications, Nanophotonic structures for efficient solar-to electricity and solar-to-fuel conversion, Nanstructured thin-film solar cells for light trapping, materials and device physics in polymer solar cells and thin film transistors.

W. Zagodzón-Wosik. Associate Professor; Ph.D., Warsaw University of Technology, Poland: Semiconductor-integrated circuit-processing technology, electron devices, Micro-Electro-Mechanical Systems (MEMS).

Affiliated Faculty

M. Abolhassani. Assistant Professor of Electrical Technology, College of Technology.

E. A. Bering III. Professor of Physics and Electrical and Computer Engineering. B.A., Harvard University; Ph.D., University of California at Berkeley.

W. K. Chu. Distinguished University Professor of Physics and Professor of Electrical and Computer Engineering. B.S., Cheng-Kung University, Taiwan; M.S., Ph.D., Baylor University.

A. Ignatiev. Professor of Chemistry, Electrical and Computer Engineering, and Physics. B.S., University of Wisconsin; Ph.D., Cornell University.

S.L. Johnsson. Cullen Distinguished Professor of Computer Science, Mathematics and Electrical and Computer Engineering. M.S., Ph.D., Chalmers Institute of Technology, Gothenburg, Sweden.

I. A. Kakadiaris. Professor of Computer Science, and Electrical and Computer Engineering; Ph.D., University of Pennsylvania.

J. Subhlok. Associate Professor, Computer Science and Electrical and Computer Engineering; Ph.D., Rice University.

C. Glennie. Assistant Professor, Department of Civil & Environmental Engineering Ph.D., Geometrics Engineering, University of Calgary, Calgary, Alberta.

K. Larin. Assistant Professor of Biomedical Engineering, Ph.D., University of Texas Galveston.

H. Malki. Professor of Engineering Technology, College of Technology; Ph.D., University of Wisconsin at Milwaukee.

F. Merchant. Assistant Professor of Engineering Technology.

Z. Ren. Professor of Physics; Ph.D., Chinese Academy of Sciences.

S. Shah. Associate Professor of Computer Science College of Natural Sciences and Mathematics; Ph.D., University of Texas, Austin.

W. Shireen. Professor of Engineering Technology, College of Technology; Ph.D., Texas A&M.

G. Song. Professor of Mechanical Engineering, Department of Mechanical Engineering, Ph.D., Columbia University.

T. S. Tian. Assistant Professor of Psychology.

C.Yu. Assistant Professor of mechanical Engineering; Ph.D., Arizona State University.

G. Zouridakis. Associate Professor, Department of Computer Science and Department of Electrical and Computer Engineering. Dr. Ing., University of Rome; M.S., Ph.D., University of Houston.

Adjunct Faculty



C. W. Chu. Temple Chair in Science and Electrical and Computer Engineering, and Professor of Physics. B.S., Cheng-Kung University, Taiwan; M.S., Fordham University; Ph.D., University of California at San Diego.

R. J. Barton. Adjunct Assistant Professor, NASA, Senior Staff Scientist.

M. Bilgen. Adjunct Professor.

B. A. Mounir. Adjunct Professor, Microelectronics Engineering, University of Quebec at Montreal.

M. E. Brandt. Adjunct Assistant Professor, School of Health Information Sciences, UT Health Science Center.

B. Godin Vilentchouk. Adjunct Assistant Professor, The Methodist Research Institute, Scientist, Assistant Member.

C. J. Hartley. Adjunct Professor, Department of Medicine (Cardiovascular Sciences), Baylor College of Medicine.

K. Jamel. Adjunct Professor, Department of Medicine (Cardiovascular Sciences), Baylor College of Medicine.

K. Kamel. Adjunct Professor, Texas Southern University, Computer Science Department.

M. Stanley. Adjunct Associate Professor, Industrial Consultant.

P. A. Narayana. Adjunct Professor, Department of Radiology, UT Health Science Center of Houston, Professor of Radiology and Director of Magnetic Resonance Research Operations.

J. N. Ortiz. Adjunct Professor.

A. K. Thittai. Adjunct Assistant Professor, UT Medical School - Houston.

T. T. Tran. Adjunct Assistant Professor, Texas Instruments, Embedded Hardware Systems Manager.

S. P. Tripathy. Adjunct Associate Professor, Optometry Department, University of Bradford (England)

H. Yin. Adjunct Professor.

Emeritus Faculty

B. J. Barr. Associate Professor Emeritus; Ph.D., Houston: Applied mathematics.

E. J. Charlson. Professor Emeritus; Ph.D., Carnegie Mellon; PE: Solid-state and integrated circuits.

O. Crisan. Professor Emeritus; Ph.D., Timisoara (Romania): Power systems modeling and optimization, deregulation implementation.

B. H. Jansen. Professor Emeritus; Ph.D., Amsterdam: Biomedical signal processing, pattern recognition, knowledge-based systems, chaos theory and nonlinear modeling.

P. Y. Ktonas. Professor Emeritus; Ph.D., Florida: Bioengineering.

R. Liu. Professor; Ph.D., Jiatong (China): Subsurface sensing, well logging, RF and microwave circuits, wireless telecommunications, ground-penetrating radar, and EM tomography.

P. Markenscoff. Associate Professor Emeritus; Ph.D., Minnesota: High performance scientific computing, development of parallel algorithms for bioengineering applications, cellular automata, parallel processing.

G. Paskusz. Professor Emeritus; Ph.D., University of California, Los Angeles, PE: Electrical engineering.

L. S. Shieh. Professor Emeritus; Ph.D., Houston; PE: Control systems, hybrid control, self-tuning control.



J. T. Williams. Professor Emeritus; Ph.D., Arizona: Electromagnetic theory and applications.

D. R. Wilton. Professor Emeritus; Ph.D., Illinois: Computational electromagnetics, electromagnetic scattering radiation and penetration.



Department of Industrial Engineering

Faculty

Christopher Chung. Associate Professor; Ph.D., University of Pittsburgh: engineering management, manufacturing systems, management training and education simulators, simulation.

Qianmei (May) Feng. Associate Professor; Ph.D., University of Washington: quality control and reliability engineering, applied probability and statistics, probabilistic risk and cost-effectiveness analysis, Six Sigma.

Ali K. Kamrani. Associate Professor; Ph.D., University of Louisville: systems engineering, innovative design, modularity, free form fabrication and rapid manufacturing, complexity analysis, data mining and intelligent decision support systems.

Suresh Khator. Professor and Associate Dean; Ph.D., P.E., Purdue University: modeling of healthcare, energy and manufacturing systems, facilities design, simulation, and project management.

Taewoo Lee. Assistant Professor; Ph.D., University of Toronto.

Gino J. Lim. Professor and Chair; Ph.D., University of Wisconsin - Madison: numerical optimization, operations research applications in health systems, process control, stochastic programming, and disaster planning and management.

Jiming Peng. Associate Professor, Ph.D., Delft University of Technology: optimization modeling, theory, and algorithm design with applications in healthcare, financial engineering, and big data.

Lawrence J. Schulze. Associate Professor and US Navy Campus Liaison Officer; Ph.D., P.E., C.P.E., Texas A&M University: ergonomics, safety engineering system design and evaluation.

Randal Sitton. Instructional Associate Professor; Ph.D., University of Houston.

Yaping Wang. Instructional Assistant Professor; Ph.D., Texas A&M University.



Department of Materials Science and Engineering Faculty

H. Ardebili. Assistant Professor; Ph.D., University of Maryland. Lithium-Ion Batteries, Polymer Nanocomposite Electrolytes, Lithium-Ion Conduction, Materials for Energy Storage, Electronics Materials.

D. Litvinov. Professor and Associate Vice Provost/Dean, Graduate School; Ph.D., Michigan. Micro/Nano fabrication.

P. Ruchhoeft. Associate Professor; Ph.D., University of Houston. Nanolithography and nanofabrication, modeling of resist exposure and development, etching and thin-film deposition.

J. Ryou. Assistant Professor; Ph.D., University of Texas. Materials Science and Engineering, semiconductor materials, Photonic/electronic devices, nanotechnology.

V. Selvamanickam. M. D. Anderson Distinguish Professor; Ph.D., University of Houston. Materials science and engineering, superconductivity.

P. Sharma. M.D. Anderson Chair Professor and Department Chair Nanomechanics of Materials Professor; Ph.D., University of Maryland: mechanics.

W. C Shih. Assistant Professor; Ph.D., Massachusetts Institute of Technology; Nanobiophotonics

G. Stein. Assistant Professor; Ph.D., University of California, Santa Barbara. Polymer thin films; self-assembly; dynamics at surfaces and interfaces; diffusion in polymer films; optical and electron-beam lithography; alternative nanofabrication techniques; x-ray scattering.

L. Sun. Associate Professor; Ph.D., Johns Hopkins University. Biomechanical systems.

S. Wang. Distinguished University Professor; Sc. D., MIT. Solid mechanics, materials science and engineering, superconductivity.

K. White. Professor Emeritus; Ph.D., Washington (Seattle). Materials science, ceramics, metallurgy.

Y. Yao. Assistant Professor; Ph.D., University of California, Los Angeles. Nanomaterials and nanostructures for high energy density Li-ion batteries, low cost and large scale energy storage for electricity grid applications, nanophotonic structures for efficient solar-to-electricity and solar-to-fuel conversion, nanostructured thin-film solar cells for light trapping, materials and device physics in polymer solar cells and thin-film transistors.

C. Yu. Assistant Professor; Arizona State University; flexible/stretchable electronics, micro-electro-mechanical systems (MEMS), additive printing, solids state electronics, energy harvesting storage.



Department of Mechanical Engineering

Faculty

Dr. Ashutosh Agrawal

Assistant Professor of Mechanical Engineering

Research Interests: Biophysics, Mechanics of Surfaces and Interfaces

Dr. Daniel Araya

Assistant Professor of Mechanical Engineering

Research Interests: Vortex dynamics, free-shear flows, flow visualization techniques, hydrodynamic stability, flow control, urban aerodynamics, energy storage, biological flows, space exploration

Dr. Haleh Ardebili

Bill D. Cook Associate Professor of Mechanical Engineering

Research Interests: Lithium Ion Batteries, Polymer Nanocomposite Electrolytes, Lithium Ion Conduction, Materials for Energy Storage, Electronics Materials

Dr. Richard B. Bannerot

Professor of Mechanical Engineering

Research Interests: Thermal sciences and engineering education

Dr. Theocharis Baxevanis

Assistant Professor of Mechanical Engineering

Research Interests: Deformation and failure response of inelastic materials - Continuum thermodynamics; Fracture mechanics; Computational micromechanics; Localization and bifurcation

Dr. Christiana Chang

Instructional Assistant Professor of Mechanical Engineering

Dr. Xuemei Chen

Instructional Assistant Professor of Mechanical Engineering

Dr. Yi-Chao Chen

Professor and Graduate Director of Mechanical Engineering

Research Interests: Solid Mechanics

Dr. Matthew A. Franchek

Professor of Mechanical Engineering



Research Interests: Dynamic Systems, Measurement and Control-Linear and nonlinear system identification, information synthesis, multivariable control theory, nonlinear control theory, controller design, diagnostics/prognostics, and targeted adaptive control

Dr. Hadi Ghasemi

Bill D. Cook Assistant Professor of Mechanical Engineering

Research Interests: Thermodynamics, Heat transfer and Nanotechnology

Dr. Karolos Grigoriadis

John and Rebecca Moores Professor of Mechanical Engineering & Director of Aerospace Engineering

Research Interests: Dynamic Systems and Controls-Feedback control systems analysis and design, linear and nonlinear systems theory, robust and fault-tolerant control, model reduction, filtering

Dr. Farah Hammami Ep Kammoun

Lecturer of Mechanical Engineering

Research Interests: Nanostructured materials, atomistic simulations, computational mechanics

Dr. Phaneendra Kondapi

Instructional Professor, Director of the Subsea Engineering program and Director of Engineering Programs at Katy Campus

Research Interests: Flow assurance, subsea processing, process simulation

Dr. Yashashree Kulkarni

Associate Professor of Mechanical Engineering

Research Interests: Computational mechanics and materials science

Dr. Dong Liu

Associate Professor of Mechanical Engineering

Research Interests: Microscale Thermal Transport Phenomena

Dr. Holley Love

Research Interests: Mechanical Circulatory Support, Fluid Mechanics and Heat Transfer in Biomedical Applications, Bioreactors, and Numerical Modelling

Dr. Philippe Masson

Assistant Professor of Mechanical Engineering

Research Interests: Power applications of superconductivity, electromechanical systems, numerical modeling, multi-physics simulations

Dr. Anastassios Mavrokefalos

Assistant Professor of Mechanical Engineering

Research Interests: Heat Transfer, Thermal Management, Micro/nanoscale Energy Transport, Solid State Energy Conversion

Dr. Ralph Metcalfe

Professor of Mechanical Engineering



Research Interests: Fluid Mechanics

Dr. Andrea Prosperetti

Distinguished Professor of Mechanical Engineering

Research Interests: Multiphase flow, scientific computing, fluid dynamics, applied mathematics, bubble dynamics

Dr. Jagannatha Rao

Associate Professor and Associate Chair of Mechanical Engineering

Research Interests: Mathematical Optimization Theory and Algorithms-Parametric nonlinear programming, multilevel algorithms, duality in mechanical design models, game theory

Dr. Jae-Hyun Ryou

Assistant Professor of Mechanical Engineering

Research Interests: Materials Science and Engineering - Semiconductor materials, Photonic/electronic devices, Nanotechnology

Dr. Venkat Selvamanickam

M.D. Anderson Chair Professor of Mechanical Engineering

Research Interests: Epitaxial thin film growth by PVD and CVD, Single-crystalline films on polycrystalline/amorphous substrates, Solidification and crystal growth, Oxide & nitride materials, Roll-to-roll thin film coatings on flexible substrates, Bulk ceramic processing, Control of nano-scale interfacial and bulk defects, Texture evolution and grain boundary control, Nucleation and growth kinetics in vapor phase and liquid phase growth

Dr. Pradeep Sharma

M.D. Anderson Chair Professor & Department Chair of Mechanical Engineering

Research Interests: Theoretical and computational materials science, physics of nanostructures and nanomaterials, atomistic simulations, flexoelectricity, nanoscale piezoelectricity

Dr. Gangbing Song

John and Rebecca Moores Professor of Mechanical Engineering

Research Interests: Smart materials and Structures-Adaptive control, Robust control, Dynamics, Robotics, Friction Compensation

Dr. Li Sun

Professor and Graduate Admissions Director of Mechanical Engineering and Aerospace Engineering

Research Interests: Nano-scale Materials Science-Size effects on thermal, electrical and mechanical properties of materials; Nanomagnetism and spin transport in thin films, multilayers, nanowires

Dr. Su Su Wang

Hugh Roy and Lillie Cranz Cullen Professor

Research Interests: Solid Mechanics, Materials Science and Engineering-Solid Mechanics, Composite Materials, Materials Science and Engineering

Dr. Ken W. White

Professor of Mechanical Engineering



Research Interests: Materials Science and Engineering-Ceramic Microstructure development, Mechanical behavior of ceramics and thin films. Electrical-mechanical coupling in ferroelectric thin films.

Dr. Di Yang

Assistant Professor of Mechanical Engineering

Research Interests: Computational fluid dynamics; large-eddy simulation and direct numerical simulation of turbulent flows; renewable wind, tidal and wave energy; environmental fluid mechanics; ocean optics; high-performance scientific computing

Dr. Cunjiang Yu

Bill D. Cook Assistant Professor of Mechanical Engineering

Research Interests: Flexible/stretchable electronics, Micro-Electro-Mechanical Systems (MEMS), Nano-Micro-Macro Manufacturing, Additive Printing, Biomedical Electronics and Sensors, Micro-Nano Materials and Devices, Solid State Electronics, Energy Harvesting and Storage

Adjunct Faculty

Dr. John Alred

Adjunct Professor

Dr. Benton Baugh

Adjunct Professor

Dr. Fazle Hussain

Adjunct Professor

Dr. William J. Thomas

Adjunct Professor

Research Interests: Metal forming and manufacturing, Drilling geomechanics, Cryogenic containment design

Emeritus Faculty

Dr. Hal Brinson

Professor Emeritus

Research Interests: Experimental Mechanics, Mechanical Properties and Characterization of Adhesives, Composites and Polymers, Viscoelasticity, Accelerated Life Prediction Methods

Dr. Charles Dalton

Professor Emeritus

Research Interests: Fluid Mechanics-Computational fluid dynamics applied to flow past bluff bodies.

Dr. Stanley Kleis

Professor Emeritus



Research Interests: Fluid Mechanics-Turbulent shear flows and fluid mechanics, solid-liquid two phase flows, mass transfer in micro gravity, stratified flows

Dr. John Lienhard

M.D. Anderson Professor of Technology and Culture, Emeritus

Research Interests: Cultural History and Public Radio. (Formerly Thermal Sciences, thermodynamics and Boiling.)

Dr. Alan Powell

Professor Emeritus

Research Interests: Acoustics and Aeroacoustics

Dr. Kamel Salama

Professor Emeritus

Research Interests: Materials Science and Metallurgy-Materials Characterization and Processing, Hydrogen Embrittlement, Metal-Matrix Composites, Superconducting Materials

Dr. Nagaraja Shamsundar

Professor Emeritus

Research Interests: Thermal sciences-Design of energy systems, thermodynamic properties

Dr. Lewis T. Wheeler

Professor Emeritus

Research Interests: Continuum Mechanics-Mathematical Elasticity Theory, Lattice Dynamics and Structure

Dr. Larry Witte

Professor Emeritus

Research Interests: Thermal Sciences-Forced and natural convection; boiling heat transfer; sliding bubble heat transfer

Research Faculty

Dr. Akira Miyase

Research Professor

Research Interests: Solid Mechanics, Materials Science and Engineering-Solid Mechanics, Composite Materials, Materials Science and Engineering



Petroleum Engineering Faculty

D. H. Bellman. Adjunct Faculty. MBA, Stanford University: Energy and petrochemical economics.

R. Chokshi. Adjunct Faculty. PhD, The University of Tulsa: Artificial Lift and multi-phase flow optimization.

A. Daneshy. Adjunct Faculty. PhD, University of Missouri-Rolla: Hydraulic fracturing, rock mechanics.

B. Dindoruk. Faculty. PhD, Stanford University: Enhanced oil recovery, reservoir recovery mechanism, hydrocarbon fluid properties and phase equilibria and reservoir engineering.

C. Ehlig-Economides. Professor and Hugh Roy and Lillie Cranz Cullen Distinguished University Chair. PhD, Stanford University: Reservoir engineering, pressure transient analysis, integrated reservoir characterization, complex well design, and production enhancement.

S. Farouq-Ali. Professor. PhD, Pennsylvania State University: Thermal Recovery.

R. Gonzales. Adjunct Faculty. PhD, Universidad Central de Venezuela: Reservoir Characterization, Risk Analysis and Data Science.

L. A. Hathon. Assistant Professor. PhD, University of Missouri: Formation evaluation, rock properties - conventional and unconventional reservoirs.

D. G. Hatzignatiou. Professor, PhD, University of Tulsa: Reservoir engineering.

R. Hollo. Adjunct Faculty. PhD, University of Texas at Austin: Petroleum economics and energy markets.

S. Kabir. Lecturer. MS, University of Calgary: Reservoir Engineering.

K. Kostarelos. Associate Professor. PhD, University of Texas at Austin: Chemical enhanced oil recovery and surfactants.

K. Lee. Assistant Professor. PhD, Texas A&M University: Fluid and heat flow in porous/fractured media, reservoir simulation, unconventional resources.

M. Marongui-Porcu. Adjunct Faculty. PhD, Texas A&M University: Production Engineering.

M. Myers. Associate Professor and Ali Daneshy Endowed College Professor of Petroleum Engineering. PhD, University of Michigan: Formation evaluation, rock properties, geomechanics, petrophysics, and Ali Daneshy Endowed College Professor of Petroleum Engineering.

G. Qin. Associate Professor and Society of Petroleum Engineers Gulf Coast Section Endowed College Professor of Petroleum Engineering. PhD: University of Wyoming: Reservoir simulations.

D. C. Rietz. Adjunct Faculty. MS, University of Houston: Numerical reservoir simulation.

A. Sakhae Pour. Assistant Professor. PhD, University of Texas at Austin: Pore-scale processes, Petrophysics, Geomechanics, Unconventional resources.

R. Samuel. Adjunct Faculty. PhD, University of Tulsa: Drilling engineering, well engineering, drilling optimization, complex well architecture.

M. Soliman. Professor and William C. Miller Endowed Chair Professor. PhD, Stanford University: Well test analysis, diagnostic testing, fracturing and numerical simulation.

G.Thakur. Professor and Director of UH Energy Industrial Partnerships. PhD, Pennsylvania State University: Reservoir characterization and dynamics.

G. Wong. Associate Professor. PhD, Stanford University: Well completion, sand failure prediction/quantification, production engineering, fracture mechanics, geomechanics.

J. Yarus. Adjunct Faculty. PhD, University of South Carolina: Earth modeling and geostatistics.



About the Conrad N. Hilton College of Hotel and Restaurant Management

Contact Information

Office of the Dean	713-743-2607
Academic Services	713-743-2492
Internet Address	www.hrm.uh.edu

Dean: Dennis Reynolds, PhD, Cornell University

Associate Dean of Academics: Mary Dawson, EdD, University of Houston

Associate Dean of Research and Graduate Studies: Ki-Joon Back, PhD, Pennsylvania State University

Assistant Dean for Business Development: Joel A. Jaffe, BS, Penn State University

General Manager, Hilton Hotel @ University of Houston: Fernando Cuéllar, BS, Oklahoma State University

Director of Career Development & Placement: Colleen Gleeson, MA, St. Edwards University

Director of International Programs: Jennifer Glickman, MED, Northeastern University

Director of the Executive Master's in Hospitality Management Program: Thomas Jamie, MA, New Mexico State University

Mission Statement

The mission of the Conrad N. Hilton College of Hotel and Restaurant Management at the University of Houston is to prepare individuals for industry management and leadership by providing a quality hospitality education and ongoing professional development, as well as to be recognized globally as a premier learning environment through teaching, research and service excellence.

About The College

The Conrad N. Hilton College of Hotel and Restaurant Management is rated among the world's premier hospitality education programs and offers a Master of Science (MS) in Hospitality Management, a PhD in Hospitality Administration, an MS in Global Hospitality Business in partnership with Ecole Hoteliere de Lausanne and Hong Kong Polytechnic University, a joint MS/MBA in partnership with the University of Houston's C.T. Bauer College of Business, and a dual BS/MS. Hilton College's graduate programs endeavor to broaden students' understanding of the hospitality industry and to prepare them for administration and management roles in hotels, restaurants, private clubs, and other hospitality industry entities.

The Conrad N. Hilton College is housed in a \$28.8 million complex, providing an unequalled environment for study of the hospitality industry. Included in the facility are the 86-room Hilton University of Houston Hotel and 40,000 sq. ft. of conference center and banquet facilities; two full-service restaurants; a cocktail lounge; a coffee shop; class and seminar rooms; three ballrooms; a hospitality library and archives; extensive laboratories for product development, evaluation, and testing and facilities for quantity food production, culinary and food demonstration that are enhanced by state-of-the-art hospitality technology and food service systems. Also included is the Don and Kathy Sanders Interactive Studio for Global Education, a state-of-the-art video conferencing facility with the capability to reach multiple distant locations for credit and non-credit course work associated with the degrees offered by the college.

In addition, the Conrad N. Hilton College is located in Houston, Texas, the fourth largest city in the United States. With a population of over four million people and some of the finest hotels, restaurants, and clubs in the nation, Houston offers a wealth of resources and opportunities to the hospitality student.



Research at the Conrad N. Hilton College

The Conrad N. Hilton College has initiated several innovative research programs that demonstrate its determination to serve the hospitality industry, and society as a whole, in meaningful ways relevant to current practices and trends. In 1996, the College initiated the first international Conference on Graduate Education and Graduate Students Research in Hospitality and Tourism, which is held at the University of Houston campus every three years. This conference provides a forum for the exchange of information on graduate education and research to faculty and graduate students in hospitality and tourism programs representing over 60 universities in North America, Europe, Australia, New Zealand, and Southeast Asia.

The Conrad N. Hilton College also has several research centers and institutes which serve the industry and academic community with information needs:

- The Wine and Spirits Management Institute (W&SMI)
- The American Hotel & Lodging Association Information Office
- The Hospitality Financial and Technology Professionals Research Office

Alumni Association

The Conrad N. Hilton College Alumni Association (CHCAA) is one of 22 constituent alumni organizations affiliated with the University of Houston Alumni Organization (HAO), which is a forum for professional and social interaction to promote active involvement of the Conrad N. Hilton College in the association. For more information, contact the Hilton College director of alumni at (713) 743-1591.



HRM Programs

Conrad N. Hilton College of Hotel and Restaurant Management

Master

Global Hospitality Business, MS

Hilton College offers an exclusive Master of Science in Global Hospitality Business degree, thanks to a first-of-its-kind partnership with the top hospitality programs in Europe and Asia-Ecole hôtelière de Lausanne and the School of Hotel and Tourism Management at The Hong Kong Polytechnic University.

This truly global program provides select students with an extensive understanding of world markets and firsthand experience of local cultures across three continents. Students spend their first term at EHL in Switzerland, their second at PolyU in Hong Kong, and their third stateside at Hilton College.

Designed in close collaboration with top players in the hotel, tourism and service industries, the Global Hospitality Master's program offers unparalleled professional immersion through a unique and personalized capstone project, professional certifications and business field trips to global tourism hubs like New York, Paris and Macau.

With access to three global alumni networks and ties to industry across the globe, this program paves the way to an international career.

Admission Requirements

Students who have successfully completed the US equivalent of a BS degree, in Hotel and Restaurant Management or a related field, with a minimum of 3.0/4.0 GPA, all official college transcripts for all institutions attended (including English translations if needed), a minimum of one year hospitality-related work experience, completed statement of intent, and two letters of recommendation will be considered after successful completion of the application. Satisfactory TOEFL and IELTS scores are required for international students who have not completed a degree from the US or another English-speaking country. Visit www.uh.edu/graduate-school/admissions/international-students/ for more information. All applications require payment of an application fee (\$50 domestic applicants/\$125 international applicants).

A Skype or other distance-conducted interview will be required for students who have met all admission criteria and after approval by the MS GHB applicant selection committee. The interview will be administered by the Director of International Programs after a date and time is established that accommodates both the applicant and the interviewer.

For more application information please view <http://uh.edu/hilton-college/students/future-students/graduate-admissions/ms-global-hospitality-business/admission-requirements/global-masters-admissions.pdf>.

Degree Requirements

Credit hours required for this degree: 39.0

All MS degree candidates must complete 39 semester credit hours of graduate coursework over the course of three (3) terms in each the three (3) designated partner locations to receive their graduate degree from either UH or one of the other two partnering institutions.

The credit hours necessary for graduation from this program are as follows:

Required Courses

- HRMA 6378 - Hospitality Real Estate Finance Credit Hours: 3.0



- HRMA 7369 - Hospitality Financial Assets & Planning Management Credit Hours: 3.0
- HRMA 6382 - Meth of Res in Hospitality Ind Credit Hours: 3.0
- HRMA 6321 - Hosp. Business Strategies in Asia Credit Hours: 3.0
- HRMA 7353 - Services Management in Hosp. Credit Hours: 3.0
- HRMA 7366 - Hospitality Management Strategies Credit Hours: 3.0
- HRMA 7334 - Pricing and Revenue Management in Hospitality Credit Hours: 3.0
- HRMA 6324 - Hospitality Business Strategies in the Americas & the Caribbean Credit Hours: 3.0
- HRMA 6317 - Innovative Hosp. Technologies Credit Hours: 3.0
- HRMA 6340 - Organizational Behavior & Hospitality Leadership Strategies Credit Hours: 3.0

Prescribed Elective Courses

- HRMA 63XX: Rotates each cohort Credit Hours: 3.0

Other

- HRMA 6368 - Career Capstone Project Credit Hours: 3.0

Academic Policies

- University of Houston Academic Policies
- College Academic Policies

Hospitality Management, MS

The Master of Science in Hospitality Management (MS) degree program is designed to meet the hospitality industry's need for individuals who have a variety of professional and academic skills and advanced specialized abilities necessary to excel in the increasingly demanding arena of hospitality management. Individuals who develop these advanced skills can seek and fill hospitality management positions at the corporate and operational levels and in the field of hospitality education.

The MS degree is a two-year program that has been designed to develop effective and innovative hospitality industry managers and that attracts students from all over the world, bringing a multicultural quality to the learning environment. As a result, graduates of the Conrad N. Hilton College are serving in managerial positions worldwide with the finest firms in the hospitality industry, as well as teaching in higher education.

For more information, please see <http://www.uh.edu/hilton-college/students/future-students/graduate-admissions/ms-hospitality-management/>.

Admission Requirements

Students who have successfully completed the US equivalent of a BS degree, preferably in Hotel and Restaurant Management or a related field, with a minimum of 3.0/4.0 GPA, and submit a satisfactory GMAT or GRE score taken within the last five years, will be considered after successful completion of the graduate application process. Satisfactory TOEFL and IELTS scores are required for international students who have not completed a degree from the US or another English-speaking country. For more information, visit www.uh.edu/graduate-school/admissions/international-students/. All applications require payment of an application fee (\$50 domestic applicants/\$75 international applicants).

A Skype or other distance-conducted interview will be required for students who have met all other admission criteria and after approval by the MS applicant selection committee. The interview will be administered by the graduate programs office after a date and time is established that accommodates both the applicant and the interviewer.



Degree Requirements

All MS degree candidates must complete a minimum of 36 semester credit hours of graduate coursework, at least 27 of which must be earned at the Hilton College.

The curriculum for this program requires students to complete courses in five areas, including hospitality management core courses; support and focus courses; electives; and a thesis, a professional paper and practicum, or an additional elective and practicum. Up to nine hours of elective credits can include non-HRMA courses with prior advisor approval.

Students can choose either the professional or research track to complete this degree.

Core Courses (Required)

- HRMA 6101 - Colloquium **Credit Hours: 1.0**
- HRMA 6330 - Statistical Data Analysis in the Hospitality Industry **Credit Hours: 3.0**
- HRMA 7353 - Services Management in Hosp. **Credit Hours: 3.0**
- HRMA 7369 - Hospitality Financial Assets & Planning Management **Credit Hours: 3.0**
- HRMA 6381 - Strategic Decisions Making in the Hospitality Industry **Credit Hours: 3.0** (Professional track only)
- HRMA 6382 - Meth of Res in Hospitality Ind **Credit Hours: 3.0** (Research track only)
- HRMA 6360 - Graduate Directed Practicum **Credit Hours: 3.0** (Not required if completing a thesis)
- HRMA 6190 - Hospitality Research Proposal **Credit Hours: 1.0**
(Research track only)
- HRMA 6290 - Professional Paper I **Credit Hours: 2** (Professional paper only)
- HRMA 6599 - Thesis I **Credit Hours: 5** (Thesis only)

Research Track Core Total 19.0

Professional Track Core Total Credits 16.0

Support Courses (9.0 Credit Hours Required)

- HRMA 6309 - Legal Issues-Hospitality Ind **Credit Hours: 3.0**
- HRMA 7337 - Human Resources in Hospitality **Credit Hours: 3.0**
- HRMA 7341 - Food and Beverage Management **Credit Hours: 3.0**
- HRMA 7361 - Hospitality Marketing Analysis **Credit Hours: 3.0**
- HRMA 7366 - Hospitality Management Strategies **Credit Hours: 3.0**
- HRMA 6397 - Hospitality Real Estate Finance **Credit Hours: 3.0**
- HRMA 6397 - Selected Topics **Credit Hours: 3.0**
- Open **Credit Hours: 3.0**

Support Total 9.0

Focus Courses (3.0 Credit Hours Required)

- HRMA 7334 - Pricing and Revenue Management in Hospitality **Credit Hours: 3.0**
- HRMA 6343 - Beverage Management **Credit Hours: 3.0**
- HRMA 6351 - Lodging Operations Mgmt **Credit Hours: 3.0**



- HRMA 6357 - Gaming and Casino Mgmt Credit Hours: 3.0
- HRMA 6397 - Contract Food Service Management Credit Hours: 3.0
- HRMA 6397 - Selected Topics Credit Hours: 3.0

Focus Total 3.0

Elective Courses

Consists of any graduate level HRMA courses that have not been taken for the above requirements and non-HRMA classes as approved by academic advisor.

Research Track Elective Total Credits 5.0

Consists of any graduate level HRMA courses that have not been taken for the above requirements and non-HRMA classes as approved by academic advisor.

Professional Track Elective Total Credits 8.0

Total Credit Hours for MS: 36.0

Academic Policies

- College Academic Policies
- University of Houston Academic Policies

Core curriculum hours cannot be waived under any circumstances. The program director and instructor of any particular core course must approve all substitutions. All coursework substituted in this manner must be completed at the 6000 level or above. A general petition is required.

The Executive Master of Hospitality Management, MHM

The Executive Master in Hospitality Management (MHM) is a unique online program that will refine the professional and academic skills of its graduates, giving them a competitive edge to lead and excel in the demanding arena of hospitality management. The program also provides students at the executive level with a wealth of advanced industry knowledge and expands their management skills and professional leadership abilities. An integral component of the curriculum is immediate workplace application. Students are required to complete an industry-based research project that relates to current issues in a hospitality environment. The program is designed for anyone responsible for leading and managing in the hospitality industry, regardless of academic or professional background.

For more information, please visit the Executive Master of Hospitality Management website.

Admission Requirements

Students who have successfully completed the US equivalent of a BS degree, preferably in Hotel and Restaurant Management or a related field, with a minimum of 3.0/4.0 GPA, five-plus years of work experience at the management level, completed statement of intent, and three letters of recommendation will be considered after successful completion of the application. Satisfactory TOEFL and IELTS scores are required for international students who have not completed a degree from the US or another English-speaking country. For more information, visit <http://www.uh.edu/graduate-school/admissions/international-students/>. Application fees submission is required (\$50 domestic applicants/\$125 international applicants).



A Skype or other distance-conducted interview may be required for students who have met all other admission criteria and after approval by the MHM applicant selection committee. The interview will be administered by the graduate programs office after a date and time is established that accommodates both the applicant and the interviewer.

Degree Requirements

Credit hours required for this degree: 30.0

The curriculum requires a total of 30 credit hours of coursework, including 9 credits of prescribed electives. During the program, students will also build an e-portfolio and work on an industry-based research project. The following courses are required of all students pursuing the program.

Core Course Requirements

- HRMA 7353 - Services Management in Hosp. Credit Hours: 3.0
- HRMA 7369 - Hospitality Financial Assets & Planning Management Credit Hours: 3.0
- HRMA 6381 - Strategic Decisions Making in the Hospitality Industry Credit Hours: 3.0
- HRMA 7337 - Human Resources in Hospitality Credit Hours: 3.0
- HRMA 7361 - Hospitality Marketing Analysis Credit Hours: 3.0
- HRMA 6360 - Graduate Directed Practicum Credit Hours: 3.0
- HRMA 6191 - Project Development Credit Hours: 1.0
- HRMA 6291 - Project Implementation Credit Hours: 2.0

Electives

- HRMA 6329 - Negotiations for Services Ind. Credit Hours: 3.0
- HRMA 6317 - Innovative Hosp. Technologies Credit Hours: 3.0

Academic Policies

University of Houston Academic Policies

About the Conrad N. Hilton College of Hotel and Restaurant Management

Core curriculum hours cannot be waived under any circumstances.

Doctoral

Hospitality Administration, PhD

The Conrad N. Hilton College of Hotel and Restaurant Management at the University of Houston offers a Doctor of Philosophy (PhD) degree program in Hospitality Administration that is designed to prepare students for the role of hospitality researchers and/or professors at a research oriented university or organization. The program provides a theoretical (conceptual) foundation, practical knowledge, research development, and critical thinking skills for hospitality administration.

The Hospitality Administration PhD explores most food and beverage (e.g., catering), club (e.g., private clubs), convention and event planning, airline food and beverage service, cruise ship management, and all other tourism/hospitality disciplines. The topics include finance, marketing, accounting, human resources, service, and general management in relation to the hospitality industry.

The Doctor of Philosophy (PhD) objectives are:



- To develop teaching skills for both undergraduate and graduate levels
- To disseminate information about the hospitality industry
- To develop theory and add knowledge to the field
- To identify problems through analysis
- To identify solutions from competing alternatives through quantitative and qualitative metrics
- To effectively communicate research outcomes
- To develop grantsmanship capabilities

For more information, please visit <http://www.uh.edu/hilton-college/students/future-students/graduate-admissions/phd-hospitality-administration/>.

Admission Requirements

Students who have successfully completed the US equivalent of an MS degree in Hospitality Management or a similar degree with an overall grade point average (GPA) of 3.2 on a 4.0 point scale for their last completed degree and a GMAT or GRE score in the upper 35th percentile taken within the last five years will be considered after successful completion of the graduate application process. Satisfactory TOEFL and IELTS scores are required for international students who have not completed a degree from the US or another English-speaking country. For more information, visit www.uh.edu/graduate-school/admissions/international-students/ for more information. Applications require payment of an application fee (\$50 domestic applicants/\$125 international applicants).

A Skype or other distance-conducted interview will be required for students who have met all other admission criteria and after approval by the PhD applicant selection committee. The interview will be administered by the PhD selection committee after a date and time is established that accommodates both the selection committee and the applicant.

Degree Requirements

Credit hours required for this degree: 57.0

All PhD degree candidates must complete a minimum of 57 semester credit hours of graduate coursework, at least 42 of which must be earned at the Hilton College.

The curriculum for this program requires students to complete courses in four areas, including hospitality management core courses; prescribed electives; free electives, and completion of a dissertation. Students must pass a written candidacy exam and both a written and oral comprehensive exam to be eligible for enrollment in dissertation credit hours.

Up to 15 hours of elective credits can include non-HRMA courses with prior faculty advisor approval. Students can enroll in and transfer up to nine credit hours of courses from other approved universities while enrolled in the PhD program.

Core Courses

Hotel and Restaurant Administration Core Courses (6 Credit Hours)

- HRMA 8310 - Teaching Methods in Hospitality Administration Credit Hours: 3.0
- HRMA 8320 - Guided Research in Hospitality Industry Credit Hours: 3.0

Research Methods Core Courses (6 Credit Hours)

- HRMA 8304 - Qualitative Design in Hospitality Administration Credit Hours: 3.0
- HRMA 8305 - Grant Writing in Hosp Industry Credit Hours: 3.0

Data Analysis Core Courses (9 Credit Hours)



- HRMA 8303 - Multivariate Analysis in Hospitality Administration **Credit Hours: 3.0**
- Two approved advanced data analysis courses from outside or inside the College.

Seminar Core Courses (3 Credit Hours)

- HRMA 8188 - Ph.D. Colloquium **Credit Hours: 1.0**

Dissertation Courses (18 Credit Hours)

- HRMA 8398 - Research Proposal in Hospitality Administration **Credit Hours: 3.0**
- HRMA 8X99 - Doctoral Dissertation Research **Credit Hours: 3.0**

Prescribed Elective Courses

- HRMA 6309 - Legal Issues-Hospitality Ind **Credit Hours: 3.0**
- HRMA 6360 - Graduate Directed Practicum **Credit Hours: 3.0** (PP Only)
- HRMA 7334 - Pricing and Revenue Management in Hospitality **Credit Hours: 3.0**
- HRMA 7337 - Human Resources in Hospitality **Credit Hours: 3.0**
- HRMA 7341 - Food and Beverage Management **Credit Hours: 3.0**
- HRMA 6343 - Beverage Management **Credit Hours: 3.0**
- HRMA 6351 - Lodging Operations Mgmt **Credit Hours: 3.0**
- HRMA 7353 - Services Management in Hosp. **Credit Hours: 3.0**
- HRMA 7361 - Hospitality Marketing Analysis **Credit Hours: 3.0**
- HRMA 7366 - Hospitality Management Strategies **Credit Hours: 3.0**
- HRMA 7369 - Hospitality Financial Assets & Planning Management **Credit Hours: 3.0**
- HRMA 7397 - Selected Topics in Hospitality Management **Credit Hours: 3.0**
- HRMA 6397 - Selected Topics **Credit Hours: 3.0**
- HRMA 8320 - Guided Research in Hospitality Industry **Credit Hours: 3.0**

Academic Policies

- College Academic Policies
- University of Houston Academic Policies

Students may be required to take additional courses to overcome any deficiencies as determined by the graduate programs office. Students must enroll in a minimum of nine (9) on-campus credit hours per semester.

Dual Degree - Accelerated Pathway

Hotel and Restaurant Management and Hospitality Management, BS/MS

For students who want to pursue a Bachelor of Science (BS) in Hotel and Restaurant Management and earn a Master of Science (MS) in Hospitality Management, the dual BS/MS program offers an accelerated degree program to earn both in five years. The dual BS/MS provides a clear and concise path toward accelerated academic goals and enables students to begin concentrated work on a professional focus in the hospitality industry during the final year of their BS degree plan. High-achieving undergraduate students who are accepted into this program can complete 12.0 Credit Hours toward their MS degree as an undergraduate student, and the remaining credits for the MS can be completed in one additional calendar year as a graduate student.



For further information, please visit <http://www.uh.edu/hilton-college/students/current-students/graduate-degree-requirements/>.

Admission Requirements

Applicants gain conditional admission to this dual plan during their final undergraduate year. Gaining permission to take graduate courses during the final undergraduate year does not guarantee admission to the MS program.

Unconditional admission to the MS program requires

- a successful completion of the BS in Hotel and Restaurant Management,
- a cumulative GPA of 3.0 or better,
- satisfactory GRE or GMAT scores, and
- successful completion of the graduate program application process.

Degree Requirements

Conditionally admitted students can earn up to 12.0 Credit Hours of graduate-level credits in the final year of their BS program that will be applied to both the BS and MS degrees. Upon completion of the BS degree and unconditional acceptance into the MS program, students will complete an additional 24.0 Credit Hours of graduate-level credits that will culminate in a MS in Hospitality Management.

Courses will be selected from those that apply to the focus area of the student's BS degree <and> the Elective Category or Support Category requirements of the MS degree.

For more information

- MS degree requirements Hospitality Management, MS
- Hotel and Restaurant Management, BS degree requirements in the Undergraduate Academic Catalog

Academic Policies

- University Academic Policies
- Academic Policies - Hotel and Restaurant Management

Dual Degree - Graduate

Hospitality Management, MS/MBA

This three-year degree is offered through a partnership between Hilton College and the University of Houston's C.T. Bauer College of Business. Through this program, students earn both an MS and MBA in less time than it would take to earn each degree independently. This opportunity enables students to prepare for careers in which business and hospitality overlap.

For more information, please visit the Hospitality Management, MS/MBA program page.

The Dual Masters MS/MBA Degrees

Program Description



The Conrad N. Hilton College of Hotel and Restaurant Management and the C.T. Bauer College of Business Administration offer a joint degree program that enables students to prepare for careers in which business and hospitality overlap. By pursuing both the Master of Science (MS) in Hospitality Management and the Master of Business Administration (MBA) degrees concurrently, students can complete both degrees in a shorter time period than if they were to pursue the two independently. The joint MS/MBA program requires a minimum of 63 semester hours.

Application Process

Participation in the joint MS/MBS program requires separate applications to and acceptance by each of the participating schools within a calendar year. Applicants must meet the admission requirements of the two colleges before being admitted by petition to the joint MS/MBA program. Admission to one college has no official bearing on admission to the other.

Visit each program's website for more information about each degree

- MBA Program
- MS HRM Program

Admission Requirements

Participation in the joint MS/MBS program requires separate applications to and acceptance by each of the participating schools within a calendar year. Applicants must meet the admission requirements of the two colleges before being admitted by petition to the joint MS/MBA program. Admission to one college has no official bearing on admission to the other.

Degree Requirements

Credit hours required for this degree: 36.0

All MS degree candidates must complete a minimum of 36 semester credit hours of graduate coursework, at least 27 of which must be earned at the Hilton College.

The curriculum for this program requires students to complete courses in five areas, including hospitality management core courses; support and focus courses; electives; and a thesis, a professional paper and practicum, or an additional elective and practicum. Up to nine hours of elective credits can include non-HRMA courses with prior advisor approval.

Students can choose either the professional or research track to complete this degree.

Academic Policies

University Academic Policies

Graduate Certificate

Hospitality Decision Making & Analytics, Certificate

Beginning Spring 2019

The graduate certificate program in Hospitality Decision Making & Analytics provides a foundation to better prepare hospitality students for the ever-demanding and changing work force in the industry. The curriculum will provide and understanding of the economic, political, and cultural forces



that are shaping hospitality organizations. The program is designed to enable graduates to meet the intellectual and practical challenges of managing dynamic careers in the hospitality sector.

Please visit the Conrad N. Hilton College of Hotel and Restaurant Management Degree Programs page for more information.

Admission Requirements

Application Requirements

- Earned a Bachelor's degree from an accredited institution of higher education.
- A cumulative grade point average of 3.00 or higher for unconditional admission. Applicants with a cumulative GPA between 2.60 and 3.00 in the last 60 hours of coursework may be considered for conditional admissions.
- No official GRE or GMAT is required.
- English Proficiency Exam (TOEFL or IELTS) is required in certain conditions to demonstrate proficiency in English.
- 2 letters of recommendation.
- Application fee:
 - \$50 for domestic student
 - \$125 for international student

For more on admissions, please visit the Conrad N. Hilton College of Hotel and Restaurant Management Graduate Admissions page.

Degree Requirements

Credit hours required for this certificate: 12.0

The Certificate in Hospitality Decision Making & Analytics is a 12 SCH program in which students must complete the following courses:

Required Courses (9.0 Credits Hours)

- HRMA 6330 - Statistical Data Analysis in the Hospitality Industry **Credit Hours: 3.0**
- HRMA 6360 - Graduate Directed Practicum **Credit Hours: 3.0**
- HRMA 6397 - Selected Topics **Credit Hours: 3.0**
Topic(s):
 - Business Analytics

Elective Courses (3 Credit Hours)

Choose from the following:

- HRMA 6381 - Strategic Decisions Making in the Hospitality Industry **Credit Hours: 3.0**
- HRMA 7369 - Hospitality Financial Assets & Planning Management **Credit Hours: 3.0**
- HRMA 7334 - Pricing and Revenue Management in Hospitality **Credit Hours: 3.0**
- HRMA 7361 - Hospitality Marketing Analysis **Credit Hours: 3.0**

Academic Policies

University of Houston Academic Policies



Career Services: UH Law Center

Office of Career Development

The Office of Career Development is committed to providing individual job search assistance to University of Houston Law Center students and alumni. Services are available to students as they search for law clerk and judicial clerk positions during their legal education and for permanent post-graduate positions. Alumni pursuing lateral career changes are also served by the office. Experienced career counselors in the Office of Career Development provide assistance with tailored job search strategies that specifically address individual career goals.

The Office of Career Development provides individual assistance in resume review and interviewing techniques. The office presents a variety of panel discussions, receptions and seminars with legal practitioners to assist students in understanding legal career options. Topics covered include small firm panels, judicial clerkship opportunities, starting a solo practice, pursuing government or non-profit legal careers, and non-traditional uses of the law degree.

The office annually hosts over 100 prospective employers through on-campus interview and recruiting programs for students seeking summer clerkships and permanent positions to commence upon graduation. Through the Office of Career Development, the Law Center also participates in a number of off-campus recruiting programs, offering students additional interview recruiting opportunities beyond the on-campus program.

For more information about the Law Center Office of Career Development, contact:

*Office of Career Development
University of Houston Law Center
100 Law Center
Houston, Texas 77204-6060
713-743-2090*

lawcareer@uh.edu

<http://www.law.uh.edu/career>



UH Law Center

US Law, LLM

This program is for lawyers who earned their degree outside of the United States. It is a general course in which student, with their faculty, advisor, select courses that meet their personal or professional goals, such as taking a bar examination. Students can focus their students on a specific area of the law or pursue a more general course of study.

Students in the program have included recent law school graduates and practitioners with varying years of experience.

For further information, please view <http://law.uh.edu/llm/OptionsforApplicantswithNon-USLawDegree.pdf>.

Admission Requirements

Admission to the program requires a law degree from an ABA-approved U.S. law school. Lawyers educated in other countries must hold a law degree from a university accredited by the country's ministry of education or be admitted to practice law before the highest court in their jurisdiction.

All applications are submitted through the Law School Admission Council, LSAC, at <https://www.lsac.org/llm>. A complete application consists of the following:

- application form
- resume/CV
- personal statement of at least three hundred words
- two reference letters

Applicants from a country in which English is not the official language are required to provide a TOEFL or IELTS report. The Law Center typically requires a score of 100 on the TOEFL or 7.0 on the IELTS.

U.S. educated lawyers can begin the program in August and January. Lawyers who earned their law degree can only begin the program in August and the application deadline is April 15.

For more, please visit the program's application process webpage: <http://law.uh.edu/llm/admissions-requirements-and-application-procedures.asp>.

Degree Requirements

The LL.M. degree is a 24 credit program. All course selections must be approved by their faculty advisor. Students are required to take, within the 24-credit program requirement, two courses:

- LAW 5319 - Intro To American Law Credit Hours: 3.0
- LAW 5314 - Lawyering Skills & Strategies I Credit Hours: 3.0

Students, working in concert with their advisor, select courses all other courses to meet individual's personal or professional goals such as preparation for a bar examination.

The class schedule is published each term and is available at <http://law.uh.edu/schedule/>.

Academic Policies

- University of Houston Academic Policies
- Academic Policies: UH Law Center

Students must maintain a 2.00 grade point average every term. The program must be completed within three years of admission. Students must be registered for at least three credits every fall and spring term.



Doctor of Jurisprudence, JD

- J.D. Admission Requirements

JD Degree Requirements: UH Law Center

Graduation Requirements:

Credits - 90 semester credit hours are required for graduation with 2.33 minimum GPA. In addition to the first year required curriculum, each student must complete the following courses at the Law Center to graduate:

Professional Responsibility Course - 3-hour Professional Responsibility course must be taken and a passing grade received.

Upper Level Writing Requirement - Students entering in Fall 2013 or after can only satisfy this requirement by completing (1) a writing seminar (designated by prefix "WRS") and earning a grade of "C" or better; or (2) a writing course (designated by the prefix "WRC"); and (3) earning a grade of "C" or better.

Required Practice Skills Course - (*Applies to students entering before fall 2016*) Students must take and pass a course that satisfies the "Practice Skills" requirement. The courses that satisfy this requirement are identified on each course schedule. There is a tab at the top of each term's schedule that will allow you to view the specific classes that meet the Practice Skills requirement.

Experiential Course Requirement - (*Applies to students entering fall 2016 and after*) - Students must take and pass one or more experiential course(s) totaling at least six credit hours. An experiential course must be a simulation course, a law clinic, or a field placement. No more than three credit hours for field placements can be used to satisfy the six-credit requirement for the Law Center.

See the Law Student Handbook more information: <http://www.law.uh.edu/student/>.

Doctor of Jurisprudence, JD/MBA

Master of Business Administration at UH

The Law Center and the UH Bauer College of Business offer a dual JD/MBA. program that prepares students for a wide range of careers where law and business overlap. This program holds special appeal for students directed toward investment banking, accounting, international trade, industrial relations, corporate law, the entertainment industry and management consulting. Full-time students complete the program in four years.

Contact:

email: houstonmba@uh.edu

website: Master of Business Administration

Doctor of Jurisprudence, JD/MD

Doctor of Medicine at Baylor College of Medicine at Houston

The UH Law Center, in conjunction with the Baylor College of Medicine, allows students the opportunity to jointly obtain both a law (JD) degree and a medical doctorate (MD) degree. Students in this program attend their first, second, and fifth years of study at the Baylor College of Medicine, start their law school curriculum during their third and fourth years, and complete both degrees in their sixth year.

Contact:



email: admissions@bcm.tmc.edu
website: Baylor College of Medicine

Doctor of Jurisprudence, JD/MPH

Master of Public Health at the University of Texas Health Science Center

A concurrent JD/MPH program is offered in conjunction with the University of Texas School of Public Health. Students can earn a JD and a masters of public health degree in three and one-half years - one year less than it would take to earn the degrees sequentially.

Contact:

email: saffairs@uth.tmc.edu
website: Master of Public Health at the UT Health Science Center

Doctor of Jurisprudence, JD/MSW

Master of Social Work at UH

Students wishing to combine a masters of social work and a law degree can earn a concurrent degree in the JD/MSW program.

Contact:

email: mswinfo@sw.uh.edu
website: Graduate College of Social Work

Undergraduate/Law Dual Degree Program

Application Process

It is expected that consideration for early admission to the JD program at the Law Center as a dual-degree student will require a cumulative grade point average, "GPA," of at least 3.5 at the end of 90 undergraduate-eligible term hours and achieving at least the median Law School Admission Test, "LSAT," score of the preceding year's entering class at the Law Center. Early admission is also contingent upon approval of the student's moral character and fitness responses.

Students participating in the program who have a GPA lower than 3.5 or who have an LSAT lower than the previous year's median may be considered for early admission at the discretion of the Law Center admissions committee. Additional application materials may be required, including a statement describing why they merit early admission. Early admission for such applicants will be contingent upon approval of the student's moral character and fitness responses.

Students who have earned college credit prior to enrolling in the Honors College may apply to and participate in the dual degree program. However, in order to preserve the culture of the Honors College, in no case shall an Honors College undergraduate student be admitted to the Law Center through this program unless that student has completed at least 90 undergraduate-eligible term hours while a student in residence in the Honors College.

Required Academic Credits and Undergraduate Degree Requirements



1. In their first three years at the University of Houston, interested Honors College students will complete at least 90 semester credit hours toward a bachelor's degree in Liberal Studies, including two undergraduate minors, one of which must be Phronesis. Students admitted to the Law Center can begin the first-year law school curriculum only after completing at least 90 undergraduate term hours in residence. Students must begin the first-year law school curriculum in the fall term.
2. To receive an undergraduate degree, program students must successfully complete at least 120 undergraduate-eligible term hours, as well as all of the requirements for a Bachelor of Arts degree in Liberal Studies. For purposes of this degree program, the Law Center's first-year courses are undergraduate-eligible term hours.
3. In their fourth year in the program, eligible students admitted to the Law Center will take the required first-year law school curriculum, which will fulfill the final 30 undergraduate-eligible term hours required for an undergraduate degree. Such students will also fulfill the third minor required for the Liberal Studies degree by completing at least 15 term hours of the first-year law school curriculum.
4. Students enrolled in the program may substitute the Human Situation sequence in place of Introduction to Liberal Studies as a first-year course for Liberal Studies majors.

Required Courses for the Liberal Studies Degree

Liberal Studies

- ILAS 2350 Introduction to Liberal Studies **Credit Hours: 3.0** (May substitute with the Human Situation sequence.)
- ILAS 4350 Senior Seminar in Liberal Studies **Credit Hours: 3.0**

Phronesis

For the minor in Politics and Ethics, a student must complete 19 term hours of approved coursework, including:

- ENGL 1370 - Freshman Composition II - Honors **Credit Hours: 3.0**
- HON 2301 - The Human Situation: Antiquity **Credit Hours: 3.0**

One of the following POLS courses:

- POLS 3342 - Liberalism and its Critics **Credit Hours: 3.0**
- POLS 3343 - Democratic Theory **Credit Hours: 3.0**
- POLS 3349 - Foundations in American Political Thought **Credit Hours: 3.0**

One of the following PHIL courses:

- PHIL 3350 - Ethics **Credit Hours: 3.0**
- PHIL 3351 - Contemporary Moral Issues **Credit Hours: 3.0**
- PHIL 3355 - Political Philosophy **Credit Hours: 3.0**
- PHIL 3358 - Classics in the History of Ethics **Credit Hours: 3.0**
- PHIL 3375 - Law, Society, and Morality **Credit Hours: 3.0**

- Two 3000-level courses from approved list
- One approved 4000-level course (Seminar on a course issue, with a substantial writing component.)
- An average GPA of 3.0 on all courses in minor.

Law Center First Year Curriculum

Fall Term	Hours
Contracts	4



Procedure 1	4
Torts	4
Lawyering Skills & Strategies	3
Total	15
Spring Term	Hours
Constitutional Law	4
Property	4
Criminal Law	3
Statutory Interpretation & Regulation	3
Lawyering Skills & Strategies	2
Total	16



Special Programs

Blakely Advocacy Institute

The Blakely Advocacy Institute (BAI) is a national leader in improving the efficacy of the legal profession and justice system and teaching the art of advocacy. Through research and study for the advancement of our nation's dispute resolution systems, through continuing legal education programs in advocacy and lawyering technique, through the education of law students to become accomplished members of the legal profession, and through the representation of Houston's underserved, the Blakely Advocacy Institute merges substantive law and lawyering skills to enhance the local, national and international legal communities.

For more information:

The Blakely Advocacy Institute

Email: Blakely@uh.edu

Center for Consumer Law

The Center for Consumer Law has been a mainstay of the UH Law Center for over 30 years, offering the community easy-to-understand explanations of consumer law issues through "The People's Law School," television programs, and newspaper columns. The Center also educates lawyers, professors, and laypeople about consumer law; seeks legal, practical, and legislative solutions to common consumer problems; and encourages the development of consumer rights. The Center's "International Teaching Consumer Law Conference" is recognized worldwide as the premier program in the country. Its Consumer Complaint Center helps hundreds of consumers a month resolve disputes.

For more information:

The Center for Consumer Law

<http://www.uhcl.org>

Texas Consumer Dispute Resolution Center

www.texasccc.com

The People's Lawyer

www.peopleslawyer.net

Center for U.S. and Mexican Law

The Center for U.S. and Mexican Law is the first research center in any U.S. law school devoted to the independent, critical study of Mexican law and legal aspects of U.S. - Mexico relations. The Center's research programs are directed towards increasing the understanding of Mexican laws and legal institutions in the United States, and of U.S. laws and legal institutions in Mexico. The Center assists UH law students to arrange summer externships in Mexico City with prestigious Mexican institutions. The Center also sponsors activities to promote professional cooperation and comparative legal education in North America, through a partnership with the North American Consortium on Legal Education.

For more information:

The Center for U.S. and Mexican Law

<http://www.law.uh.edu/mexican-law/>

Email: usmexlaw@uh.edu



Criminal Justice Institute

The Criminal Justice Institute (CJI) brings together nationally-recognized scholars, top criminal law practitioners, judges and students through a variety of programs designed to enhance the study and practice of criminal law. The Institute includes such established programs as the Texas Innocence Network, the Criminal Practice Clinic, and the Criminal Trial Advocacy training program. The Institute also offers opportunities for educational and practice programs, a dual degree in law and criminology, and conferences and symposia. All of the activities of the Institute aim to enhance the practice of criminal law at the local, national, and international levels.

For more information:

The Criminal Justice Institute

Email: cji@uh.edu

Energy, Environment and Natural Resources Curriculum

The Law Center has special strengths in the areas of energy, the environment and natural resources. About a dozen courses in these areas are offered each year to both J.D. and LL. M. students. Students have opportunities to take specialized courses and write seminar papers with the professors who conduct this type of research and teach in this area.

For more information:

The Environment, Energy & Natural Resources Center

[Energy, Environment and Natural Resources Curriculum \(PDF\)](#)

Health Law and Policy Institute

The Health Law & Policy Institute is one of the top health law programs in the country, with one of the broadest course curricula. It was established in 1978. The Institute is an interdisciplinary center designed to stimulate teaching, research, and service in all areas of health law policy. It is actively involved in helping shape health law at the local, state, national, and international levels.

For more information:

The Health Law & Policy Institute

Email: healthlaw@uh.edu

Institute for Higher Education Law and Governance

The Institute for Higher Education Law and Governance provides research, instruction, and service in the field of higher education law, and encourages interdisciplinary work in the applied studies of administration and law. The institute offers interdisciplinary course work in education law to doctoral and law students as well as to other qualified graduate and professional students. Ongoing institute interests include the study of litigation, legislation, governance, statewide coordination, finance, and equity issues in post-secondary education. International and comparative education are also a focus within the institute and foreign scholars are regular participants in research activities. It is the only such research institute in the U.S.

For more information:

E-mail: ihelg@uh.edu

Intellectual Property and Information Law



The University of Houston Law Center's program in Intellectual Property and Information Law affords students the opportunity for study, research, and writing on patent, trademark, copyright, and trade secret subjects, as well as on interdisciplinary legal protection for computer hardware, software, and other aspects of protecting information in the global networked environment. The Law Center's offerings in these areas are extensive and are designed to provide students with a broad exposure to the central concepts of domestic and international protection of proprietary technology, information, and expression in the modern world.

For more information:

Intellectual Property and Information Law

Email: ipil@uh.edu

North American Consortium on Legal Education (NACLE)

The UH Law Center leads the North American Consortium on Legal Education (NACLE), a consortium of law schools in the United States, Canada, and Mexico. NACLE arranges term-long exchanges for UH law students and law faculty, which facilitate greater understanding of neighboring legal systems and foster greater international and multicultural cooperation.

For more information:

North American Consortium on Legal Education



External Affairs: UH Law Center

The Office of External Affairs represents the UH Law Center to the external, legal, and business communities. The Office of External Affairs is charged with maintaining the relationship between the UH Law Center and its alumni, planning UH Law Center events, raising the visibility of UH Law Center programs, and identifying and cultivating donors to the UH Law Center. In addition, the Office of External Affairs services University of Houston Law Center alumni by providing ongoing Continuing Legal Education events to help alumni meet the minimum requirements set forth by the State Bar of Texas.

UH Law Center graduates are automatically members of the Law Alumni Association. The Office of External Affairs works closely with the UH Law Alumni Association and the University of Houston Law Foundation. The Law Alumni Association Board of Directors plans alumni activities, engages in fundraising, and serves in an advisory capacity to the dean.

The University of Houston Law Foundation is a nonprofit 501 (c) (3) organization that receives and administers funds for the benefit of the UH Law Center. The UH Law Foundation maintains endowments for various scholarship funds and student activities, endowed faculty positions, academic program support, and general unrestricted gifts.

For more information, see the Law Center Alumni page or call (713) 743-2201 or e-mail briefcase@uh.edu.



Faculty

Paul Asofsky. Tax LL.M. Director. B.A., Columbia University; J.D., Harvard.

Leonard M. Baynes. Dean of UH Law Center and Professor of Law. B.S., New York University; M.B.A., J.D., Columbia University.

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Jessica Roberts. Associate Professor of Law; Director, Health Law & Policy Institute. B.A., University of Southern California; J.D., Yale University.



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Allison Winnike. Research Professor, Professor, Director, Research, Health Law & Policy Institute. B.A., Rice University; J.D., Georgetown University Law Center..

Kellen Zale. Assistant Professor of Law. A.B., Princeton University; J.D, Duke University School of Law.



Faculty Emeriti

Richard M. Alderman. Professor Emeritus of Law .Director, Consumer Law Program. B.A., Tulane University; J.D., Syracuse; LL.M., University of Virginia

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Laura Oren. Professor Emeritus of Law. B.A., Queens College; M.Phil., Ph.D., Yale University; J.D., University of Houston.

Robert Schuwerk. Professor Emeritus of Law. B.S., M.A.T.M, University of Chicago; J.D., University of Chicago.

Stephen Zamora. Professor Emeritus of Law; Executive Director of the Center for U.S. and Mexican Law; Director of North American Consortium on Legal Education (NACLE). B.A., Stanford University; J.D., University of California at Berkeley.



Librarians: UH Law Center

Katy Stein Badeaux. Reference/Research Librarian. B.A., University of Texas at Austin; J.D., Southern Methodist University; M.L.S., University of Arizona.

Helen Boyce. Access Service. B.A., University of Texas at Austin.

Robert N. Clark. Reference/Research Librarian. B.A., University of North Texas; J.D., M.L.S., Indiana University at Bloomington.

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Christopher Dykes. Reference/Research Librarian. B.A., M.S., University of Tennessee; LL.M., Villanova University; J.D., University of Baltimore.

Emily Woolard Lawson. Reference/Research Librarian. B.A., J.D., Indiana University at Bloomington; M.L.S., Indiana University at Indianapolis.

Yuxin Li. Head of Cataloging and Serials. B.A., Zhengzhou University, China; M.S.Ed, University of Kansas; M.L.S., Emporia State University.

Mon Yin Lung. Associate Director, O'Quinn Law Library. B.A., Chinese University of Hong Kong; M.S.S., University of Mississippi; M.S.L.S., Louisiana State University; J.D., University of Kansas.

Virginia Davis McFarland. Coordinator, Government Documents. B.A., Loyola University; M.S.L.S., Florida State University; M.A., University of Houston.

Spencer L. Simons. Director, O'Quinn Law Library and Associate Professor of Law. B.A., M.B.A., J.D., M.Lib., University of Washington.

Marek B. Waterstone. Head of Acquisitions and Collections. B.A., M.A., Wayne State University; J.D., University of Missouri; M.L.S., University of Washington.



About the College of Liberal Arts and Social Sciences

Office of the Dean

402 Agnes Arnold Hall
(713) 743-3000

Dean:

Antonio D. Tillis, Ph.D.

Associate Deans:

Anadeli Bencomo, Ph.D., Research and Faculty Affairs
Sarah Fishman, Ph.D., Undergraduate Studies
Catherine Patterson, Ph.D., Graduate Studies

Program Director for Academic Records - Graduate Studies

402 Agnes Arnold Hall
(713) 743-4012

Academic Affairs - Undergraduate Studies

320 Agnes Arnold Hall
(713) 743-4001

Departments, Centers, and Programs

African American Studies Program

629 Agnes Arnold Hall
(713) 743-2811

Air Force Science Program

109 Garrison
(713) 743-4932

Arte Publico Press

452 E. Cullen Performance Hall
(713)743-2843



Jack J. Valenti School of Communication

101 Communication Building
(713) 743-2873

Department of Communication Sciences and Disorders

100 Clinical Research Services Center
(713) 743-2897

Department of Comparative Cultural Studies

233 McElhinney Hall
(713) 743-3780

Department of Economics

204 McElhinney Hall
(713) 743-3800

Department of English

205 Roy Cullen Building
(713) 743-3004

Department of Health and Human Performance

(713) 743-9840
104 Garrison Gymnasium

Department of Hispanic Studies

416 Agnes Arnold Hall
(713) 743-3007

Department of History

524 Agnes Arnold Hall
(713) 743-3083

Center for Mexican American Studies

323 Agnes Arnold Hall
(713) 743-3136



Military Science Program

28 Hofheinz Pavilion
(713) 743-3875

Department of Modern and Classical Languages

613 Agnes Arnold Hall
(713) 743-83507

Department of Philosophy

513 Agnes Arnold Hall
(713) 743-3010

Department of Political Science

447 Philip G. Hoffman Hall
(713) 743-3890

Department of Psychology

126 Heyne Building
(713) 743-8500

Public Administration Program

312 Philip G. Hoffman Hall
(713) 743-3931

Department of Sociology

450 Philip G. Hoffman Hall
(713) 743-3940

Women's, Gender, and Sexuality Studies Program

624 Agnes Arnold Hall
(713) 743-3214

General Information

The College of Liberal Arts and Social Sciences is a dynamic academic environment dedicated to the study of human creativity and society, as well as our mental and physical capabilities and conditions. The largest and most diverse of the colleges at the University of Houston, CLASS is home to 16 schools, departments, and programs offering graduate degrees, certificates, and courses in the humanities and the behavioral and social sciences.



The goal of the graduate programs is to provide advanced academic instruction and expertise in the methods and skills of each discipline and to prepare students for academic or professional employment in their respective fields.



Admission Requirements: College of Liberal Arts and Social Sciences

The college requires a bachelor's degree from an accredited institution and an appropriate background in the subject to be studied for entry into any of its graduate programs. Applicants must satisfy all University of Houston Admission Requirements as specified in this catalog. These include the submission of a graduate application, transcripts from every institution of higher education attended, Graduate Record Examination (GRE scores), letters of recommendation, and a statement of interest. (Verbal, quantitative, and analytical writing GRE scores are examined separately and evaluated as one information source in the total application).

International applicants must, in addition, provide scores on the Test of English as a Foreign Language (TOEFL) or the International English Testing System (IELTS) or the Pearson Test of English (PTE). Minimum TOEFL score for international applicants is 79 (internet-based test), including a minimum writing score of 20; minimum IELTS score is 6.5, including a minimum writing score of 6.5; and minimum PTE is 53.

Unconditional and Conditional Admission Requirements

- Unconditional
 - To be eligible for unconditional admission, students must have a grade point average of at least 3.00 (A=4.00) during the last 60 semester hours of graduate and/or undergraduate work attempted.
- Conditional
 - Conditional admission may be granted to students who have a grade point average of at least 2.60 (A=4.00) and whose test scores in combination with other elements of the application materials indicate probable success in the graduate program. To remain in a graduate studies program, conditionally admitted students must earn a grade point average of at least 3.00 (A=4.00) on the first 12 semester hours of graduate work attempted at the University of Houston. Applicants without a strong background for graduate study in the discipline may be requested to take leveling courses as a condition of admission.
 - The conditional admission category applies only at the master's level. Conditional admission may not be granted to doctoral-level applicants.

Please refer to the departmental sections of this catalog for specific information on admission requirements for particular programs, as some programs may have higher requirements than the minimum standards listed above. Applicants should contact the individual departments to determine what additional materials may be required to accompany the application for admission.

Continuation

Any student's continuation in the graduate programs of the College of Liberal Arts and Social Sciences is at the discretion of the college, the major department, and the major advisor. A satisfactory rate of progress toward the degree is required throughout a student's enrollment. A department or program may terminate enrollment at any time if the rate of progress is not satisfactory or if the student falls out of good standing.

The college requires a cumulative grade point average of 3.00 or better for good standing and graduation; some departments and programs require a higher minimum GPA. In addition, the college requires adherence to the university's low grade policy.



Academic Policies: College of Liberal Arts and Social Sciences

Continuous Enrollment

A graduate student who cannot enroll in a given semester must apply to the College of Liberal Arts and Social Sciences for a leave of absence in order to remain in good standing.

A student who interrupts enrollment in a graduate program in the college for more than 13 months and does not have a pre-approved leave of absence petition for that time period must petition to re-enter the program for the appropriate semester. The program of the student who is accepted will be governed by the catalog in effect at the time of the student's reentrance to the graduate program.

Postbaccalaureate Course Work

A postbaccalaureate student is a student who has earned one or more baccalaureate or higher degrees at an accredited institution. An applicant seeking this classification rather than graduate status must apply to the Office of Admissions.

Individual departments set policies regarding postbaccalaureate study. Students are responsible for contacting the unit in which they wish to take courses prior to registration in order to determine whether that department allows postbaccalaureate students to enroll in graduate courses; how many such courses the students may take; and whether advanced courses taken while students are classified as postbaccalaureates may be applied toward a graduate degree. Some units do not allow courses taken by postbaccalaureate students to be credited toward a graduate degree. The maximum number of semester hours that a department may approve for credit toward a graduate degree is 12.

Academic Grievance Policy

In the normal conduct of education at the University of Houston, justifiable grievances may arise concerning the violation of university, college, or department academic policies or procedures. The College of Liberal Arts and Social Sciences is committed to resolving these grievances in a fair, orderly, and expeditious manner. To that end, the college has established informal and formal procedures beginning at the department level for settling academic grievances.

An academic grievance refers to an action taken against a student by a member of the faculty (including part-time instructors and teaching assistants), staff, or administration that either violates a university, college, or department academic policy or procedure or prejudicially treats the student on the basis of race, color, national origin, religion, sex, age, handicap, veteran status, or any other non-academic status or characteristic.

Because assigning a grade or evaluating a student's work performance involves the faculty's professional judgment and is an integral part of the faculty's teaching responsibilities, disagreement with an instructor concerning a grade or evaluation is not a justifiable grievance to be considered under this policy unless factors such as those mentioned in the previous paragraph can be shown to have affected that grade or evaluation. A student with a justifiable grievance that can be substantiated should initiate academic grievance proceedings as soon as possible after the action in dispute occurs.

Any student who believes he or she has an academic grievance involving the College of Liberal Arts and Social Sciences should first try to resolve the grievance informally with the faculty member or other involved parties. In some cases, the student may have to discuss the grievance with the department chair, the college officer designated by the dean, or both before obtaining a satisfactory resolution.

If the informal discussions do not resolve the academic grievance, the aggrieved student may initiate a formal grievance by submitting a written complaint to the chair of the department involved (or the college officer designated by the dean if the chair is the focus of the grievance) within 60 days of initiating informal proceedings.

The aggrieved student who does not obtain a satisfactory resolution at the departmental level may file a formal appeal first with the office of the dean and then, failing to obtain satisfaction, with the Graduate and Professional Studies Council and the office of the senior vice president for academic affairs.

The procedures a graduate student must follow to file an academic grievance in the College of Liberal Arts and Social Sciences are available at the CLASS website and in the Dean's Office (402 Agnes Arnold Hall).



Incomplete Grades

The grade of I (incomplete) is a conditional and temporary grade given when students are passing a course but, for reasons beyond their control, have not completed a relatively small part of all requirements. Students are responsible for informing the instructor immediately of their reason for not submitting an assignment on time or for not taking an examination. The grade of I must be changed by fulfilling the course requirements within one year of the date awarded, or, in conformity with university policy, the grade will be changed automatically to F or U (in S-U graded courses).

Residency

In a 30-hour degree, at least 24 semester hours of credit must be earned in residence at the University of Houston campus. In a 36-hour degree, at least 30 semester hours must be earned in residence. Students enrolled in doctoral programs must have a minimum of one academic year of continuous enrollment to satisfy the college's residence requirement.

Time Limits

A master's degree program must be completed within the period specified by the department, but under no circumstances in more than five years of the date of enrollment in the master's program.

Students who enroll as doctoral candidates must complete their degree requirements within the length of time specified by the department, but in no circumstances more than ten years of the date of first enrollment with a doctoral degree objective. Failure to comply will result in the candidate being ineligible for that doctoral degree.

Doctoral students who fail to complete the dissertation within five years after passing the comprehensive examination must retake the examination. Leaves of absence that have been granted do not extend the above time limits.

Transferred Courses

No more than nine semester hours of transferred courses may be applied to a master's degree. Determination of course equivalency of transferred work resides with the proposed major department. Refer to the university's Transferred Courses rule for more information.

Ad Hoc Interdisciplinary Doctoral Degree Option

Departments granting Doctor of Philosophy degrees may modify their Ph.D. course requirements in individual cases to permit a larger share of course work to take place outside the department. When course requirements are modified, the department must submit the design of the ad hoc interdisciplinary curriculum and the names of the sponsoring department and supporting department graduate faculty members, who are responsible for directing the student through the curriculum and dissertation to the dean for approval. If the dean approves the curricula, a copy of the dean's written approval will be forwarded to the Office of the Senior Vice President/Provost. Doctoral students interested in this option should talk to the director of graduate students in the student's department about the possibility of modifying course requirements.



College of Liberal Arts and Social Sciences Degrees

African American Studies Program

The mission of African American Studies at the University of Houston is reflected in the larger vision of Black, Africana and African American Studies departments and programs' commitment to the development of the knowledge of people of African descent in America, throughout the greater Diaspora and on the Continent. The program develops, promotes and enhances the knowledge and information of the discipline as well as the collective consciousness of African descended people, which will in turn lead to the growth and prosperity of strong communities and a powerful nation. AAS focuses upon the cultural and historical heritage of Africans on the Continent, in America and throughout the greater Diaspora and their contributions to the world's history and civilizations

African American Studies is a distinct academic discipline that engages Africa-centered research and teaching through an interdisciplinary approach to scholarly inquiry. The term Africa-centered signifies that the epistemological starting point for scholarly analysis resides in the historical and cultural understanding that African people are people of the African continent regardless of the recency or geographical distance of their out migration from the African homeland.

Employing tools from the humanities and social sciences for academic study, research, and teaching, African American Studies explores the varied dimensions of the human experience -- that is, phenomena, ideas, events, peoples, and personalities -- from the perspective of the interests of African people in the United States and their relationship to themselves and to African and other peoples in the world.

Hence, the mission of African American Studies is to provide students with a comprehensive quality undergraduate and graduate education and the opportunity for a creative intellectual experience based on the critical and systematic study of the life, thought, and practice of African peoples in their current and historical unfolding.

Interdisciplinary in both conception and practice, African American Studies seeks to critically examine and understand the African experience from an African-centered perspective, that is, from a position internal to the culture, joined with an openness and receptivity to the rich variety and instructiveness of the total human experience. African American Studies stresses comparative analysis and holistic thinking as indispensable to the discipline and the general educational enterprise.

Within this framework, the goals of African American Studies are:

- To expand our degree offerings by transitioning from a program to a tenure-granting department, and, thus, recruit a faculty that will enable the department to introduce a baccalaureate major degree in the discipline at the University of Houston;
- To cultivate and increase the awareness of UH students to international and cultural pluralism and to stimulate their sensitivity to issues of culture, race, ethnicity, class, and gender;
- To further internationalize the Africana Studies curriculum to include the study of African peoples in other parts of the world in addition to those on the Continent and in the United States, i.e., in the Caribbean, Central and South America, Asia, Europe, and the Pacific Rim;
- To encourage expanded scholarly productivity and professional activity by the department's faculty to maintain currency with the latest developments in the discipline and insure the highest levels of instruction and intellectual exchange;
- To increase the holding of conferences, seminars, colloquia, and other fora devoted to the expansion of the discipline,
- To develop and maintain links with local high schools and community colleges;
- To maintain and strengthen existing links with the community through expanding joint educational and practical projects and exchanges;
- To increase the utility of academic service to Houston's African American community through research and publication on historical and public policy issues by means of The Black Houston History Project and the Institute for African American Policy Research;



- To expand and further consolidate the intellectual space of the discipline as an integral and indispensable part of the university's mission to offer a culturally pluralistic quality undergraduate and graduate education to its students.

Graduate Certificate

African American Studies Certificate

College of Liberal Arts and Social Sciences >African American Studies Program >African American Studies Certificate

The Graduate Certificate in African American Studies Program is a nine-hour disciplinary concentration open to students in all UH graduate and professional degree programs. It is also open to post baccalaureate professionals (including teachers, social service providers, policymakers, and others) interested in enhancing their knowledge and understanding of Africana phenomena.

The Graduate Certificate In African American Studies Program introduces students to advanced discussions, analyses, theoretical perspectives, and research methodologies in the discipline of Africana Studies. In addition, it provides intellectual breadth to a student's course of study, increasing the depth and coherence of the student's work within her/his primary field of study on critical issues concerning Africana phenomena. Africana Studies is a distinct academic discipline that engages Africa-centered research and teaching through an interdisciplinary approach to scholarly inquiry. Employing tools from the humanities and social sciences for academic study, research, and teaching, Africana Studies explores the varied dimensions of the human experience -- that is, phenomena, ideas, events, peoples, and personalities -- from the perspective of the interests of African people in the United States and their relationship to themselves and to African and other peoples in the world.

Requirements

To obtain the certificate, students must successfully complete all of the three following courses:

- AAS 6300 Africana Study Theory & Method **(3.0 Hours)**
- AAS 6307 Seminar On Mlk Jr. & Malcolm X **(3.0 Hours)**
- AAS 6308 Africana Religion & Biography **(3.0 hours)**

Admissions Information

An undergraduate degree is required for admission to this post-baccalaureate program. Applicants must submit an official transcript showing that the undergraduate degree has been awarded. Information on applying is available at <http://www.uh.edu/class/aas/students/graduate/index.php>.

Jack J. Valenti School of Communication

The Jack J. Valenti School of Communication offers the MA in:

Master

Health Communication, MA

Introduction



The Jack J. Valenti School of Communication at the University of Houston offers three Master's degrees directed toward professional success in both academic and non-academic careers. The goal of the program is to produce graduate students who are able to move effectively into professional media positions, advance their current careers, teach in junior colleges or high schools, or enter into top doctoral programs.

To date, our school has placed graduates into top-ranked Ph.D. programs as well as into non-academic positions in both public and private institutions. Regardless of the career goal, the graduate program broadens each student's communication expertise through courses that improve conceptual, applied, and research skills - all of which are critical for successful careers in today's information-oriented and changing global society.

The Master in Health Communication focuses on examining the symbolic and organizational processes by which people, individually and collectively, understand, shape, and accommodate to health and illness.

For more information, contact:

Dr. Jennifer Vardeman-Winter, Director of Graduate Studies, at jvardeman@uh.edu

Admission Requirements

In addition to meeting the college graduate admission requirements, applicants to the communication program must have achieved an undergraduate degree in the area of specialization or have completed at least 18 college-level hours in the field. Students who do not meet this requirement may be required to take remedial course work, which will be specified at the time of admission.

For details on the application process and required documentation, please visit: <http://uh.edu/class/communication/graduate/prospective-students/>

Admission Information

- To be considered eligible for unconditional admittance, the student must :
- Have earned a Bachelor's Degree in an appropriate field from an accredited institution,
- Have a minimum 3.0/4.0 Grade Point Average (GPA) in the last 60 undergraduate hours attempted, and
- Have competitive scores on the GRE which are historically 153 or higher for the verbal portion and 153 or higher for math/quantitative portion in the current scoring system. (Scores are typically in the range of 500 on both the verbal and math-quantitative portions of the exam for the older scoring system.)

Students who have earned several grades of C or below in undergraduate communication courses will not be deemed eligible for this level of admission.

Applicants not meeting the criteria for unconditional admission might be considered for conditional admission.

Any student admitted conditionally must:

- Have a GPA of at least 2.7/4.0 in the last 60 undergraduate hours attempted,
- Have a GPA of at least 3.00 in undergraduate communication course hours
- Have acceptable GRE scores, and
- Have other application materials that suggest the student can succeed in the graduate program.

All materials in the application packet (letters of recommendation, statement of purpose, transcripts and GRE scores) are considered in admission decisions.

Students may have to complete required leveling courses if they do not have adequate background in the degree they are pursuing. There are typically few exceptions to who can be exempt from the leveling courses. Please be aware that these leveling courses will likely extend how long it takes to complete the program.

Conditional admittance requires that the student maintain at least a "B" average in the first 12 hours attempted in graduate school. Conditional students must submit a course adjustment form (available from the director of graduate studies advisor) requesting that their status be changed after those 12 hours have been completed satisfactorily. Students cannot embark on the next stage of the MA program -- the thesis option or the comprehensive exam option -- until they are granted unconditional status. This is normally conferred (1)



if the student has completed all undergraduate deficiencies noted at the time conditional status was granted, (2) if the student has fulfilled all graduate degree prerequisites, (3) if the student has terminated all incompletes on her/his graduate record, and (4) if the student has maintained a minimum (3.0) GPA in the graduate program.

Policies on Courses

1. NO course at the 3000 level or below are accepted for graduate credit. NO academic credit may be granted for internships at graduate level
2. Only courses in which a grade A through F is awarded can be applied to the number of hours required for a degree. Courses with grades of U or S do not meet degree requirements, except for comprehensive examination credit, which does not count as hours required for graduation.
3. All students admitted to graduate status must choose on of two options - the Thesis Option or the Comprehensive Exam Option - by the end of 12 hours, of graduate study. The requirements for each option are outlined below.
4. Only one 4000 level course, with an additional research component, may be petitioned for consideration as graduate credit. Undergraduate courses taken to fulfill undergraduate deficiencies will not count as undergraduate courses credited to the graduate program. A petition must be submitted two weeks prior to enrollment and to allow for the multiple signatures required. The completion of a petition does not guarantee acceptance.
5. For courses taken outside of Valenti School of Communication, a petition must be submitted two weeks prior to enrollment and to allow for the multiple signatures required. These hours should supplement the students area of concentration
6. Special Problems Course:
Students may enroll in one special problems course with an individual professor. A special problems course is 3 credit hours. The appropriate section number is available each term from the professor who will direct the study or from the graduate assistant. The student must complete a general petition form outlining the nature of the independent study, the product to be produced and evaluated, and how often student and professor will meet throughout the term. After the professor signs the general petition form, the student needs to submit it to the Director of Graduate Studies. The director of Graduate Studies must, before the last day of enrollment, have approved this petition. A student who fails to comply with this provision will be dropped from the state audit roll if the petition is not on file and approved by the twelfth class day. In no case may unapproved special problems hours be counted toward a degree.

Thesis Option

All course work should be selected in conjunction with the graduate director, members of the thesis/comprehensive exam committees, and other professors in their areas of concentration.

- COMM 6300 - Quantitative Research Methods Credit Hours: 3.0
 - COMM 6305 - Qualitative Research Methods Credit Hours: 3.0
 - COMM 6399 - Masters Thesis Credit Hours: 3
 - COMM 7399 - Masters Thesis Credit Hours: 3
 - One Major Area Theory Course. Credit Hours: 3.0
 - Five Other Graduate Courses. Credit Hours: 15.0
- Note:*
- Six hours of thesis credits (6399 and 7399) are the minimum requirement of hours to complete a thesis. In order to fulfill the requirements of finishing a thesis that is approved by the students thesis committee, the student may be required to enroll in more than the required number of hours.
 - No more than two pre-approved graduate courses may be taken outside of Valenti School of Communication
 - At least five graduate courses need to be in the students are of concentration
 - Three hours of pre-approved 4000-level coursework may be taken.
- Program Total: 30.0 Credit Hours**

Non-Thesis Option



All course work should be selected in conjunction with the graduate director, members of the thesis/comprehensive exam committees, and other professors in their areas of concentration.

Students must complete 33 hours of course work plus three hours earned by taking the comprehensive examination. The student must complete at least 15 hours of approved graduate-level course work in an area of concentration within the School of Communication. The student may take six hours of pre-approved graduate course work in a field outside the School of Communication and may take three hours of 4000-level course work with the pre-approval of the graduate advisor. The student must take at least nine hours of approved course work in another graduate area of concentration inside the School of Communication. The student must pass a comprehensive examination in the final term of the degree program.

- **COMM 6300 - Quantitative Research Methods Credit Hours: 3.0**
- **COMM 6305 - Qualitative Research Methods Credit Hours: 3.0**
- **COMM 6398 - Comprehensive Examination Credit Hours: 3.0**
- One Major Area Theory Course. **Credit Hours: 3.0**
- Eight Other Graduate Courses. **Credit Hours: 24.0**

Note:

- No more than six hours of pre-approved graduate courses may be taken outside of Valenti School of Communication
- At least five graduate courses need to be in the students are of concentration
- Three hours of pre-approved 4000-level coursework may be taken.

Program Total: 36.0 Credit Hours

Mass Communication Studies, MA

Introduction

The Jack J. Valenti School of Communication at the University of Houston offers three Master's degrees directed toward professional success in both academic and non-academic careers. The goal of the program is to produce graduate students who are able to move effectively into professional media positions, advance their current careers, teach in junior colleges or high schools, or enter into top doctoral programs.

To date, our school has placed graduates into top-ranked Ph.D. programs as well as into non-academic positions in both public and private institutions. Regardless of the career goal, the graduate program broadens each student's communication expertise through courses that improve conceptual, applied, and research skills - all of which are critical for successful careers in today's information-oriented and changing global society.

The Master in Mass Communication Studies focuses on the development of modern media systems and their impact on society, and examines ways in which the media contribute and respond to political, social and economic issues.

For more information, contact:

Dr. Jennifer Vardeman-Winter, Director of Graduate Studies, at jvardeman@uh.edu

Admission Requirements

In addition to meeting the college graduate admission requirements, applicants to the communication program must have achieved an undergraduate degree in the area of specialization or have completed at least 18 college-level hours in the field. Students who do not meet this requirement may be required to take remedial course work, which will be specified at the time of admission.

For details on the application process and required documentation, please visit: <http://uh.edu/class/communication/graduate/prospective-students/>

Admission Information

- To be considered eligible for unconditional admittance, the student must :
- Have earned a Bachelor's Degree in an appropriate field from an accredited institution,



- Have a minimum 3.0/4.0 Grade Point Average (GPA) in the last 60 undergraduate hours attempted, and
- Have competitive scores on the GRE which are historically 153 or higher for the verbal portion and 153 or higher for math/quantitative portion in the current scoring system. (Scores are typically in the range of 500 on both the verbal and math-quantitative portions of the exam for the older scoring system.)

Students who have earned several grades of C or below in undergraduate communication courses will not be deemed eligible for this level of admission.

Applicants not meeting the criteria for unconditional admission might be considered for conditional admission.

Any student admitted conditionally must:

- Have a GPA of at least 2.7/4.0 in the last 60 undergraduate hours attempted,
- Have a GPA of at least 3.00 in undergraduate communication course hours
- Have acceptable GRE scores, and
- Have other application materials that suggest the student can succeed in the graduate program.

All materials in the application packet (letters of recommendation, statement of purpose, transcripts and GRE scores) are considered in admission decisions.

Students may have to complete required leveling courses if they do not have adequate background in the degree they are pursuing. There are typically few exceptions to who can be exempt from the leveling courses. Please be aware that these leveling courses will likely extend how long it takes to complete the program.

Conditional admittance requires that the student maintain at least a "B" average in the first 12 hours attempted in graduate school. Conditional students must submit a course adjustment form (available from the director of graduate studies advisor) requesting that their status be changed after those 12 hours have been completed satisfactorily. Students cannot embark on the next stage of the MA program -- the thesis option or the comprehensive exam option -- until they are granted unconditional status. This is normally conferred (1) if the student has completed all undergraduate deficiencies noted at the time conditional status was granted, (2) if the student has fulfilled all graduate degree prerequisites, (3) if the student has terminated all incompletes on her/his graduate record, and (4) if the student has maintained a minimum (3.0) GPA in the graduate program.

Policies on Courses

1. NO course at the 3000 level or below are accepted for graduate credit. NO academic credit may be granted for internships at graduate level
2. Only courses in which a grade A through F is awarded can be applied to the number of hours required for a degree. Courses with grades of U or S do not meet degree requirements, except for comprehensive examination credit, which does not count as hours required for graduation.
3. All students admitted to graduate status must choose on of two options - the Thesis Option or the Comprehensive Exam Option - by the end of 12 hours, of graduate study. The requirements for each option are outlined below.
4. Only one 4000 level course, with an additional research component, may be petitioned for consideration as graduate credit. Undergraduate courses taken to fulfill undergraduate deficiencies will not count as undergraduate courses credited to the graduate program. A petition must be submitted two weeks prior to enrollment and to allow for the multiple signatures required. The completion of a petition does not guarantee acceptance.
5. For courses taken outside of Valenti School of Communication, a petition must be submitted two weeks prior to enrollment and to allow for the multiple signatures required. These hours should supplement the students area of concentration
6. Special Problems Course:

Students may enroll in one special problems course with an individual professor. A special problems course is 3 credit hours. The appropriate section number is available each term from the professor who will direct the study or from the graduate assistant. The student must complete a general petition form outlining the nature of the independent study, the product to be produced and evaluated, and how often student and professor will meet throughout the term. After the professor signs the general petition form, the student needs to submit it to the Director of Graduate Studies. The director of Graduate Studies must, before the last day of enrollment, have approved this petition. A student who fails to comply with this provision will be dropped from the state audit roll if the petition is not on file and approved by the twelfth class day. In no case may unapproved special problems hours be counted toward a degree.



Thesis Option

All course work should be selected in conjunction with the graduate director, members of the thesis/comprehensive exam communities, and other professors in their areas of concentration.

- **COMM 6300 - Quantitative Research Methods Credit Hours: 3.0**
- **COMM 6305 - Qualitative Research Methods Credit Hours: 3.0**
- **COMM 6399 - Masters Thesis Credit Hours: 3**
- **COMM 7399 - Masters Thesis Credit Hours: 3**
- One major area theory course. **Credit Hours: 3.0**
- Five other graduate courses. **Credit Hours: 15.0**

Note:

Six hours of thesis credits (6399 and 7399) are the minimum requirement of hours to complete a thesis. In order to fulfill the requirements of finishing a thesis that is approved by the student's thesis committee, the student may be required to enroll for more than the required number of hours.

- No more than two pre-approved graduate courses may be taken outside of Valenti School of Communication.
- At least five graduate courses need to be in the student's area of concentration
- Three hours of pre-approved 4000-level coursework may be taken.

Program Total: 30.0 Credit Hours

Non-Thesis Option

Students must complete 33 hours of course work plus three hours earned by taking the comprehensive examination. The student must complete at least 15 hours of approved graduate-level course work in an area of concentration within the School of Communication. The student may take six hours of pre-approved graduate course work in a field outside the School of Communication and may take three hours of 4000-level course work with the pre-approval of the graduate advisor. The student must take at least nine hours of approved course work in another graduate area of concentration inside the School of Communication. The student must pass a comprehensive examination in the final term of the degree program.

- **COMM 6300 - Quantitative Research Methods Credit Hours: 3.0**
- **COMM 6305 - Qualitative Research Methods Credit Hours: 3.0**
- **COMM 6398 - Comprehensive Examination Credit Hours: 3.0**

One major area theory course. **Credit Hours: 3.0**

Eight other graduate courses. **Credit Hours: 24.0**

- *Note:*

- No more than six hours of pre-approved graduate courses may be taken outside of Valenti School of Communication
- At least five graduate courses need to be in the students are of concentration
- Three hours of pre-approved 4000-level coursework may be taken.

Program Total:36.0 Credit Hours

Public Relations Studies, MA

Jack J. Valenti School of Communication > Public Relations Studies, MA

Introduction

Admission Requirements

Admission Information

Policies on Courses



Degree Options

- Thesis
- Non-Thesis

Introduction

The Jack J. Valenti School of Communication at the University of Houston offers three Master's degrees directed toward professional success in both academic and non-academic careers. The goal of the program is to produce graduate students who are able to move effectively into professional media positions, advance their current careers, teach in junior colleges or high schools, or enter into top doctoral programs.

To date, our school has placed graduates into top-ranked Ph.D. programs as well as into non-academic positions in both public and private institutions. Regardless of the career goal, the graduate program broadens each student's communication expertise through courses that improve conceptual, applied, and research skills - all of which are critical for successful careers in today's information-oriented and changing global society.

- **The Master in Public Relations Studies** focuses on theory and research that is needed to help advancing practitioners assist organizations to communicate and strengthen relationships with their stakeholders. Emphasis is given to management issues relevant to products, services, image, and public policy issues.

For more information, contact:

Dr. Jennifer Vardeman-Winter, Director of Graduate Studies, at jvardeman@uh.edu

Admission Requirements

In addition to meeting the college graduate admission requirements, applicants to the communication program must have achieved an undergraduate degree in the area of specialization or have completed at least 18 college-level hours in the field. Students who do not meet this requirement may be required to take remedial course work, which will be specified at the time of admission.

For details on the application process and required documentation, please visit: <http://uh.edu/class/communication/graduate/prospective-students/>

Admission Information

To be considered eligible for unconditional admittance, the student must:

- Have earned a Bachelor's Degree in an appropriate field from an accredited institution,
- Have a minimum 3.0/4.0 Grade Point Average (GPA) in the last 60 undergraduate hours attempted, and
- Have competitive scores on the GRE which are historically 153 or higher for the verbal portion and 153 or higher for math/quantitative portion in the current scoring system. (Scores are typically in the range of 500 on both the verbal and math-quantitative portions of the exam for the older scoring system.)

Students who have earned several grades of C or below in undergraduate communication courses will not be deemed eligible for this level of admission.

Applicants not meeting the criteria for unconditional admission might be considered for conditional admission.

Any student admitted conditionally must:

- Have a GPA of at least 2.7/4.0 in the last 60 undergraduate hours attempted,
- Have a GPA of at least 3.00 in undergraduate communication course hours
- Have acceptable GRE scores, and
- Have other application materials that suggest the student can succeed in the graduate program.



All materials in the application packet (letters of recommendation, statement of purpose, transcripts and GRE scores) are considered in admission decisions.

Students may have to complete required leveling courses if they do not have adequate background in the degree they are pursuing. There are typically few exceptions to who can be exempt from the leveling courses. Please be aware that these leveling courses will likely extend how long it takes to complete the program.

Conditional admittance requires that the student maintain at least a "B" average in the first 12 hours attempted in graduate school. Conditional students must submit a course adjustment form (available from the director of graduate studies advisor) requesting that their status be changed after those 12 hours have been completed satisfactorily. Students cannot embark on the next stage of the MA program -- the thesis option or the comprehensive exam option -- until they are granted unconditional status. This is normally conferred (1) if the student has completed all undergraduate deficiencies noted at the time conditional status was granted, (2) if the student has fulfilled all graduate degree prerequisites, (3) if the student has terminated all incompletes on her/his graduate record, and (4) if the student has maintained a minimum (3.0) GPA in the graduate program.

Policies on Courses

1. NO course at the 3000 level or below are accepted for graduate credit. NO academic credit may be granted for internships at graduate level
2. Only courses in which a grade A through F is awarded can be applied to the number of hours required for a degree. Courses with grades of U or S do not meet degree requirements, except for comprehensive examination credit, which does not count as hours required for graduation.
3. All students admitted to graduate status must choose on of two options - the Thesis Option or the Comprehensive Exam Option - by the end of 12 hours, of graduate study. The requirements for each option are outlined below.
4. Only one 4000 level course, with an additional research component, may be petitioned for consideration as graduate credit. Undergraduate courses taken to fulfill undergraduate deficiencies will not count as undergraduate courses credited to the graduate program. A petition must be submitted two weeks prior to enrollment and to allow for the multiple signatures required. The completion of a petition does not guarantee acceptance.
5. For courses taken outside of Valenti School of Communication, a petition must be submitted two weeks prior to enrollment and to allow for the multiple signatures required. These hours should supplement the students area of concentration
6. Special Problems Course:
Students may enroll in one special problems course with an individual professor. A special problems course is 3 credit hours. The appropriate section number is available each term from the professor who will direct the study or from the graduate assistant. The student must complete a general petition form outlining the nature of the independent study, the product to be produced and evaluated, and how often student and professor will meet throughout the term. After the professor signs the general petition form, the student needs to submit it to the Director of Graduate Studies. The director of Graduate Studies must, before the last day of enrollment, have approved this petition. A student who fails to comply with this provision will be dropped from the state audit roll if the petition is not on file and approved by the twelfth class day. In no case may unapproved special problems hours be counted toward a degree.

Thesis Option

All course work should be selected in conjunction with the graduate director, members of the thesis/comprehensive exam committees, and other professors in their areas of concentration.

- **COMM 6300 - Quantitative Research Methods Credit Hours: 3.0**
- **COMM 6305 - Qualitative Research Methods Credit Hours: 3.0**
- **COMM 6399 - Masters Thesis Credit Hours: 3**
- **COMM 7399 - Masters Thesis Credit Hours: 3**
- One major area theory course. **Credit Hours: 3.0**
- Five other graduate courses. **Credit Hours: 15.0**

Note:



Six hours of thesis credits (6399 and 7399) are the minimum requirement of hours to complete a thesis. In order to fulfill the requirements of finishing a thesis that is approved by the student's thesis committee, the student may be required to enroll in more than the required number of hours.

- No more than two pre-approved graduate courses may be taken outside of Valenti School of Communication.
- At least five graduate courses need to be in the student's area of concentration
- Three hours of pre-approved 4000-level coursework may be taken.

Program Total: 30.0 Credit Hours

Non-Thesis Option

Students must complete 33 hours of course work plus three hours earned by taking the comprehensive examination. The student must complete at least 15 hours of approved graduate-level course work in an area of concentration within the School of Communication. The student may take six hours of pre-approved graduate course work in a field outside the School of Communication and may take three hours of 4000-level course work with the pre-approval of the graduate advisor. The student must take at least nine hours of approved course work in another graduate area of concentration inside the School of Communication. The student must pass a comprehensive examination in the final term of the degree program.

- **COMM 6300 - Quantitative Research Methods Credit Hours: 3.0**
- **COMM 6305 - Qualitative Research Methods Credit Hours: 3.0**
- **COMM 6398 - Comprehensive Examination Credit Hours: 3.0**
- One major area theory course. **Credit Hours: 3.0**
- Eight other graduate courses. **Credit Hours: 24.0**

Note:

- No more than six hours of pre-approved graduate courses may be taken outside of Valenti School of Communication.
- At least five graduate courses need to be in the student's area of concentration
- Three hours of pre-approved 4000-level coursework may be taken.

Program Total: 36.0 Credit Hours

Department of Communication Sciences and Disorders

Master

Communication Disorders, MA

The Master of Arts education program in Speech Language Pathology at the University of Houston is accredited by the Council on Academic Accreditation in Audiology and Speech-Language Pathology of the American Speech-Language-Hearing Association (ASHA).

Therefore, the Communication Disorders MA provides students with the required academic and practicum experience to apply for the Certificate of Clinical Competence (CCC) of ASHA and to apply for licensure to practice speech language pathology in Texas. Students who complete this program are prepared to take the national Praxis Speech Language Pathology exam and to begin their clinical fellowships, the final required steps to reaching full certification (CCC).

Students who pursue this degree are interested in the theory, science, and methods of improving impaired human communication and swallowing. Speech language pathologists help people who have problems with language, speech, cognition, and swallowing. Individuals with disorders of language include children who do not meet developmental expectations due to many causes as well as individuals (adults and children) who have acquired disorders following a stroke, traumatic brain injury, or other medical condition. Language disorders may also be due to deficits in the social use of language, known as pragmatics. Some people who cannot use traditional spoken language for communication work with speech-language pathologists using alternative forms to share their messages. This may include sign language or an electronic device. Speech disorders often occur in children who produce sound errors along with other individuals (adults and children) who stutter or have acquired speech disorders due to stroke, traumatic brain injury, or other neurological disorders. Cognitive disorders that underlie communication, such as attention, memory, organization and reasoning, can be impaired after brain injury or can be part of a developmental disorder. Swallowing disorders, although usually the result of a



medical condition, may also be a result of behavioral factors. Students in the Communication Disorders MA program learn about all of these areas. Graduates, upon completing the Praxis exam and 9 month clinical fellowship requirements leading to the CCC, will serve in settings from private homes to schools to hospitals and clinics, and work with clients across the life span.

For more information, please visit the Communication Sciences and Disorders website (www.uh.edu/class/comd/).

Admission Requirements

In addition to meeting the College of Liberal Arts and Social Sciences graduate admission requirements, applicants to the program must have completed required background courses in basic sciences (physical, biological, and social/behavioral), statistics, and normal human communication processes at the undergraduate or post-baccalaureate level with a grade point average of at least 3.00 (A=4.00). Less tangible factors also contribute to admission decisions. These may include:

1. communicating effectively and interacting constructively in a clinical and/or supervisory relationship,
2. the ability to use critical thinking and problem solving, and
3. the potential for contributing to the profession of speech-language pathology.

Information on how to apply can be found on the How to Apply to UH Graduate School. Specific requirements include:

- official transcripts from each university attended
- official GRE scores
- personal statement
- three letters of recommendation and
- resume

International applicants should visit the International Graduate Students page to learn more about the additional required documentation and English language proficiency requirements. All applications require an application fee.

Degree Requirements

Credit hours required for this degree: 49.0 - 52.0

Plan I: Thesis Option

Students must complete:

- A minimum of 52.0 Credit Hours
 - 31.0 Credit Hours in content courses in the major
 - 15.0 Credit Hours of practicum experience
 - 6.0 Credit Hours will consist of thesis credit
- An oral defense of the thesis is required
- Must pass one evidence-based practice report

Plan II: Non-Thesis Option

Students must complete:

- A minimum of 49.0 Credit Hours
 - 31.0 Credit Hours in content courses in the major
 - 15.0 Credit Hours of practicum experience
 - 3.0 Credit Hours of electives
 - The elective can be an approved elective taken in Communication Sciences and Disorders or selected from pre-approved courses outside the department.



- A comprehensive examination is required
- Must pass two evidence-based practice reports

Core Courses

- COMD 6230 - Autism Spectrum Disorders Credit Hours: 2.0
- COMD 6240 - Augmentative and Alternative Communication Credit Hours: 2.0
- COMD 6261 - Research and Critical Thinking Credit Hours: 2.00
- COMD 6321 - Swallowing Disorders Credit Hours: 3.00
- COMD 6326 - Motor Speech Disorders Credit Hours: 3.0
- COMD 6328 - Acquired Cognitive Disorders Credit Hours: 3.0
- COMD 6334 - Aphasia & Related Com Disorder Credit Hours: 3.0
- COMD 6372 - Remediation of Childhood Language Disorders Credit Hours: 3.00
- COMD 6387 - Voice Disorders Credit Hours: 3.0
- COMD 7270 - Graduate Seminar in Speech-Language Pathology Credit Hours: 2.0
- COMD 7221 - Fluency Disorders Credit Hours: 2.00
- COMD 7322 - Speech Sound Disorders Credit Hours: 3.00

Academic Policies

- University of Houston Academic Policies
- Academic Policies: College of Liberal Arts and Social Sciences

In general, the Communication Disorders MA academic policies mirror those of the University and College of Liberal Arts and Social Sciences. However, this program is more rigorous in the area of academic progress. A student in the COMD Master's program may only have one grade lower than a B-in an academic class or below a B in clinic/externship before being dismissed due to insufficient academic progress. A student who is unable to pass the evidence-based practice report following intervention also may be dismissed due to lack of academic progress. Additionally, students removed from graduate standing are not eligible to enroll in practicum courses.

Doctoral

Communication Sciences and Disorders, PhD

The primary educational objective of the PhD in Communication Sciences and Disorders is to provide students with preparation for academic careers in the field of speech-language pathology/communication sciences and disorders. The program is mentor-based with the student and mentor designing a program of study that meets the student's goals within the general guidelines of the program as outlined (e.g., number of credits, first-year project). Given the broad range of research areas by our faculty, applicants must identify an area of study and the potential professor(s) with whom they share common scientific interests. Acceptance of a student into the COMD PhD program is determined on an individual basis by a number of factors including GRE scores, GPA, letters of recommendation and identification of an area of study and agreement by a COMD faculty member to provide mentoring. A UH COMD faculty member must accept the responsibility of being the student's primary mentor before the applicant is admitted to the PhD program.

For more on the program, please visit: <http://www.uh.edu/class/comd/programs/phd/>.

Admission Requirements

Acceptance of a student into the COMD PhD program is determined on an individual basis by a number of factors.



1. Students must meet or exceed the minimum requirements of the Graduate School of the University of Houston (see <http://www.uh.edu/graduate-school/admissions/how-to-apply/>). The University of Houston requires that doctoral applicants have earned at least a bachelor's degree from a regionally accredited U.S. institution or at an institution at which English is the medium of instruction in Communication Science and Disorders or a related discipline. (See the Graduate School's web page for international applicants for additional requirements for international students at <https://www.uh.edu/graduate-school/international-students/>.)
2. Official transcripts from each college or university attended previously, including the degree(s) earned and date(s) of all higher-education academic experience should be submitted.
3. Recent (within the past five years) GRE scores.
4. Identification of and preliminary interview with a potential faculty mentor.
5. A personal resume and statement of interest.

Degree Requirements

Credit hours required for this degree: 54.0

The doctoral program in COMD is mentor-based with the student and mentor designing a program of study that meets the student's goals within the general guidelines of the program.

Students entering with a Master's Degree are required to complete a minimum of 54 semester credit hours.

Students entering with a Bachelor's degree are required to earn an additional 30 semester credit hours, for a total of 84 semester credit hours.

A set of core classes are required from all PhD students to ensure the quality of their training: COMD 8392, Advanced research Methods; COMD 8x91, COMD Research; COMD 8x93 COMD Proseminar; COMD 8397 Selected Topics in COMD; 8x99 Dissertation. In addition, six credits outside the major in related fields (e.g. Psychology, Health and Human Performance, Bioengineering), one or more three-credit courses on advanced statistics, and a three-credit elective course on teaching are required.

Students will successfully complete an initial research project in the area of concentration that includes a written manuscript and an oral presentation of the project. Nearing the completion of the course work (typically after 4 full terms or about 40 credit hours), a Comprehensive Examination, the format of which will be determined by the student's committee, must be successfully passed before commencing dissertation work and admission to candidacy for the doctoral degree.

Both full time and part-time students will be accepted into the program. Full-time enrollment constitutes 9 credit hours per term, and students taking 6 or fewer credit hours are considered part-time. Students can complete the program as part-time as long as their plan of study fits within the 10-year timeframe allowed by the university.

In accordance with UH policies, up to 9 credits of graduate coursework may be transferred from other accredited institutions and counted towards the minimum hours required to complete the program, subject to the approval of the primary mentor and the University of Houston.

Academic Policies

- University of Houston Academic Policies
- Academic Policies: College of Liberal Arts and Social Sciences
- Department Academic Policies
 - Two grades of C or lower during the course of the graduate program are grounds for automatic dismissal. The PhD degree is expected to be completed by students within four-five years after admission to graduate school. The maximum expected time allowed for the completion of the PhD degree after admission is six years unless an exception has been granted. A satisfactory rate of progress toward completion of the degree requirements is required throughout enrollment. The department may terminate a student's enrollment at any time if the rate of progress or academic performance is not satisfactory.

Department of Comparative Cultural Studies



Master

Anthropology, MA

College of Liberal Arts and Social Sciences > Department of Comparative Cultural Studies > Anthropology, MA.

The Anthropology program in the Department of Comparative Cultural Studies offers a Master of Arts that allows concentration within the Cultural Anthropology, Archaeological Anthropology, and Biological Anthropology subdisciplines, according to the student's interests. Anthropology is a holistic discipline studying humans past and present and teaches students how to navigate our multicultural world and add to the knowledge of humanity today and in the past. The typical student that pursues this degree has an interest in doing research in prehistoric or historic populations or in working in contemporary agencies and businesses who need expertise in multicultural situations. Our graduates typically enter a PhD program for further study, teach in community colleges, or work as applied anthropologists in a variety of fields.

Please see: <http://www.uh.edu/class/ccs/anthropology/graduate/>.

Admission Requirements

An applicant should have completed a Bachelor of Arts or Bachelor of Science degree, preferably with a social science background but many majors are acceptable. An anthropology undergraduate major is not required, but the student should have a GPA of 3.0 out of 4.0 in the last 60 hours of the undergraduate degree. Anthropology can usefully be added to many career paths because of its broad subject area. The applicant should submit an official transcript with degree posted, three letters of recommendation, a writing sample, and GRE test scores, plus a \$50 application fee for domestic applicants/\$125 for international applicants. Information on additional requirements for international applicants can be found on the Graduate School website. Recent graduates from the main campus with a GPA of 3.4 are currently exempted from the GRE requirement.

Degree Requirements

Credit hours required for this degree: 36.0 (30 credit hours and six credit hours of master's thesis)

Required Courses (15.0 credit hours)

- ANTH 6300 - Foundations of Anthropological Theory Credit Hours: 3.0
- ANTH 6310 - Anthropological Research Design Credit Hours: 3.0
- ANTH 6325 - Computer-Based Data Analysis in Anthropology Credit Hours: 3.00
- ANTH 6399 - Masters Thesis Credit Hours: 3
- ANTH 7399 - Masters Thesis Credit Hours: 3

Subdiscipline Option (6.0 credit hours)

It is expected that students will concentrate on one of the subdisciplines of Anthropology that are offered by the graduate faculty. Complete six credit hours from one of the following three lists:

Cultural Anthropology

- ANTH 6311 - Issues and Debates in Social/Cultural Theory Credit Hours: 3.0
- ANTH 6315 - Sem-Ethnographic Anlys Credit Hours: 3.0
- ANTH 6322 - Seminar in Medical Anth Credit Hours: 3.0
- ANTH 6330 - Applied Anthropology Credit Hours: 3.0



Archaeology/Bioarchaeology

- ANTH 6312 - Proseminar-Physical Ant Credit Hours: 3.0
- ANTH 6313 - Sem Archaeo Mthds/Thry Credit Hours: 3.0

Physical (Biological) Anthropology

- ANTH 6312 - Proseminar-Physical Ant Credit Hours: 3.0
- ANTH 6322 - Seminar in Medical Anth Credit Hours: 3.0

Elective Course Options (15.0 credit hours)

The remaining 15.0 credit hours can be taken as electives from other graduate-level courses offered in anthropology. Six credit hours can be taken outside the department, if approved by the graduate advisor and relevant to the student's thesis research. These may include courses in Biology, Geographic Information Systems, Sociology, and graduate anthropology courses at Rice University that do not have equivalents in our program. For information on requesting permission to take courses at Rice, visit [Inter-Institutional Agreement](#).

Besides course work, students must pass a three-part comprehensive exam based on anthropological theory and two of the subdiscipline courses listed above. This comprehensive examination is given in Fall and Spring in the 5th week and involves a three-hour period to answer a question posed by the graduate faculty.

Academic Policies

[University of Houston Academic Policies](#)

[College Academic Policies](#)

Department of Economics

Master

Applied Economics, MA

[Liberal Arts & Social Sciences > Department of Economics > Applied Economics, MA](#)

The department offers a program of study leading to the Master of Arts degree in Applied Economics. The Master of Arts in Applied Economics degree is offered under two 30-hour plans; an internship option or an applied project option. Students of this program will be trained in microeconomics, macroeconomics, econometrics and time-series data analysis. In addition, these general skills will be applied to the areas of health, financial, and energy economics for more focused training. While it is not necessary to possess an undergraduate degree in economics, applicants must have completed intermediate level courses in microeconomics and macroeconomics as well as an introduction to regression analysis course during their undergraduate careers. This 12-month master's degree program allows you to obtain valuable economic and data analysis skills for careers in business and government.

Please visit the following website for more information: <http://www.uh.edu/class/economics/graduate/master/>.

Admission Requirements

Admission to the program is competitive. To be considered for admission, each applicant should meet the following pre-requisites:



- Awarded a baccalaureate degree from an accredited institution
- Maintained at least a 3.0 GPA in the most recent 60 semester hours of undergraduate course work attempted
- Have completed the following pre-requisite courses (or equivalents):
 - Intermediate Microeconomics (UH ECON 3332)
 - Intermediate Macroeconomics (UH ECON 3334)
 - Introduction to Econometrics (a regression analysis course) (UH ECON 3370)
 - Calculus I or Calculus for Business and Social Science (UH MATH 1431 or 1314)
- All applicants with a minimum undergraduate GPA of 3.4 and who have graduated from an accredited US institution within three years preceding the term for which they are applying are not required to submit GRE scores. Applicants who do not meet the requirements for this waiver must have taken the Graduate Record Examination (GRE) with a preferred total score of 300 (Verbal & Quantitative combined)
 - There is no formal minimum requirement to be considered for admission. However, successful applicants have typically scored a minimum of 150 on the quantitative section & at least 3.5 on the writing portion.

All applicants must submit official transcripts from all institutions attended, GRE scores (if not waived), a personal statement, three letters of recommendation, and a current resume or CV. TOEFL or IELTS is required of students whose country's official native language is not English. In addition, the university requires submission of an application fee. Detailed information regarding these fees may be found here: <http://www.uh.edu/financial/graduate/tuition-fees/college-fees/>.

The department only accepts applications for the MA in Applied Economics for the Fall semester. The department does not admit new students in the spring or summer sessions. The department will begin reviewing completed application packages in mid-February with a final application deadline of May 1. Applications which are received after mid-February through May 1 will continue to be reviewed on a rolling basis. Please be aware that space is limited. Submitting your application materials early will increase your chances of acceptance. No applications are accepted after May 1.

Degree Requirements

Credit hours required for this degree: 30.0

The MA in Applied Economics is designed to be completed within one calendar year. The program begins in the fall semester. Coursework continues through the subsequent spring semester and is completed with an applied project course or internship hours in the following summer. All students are expected to enroll in six (6) hours in the final summer term and must be present to attend applied project class meetings or work in an internship job they have obtained. In some cases, students may complete the program with a thesis (in lieu of internship or project hours), but this option requires committee approval by the middle of the spring term. Students interested in this option must notify the director of the program by the beginning of the spring term. In addition, the thesis option generally requires an additional semester of enrollment. Any student who is approved for this option should expect to graduate in December.

Program Requirements

There are 2 plans under which graduate students can earn a Master of Arts in Applied Economics: MA Plan I: 24 hours of coursework and 6 hours of an approved internship [ECON 6691]; MA Plan II: 24 hours of coursework and 6 hours of approved applied project work [ECON 6693]. Elective courses vary but generally include ECON 6340 Health Economics, ECON 6345 Energy Economics, and ECON 6353 Capital Market Economics. Students may opt to take 3 semester hours of elective coursework outside of the department. Outside courses must be approved by the program director in advance. Students must maintain a cumulative grade point average of 3.00 or above and satisfactorily complete a comprehensive examination. Required courses are listed below.

Core Economics

- ECON 6475 - Macroeconomic Analysis Credit Hours: 4.0
- ECON 6485 - Microeconomic Analysis Credit Hours: 4.0

Statistical Techniques

- ECON 6351 - Economic Forecasting Credit Hours: 3.0



- ECON 6465 - Econometrics Credit Hours: 4.0

Applied Economics

- ECON 6345 - Energy Economics Credit Hours: 3.0
- ECON 6353 - Capital Market Economics Credit Hours: 3.0
- ECON 6340 - Health Economics Credit Hours: 3.0
or approved substitutes

Internship or Thesis

- ECON 6691 - Master's Internship Credit Hours: 6.0 or
- ECON 6693 - Master's Research Project Credit Hours: 6

Academic Policies

- University of Houston Academic Policies
- Academic Policies: College of Liberal Arts and Social Sciences

Doctoral

Economics, PhD

College of Liberal Arts and Social Sciences > Department of Economics > Economics, PhD

The Department of Economics offers a program leading to the Ph.D. degree in Economics designed to provide students rigorous training in economic theory and quantitative skills as well as an intensive exposure to several specialized areas of Economics. Ph.D. training provides skills needed in academic, government, or business careers.

For more information, please visit the Doctoral Program In Economics page.

Admission Requirements

A degree in Economics is not required to apply for the Economics Ph.D. program. Neither is a masters degree.

Mathematical preparation is a significant factor in the faculty's decision to admit students and is a crucial factor in student success. The department recommends the following courses (or the equivalent material be mastered) prior to enrolling. The courses are listed in order of importance.

1. Calculus I, II, and III (MATH 1431, 1432, 2433)
2. Linear Algebra (MATH 2331)
3. Probability (MATH 3338) and Statistics (MATH 3339)
4. Differential equations (MATH 3331)
5. Introduction to Real Analysis (MATH 4331)

The following are required to apply to this program:

1. Official transcripts from all schools attended.
2. A personal statement and resume - The PS counts as your writing sample as well and should be no longer than 2 pages.
3. Letters of recommendation from 3 faculty members - at least one from your most recent institution.
4. Application fee - \$50 domestic applications; \$125 international applicants



5. Additional requirements for international applicants can be found on the International Graduate Students page.

Degree Requirements

Credit hours required for this degree: 90.0

- Grade point average in graduate classes of at least 3.0 (4.0 = A)
- Successful completion of the comprehensive exams at the Ph.D. level
- Successful completion of a 2nd-year project
- Successful completion of the 3rd-year paper
- Successful completion of end of year presentations in May of the 3rd year, December of the 4th year, and May of the 4th year
- Successful completion and defense of the dissertation

Coursework

48 hours of coursework composed of the following:

Core courses (21 hours)

- ECON 7341 - Microeconomic Theory I Credit Hours: 3.0
- ECON 7342 - Microeconomic Theory II Credit Hours: 3.0
- ECON 7343 - Macroeconomic Theory I Credit Hours: 3.0
- ECON 7344 - Macroeconomic Theory II Credit Hours: 3.0
- ECON 7330 - Quantitative Economic Analysis Credit Hours: 3.0
- ECON 7331 - Econometrics I Credit Hours: 3.0
- ECON 8331 - Econometrics II Credit Hours: 3.0

Electives (27 hours) subject to the following restrictions

- 6 hours maximum in ECON 7390 - Research & Readings - Economic Credit Hours: 3.0
- 6 hours maximum in courses taken outside the department
- Additional hours outside the department or in independent study may be allowed subject to the discretion of the Graduate Director.

Workshops

18 hours of workshops:

- ECON 8361 - Workshop Research Methods III Credit Hours: 3.0 is required both semesters of the third year. All 3rd-year students enroll in the same section of this course.
- ECON 8362 - Workshop Research Methods IV Credit Hours: 3.0 AND
- ECON 8363 - Workshop in Research Methods V Credit Hours: 3.0 are required in both semesters of the 4th- and 5th-year, respectively. Sections of these workshops vary by subject matter.

Seminars

12 hours in seminars:

- ECON 7301 - Seminar in Microeconomic Research Credit Hours: 3.0
- ECON 7302 - Seminar in Macroeconomic Research Credit Hours: 3.0
- Seminar enrollment is required in every semester beginning in the fourth year and continuing until the Ph.D. is awarded



- Students may substitute an elective course for a seminar

Dissertation

12 hours in dissertation:

- ECON 8399 - Doctoral Dissertation **Credit Hours: 3**

M.A. Requirements

For students who decide to leave the program before fulfilling the Ph.D., or do not fulfill the requirements to continue in the Ph.D. program, an M.A. degree will be awarded upon the completion of the following requirements.

- Grade point average in graduate courses of at least 3.0 (4.0 = A).
- Successful completion of the comprehensive exams at the M.A. level.
- Doctoral research hours do not count toward the 36 hours of course work.

Coursework

36 hours of course work composed of the following:

Core courses (21 hours)

- ECON 7341 - Microeconomic Theory I **Credit Hours: 3.0**
- ECON 7342 - Microeconomic Theory II **Credit Hours: 3.0**
- ECON 7343 - Macroeconomic Theory I **Credit Hours: 3.0**
- ECON 7344 - Macroeconomic Theory II **Credit Hours: 3.0**
- ECON 7330 - Quantitative Economic Analysis **Credit Hours: 3.0**
- ECON 7331 - Econometrics I **Credit Hours: 3.0**
- ECON 8331 - Econometrics II **Credit Hours: 3.0**

Electives (15 hours) subject to the following restrictions

- 3 hours maximum in ECON 7390 - Research & Readings - Economic **Credit Hours: 3.0**
- 3 hours maximum in courses taken outside the department

- Additional hours outside the department or in independent study may be allowed subject to the discretion of the Graduate Director. The Economics department allows a maximum of 6 hours to be transferred from graduate courses taken at other schools toward an M.A. in Economics. The graduate director will determine the transferability of credits. The university allows more credits to be transferred toward a Ph.D. at the discretion of the graduate director.

The department encourages students who have received their M.A. elsewhere to enroll in the Ph.D. program. If a student has an M.A. in Economics from another university, equivalent courses may be waived and credit transferred toward a Ph.D. However, the doctoral transfer student must still receive a grade of "Ph.D. Pass" on both parts of the theory examination administered by the University of Houston Economics Department.

Transfer students who have successfully completed first-year courses at another Ph.D. program are allowed to take the theory examinations in the summer prior to their enrollment at the University of Houston. If they receive a "Ph.D. Pass" grade on an examination (micro or macro) they do not have to complete the first-year course in that area. This attempt at the theory examinations does not count towards their two formal attempts.

Academic Policies

OUTLINE OF PROGRAM



	FALL SEMESTER	SPRING SEMESTER	SUMMER
1ST YEAR	ECON 7341 - Microeconomic Theory I	ECON 7342 - Microeconomic Theory II	COMPREHENSIVE EXAMS
	ECON 7343 - Macroeconomic Theory I	ECON 7344 - Macroeconomic Theory II	
	ECON 7330 - Quantitative Economic Analysis	ECON 7331 - Econometrics I	
2ND YEAR	ECON 8331 - Econometrics II	ELECTIVE	2 ND YEAR PROJECT
	ELECTIVE	ELECTIVE	
	ELECTIVE	ELECTIVE	
3RD YEAR	ECON 8361 - Workshop Research Methods III	ECON 8361 - Workshop Research Methods III	DISSERTATION RESEARCH
	ELECTIVE	ELECTIVE	
	ELECTIVE	ELECTIVE	
		3 RD YEAR PAPER DUE IN MAY	
4TH YEAR	ECON 8362 - Workshop Research Methods IV	ECON 8362 - Workshop Research Methods IV	DISSERTATION RESEARCH
	ECON 7301 - Seminar in Microeconomic Research/ECON 7302 - Seminar in Macroeconomic Research	ECON 7301 - Seminar in Microeconomic Research/ECON 7302 - Seminar in Macroeconomic Research	
	ECON 8399 - Doctoral Dissertation	ECON 8399 - Doctoral Dissertation	
	PRESENTATION IN DECEMBER	PRESENTATION IN MAY	
5TH YEAR	ECON 8363 - Workshop in Research Methods V	ECON 8363 - Workshop in Research Methods V	
	ECON 7301 - Seminar in Microeconomic Research/ECON 7302 - Seminar in Macroeconomic Research	ECON 7301 - Seminar in Microeconomic Research/ECON 7302 - Seminar in Macroeconomic Research	
	ECON 8399 - Doctoral Dissertation	ECON 8399 - Doctoral Dissertation	
		THESIS DEFENSE	

COURSE LOAD

All graduate students receiving financial aid from the department are required to enroll in nine hours each semester during the regular academic year and six hours in the summer (if they are funded for the summer).



Full-time graduate students not receiving financial aid must enroll in a minimum of 9 hours each semester during the regular academic year.

COMPREHENSIVE EXAMINATIONS

Written examinations in micro and macro theory are required after the completion of the second regular semester of full-time course work. The first set of exams are given late May or early June. Each exam is graded anonymously according to the following scale:

1. "Superior". The student demonstrates mastery of the material examined.
2. "Good". The student demonstrates understanding of the material examined, but there are some deficiencies.
3. "Poor". The student demonstrates significant deficiencies in their understanding of the material examined.
4. "Fail". The student does not take the test or demonstrates no understanding of the material examined.

Following the first set of exams, the Graduate Committee, acting on recommendations from the Graduate Director, will make a determination of each student's status as follows:

1. If the student achieves a Superior on all exams, the student has completed the comprehensive exam requirement at the Ph.D. level.
2. If the student has not achieved a Superior on all exams, the Graduate Committee may determine that the student's totality of work, including grades, is sufficient to warrant advancement and the student has completed the comprehensive exam requirement at the Ph.D. level.
3. If the student has not achieved a Superior on all exams, and the Graduate Committee does not feel the student's body of work warrants advancement, it will inform the student of which individual exams must be retaken in order to advance.

A second set of examinations are given in the week before classes begin in August. These exams are graded on the same scale as above. Following the second set of exams, the Graduate Committee, acting on recommendations from the Graduate Director, will make a final determination of each student's status as follows:

1. If the student has, accounting for both sets of exams, achieved a Superior on all exams, the student has completed the comprehensive exam requirement at the Ph.D. level.
2. If the student has not achieved a Superior on all exams, the Graduate Committee may determine that the student's totality of work, including grades, is sufficient to warrant advancement and the student has completed the comprehensive exam requirement at the Ph.D. level.
3. If the student has not achieved a Superior on all exams, and the Graduate Committee does not feel the student's body of work warrants advancement to Ph.D. candidacy but did show sufficient understanding, it will inform the student that they have completed the comprehensive exam requirement at the MA level. The student is allowed to continue taking courses in their second year and can receive the MA degree if they fulfill the remaining requirements.
4. If the student does not fall into any of the first three categories, then the student has not completed the comprehensive exam requirement at either Ph.D. or MA level, and will not be awarded a degree.

No further attempts at the examinations are allowed after August following the first year of study at UH.

2nd YEAR PROJECT

By the end of May following their 2nd year, each student must have a written project proposal signed by a faculty advisor who has agreed to oversee the project. The proposal should be created in collaboration with the faculty advisor and specifies the required work to be completed over the summer following the 2nd year. The exact nature of this work is up to the faculty advisor and student, and could include, but is not limited to, the following: a detailed presentation of core papers in a given field, replication of an existing empirical or quantitative paper, collection of new data, or a paper based on an original idea.

The project is due prior to the first day of classes in August following the student's 2nd year of study. The project will be evaluated by the faculty advisor, who will inform the Graduate Director if the student has successfully completed the project.

If the Graduate Committee, acting on the recommendation of the faculty advisor and Graduate Director, deems the project satisfactory, the student is admitted to Ph.D. candidacy. If the paper is not satisfactory, the Graduate Committee may, at their discretion, issue a "revise and resubmit" to the student. In this case, the student has until the last day of classes of the fall semester of their 3rd year to complete a new version of the project. If the Graduate Committee, acting again on the recommendation of the advisor and Graduate Director, find the new version satisfactory, the student will



be admitted to Ph.D. candidacy. If the Graduate Committee, either at the initial submission in August, or at the revised submission, decide that the project is not satisfactory, then the student will not be admitted to Ph.D. candidacy but can complete their 3rd-year courses and remain eligible to graduate with the MA degree.

3rd YEAR PAPER

This paper is due by May 15th following the student's 3rd year of study. The paper will be evaluated by a reading committee of three faculty members selected by the student and approved by the Graduate Director. The 3rd year paper must be original research done by the student on a topic of their choice.

If the Graduate Committee, acting on the recommendation of the reading committee, deems the paper satisfactory, the student is allowed to continue as a Ph.D. candidate. If the paper is not satisfactory, the Graduate Committee may, at its own discretion, issue a "revise and resubmit" to the student. In this case, the student has until the first day of class in August of that year to complete a new version of the paper. That paper will be evaluated by September 10th. If that new version is satisfactory to the Graduate Committee, the student will be allowed to continue in the program.

If the paper is deemed unsatisfactory at either the initial submission in May or at the revised submission in August, the student may remain in classes for their 4th year and is eligible to graduate with the MA.

3rd AND 4th YEAR PRESENTATIONS

Shortly after the end of classes in May of the 3rd year, and both December and May of the 4th year, students will be expected to give a presentation of their current research in progress to the entire faculty. The time allotted for the presentations will be set by the Graduate Director.

DISSERTATION DEFENSE

The dissertation will be supervised by a committee agreed upon by the student, the primary faculty dissertation advisor, and the graduate director. The committee must include one member from outside the department. The committee is typically composed of the primary faculty advisor (committee chair), two other faculty advisors from the department, and the member from outside the department. The Ph.D. degree is awarded when the student has successfully defended the dissertation before the graduate faculty of the department and turned in the completed dissertation to the appropriate university office.

CHANGE IN REQUIREMENTS

Students may petition the graduate director for permission to deviate from particular program requirements. Such petitions must be in writing and should include a justification for the proposed change.

TRANSFER STUDENTS

The Economics department allows a maximum of 6 hours to be transferred from graduate courses taken at other schools toward an M.A. in Economics. The graduate director will determine the transferability of credits. The university allows more credits to be transferred toward a Ph.D. at the discretion of the graduate director.

The department encourages students who have received their M.A. elsewhere to enroll in the Ph.D. program. If a student has an M.A. in Economics from another university, equivalent courses may be waived and credit transferred toward a Ph.D. However, the doctoral transfer student must still receive a grade of "Ph.D. Pass" on both parts of the theory examination administered by the University of Houston Economics Department.

Transfer students who have successfully completed first-year courses at another Ph.D. program are allowed to take the theory examinations in the summer prior to their enrollment at the University of Houston. If they receive a "Ph.D. Pass" grade on an examination (micro or macro) they do not have to complete the first-year course in that area. This attempt at the theory examinations does not count towards their two formal attempts.



OFFICE SPACE AND FACILITIES

The Department provides most funded graduate students with office space for study and interaction with other students. The department also runs a fully equipped graduate student computer lab with state-of-the-art personal computers and software.

FINANCIAL AID

The department offers several assistantships for academic support, research, or teaching in the first year. These positions pay a monthly stipend and allow tuition to be waived and fees to be paid at in-state rates. These stipends cover the 9-month school year and very often some or all of the summer months. Summer support, however, is not guaranteed. All financial support is allocated by the department graduate director and is contingent upon available funding.

In return for financial support, and as part of graduate training in economics, graduate assistants help with instruction and research. Compensation is directly related to hours of work and level of responsibility. Teaching assistants work 20 hours per week supporting faculty teaching and research. Teaching fellows teach a section of introductory economics. All assistantships are awarded on a competitive basis under the following guidelines:

Entering Students. Only students with outstanding transcripts, GRE scores, and other favorable credentials are offered aid in the first year. The Graduate Committee allocates these assistantships. Supplemental funding is also available, on a competitive basis, from the Office of Graduate and Professional Studies.

Second through Fifth Year. Any full-time student on financial aid making satisfactory progress in the program is assured partial aid in the second through the fourth year.

A student who was awarded aid in the first year will receive aid in the second year if the student has taken the theory exams and maintained a 3.0 grade point average. Students who receive a superior on the theory examination and maintain good progress will receive financial aid in their third and fourth years. Aid in the fifth year is provided if the candidate is making good progress on the dissertation.

Only senior graduate students with the requisite academic performance and communication skills are assigned as teaching fellows.

Responsibilities and Progress. Students are expected to perform their research and teaching responsibilities in a professional manner. Poor performance can result in the loss of financial aid.

Department Academic Policies

Academic Policies: College of Liberal Arts and Social Sciences

University of Houston Academic Policies

Dual Degree - Graduate

Applied Economics, MA/Public Policy, MPP

The Department of Economics, College of Liberal Arts and Social Sciences (CLASS), and Hobby School of Public Affairs offer a graduate dual degree in MA Applied Economics (MAAE) and Master of Public Policy (MPP) to prepare students for careers in public policy. This program combines theoretical and analytical framework for designing/evaluating public policies offered by the MAAE with theories/strategies to develop public policies and understand political processes through which policies are implemented offered by the MPP. Through this dual program, students earn both an MA and MPP with fewer semester hours than it would take to earn each degree independently.

Admission Requirements



Participation in the dual MA Applied Economics/MPP program requires separate applications to and acceptance by each of the participating schools within a calendar year. Applicants must meet admission requirements of both programs. Admission to one has no official bearing on admission to the other.

Visit each program's website for more information regarding pre-requisite courses and other admission requirements:

- MA Applied Economics Program
- MPP Program

Degree Requirements

The dual MAAE/MPP program requires a minimum of 57 semester hours. The curriculum for the program requires students to complete core courses in both economics and public policy; elective courses in both areas; and internships and/or a project. This is a non-thesis program. Students should consult with program advisors for information regarding core and elective courses.

Visit each program's website for more information about each degree:

- MA Applied Economics Program
- MPP Program

Academic Policies

- University of Houston Academic Policies
- Academic Policies: College of Liberal Arts and Social Sciences

Department of English

Master

Creative Writing, MFA

College of Liberal Arts and Social Sciences > Department of English > Creative Writing, MFA

Admission Requirements

In addition to meeting the college graduate admission requirements, applicants to the MFA in Creative Writing program must meet the following minimum requirements for admission to the program and for the degree:

1. The applicant should have completed 12 hours of advanced English with an average of 3.0 or better grade point average.
2. The applicant should have two years of college-level study in one foreign language or otherwise demonstrate, with a passing score on the GSFLT, a reading knowledge of a foreign language.
3. Three letters of recommendation.
4. Submission of a manuscript consisting of a maximum of 10 pages of poetry or 20-25 pages of fiction.
5. A statement of intent (1,000 or fewer words): reasons for pursuing graduate study in creative writing, which writers in the applicant's genre the applicant is reading, and comments on those writers.
6. On a separate sheet of paper, list awards and publications of the applicant.
7. Two official copies of transcripts from each school attended.

The GRE Advanced Subject (Code 64) score is not required for MFA applicants.



Consult the Creative Writing Program for additional information and more specific requirements.

Degree Requirements

Students must complete a minimum of 36 hours of approved graduate courses. These courses must be distributed over creative writing workshops and courses in literary studies. Specific requirements are as follows:

1. 15 hours in creative writing, including 9 hours in the primary genre, 3 hours of Master Workshop, and 3 hours of Poetic Forms and Techniques for poetry students, Fiction Forms and Techniques for fiction students, or Nonfiction Forms and Techniques for nonfiction students. Students are strongly encouraged to take the course in Forms and Techniques early in the MFA program.
2. 3 hours of Writers on Literature
3. 12 hours in English or American literature or other literary studies (Students should divide their courses between early and later literatures. Early British literature is defined as British literature before 1800 and early American literature is defined as American literature before 1865.)
4. 6 hours of elective courses (literature or other literary studies, workshop in the primary genre, workshop in a crossover genre, Writers on Literature, or coursework in another department that complements the student's program). In addition, MFA students must complete a creative thesis for 6 credit hours.

In addition, MFA students must complete a creative thesis for 6 credit hours.

English, MA

College of Liberal Arts and Social Sciences > Department of English > English, MA

Admission Requirements

In addition to meeting college's graduate admission requirements, applicants must fulfill the following minimum requirements:

1. A minimum of 18 term hours in literature, writing, or linguistics at the undergraduate or post baccalaureate level, at least 12 hours of which must be upper division or above, with at least a 3.00 (A=4.00) grade point average.
2. A minimum of 12 term hours of a single foreign language or a demonstration of a reading knowledge of a single foreign language.
3. A statement of intent (500 words minimum) and a critical writing sample.
4. Three letters of recommendation, at least two of which must be from persons familiar with the applicant's academic work.
5. Two official transcripts of all previous university work.
6. GRE General Aptitude score and, except for Applied English Linguistics applicants, GRE Advanced Subject (Code 64) score.

Consult the Department of English graduate office for additional information and more specific requirements.

Conditional admission may be granted to students whose overall grade point average on the last 60 hours of course credit is at least 2.67 (A=4.00), whose grade point average in the discipline is at least 3.00, and whose scores on the Graduate Record Examination are high enough to indicate probable success in the graduate program.

Degree Requirements

Students must complete a minimum of 36 term hours of graduate coursework in English. The program requires that coursework be distributed over the historical periods in English and American literature, bibliography and research methods, literary theory, and rhetoric. Specific requirements are as follows:

1. 3 hours of Bibliography and Research Methods
2. 3 hours of literary theory or rhetoric
3. 30 hours of literature, including (1) at least 9 hours in early British and American literature, (2) at least 9 hours in later British and American literature, and (3) 12 hours of elective courses in literature, linguistics, literary theory, rhetoric, or Master's Essay. Early British literature is



defined as British literature before 1800 and early American literature is defined as American literature before 1865. Students must divide the required courses in early and later literature between British and American literature.

Doctoral

Creative Writing and Literature, PhD

College of Liberal Arts and Social Sciences > Department of English > Creative Writing and Literature, PhD

Building on excellence in creative writing and a record of excellence in the student's MA preparation in the broad range of English and American literature or MFA preparation in creative writing and literature, the PhD student in literature and creative writing should work toward increased sophistication as a writer/scholar. The PhD student should also continue to strengthen and deepen an understanding of three areas of expertise: his/her specific genre, including the history of the genre and contemporary theoretical approaches to the genre; a historical period, rhetoric or literary theory; and a specific individualized area of inquiry. The career of a PhD student should be marked by increasing independence in his/her creative writing and in thinking and writing about literature and/or literary theory. Working toward these objectives advances the student's competence in writing the creative dissertation. The PhD in Literature and Creative Writing constitutes solid preparation for creative publication, scholarly publication, and expert undergraduate and graduate teaching.

For more information, please see the PhD in Literature and Creative Writing program page.

Admission Requirements

- MA in English or MFA in creative writing
- 3.5 GPA in graduate studies
- Scores from the GRE General Test
- One foreign language (which may be completed while in residence for the PhD)

Application Materials

In addition to completing the online application, the following documents are required:

- Copies of official transcripts with degree(s) posted by each of the colleges and/or universities you have attended in the past - posted to online application.
- Official transcripts (sealed in the issuing envelope) from every institution of higher education attended. Official transcripts should be sent directly to:
UH Graduate Admissions Office
University of Houston, Graduate Admissions
P.O. Box 3947
Houston, TX 77253-3947
- Three (3) letters of recommendation* from teachers or professionals familiar with your writing and academic skills. Letters will be solicited by the UH Admissions Office electronically.
- Official GRE test scores. Official ETS copy of the report is required and should be sent to the University of Houston - Main Campus [institution code 6870]. No department code is needed and indicating one will slow down the application process. Note: Scores take 4 - 6 weeks to reach the university for official verification. Please plan your test date accordingly. Applicants without GRE scores will not be offered admission.
- An original creative manuscript (maximum 10 pages of poetry or 20 - 25 pages of fiction). Fiction manuscripts should be double-spaced, on numbered, single-sided pages: poetry can be single-spaced and formatted as desired. Note: Submitting more than the recommended amount is strongly discouraged and could adversely affect the evaluation process.
- A critical manuscript. Provide a scholarly paper written for a literature course.



- A personal statement. In 1,000 words or less, state why you wish to pursue graduate study in creative writing: which writers in your genre you are reading and their import to you and your work: and whether you have taught before and intend to pursue teaching as a career.

(Please note: You may apply in more than one genre, but in order to do so you must send separate application packets and application fees for each genre. The applications will be reviewed by different faculty members for each genre.)

*If you are submitting letters of recommendation through a dossier service such as Interfolio, you may leave the recommendation section of the application blank. Letters of recommendation submitted through dossier service should be sent to cwp@uh.edu.

Degree Requirements

Credit hours required for this degree: 45.0

1. Foreign language
Students must demonstrate reading knowledge of two foreign languages or intensive knowledge of one foreign language.
2. Two written comprehensive examinations (one a general exam, one a specialized sub field)
3. One oral comprehensive examination
4. Dissertation

Distribution of Coursework

- 3 hours of Introduction to Doctoral Studies in English
- 3 hours of bibliography, literary theory, or rhetoric. If students have taken a course in one of these areas for the MA, this requirement will be waived, allowing the student an additional 3 hours of elective course work (but not a reduction in the total hours required).
- 24 hours of literature, including:
 - either History of Poetry and Poetics or History of Narrative and Narrative Theory
 - 9 hours in early literature (British literature before 1800 and American literature before 1865)
 - 6 hours in later literature
 - 6 hours of elective courses, each contributing to the student's areas of expertise.
Students should select each of these courses in consultation with the graduate advisor and his/her faculty mentors.
- 3 hours of Writers on Literature
- 12 hours of creative writing workshops, including 1 Master Workshop in student's program

Academic Policies

- University of Houston Academic Policies
- College Academic Policies
- Departmental Policies

English, PhD

College of Liberal Arts and Social Sciences > Department of English > English, PhD

English, PhD

Building on the broader study of an MA degree, the PhD degree in literature features deeper, more sophisticated scholarship.

PhD students craft a program that focuses on three distinct but related fields of expertise:



1. A historical period;
2. A related historical period, literary theory, or rhetoric
3. An area of inquiry specific to your interests and eventual dissertation

The pursuit of PhD study is marked by increasing independence in thinking, writing, and research. The degree offers solid preparation for scholarly publication and expert undergraduate and graduate teaching as well as related cultural professions.

For more information please see [Literature](#), [Literature \(concentration in RCP\)](#)

Admissions Requirements

- MA in English or MFA in creative writing
- 3.5 GPA in graduate studies
- Scores from the GRE General Test
- One foreign language (which may be completed while in residence for the PhD)

Application Materials

Consult the UH Graduate School for detailed instructions on how to submit your application electronically. The English Department requires the following materials:

- Online application and application fee.
- Three letters of recommendation from people who know your academic work well, usually former professors. Letters will be solicited by the UH Admissions Office and submitted electronically.
- Official academic transcripts (sealed in the issuing envelope) from every university or colleges you have attended. Official transcripts should be sent directly to the UH Graduate Admissions Office (University of Houston, Graduate Admissions, P.O. Box 3947, Houston, TX 77253-3947).
- Copies of official transcripts with degree(s) posted, uploaded to online application.
- Official scores for the GRE General Test. Official ETS copy of the report is required and should be to the University of Houston, Main Campus (institution code 6870). No department code is needed, and indicating one will slow down the application process. Note: Scores take 4-6 weeks to reach the university for official verification. Please plan your test date accordingly. Applicants without GRE scores will not be offered admission.
- Your Statement of Intent (300-600 words, double-spaced).
- A 15-25-page critical writing sample with bibliography, usually one of your strongest graduate papers.

Degree Requirements

36.0 Credit Hours of coursework (four semesters of full-time study) in this distribution

Literature

36.0 Credit Hours

- 3.0 Credit Hours of Introduction to Doctoral Studies in English (ENGL 7390).
- 6.0 Credit Hours of bibliography and research methods, literary theory, or rhetoric. If you have completed a course in any of these areas for the MA, this requirement will be waived, giving you three additional hours of electives (but not a reduction in the total hours required).
- 27.0 Credit Hours of literature, including 9.0 hours in early literature (divided among British literature before 1800 and American literature before 1865); 6.0 hours in later literature; 12.0 hours of elective courses that contribution to your area of expertise; these courses should be selected in consultation with the graduate advisor and your faculty mentors.
- Foreign language: you must demonstrate reading knowledge of two foreign languages or intensive knowledge of one foreign language.



- Two written examinations (one in a major field and one in a sub-disciplinary field) followed by an oral defense.
- One oral examination of the dissertation prospectus.
- Dissertation

Rhetoric, Composition and Pedagogy (RCP) Concentration

36.0 Credit Hours

- 3.0 Credit Hours of Introduction to Doctoral Studies in English (ENGL 7390)
- 9.0 Credit Hours of additional core courses: Critical Pedagogy (ENGL 7324), Research Seminar I: Scholarly Reading (ENGL 8318), Research Seminar II: Scholarly Writing (ENGL 8318).
- 6.0 Credit Hours of fusion courses designed to bridge the theory and practice of Rhetoric and Composition with literature (or accepted substitutions)
- 9.0 Credit Hours of literature courses.
- 9.0 Credit Hours of elective courses.
- Foreign language: you must demonstrate reading knowledge of two foreign languages or intensive knowledge of one foreign language.
- Two written examinations (one in a major field and one in a sub-disciplinary field) followed by an oral defense
- One oral examination of the dissertation prospectus
- Dissertation

Academic Policies

University Academic Policies

College Academic Policies

Program Policies

Graduate Certificate

Empire Studies, Certificate

Overview

This certificate program allows for the symbiotic development of rich, coordinated course offerings in areas (postcolonial literature and theory) that over the past several years have been in high demand across Literature and Creative Writing. It also offers a more integrated approach to the period- and genre-based courses in English or British literature which the department has always offered. Students going through this program should emerge with a much more comprehensive sense of how the experience of empire changed over longer periods of time, and a far more concrete sense of how empire played out in a variety of authors, works, and genres spanning several centuries and across the globe. The certificate program would harness and consolidate energies that over the past several years have emerged organically among faculty and students.

To qualify for a Certificate in Empire Studies, Ph.D. students in the Department of English will complete twelve (12) hours of coursework in the field of empire and postcolonial studies.

Course Information

At least six (6) of these hours should be completed within the core course cycle of the specialty:



Represented By:

- ENGL 7369 - Introduction to Postcolonial Studies Credit Hours: 3.0
- ENGL 8386 - Topics in Postcolonial Studies Credit Hours: 3.0
AND
- ENGL 7325 - The British Empire Credit Hours: 3.0

The remaining six hours may be completed either within these core courses or in other offerings designated by Empire Studies faculty as fitting within the disciplinary goals of the certificate program.

Poetry and Poetics, Certificate

College of Liberal Arts and Social Sciences > Department of English > Poetry and Poetics, Certificate

The purpose of this certificate is to provide a useful and marketable specialization in the disciplinary history and current theories of Poetry and Poetics. The English Department is already the home of The Poetics Group, which was formed in 2015 and is interested in poetry and poetics across a variety of theoretical, historical, and aesthetic registers. The Group generates a vital space for wide-ranging conversations (at once diverse and convergent) on the life of a poem, from its most closely observed prosodic elements to its capacity not only for bearing witness and responding to but participating in the business of living, along such dynamic lines as race, gender, economics, and ecological crisis.

For more information please see Department of English.

Admission Requirements

This certificate is open to admitted graduate students in the Department of English. Students interested in pursuing the certificate should contact their academic advisor for details on beginning the program.

Degree Requirements

The Poetry and Poetics Certificate will require a total of three course (9 hours) fulfilled through a combination of 2 core and 1 elective classes.

Required courses

Students must complete 6.0 credit hours from the list below:

- ENGL 7380 - History of Poetry and Poetics Credit Hours: 3.0
- ENGL 7396 - Topics in Language & Literature Credit Hours: 3.0
Topic(s)
- Topics in Poetics

Elective courses

Students must complete 3.0 credit hours from the list below:

- ENGL 8376 - 19Th C American Poetry Credit Hours: 3.0
- ENGL 8383 - African Amer Poetry/Dra Credit Hours: 3.0
- ENGL 8361 - Victorian Poetry Credit Hours: 3.0
- ENGL 8382 - Contemp Am Poetry Credit Hours: 3.0
- ENGL 7322 - Advncd Poetry Workshop Credit Hours: 3.0 (major in Creative Writing only)



Other electives options can be approved by the Poetics Faculty director

Academic Policies

University Academic Policies

Department Academic Policies

Translation Studies, Certificate

Graduate Students who complete three graduate courses (9 credit hours) in Translation Studies will be awarded a Certificate in Translation Studies.

Students are required to take:

- ENGL 8390 - Literary Translation Credit Hours: 3.0
and then complete their requirements by taking:
- ENGL 8388 - Topics in Literary Translation Credit Hours: 3.0 (Take Twice)
OR
Take ENGL 8388 - Topics in Literary Translation
AND
- ENGL 8389 - Advanced Projects in Translation Credit Hours: 3.0

Certificate Information

- Graduate students could petition to substitute an appropriate graduate course from Modern and Classical Languages or Hispanic Studies for one of the three required courses.
- A student seeking the certificate will produce a substantial translation under the direction of a faculty member. In this way, students who receive a certificate in Translation Studies will demonstrate knowledge in the theory and skill in the practice of literary translation.
- Graduate students in the Departments of Hispanic Studies and Modern and Classical Languages would be eligible to work toward a certificate in Translation Studies. These students would fulfill the same requirements as graduate students in the Department of English.
- Courses in translation studies are open to all graduate students, not only those who are working toward the Certificate in Translation Studies.

Department of Health and Human Performance

Master

Human Nutrition, MS

The nutrition program within the department of Health and Human Performance offers a fully online non-thesis Master of Science (MS) degree in Nutrition (36 credits). The MS in Nutrition at the University of Houston provides a comprehensive course of study to prepare advanced practitioners in clinical nutrition care of the patient and clinical management. Faculty experts provide instruction on evidence-based medical nutrition therapies, advanced physical assessment skills, development and evaluation of educational programs, and effective management skills for the clinical leader.

All students are required to enroll in practicum courses. Internship experiences maybe substituted for course content.

The MS in Nutrition is designed to meet the needs of:



- Currently enrolled dietetic interns desiring a graduate degree.
- Students accepted into a dietetic internship desiring a graduate degree.
- Credentialed Registered Dietitians who have completed their supervised practice experience after 2008.
- Students desiring to advance their nutrition, health, wellness, and fitness knowledge

Graduates of the program will be prepared to work in advanced clinical settings as a practitioner, clinical management leader or other nutrition related positions.

Please visit the Online Master of Science in Nutrition program page for more information.

Admission Requirements

Applicants must meet one of these requirements:

- Currently enrolled in a dietetic internship
- Accepted into a dietetic internship with a documented start date
- Credentialed as a RD in 2008 or later and completed a minimum of 1200 hours of supervised practice.
- Bachelor's degree in nutrition, dietetics, food science, food systems management or other health career-related subjects.

Application Process:

1. Completed University of Houston Graduate School application.
2. Official GRE scores sent electronically to institution code 6870 - University of Houston, Main Campus
 - Competitive applicants typically score above the 30th percentile with at least 3.5 on the analytical writing section.
 - Applicants that have been accepted to dietetic internships or completed dietetic internship with partner programs may be exempt from submitting GRE scores
3. Official transcripts from all prior institutions attended.
 - Major GPA of at least 3.0
 - A cumulative undergraduate GPA of 2.6 is required to be considered for graduate school at The University of Houston
4. Dietetic Internship/RD/Supervised practice: Applicants must meet one of these requirements:
 - Currently enrolled in a dietetic internship
 - Accepted into a dietetic internship with a documented start date
 - Credentialed as a RD in 2008 or later and completed a minimum of 1200 hours of supervised practice.
5. Portfolio
6. Current resume
7. Personal Statement
8. Three academic/professional letters of recommendation
 - Your recommenders will be contacted automatically and asked to evaluate you through an online system. They should be encouraged to provide comments and/or upload a signed letter as well.

ALL supporting materials, with the exception of official transcripts, should be uploaded through the online application system.

Official transcripts should be submitted to:

*University of Houston
Graduate Admissions
P.O. Box 3947
Houston, Texas 77253-3947*

Degree Requirements

Credit hours required for this degree: 36.0

The total credit hours for the Master of Science in Nutrition is 36 credits hours (24 core and 12 elective).



All students must:

- successfully complete all CORE courses-24 credit hours
- successfully complete either elective option A-Registered Dietitian/Nutritionist (12 credit hours) OR elective option B-Non-Registered Dietitian/Nutritionist (12 credit hours).

CORE Master of Science in Nutrition courses (24 credits)

- NUTR 6301 - Clinical Aspects of Nutrition Support Credit Hours: 3
- NUTR 6302 - Advanced Medical Nutrition Therapy Credit Hours: 3.0
- NUTR 6303 - Nutrition Management and Leadership for the Clinical Professional Credit Hours: 3.0
- NUTR 6304 - Advanced Nutrition Counseling and Education Credit Hours: 3.0
- PEP 6305 - Measurmnt Hlt & Phys Educ Credit Hours: 3.0
- NUTR 6314 - Gender and Culture Issues in Physical Activity and Fitness Credit Hours: 3
- NUTR 6311 - Capstone I Credit Hours: 3.0
- NUTR 6312 - Capstone II Credit Hours: 3

Elective option A. Registered Dietitian/Nutritionist (12 credits)

- NUTR 6307 - Community Nutrition Practice Credit Hours: 3.0
- NUTR 6308 - Clinical Nutrition Practice I Credit Hours: 3.0
- NUTR 6309 - Clinical Nutrition Practice II Credit Hours: 3

Elective option B. Non-Registered Dietitian/Nutritionist (12 credits)

- NUTR 6314 - Gender and Culture Issues in Physical Activity and Fitness Credit Hours: 3
- NUTR 7313 - Urban Fitness Credit Hours: 3
- NUTR 7315 - Advanced Nutrition for the Elderly Credit Hours: 3.0
- NUTR 6316 - Advanced Diabetes Management and Education Credit Hours: 3.0

Academic Policies

- University of Houston Academic Policies
- Academic Policies: College of Liberal Arts and Social Sciences

Master of Athletic Training, MAT

College of Liberal Arts and Social Sciences > Department of Health and Human Performance > Master of Athletic Training, MAT

Athletic Trainers (ATs) are health care professionals who collaborate with physicians. The services provided by ATs comprise prevention, emergency care, clinical diagnosis, therapeutic intervention and rehabilitation of injuries and medical conditions. Athletic training is recognized by the American Medical Association (AMA) as a health care profession.

Students become eligible for BOC certification through an athletic training degree program accredited by the Commission on Accreditation of Athletic Training Education (CAATE). Students engage in rigorous classroom study and clinical education in a variety of practice settings such as high schools, colleges/universities, hospitals, emergency rooms, physician offices and healthcare clinics over the course of the degree program. Students enrolled in their final term are eligible to apply for the BOC exam.



The Master of Athletic Training (MAT) Program at the University of Houston is an entry-level professional Master's degree accredited by the Commission on Accreditation of Athletic Training Education (CAATE). The MAT degree is designed to meet the current curricular content for the profession and prepare the MAT Student to meet the requirements to sit for the Board of Certification (BOC) for Athletic Training and enter the medical profession as an Athletic Trainer.

Through rigorous classroom study and clinical education assignments in a variety of settings with any one of the MAT Program's clinical affiliated sites and community partnerships, the MAT Student will gain the knowledge, skills, and abilities to meet the demands of the profession.

Employment settings for Athletic Trainers include:

- Professional and Collegiate Sports
- Secondary and Intermediate Schools
- Sports Medicine Clinics
- Hospital Emergency Room and Rehabilitation Clinics
- Occupational Settings
- Fitness Centers
- Physician Offices

The goals of the Master of Athletic Training Program include the following:

- Offer a nationally competitive athletic training program that uses the most current National Athletic Trainers' Association (NATA) Educational Competencies and the Board of Certification (BOC) Athletic Training Practice Domains as the infrastructure for the curriculum.
- Give the Master of Athletic Training Students opportunities for learning, inquiry, discovery and personal and professional growth in a real world clinical setting with an interdisciplinary group of faculty and preceptors dedicated to program and student success.
- Prepare Master of Athletic Training Students to pass the Board of Certification Exam for Athletic Training and enter the workforce as an Athletic Trainer and be successful contributors to the field.

For more information, please visit the Graduate Application Process page.

Admissions Requirements

The MAT Program admits one (1) cohort per year that starts in the Summer term. Applications open in early Fall and close in the early Spring. Typically, the successful applicant that applies to the MAT Program has a solid academic and theoretical background in the study of Kinesiology. Core classes include: anatomy, physiology, exercise physiology, biomechanics, motor learning, functional anatomy, nutrition, statistics, psychology, chemistry, and physics. The successful candidate needs no prior experience in the AT field to apply and be accepted other than the required 50 hours of observation that is included in the application packet.

Application requirements include:

- Major GPA of at least a 3.0. A cumulative undergraduate GPA of 2.6 is required to be considered for graduate school at The University of Houston
- Official GRE scores sent electronically to institution code 6870 - University of Houston, Main Campus. Competitive applicants typically score above the 30th percentile with at least a 3.5 on the analytical writing section
- Three academic/professional letters of reference
- Current resume
- Statement of professional goals/ personal statement
- Application Fee (\$70 domestic applicants/\$100 international applicants)
- Observation hours form with 50 completed hours
- MAT application agreement
- Additional document & testing requirements for International applicants can be found on the International Graduate Student page.

Please visit the MAT Program website for Post-Acceptance Requirements, which include:

- Mandatory Immunizations
- Background Check



- Health Screening
- Drug Screening

In addition to the required application materials and post-acceptance requirements, applicants will also be required to complete a phone interview and a video biography submission. Guidelines can be found on the MAT Program website.

Degree Requirements

Credit hours required for this degree: 57.0

MAT students must complete a minimum of 57 prescribed credit hours. Requirements for the completion of the MAT degree include:

1. Satisfactorily complete all courses in the degree with an overall and term GPA of 3.0 or higher.
2. Successful completion of all clinical education assignments.
3. Submission of a minimum of one (1) clinical education case study to a national journal or conference as outlined in the MAT Program Handbook: Clinical Case Study Guidelines.

Please visit the MAT Program Requirements For Completion page for more information.

MAT Program Curriculum:

Summer 1

- ATP 6301 - Anatomy Credit Hours: 3
 - ATP 6101 - Anatomical Basis of Athletic Injury Lab Credit Hours: 1.0
 - ATP 6302 - Emergency Care Credit Hours: 3
 - ATP 6102 - Emergency Management & Prevention of Injury Lab Credit Hours: 1.0
 - ATP 6191 - Clinical Experience I Credit Hours: 1
- Term Total: 9.0 Credit Hours

Fall 1

- ATP 6311 - Research in Athletic Training Credit Hours: 3
 - ATP 6312 - Therapeutic Intervention 1 Credit Hours: 3
 - ATP 6313 - Lower Extremity Evaluation Credit Hours: 3.0
 - ATP 6113 - Lower Extremity Evaluation Lab Credit Hours: 1.0
 - ATP 6192 - Clinical Experience II Credit Hours: 1
- Term Total: 11.0 Credit Hours

Spring 1

- ATP 6321 - Athletic Training Administration Credit Hours: 3.0
 - ATP 6322 - Pharmacology in Athletic Training Credit Hours: 3.0
 - ATP 6323 - Upper Extremity Evaluation Credit Hours: 3.0
 - ATP 6123 - Upper Extremity Evaluation Lab Credit Hours: 1.0
 - ATP 6293 - Clinical Experience III Credit Hours: 2
- Term Total: 11.0 Credit Hours

Summer 2

- ATP 7301 - Head, Neck & Spine Evaluation Credit Hours: 3.0



- ATP 7101 - Head, Neck & Spine Evaluation Lab Credit Hours: 1.0
 - ATP 7302 - Gen Med/Pharm 2 - Pathophysiology Credit Hours: 3
 - ATP 7194 - Clinical Experience IV Credit Hours: 1
- Term Total: 8.0 Credit Hours

Fall 2

- ATP 7311 - Human Performance Credit Hours: 3
 - ATP 7312 - Therapeutic Intervention 2 Credit Hours: 3
 - ATP 7313 - Rehabilitation of Sports Injuries Credit Hours: 3.0
 - ATP 7113 - Rehabilitation of Sports Injuries Lab Credit Hours: 1.0
 - ATP 7195 - Clinical Experience 5 Credit Hours: 1
- Term Total: 11.0 Credit Hours

Spring 2

- ATP 7321 - Behavioral Health in Athletic Training Credit Hours: 3
 - ATP 7322 - Seminar in Athletic Training Credit Hours: 3.0
 - ATP 7196 - Clinical Experience VI Credit Hours: 1
- Term Total: 7.0 Credit Hours

Academic Policies

Retention Policy

After students have been formally accepted into the Master of Athletic Training program at the University of Houston, the MAT student must maintain an overall and term G.P.A. of 3.0 and/or receive no more than one grade of "C" in any of the required Master of Athletic Training program courses. When a student falls below the required G.P.A. and/or receives a grade of "C" in two or more classes, the MAT student will be removed from the Master of Athletic Training program.

[Department Academic Policies](#)

[College Academic Policies](#)

[University of Houston Academic Policies](#)

Sport and Fitness Administration, MA

[College of Liberal Arts and Social Sciences](#) > [Department of Health and Human Performance](#) > [Sport and Fitness Administration, MA](#)

The Sport and Fitness Administration Program (SFAP) graduate degree provides its students with a comprehensive program of study which integrates theoretical concepts and practical application of management strategies. Cognizant of the diverse demands of the sport/fitness industry and the economic projections within the field, the SFAP is well positioned to address the burgeoning needs of a sport conscious society. Its strategic location in the city of Houston and state of Texas affords students a wealth of opportunities.

Graduates of the program seek placement in a variety of sport and fitness settings including golf country clubs, professional sports franchises, television, university athletic programs, municipal recreation programs, and corporate wellness programs. Emerging topical issues within the program will include metropolitan revitalization through sport and urban fitness.

For more information, please visit the [MA in Sport and Fitness Administration web page](#).



Admission Requirements

Applicants to the MA in Sports & Fitness Administration program must meet the following qualifications:

1. Cumulative undergraduate GPA of 3.0.
 - Applicants may also be considered for conditional admission with a cumulative GPA of at least 2.6.
2. Acceptable scores on the GRE submitted to Institution Code 6870.
 - Typically expected scores are above the 30th percentile on the quantitative and verbal sections with at least a 3.5 on the analytical writing section.
 - GRE scores more than 5 years old are not valid.

Completed applications for the SFAP must include:

1. Three academic/professional letters of reference.
2. Current resume.
3. Statement of professional goals and interests.
4. Application Fee (\$65 domestic applications/\$95 international applicants)
5. Additional information on documentation required for international students, including details on showing English language proficiency, can be found on the International Graduate Student website.

Degree Requirements

Credit hours required for this degree: 36.0

The following represents minimal expectations regarding the completion of the MA in Sport and Fitness Administration in the College of Liberal Arts and Social Sciences.

- A minimum of 36.0 Credit Hours is required and transfer students must complete at least 27.0 Credit Hours at the University of Houston after admission to the graduate program.
- A common core of 12.0 Credit Hours is required of all students.
 - This requirement normally is fulfilled during the first 18 .0 Credit Hours taken at the university.
- Students must take a minimum of 15.0 Credit Hours of Program Emphasis Courses.
- Students are allowed to take a maximum of 9.0 Credit Hours of Elective coursework that must be approved by their faculty advisor.
- A comprehensive examination or completion of a master's thesis is a requirement for this program.
 - The comprehensive exam will typically be taken in the student's final term.

Comprehensive Exam

A comprehensive examination is required for all students seeking the Master of Arts in Sport and Fitness Administration degree, except for those planning on completing a research-based thesis. Upon approval by the student's faculty advisor, the comprehensive examination may be taken at any time after 18.0 Credit Hours of required coursework is completed. A student must be enrolled in coursework during the term in which the examination is to be taken.

The comprehensive examination is comprised of 4 questions. One question is derived from the material covered in each of the four the Core courses: PEP 6305, PEP 6321, PEP 7306, and PEP 7307. The student must pass the comprehensive examination satisfactorily before the Master of Arts in Sport and Fitness Administration degree is awarded.

Core Courses

12 credit hours

- PEP 6305 - Measurmnt Hlt & Phys Educ Credit Hours: 3.0
- PEP 6321 - Sport in Cont Society Credit Hours: 3.0
- PEP 7306 - Adm Princs of Spts/Exer Prgms Credit Hours: 3.0



- PEP 7307 - Implmtng Leg Strat Sprts/Fit Credit Hours: 3.0

Program Emphasis Courses

At least 15 hours

- NUTR 6314 - Gender and Culture Issues in Physical Activity and Fitness Credit Hours: 3
- PEP 6309 - Policies & Governance of Sport Organizations Credit Hours: 3.0
- PEP 6322 - Sport Media & Public Relations Credit Hours: 3.0
- PEP 6355 - Promotional Strategies Credit Hours: 3.0
- PEP 6397 - Selected Topics in Human Perf Credit Hours: 3.0
 - Topic(s)
 - Developmental Aspects of Sport Credit Hours: 3.0
 - Sport Event Management Credit Hours: 3.0
- PEP 7308 - Sports Facility Administration Credit Hours: 3.0
- PEP 7309 - Sport Finance Credit Hours: 3.0
- PEP 7393 - Internship & Practicum Credit Hours: 3.0

Academic Policies

- University Academic Policies
- Academic Policies: College of Liberal Arts and Social Sciences

Doctoral

Kinesiology, PhD

The Doctor of Philosophy in Kinesiology program currently focuses on four broad areas of kinesiology, namely motor control and learning, physiology, obesity studies, and sport and fitness administration.

Program Objectives

The Doctor of Philosophy (PhD) in Kinesiology is designed to provide doctoral level training to prepare a professional with the cognitive and research skills needed to be a productive scholar.

The primary objectives of the PhD in Kinesiology are:

1. Understand, conduct, disseminate, and critically evaluate research in kinesiology and related fields.
2. Deeply understand content in one's chosen field
3. Promote the learning of others through strong written and oral communication.
4. Prepare program development and research proposals.

The usual time for completion of the PhD (Kinesiology) program is **four to five** years.

For more information, please visit the PhD in Kinesiology program website.

Admission Requirements

Admittance to the program will be based on a series of criteria that includes:



- **Undergraduate Grade Point Average (GPA):** Most admitted students have a GPA above 3.5.
- **Graduate Record Exam (GRE):** Most admitted students score above the 60th percentile on the Quantitative and Verbal Reasoning sections and at least 3.5 on the Analytical Writing section.
- **Three Letters of Recommendation**
- **Letter of Research Interests with Statement of Professional Goals**
- **Writing Sample** (Examples: thesis, journal articles, professional reports, etc.)
- **Standardized Writing Exercise** (Details available from the Graduate Advisor)
- **Personal Interview with a potential faculty advisor** (Note: when possible, this should be an in-person interview; when travel distance is a concern, this may be a telephone or teleconference interview.)
- Additional documents and English proficiency requirements for International Graduate Applicants

Degree Requirements

Credit hours required for this degree: 66.0

The PhD in Kinesiology requires a minimum of 66 hours, including 6 hours of required doctoral dissertation hours. These hours are comprised of the required courses below, HHP Journal Colloquium, course hours for preparing the required PhD Candidacy Project, and designated electives that are pertinent to a student's course of study. After completion of the 2nd year, students are required to enroll in PEP 8304 HHP Journal Colloquium each semester until graduation. Electives are to be taken under the direction and approval of the student's faculty advisor. These electives can be drawn from the designated elective course list and include classes (both scheduled and Special Problems classes) offered within the department, classes offered in other departments within the University of Houston, or classes offered in support areas at other academic institutions. The approved electives will provide the student with an academic foundation in the particular discipline of study within the PhD program.

After completion of 45 hours of coursework, students are eligible to sit for the comprehensive exam. In order to advance to candidacy students must pass the comprehensive exam. Students that fail either test two times will be dismissed from the program. To learn more about degree requirements please visit the program details web-page.

In addition to the sequence below, each student will be required to participate in on-going research projects, develop independent research projects, generate research results that form the basis of their candidacy paper and attend research seminars and thesis/dissertation defenses within both the department and the wider scientific research community.

The capstone experience within the PhD (Kinesiology) program is completion of a dissertation research project and dissertation document.

Department Core

The following classes are mandatory for all PhD (Kinesiology) students in HHP:

- PEP 8306 - Scientific Inquiry in Hlt Prof **Credit Hours: 3.0**
- PEP 8314 - Doctoral Residency Seminar **Credit Hours: 3.0**
- PEP 8323 - Programming & Proposal Writing **Credit Hours: 3.0**
- PEP 8350 - HHP Candidacy Project Research **Credit Hours: 3.0**
- PEP 8350 - HHP Candidacy Project Research **Credit Hours: 3.0** (second semester if needed)

Analytical Methods (9 hours)

Students must complete 9 hours of analytical methods courses approved by their faculty advisory committee.

Emphasis Area (12 hours)



Students must complete 12 credits from their emphasis area approved by their faculty advisory committee. Typically, students will fulfill this requirement through PEP 8304 - Journal Club, however, the faculty advisory committee may approve additional courses.

- PEP 8304 - HHP Journal Colloquium Credit Hours: 3.0

Elective Courses (18-27 hours)

Graduate level courses offered inside or outside departments that are not used to meet previous requirements. Students will typically take 12 additional journal club hours and 6-15 hours of approved electives. Elective courses must be approved by the student's faculty advisory committee. Additionally, students may take an additional 6 hours of PEP 8350 - Candidacy Project hours.

- PEP 8350 - HHP Candidacy Project Research Credit Hours: 3.0

Dissertation Hours (6-12 hours)

- PEP 8399 - Doctoral Dissertation Credit Hours: 3
- PEP 8699 - Doctoral Dissertation Credit Hours: 6
- PEP 8999 - Doctoral Dissertation Credit Hours: 9

Academic Policies

- University of Houston Academic Policies
- College Academic Policies
- Department Academic Policies

Residency Requirements

All PhD (Kinesiology) students are required to enroll in Residency during their first full academic year of entering the program (Fall and Spring semesters).

During this residency period, a student must be enrolled as a full-time student (**i.e. 9 hours of academic classes per semester**) for both the Fall and Spring semesters of their residency period.

During the Fall semester, each student in residency shall enroll and successfully complete the designated departmental residency class, Principles of Scientific Inquiry.

During their residency period, students will be introduced to "professional activities" including research experiences, journal club, seminar attendance, attendance at thesis/dissertation defenses and other experiences that are applicable to continual professional development.

Student Annual Review Process

Annual reviews are formative and are performed each year a student is enrolled in the program.

After review of the information supplied by the advisor and student by the GRD committee, there are **three** potential outcomes of the annual review process that can be arrived at.

These are:

- **Adequate progress** (student continues in the program)
- **Academic probation** (student continues in the program with remedial action determined by the GRD committee).



- **Termination from the program** (after failure of probationary period)

Graduate Certificate

Sport and Fitness Operations Management, Certificate

College of Liberal Arts and Social Sciences > Department of Health and Human Performance > Sports and Fitness Operations Management, Certificate

The graduate certificate in Sport & Fitness Operations Management provides graduate-level students with a focus on the understanding of the organizational, financial, and structural management of business in the sport and fitness industry. Professionals working in the sporting industry can gain additional training and certification to advance into upper management.

Certificate Requirements

Credit hours required for this certificate: 12.0

To earn the certificate, a student must complete the following courses:

- PEP 6309 - Policies & Governance of Sport Organizations **Credit Hours: 3.0**
- PEP 6322 - Sport Media & Public Relations **Credit Hours: 3.0**
- PEP 6397 - Selected Topics in Human Perf **Credit Hours: 3.0**
Topic(s):
 - Developmental Aspects of Sport
- PEP 7309 - Sport Finance **Credit Hours: 3.0**

Academic Policies

College Academic Policies

University of Houston Academic Policies

Strength and Conditioning, Certificate

College of Liberal Arts and Social Sciences > Department of Health and Human Performance > Strength and Conditioning, Certificate

The graduate certificate in Strength and Conditioning provides graduate-level students with a focus on the scientific principles of exercise and their practical applications for enhancing athletic performance, improving general fitness, increasing overall function, and preventing injuries. The coursework combines the research-based knowledge necessary to be a successful strength & conditioning professional, with cutting-edge topics from the industry, and opportunities for problem solving and hands-on application. The curriculum is designed to fully equip students to execute the duties of a fitness specialist in a variety of settings and increase readiness to take the most respected and rigorous certifications in the field, like the NSCA's Strength and Conditioning Specialist and Personal Training certifications. The certificate is also a complementary addition to several other occupations, including nutritionists, coaches, and professionals across the rehabilitation industry.

Certificate Requirements

Credit hours required for this certificate: 12.0

To earn the certificate, a student must complete the following courses:



- PEP 6331 - Strength Training Anatomy Credit Hours: 3.0
- PEP 6332 - Intro Str/Cond Program Design Credit Hours: 3.0
- PEP 6397 - Selected Topics in Human Perf Credit Hours: 3.0
Topic(s):
 - Functional Training and Injury Prevention

Academic Policies

Academic Policies: College of Liberal Arts and Social Sciences

Univeristy of Houston Academic Policies

Department of Hispanic Studies

Master

Spanish, MA

College of Liberal Arts and Social Sciences > Department of Hispanic Studies > Spanish, MA

The M.A. program in Spanish offers an academic environment for students interested in advanced studies in the fields of Hispanic, Latin American and Peninsular Literature, and Spanish Linguistics. The program has been designed to provide knowledge and develop critical thinking on traditional and modern approaches used in these fields. The main goal of the M.A. program in Spanish is the preparation of future professionals to develop successful careers in education, administration, interpretation, and translation in diverse public and private institutions. The M.A. program in Spanish provides a strong preparation to pursue advanced studies at the Ph.D. level.

For more information, please visit the Hispanic Studies program website.

Admission Requirements

For unconditional admission to the M.A. program in Spanish, applicants must have earned a Bachelor's Degree in Spanish from an accredited institution, with an overall grade point average of at least 3.00 (A=4.00) for the last 60 hours of course credit. Students who have a Bachelor's Degree in a field other than Spanish must take SPAN 3304, two courses in Spanish Literature at the 4000-level, and one course in Spanish Linguistics before entering the M.A. (equivalent courses taken in other institutions are accepted).

Applicants must have acceptable scores on the General Aptitude section of the Graduate Record Examination (GRE). Students must meet English language proficiency requirements as seen on the International Graduate Student page. Two confidential letters of recommendation from professors detailing the potentials of the candidate as a student, a statement of purpose in Spanish (500-1000 words) explaining why you wish to pursue a graduate degree, a writing sample (research paper 7-10 pages typed, double-spaced), and official transcripts are also required.

Conditional admission may be granted a domestic applicant who has a grade point average of at least 2.67 and whose scores on the Graduate Record Examination are high enough to indicate probable success in the graduate program.

For further information, please call or write:

Department of Hispanic Studies
The University of Houston

3553 Cullen Boulevard Rm 416
Houston, Texas 77204-3062



Degree Requirements

Credit hours required for this degree: 36.0

A total of 36 hours is required for the M.A. in Spanish, all at the 6000-level or above. Students may elect to write a thesis; if they do so, a maximum of 6 hours of thesis credit may count as part of the 36. A maximum of 6 hours, as well, may be taken in a complementary field outside the department if students obtain written permission in advance from the Graduate Director.

Once admitted to the program, no course in which a grade below B- (2.67) is received may be applied toward the Master's degree. Comprehensive written and oral examinations are required to obtain the degree; these are scheduled during the last term of course work. A minimum of 27 term hours must be earned in residence at the University of Houston.

At the end of each student's first year of course work at the graduate level, a screening procedure will be conducted by all faculty members with whom the student has studied in order to determine whether the individual is progressing satisfactorily toward the degree objective.

Before entering the M.A. Program, students should decide on the concentration they wish their M.A. in Spanish to reflect.

Possible concentrations include:

1. **Spanish literature**
2. **Spanish literature and linguistics**
3. **Spanish linguistics**

Students must take the following required hours in accord with their selected concentration:

Concentration in Literature:

- Peninsular Literature Cr. 9
- Latin American Literature Cr. 9
- Hispanic Literature of the US Cr. 9
- Spanish Linguistics Cr. 6
- Literature elective Cr. 3

Concentration in Literature/Linguistics:

- Literature Cr. 15-18
- Linguistics Cr. 15-18

Concentration in Linguistics:

- Spanish Linguistics Cr. 30
- Literature Cr. 6

Thesis option:

A master's thesis may be substituted for 6 hours in any of these concentrations.



Course lists to accompany fields of study above:

- SPAN 6333 - 19Th Century Span Lit Credit Hours: 3.0
- SPAN 6335 - Golden Age Drama Credit Hours: 3.0
- SPAN 7394 - Sel Topics Span Literature Credit Hours: 3.0
- SPAN 6366 - Span-Am Lit To 1830 Credit Hours: 3.0
- SPAN 6368 - Span-Am Modernism Credit Hours: 3.0
- SPAN 6375 - Mdrn Spa-Amer Narr 1950 Credit Hours: 3.0
- SPAN 6379 - Spa-Am Nrrtv 1950/Prsnt Credit Hours: 3.0
- SPAN 6382 - Golden Age Prose Credit Hours: 3.0
- SPAN 6385 - Cntmpry Spa-Amer Poetry Credit Hours: 3.0
- SPAN 6386 - Contemporary Span Fictn Credit Hours: 3.0
- SPAN 6397 - Topics in Span-Amer Lit Credit Hours: 3.00
- SPAN 7391 - Sel Topics Spanish Amer Lit Credit Hours: 3.00

Hispanic Literature of the US

- SPAN 6344 - US Hispanic Literature Credit Hours: 3.0
- SPAN 6345 - Las Mujeres Reescriben America Credit Hours: 3.0
- SPAN 7395 - Sel Topics in US Hispanic Lit Credit Hours: 3.0
- SPAN 7396 - Selected Topics Hist Hispanic Ideas Credit Hours: 3.0

Linguistics

- SPAN 6305 - Teaching Spanish for Acquisition Credit Hours: 3.0
- SPAN 6308 - Introduction to Spanish Linguistics Credit Hours: 3.0
- SPAN 6320 - Research in Spanish Second Language Acquisition Credit Hours: 3.0
- SPAN 6330 - Language Variation and Change Credit Hours: 3.0
- SPAN 6331 - Historical Grammar Credit Hours: 3.0
- SPAN 6354 - Spanish Phonetics and Phonetic Variation Credit Hours: 3.0
- SPAN 6355 - Spanish Phonology Credit Hours: 3.0
- SPAN 6356 - Spanish Syntax Credit Hours: 3.0
- SPAN 6358 - Spanish Sociolinguistics Credit Hours: 3.0
- SPAN 6389 - Methods of Teaching Spanish Heritage Learners Credit Hours: 3.0
- SPAN 6390 - Research in Heritage Language Education Credit Hours: 3.0
- SPAN 6394 - Topics-Teaching Spanish Credit Hours: 3.0
- SPAN 6395 - Topics-Lang&Linguistics Credit Hours: 3.00
- SPAN 6398 - Spanish Phonetics & Phonology Credit Hours: 3.0
- SPAN 7301 - Methods Hisp Lit & Lang Credit Hours: 3.0
- SPAN 7393 - Sel Tops Meth Span Linguistics Credit Hours: 3.00

Academic Policies

Academic Policies: College of Liberal Arts and Social Sciences

University of Houston Academic Policies

Doctoral



Spanish, PhD

College of Liberal Arts and Social Sciences > Department of Hispanic Studies > Spanish, PhD

The Department of Hispanic Studies is at the forefront of research and teaching of Hispanic literature and Spanish linguistics. Our offering in Hispanic literature and Hispanic linguistics now encompasses the literatures written throughout the Americas and Spain. Given Houston's location, as well as Arte Público Press and the Recovering the U.S. Hispanic Literary Project at UH, our PhD program offers an optimal environment in which to achieve excellence.

For more information, please visit the Spanish, PhD program page.

Admission Requirements

For unconditional admission to the PhD in Spanish, applicants must have earned an MA degree in Spanish, or its equivalent, with a minimum grade point average of 3.20 (A = 4.00).

Students who have an MA degree in a field other than Spanish and are seeking a PhD with an emphasis in literature must take, concurrently with the other courses normally required for the doctoral program, one course from each of the following groups:

- Hispanic literature of the United States
- Latin American literature through Modernism
- Latin American literature since Modernism
- Peninsular literature through the XVII century
- Peninsular literature, centuries XVII through XX

Students with an MA degree in a field other than Spanish whose emphasis is linguistics will be required to take SPAN 6308 Introduction to Spanish Linguistics, plus one course from each of the following groups:

- Formal linguistics (Syntax, semantics, or pragmatics)
- Formal linguistics (Phonetics or phonology)
- Sociolinguistics
- Applied linguistics

Applicants must have acceptable scores on the General Aptitude section of the Graduate Record Examination (GRE). International applicants must meet English language proficiency requirements as seen on the International Graduate Students website. Three confidential letters of recommendation from professors detailing the potential of the candidate as a graduate student, a statement of purpose in Spanish (500-1000 words) explaining why you wish to pursue a graduate degree, a writing sample (research paper 7-10 pages typed, double-spaced), and official transcripts are also required.

Degree Requirements

Credit hours required for this degree: 42.0

The PhD in Spanish requires that, beyond the achievement of the master's degree, students complete a minimum of 36 semester hours of approved graduate courses and 6 semester hours of dissertation as follows:

Required core courses	Cr. 6.0
Elective courses	Cr. 30.0
Dissertation	Cr. 6.0

Once admitted to the program, no course in which a grade below B- (2.67) is received may be applied toward the PhD degree.



At the end of each student's first year of course work at the PhD level, a screening procedure will be conducted by all faculty members with whom the student has studied in order to determine whether the individual is progressing satisfactorily toward the degree objective.

Required Coursework

Students from each concentration (Creative Writing, Linguistics, and Literature) must take:

- one course (3 credit hours) in U.S. Latino Studies/U.S. Spanish and
- one course (3 credit hours) outside their concentration, either in another concentration in Hispanic Studies or in another department on campus.

Courses in other departments will be chosen in consultation with the student's faculty advisor and approved by the Director of Graduate Studies.

Language requirements

Reading knowledge of one language in addition to Spanish and English is required (in addition to the 42 hours referred to above). Reading knowledge may be demonstrated in one of the following ways:

- Four college terms at the undergraduate level (or equivalent proficiency as demonstrated by testing) in another Romance language.
- Reading knowledge of Latin or any other approved language, as demonstrated either by:
 - satisfactory scores on the Educational Testing Service examinations for that language, or
 - the completion of two terms of graduate reading courses in the language chosen with a grade of B- or higher.

PhD Comprehensive Exam

A written examination over different areas in literature and linguistics as well as an oral examination must be successfully taken before admission to candidacy.

PhD Dissertation

The student must develop a dissertation which can be considered to be original and of significance to scholarship in the respective field.

Academic Policies

- University of Houston Academic Policies
- Academic Policies: College of Liberal Arts and Social Sciences

Graduate Certificate

Spanish as a Heritage Language Certificate

College of Liberal Arts and Social Sciences >Department of Hispanic Studies >Spanish as a Heritage Language Certificate

Introduction

The Graduate Certificate in Spanish as a Heritage Language (SHL) is a twelve (12) credit post-baccalaureate program that will offer training in U.S. Spanish and Heritage Language Education to those interested in the subject. The certificate includes courses from a variety of perspectives that will prepare teaching professionals to work with Hispanic heritage language learners at secondary and post-secondary levels.

The program allows direct entry to those with a bachelor's degree who seek some graduate-level work to enhance their knowledge and skills in particular areas but who are not interested in earning a graduate degree. Post-baccalaureate students who successfully complete the four-course sequence will receive a Certificate in Spanish as a Heritage Language. Upon completion of the certificate, participants who may be interested in



continuing their studies will be eligible to apply to the M.A. program in Spanish, and if accepted, petition for the credits to be counted towards the master's courseload.

The certificate program is also open to students already matriculated in Spanish graduate degree programs at UH. Upon completion of the program's four courses, students currently enrolled as degree-seeking in the Spanish M.A. or Ph.D. programs will be granted the SHL Certificate.

How To Apply For the Certificate

Individuals interested in the SHL Graduate Certificate will find more information on the Hispanic Studies web page (<http://www.uh.edu/class/spanish/>).

An undergraduate degree in Spanish (or equivalent) will be required for admission to the post-baccalaureate program. Applicants must submit an official transcript showing that the undergraduate degree has been awarded.

Explanation of the Certificate

Requirements for the Graduate Certificate include four (4) Hispanic Studies graduate courses.

Twelve (12) Credit Hours:

- SPAN 6389 - Methods of Teaching Spanish Heritage Learners Credit Hours: 3.0
- SPAN 6344 - US Hispanic Literature Credit Hours: 3.0
- SPAN 6397 - Topics in Span-Amer Lit Credit Hours: 3.00
(Topic: U.S./Hispanic Culture and Civilization)
- SPAN 7393 - Sel Tops Meth Span Linguistics Credit Hours: 3.00
(Topic: U.S./Spanish: Sociolinguistic Aspects)

Other Information

- Program director's approval needed to substitute a course.
- The courses will be offered in face-to-face or hybrid-format on evenings and/or Saturdays during the long semesters and in the summer.

Department of History

Master

History, MA

College of Liberal Arts and Social Sciences > Department of History > History, MA

The Department of History offers MA degrees in United States, European, Latin American, Ancient, Modern Arab/Middle East, Transnational, and Public History in all chronological periods. Furthermore, coursework is available in African, Asian, Modern Arab/Middle East and World history.

Admission Requirements



The University of Houston sets minimum standards for graduate admissions, but the Department of History has established supplemental requirements. All students seeking admission into the graduate program in History must complete an online application from the University Office of Admissions. The deadline for applications is January 1. All application materials must be received by that date. All applications are accepted to begin in the Fall term only. Please consult the History Department website: (<http://www.uh.edu/class/history/>) or contact the graduate advising assistant for detailed information on requirements and procedures.

- a. Overall 3.3 average (B+) on the last sixty hours (60) of course credit.
- b. A minimum of 18 hours in history or other relevant courses with a 3.3 (B+) average.
- c. Acceptable GRE scores.
- d. Three letters of recommendation.
- e. A one-to two page personal statement indicating the applicant's academic interests.
- f. A writing sample.
- g. Official transcripts from every college and university attended.
- h. University of Houston on-line graduate application.
- i. A non-refundable application fee.

Degree Requirements

Plan I: M.A. Thesis Track

Plan I has a teaching and research focus, and requires the completion of a thesis. Students who are considering continuation of their graduate work in history beyond the M.A. degree most often should select this option if they are not ready to commit to a Ph.D. program. The degree required a minimum of thirty (30) hours of credit in graduate-level (6000) courses, including coursework and six (6) hours of thesis credit. Reading knowledge in at least one foreign language is required.

Plan II: M.A. Non-Thesis Track

Plan II is designed for students who desire advanced preparation in History (especially teachers seeking to strengthen their mastery of their subject fields), but who do not expect to pursue work toward a Ph.D., and who do not wish to take advanced training in historical research. Thirty-six (36) hours of credit in graduate (6000-level) courses, in specific areas, are required. There is no foreign language requirement for this track.

Plan III: Public History Thesis Track

The Public History Thesis Track is designed for students who intend to pursue a career in a variety of areas of public history. Many students in Plan III will work toward the M.A. as a terminal degree, but some may choose to pursue the Ph.D. Thirty (30) hours of credit in graduate-level (6000) courses are required, including coursework, six (6) hours of Public History Internship, and six (6) hours of thesis credit. A foreign language is required.

Plan IV: Public History Non-Thesis Track

The Public History Non-Thesis Track is considered the primary degree plan for public history, due to its focus on applied use of skills in practical settings. It serves students who intended to pursue careers in public history fields such as institutional history, cultural resources management, historical policy and analysis, community history, historical editing, historical archives and records management, and the creation, interpretation, and management of historical exhibits. Thirty-six (36) hours of credit in graduate-level (6000) courses are required, including coursework and nine (9) hours of Public History Internship. A foreign language is not required.

Additional information concerning required courses in major and minor fields, examinations, residency requirements and the like should be obtained from the Department of History's website: <http://www.uh.edu/class/history/>.

Doctoral



History, PhD

The Department of History offers PhD degrees in United States, European, Latin American, Ancient, Modern Arab/Middle East, and Transnational history in all chronological periods. Transnational scholarship may include America and the world; the Atlantic World; comparative history involving study of two or more countries, regions, or continents; energy and the environment; gender; immigration history; international relations; the Pacific Rim; and race and ethnicity. Students may base their Transnational work in any of the regions where the department has faculty resources: Africa, Asia, Europe, Latin America, Modern Arab/Middle East, or the United States.

Admission Requirements

The University of Houston sets minimum standards for graduate admissions, but the Department of History has established supplemental requirements. All students seeking admission into the graduate program in History must complete an online application from the University Office of Admissions. The deadline for applications is January 1. All application materials must be received by that date. All applications are accepted to begin in the Fall semester only. Please consult the History Department website: <http://www.uh.edu/class/history/> or **contact the graduate advising assistant for detailed information on requirements and procedures.**

- a. Overall 3.67 (A-) average on all graduate work attempted (for applicants to the M.A. to Ph.D. track) or overall 3.67 (A-) average on the last sixty (60) hours of undergraduate course credit (for applicants to the B.A. to Ph.D. track).
- b. A minimum of 18 hours in history or other relevant courses with a 3.67 (A-) average.
- c. Acceptable GRE scores.
- d. Demonstrate a reading proficiency in at least one foreign language before or during the first semester of residence in the Ph.D. program.
- e. Three letters of recommendation.
- f. A one- to two-page personal statement indicating the applicant's academic interests is required.
- g. A writing sample.
- h. Official transcripts from every college and university attended.
- i. University of Houston on-line graduate application.
- j. A non-refundable application fee.

Degree Options and Requirements

B.A. to Ph.D. Track:

The Ph.D. Program provides the training necessary for careers in college teaching and historical research. Some students also may wish to pursue the Ph.D. for careers in a variety of public history or applied history fields. This track is intended for students who have earned a B.A. in history or a related discipline. Reading knowledge in at least one foreign language is required. The degree requires a minimum of fifty-four (54) hours of credit in graduate-level (6000) courses, including coursework and nine (9) dissertation credit hours.

M.A. to Ph.D. Track:

The Department of History offers a separate curriculum plan for graduate students who have earned an M.A. in history or a related discipline. Reading knowledge in at least one foreign language is required. The degree requires a minimum of forty-five (45) hours of credit in graduate-level (6000) courses, including coursework and nine (9) dissertation credit hours.

The Ph.D. degree is awarded on the completion of a dissertation that makes a significant contribution to knowledge. The dissertation should be based upon original, independent research drawing heavily from primary sources. From the beginning of the doctoral program, the student should be investigating possible topics in conjunction with the faculty advisor.

Additional information concerning required courses in major and minor fields, examinations, residency requirements, and the like should be obtained from the Department of History's website: <http://www.uh.edu/class/history/>.



Department of Modern and Classical Languages

Master

World Cultures and Literatures, MA

College of Liberal Arts and Social Sciences > Department of Modern and Classical Languages > World Cultures and Literatures, MA

The MA in World Cultures and Literatures is an innovative, interdisciplinary graduate program with strong cultural studies focus and in-depth study in one of the target languages and/or cultures. With an emphasis on languages, literatures, and cultures, the WCL MA program involves a wide range of possible directions as it seeks to meet individual student's academic and career interests and needs. The program addresses issues such as modernity, postmodernity, globalization, colonialism and post-colonialism, transnational and transcultural concerns, urban and diasporic studies, and the formation of cultural identities. It incorporates literary, film, visual, media, and gender studies. Students in language core areas acquire high proficiency in the target language, translation skills, and, in some areas of concentration, training in applied linguistics and second language teaching.

Areas of Concentration

- Chinese
- French
- German
- Italian
- European Cultural Studies with French, German or Italian Core
- Latin American and Latino Cultural Studies
- Comparative Literary and/or Cultural Studies
- Global Cinema Studies

Our faculty, dedicated scholars and teachers drawn from the Chinese, Classical Studies, French, German, Italian, and World Cultures and Literatures programs of the Department of Modern and Classical Languages as well as from other disciplines and departments, provide students with diverse perspectives and approaches relevant to the study of cultures and languages in multiple contexts. Instruction is student-centered, engaging, and encourages faculty-mentored individual and collaborative research. We are committed to excellence in scholarship, student success, and cultural diversity.

The MA in World Cultures and Literatures prepares and qualifies students for a wide range of career areas or for doctoral studies in given languages. In a rapidly changing job market, there is a growing demand for people with an understanding of historical and global contexts who can think across cultures and disciplines, imaginatively frame questions and consider multiple perspectives, combine various approaches and find innovative solutions. The WCL MA contributes to the University of Houston's mission of preparing students for an increasingly diverse and interdependent world and accommodates the educational needs of:

1. BA recipients who want to go on to a more advanced language training in a terminal MA program;
2. BA recipients who wish to complete an MA as a bridge program to prepare them for doctoral study at other universities;
3. Working professionals, including foreign language teachers, who wish to continue their education in foreign languages and cultures.

Admission Requirements

- Minimum of 3.0 GPA in last 60 hrs
- Competitive GRE scores
- Major in target language, or
- Minor in target language and approval of director (admitted provisionally), or



- High level in target language and some background in target culture and/or literature, with approval of director (admitted conditionally; conditional admission is not available to students on an F-1 visa)

Students should submit the following materials:

- The on-line application
- Application fee (\$50 domestic applicants/\$125 international applicants)
- Official transcripts from every institution of higher education attended
- The GRE general test score (The ETS code for the University of Houston is 6870)
- 2-3 letters of recommendation
- Completed departmental application form with student's statement of intent (500 words) and a brief statement in the target/core language (200 words) explaining why you wish to study at the graduate level
- International applications have additional documentation requirements, including TOEFL scores if appropriate. For further information, please visit the International Graduate Students page.

Degree Requirements

Credit hours required for this degree: 30.0

A minimum of 30 hours is required for the WCL M.A., all at the 6000-level or above. Students may elect to write a thesis, complete a translation project in literary/cultural studies, or develop an editing project; if they do so, a maximum of 6 hours of thesis credit may be added on to their requirement. In alternative, students may elect the non-thesis option: they will submit to the director of graduate studies, by the middle of their final term, a copy (in English translation if the paper was originally written in another language) of a seminar paper they judge to be their best. The paper should be revised and expanded in light of further consultation with the professor in the seminar and the director of graduate studies. Students will receive no credit for the non-thesis option. Before entering the M.A. Program, students should decide on a concentration they wish to pursue. Careful advising of individual students will ensure that students build a curriculum that supports their academic and career goals. However, the program is so designed that students may change directions with little or no need for extra courses. The course choices currently include 6000 level courses in MCL and other departments. Courses at the 8000 level require the permission of the instructor.

A minimum 3.0 grade point average for all courses in the M.A. Program is required.

Required Coursework

Total of 30 hours without thesis:

- **WCL 6351 - Frames of Modernity Credit Hours: 3.0**
- **WCL 6352 - Postmodernity & Globalization Credit Hours: 3.0**
or
- **WCL 6353 - Frames of Modernity III: Classics and Modernity Credit Hours: 3.0**
- 3.0 hrs. in 6000-level history course related to target culture/area of concentration
- 15.0 hrs. in 6000-level language, linguistics or literature courses related to area of concentration
- 6.0 hrs. electives in courses related to the area of concentration in literary theory, philosophy, cultural studies, pedagogy, global cinema studies, etc. offered by MCL or another program and approved by director, including practice teaching, internship, study abroad and publications skills preparation as WCL's special elective

Language Requirements

English; proficiency in core concentration/target language, demonstrated by either

1. completion of B.A. or equivalent;
2. completion of four terms of undergraduate coursework in that language followed by approval of the MCL program director of core concentration/target language;



3. native or acquired fluency, followed by approval of the MCL program director of core concentration/target language. Reading knowledge of a language other than English and the core concentration/target language desirable. Reading knowledge in the third language can be satisfied while enrolled in the graduate program through completion of two terms of graduate reading courses in the language with a grade of B- (2.67) or higher.

Areas of Concentration & Specific Requirements

Chinese:

- WCL 6351 - Frames of Modernity Credit Hours: 3.0
- WCL 6352 - Postmodernity & Globalization Credit Hours: 3.0
- CHNS 6364 - Issues in Chinese Language & Culture Credit Hours: 3.0
- CHNS 6371 - Teaching Chinese as a 2nd Language Credit Hours: 3.0
- CHNS 6373 - Chinese Second Language Curriculum Design and Instruction Credit Hours: 3.0
- CHNS 6397 - Selected Topics Credit Hours: 3.0 (repeated, as topics vary, with approval of chair; 6.0 credit hours)
- 3 hrs. in 6000-level history course in Chinese or Asian history
- 6 hrs. in cultural studies, Asian American studies, translation studies, or other relevant courses

French:

- WCL 6351 - Frames of Modernity Credit Hours: 3.0
 - WCL 6352 - Postmodernity & Globalization Credit Hours: 3.0
 - WCL 6353 - Frames of Modernity III: Classics and Modernity Credit Hours: 3.0
 - 3 hrs. in 6000-level history course related to target culture
 - 9 hrs. selected from any of the 6000-level literature courses taught in French
 - 6 hrs. in theory, cultural studies, film / visual studies, translation studies, architectural or art history, philosophy, pedagogy, or other courses relevant to the core, taught in MCL or other departments
- 6.0 hours selected from:**
- FREN 6313 - Advanced Composition and Stylistics Credit Hours: 3.0
 - FREN 6315 - Advanced Translation Credit Hours: 3.0
 - FREN 6316 - Contemporary France Credit Hours: 3.0

German:

- WCL 6351 - Frames of Modernity Credit Hours: 3.0
- WCL 6352 - Postmodernity & Globalization Credit Hours: 3.0
- WCL 6353 - Frames of Modernity III: Classics and Modernity Credit Hours: 3.0
- 3.0 hrs. in 6000-level history course related to target culture
- 15.0 hrs. selected from 6000-level courses taught in German
- 6.0 hrs. in theory, cultural studies, film / visual studies, translation studies, architectural or art history, philosophy, pedagogy, or other courses relevant to the core, taught in MCL or other departments

Italian:

- WCL 6351 - Frames of Modernity Credit Hours: 3.0
 - WCL 6352 - Postmodernity & Globalization Credit Hours: 3.0
- or



- WCL 6353 - Frames of Modernity III: Classics and Modernity Credit Hours: 3.0
- 3.0 hrs. in 6000-level history course related to target culture
- 6.0 hrs. in theory, cultural studies, film/visual studies, translation studies, architectural or art history, philosophy, pedagogy, or other courses relevant to the core, taught in MCL or other departments
- ITAL 6305 - Teaching Italian as a Foreign Language Credit Hours: 3.0
- ITAL 6306 - Advanced Italian Cinema Credit Hours: 3.0
- ITAL 6308 - Italian Heritage Credit Hours: 3.0
- ITAL 6397 - Selected Topics in Italian Literature Credit Hours: 3
- ITAL 6398 - Special Problems Ital Culture Credit Hours: 3.0

European Cultural Studies with French, German or Italian Core:

- 3.0 hrs. in European history
- 15.0 hrs. in French, German, or Italian cultural and literary studies including at least 6 hrs. in one target language (primary area of concentration)
- 6.0 hrs. in theory, cultural studies, film/visual studies, translation studies, architectural or art history, philosophy, pedagogy, publishing skills, or other courses outside of but related to the student's core emphasis

6.0 hours selected from:

- WCL 6351 - Frames of Modernity Credit Hours: 3.0
- WCL 6352 - Postmodernity & Globalization Credit Hours: 3.0
- WCL 6353 - Frames of Modernity III: Classics and Modernity Credit Hours: 3.0

Latin American and Latino Cultural Studies:

- 3.0 hours in Latin American history
- 15.0 hours in Latin American and Latino cultural and literary studies courses
- 6.0 hours in theory, cultural studies, film/visual studies, translation studies, architectural or art history, philosophy, pedagogy, publishing skills, or other courses outside of but related to the student's core emphasis.

6.0 hours selected from:

- WCL 6351 - Frames of Modernity Credit Hours: 3.0
- WCL 6352 - Postmodernity & Globalization Credit Hours: 3.0
- WCL 6353 - Frames of Modernity III: Classics and Modernity Credit Hours: 3.0

Global Cinema Studies:

6.0 hours selected from:

- WCL 6351 - Frames of Modernity Credit Hours: 3.0
- WCL 6352 - Postmodernity & Globalization Credit Hours: 3.0
- WCL 6353 - Frames of Modernity III: Classics and Modernity Credit Hours: 3.0

3.0 hours in:

- WCL 6379 - Critical Theory & Globalization Credit Hours: 3.0
Upon prior approval of the Director of WCL, courses allowed as substitutes may be chosen among:
- ANTH 6340 - Anthropology and Literature Credit Hours: 3.0
- ARTH 6301 - Critical Theory Credit Hours: 3.0
- COMM 6360 - Crit Theory in Media & Culture Credit Hours: 3.0
- ECON 6368 - International Economics Credit Hours: 3.0



- ENGL 6315 - Crit Cultural Theory Credit Hours: 3.0
- HIST 6391 - World Hist Theory & Teaching Credit Hours: 3.0
- PHIL 6356 - Feminist Philosophy Credit Hours: 3.0
- SPAN 7304 - Critical Theory Credit Hours: 3.0
- POLS 6345 - History of Political Theory Credit Hours: 3

6.0 hours in:

- WCL Culture / Literature courses offered by other Departments upon prior approval of the Director of WCL. Courses allowed as substitutes may be chosen among 6000-level courses in English, Philosophy, and Spanish.

15.0 hours of film/culture courses chosen among:

- CHNS 6350 - Studies in Chinese Cinema Credit Hours: 3.0
- CLAS 6381 - Latin Classics in Translation Credit Hours: 3.0
- FREN 6318 - French Cinema Credit Hours: 3.0
- FREN 6321 - Francophone Cinema Credit Hours: 3.0
- ITAL 6306 - Advanced Italian Cinema Credit Hours: 3.0
- WCL 6355 - Utopias and Dystopias Credit Hours: 3.0
- WCL 6356 - Studies in World Film and Film Theory Credit Hours: 3.0
- WCL 6357 - Studies in National and Transnational Cinema Credit Hours: 3.0
- WCL 6358 - Studies in Asian Cinema Credit Hours: 3.0
- WCL 6359 - World Film, Gender, and Sexuality Credit Hours: 3.0
- WCL 6364 - Holocaust Representations Credit Hours: 3.0
- WCL 6366 - Latin American & Latino Film Studies Credit Hours: 3.0
- WCL 6365 - World Documentary Film Credit Hours: 3.0

Comparative Literary and/or Cultural Studies:

- 3.0 hrs. in history related to student's primary area of concentration
- 9.0 hrs. of literature/culture courses in language related to student's primary area of concentration
- 6.0 hrs. of literature/culture courses in secondary area of concentration

6.0 hours in:

- WCL 6351 - Frames of Modernity Credit Hours: 3.0
- WCL 6352 - Postmodernity & Globalization Credit Hours: 3.0
- WCL 6353 - Frames of Modernity III: Classics and Modernity Credit Hours: 3.0

6.0 hours in:

- WCL 6379 - Critical Theory & Globalization Credit Hours: 3.0

Academic Policies

- University of Houston Academic Policies
- Academic Policies: College of Liberal Arts and Social Sciences

Graduate Certificate

Applied Linguistics in Teaching Chinese Certificate



The Graduate Certificate: Applied Linguistics in Teaching Chinese is a nine (9) credit postbaccalaureate program offered by the Chinese Studies Program, Department of Modern and Classical Languages (MCL). It is open to individuals interested in enhancing their knowledge and skills in Chinese language, culture, and teaching Chinese as a second language.

Certificate Requirements

Certificate Total: 9.0 Credit Hours

Course Requirements

3.0 Credit Hours

- CHNS 6373 - Chinese Second Language Curriculum Design and Instruction Credit Hours: 3.0

Elective Course Options

6.0 Credit Hours

Knowledge and Skills and Pedagogical Grammar

3.0 Credit Hours

- CHNS 6366 - History of the Chinese Language Credit Hours: 3.0
- CHNS 6371 - Teaching Chinese as a 2nd Language Credit Hours: 3.0

Research

3.0 Credit Hours

- CHNS 6367 - Sociolinguistic Fieldwork Methods Credit Hours: 3.0
- CHNS 6372 - Studies of Chinese Language Acquisition Credit Hours: 3.0

Academic Policies

- University Academic Policies
- Academic Policies: College of Liberal Arts and Social Sciences

Global Cinema Studies Certificate

The Graduate Certificate in Global Cinema Studies is a nine-hour disciplinary concentration. It is open to students in all UH graduate and professional degree programs. It is also open to students seeking a graduate certificate only, teachers and professionals interested in enhancing their knowledge of transnational cinema. The Graduate Certificate in Global Cinema Studies introduces students to advanced discussions, analyses, and theoretical perspectives in the discipline of World Cinema. Global Cinema Studies address the human experience from multi-ethnic and multi-cultural perspectives, and are particularly suited to the UH diverse student population and the enhancement of transcultural awareness. The courses are open to all graduate students, either in World Cultures and Literatures or in other disciplines. The Certificate will increase their chances to securing a



job in the growing national and transnational market for communication and entertainment which requires cultural flexibility and a certain degree of knowledge in visual culture extending beyond U.S. cinema.

Admission Requirements

- Students apply through the online graduate application and submit
 - official transcripts (minimum of 3.0 GPA in last 60 hrs.),
 - two letters of recommendation, and
 - the Graduate Certificate Application.
- Students who are already in a UH graduate degree program, and are interested in the Graduate Certificate in Global Cinema Studies must
 - submit the Graduate Certificate Application via e-mail to acarrera@uh.edu and mercolani@uh.edu, or via mail to:
Director of Graduate Studies, WCL,
Department of Modern and Classical Languages
University of Houston
3553 Cullen Boulevard, Room 612
Houston, TX 77204-3006

Certificate Requirements

Certificate Total: 9.0 Credit Hours

The Graduate Certificate in Global Cinema Studies requires nine hours in film courses. Students will take WCL 6356 (World Film and Film Theory) plus two other graduate courses in national and/or transnational cinema, Asian cinema, gender and cinema, or courses with a strong cinema component selected from among the courses offered at the Department of Modern and Classical Languages. Students enrolled in other Departments will take WCL 6356 plus at least one course selected from among the cinema courses listed below. The remaining three hours may be selected from among cinema courses offered in other departments, upon prior approval of the director of the Graduate Program in World Cultures & Literatures.

GCS Core Course

3.0 Credit Hours

Taught in English

- WCL 6356 - Studies in World Film and Film Theory Credit Hours: 3.0

Elective Course Options

6.0 Credit Hours

Electives - Taught in English

- WCL 6357 - Studies in National and Transnational Cinema Credit Hours: 3.0
- WCL 6358 - Studies in Asian Cinema Credit Hours: 3.0
- WCL 6359 - World Film, Gender, and Sexuality Credit Hours: 3.0
- WCL 6364 - Holocaust Representations Credit Hours: 3.0
- WCL 6365 - World Documentary Film Credit Hours: 3.0
- WCL 6366 - Latin American & Latino Film Studies Credit Hours: 3.0
- WCL 6355 - Utopias and Dystopias Credit Hours: 3.0



Electives - Taught in English or Other Language

The following courses are taught either in English or in the language of the concentration to which they belong. Graduate students will have to check with the instructor before enrolling. Students will get language credit if they write their papers in the language of the course's concentration.

- CHNS 6350 - Studies in Chinese Cinema Credit Hours: 3.0
- FREN 6318 - French Cinema Credit Hours: 3.0
- FREN 6321 - Francophone Cinema Credit Hours: 3.0
- ITAL 6306 - Advanced Italian Cinema Credit Hours: 3.0

Academic Policies

- University Academic Policies
- Academic Policies: College of Liberal Arts and Social Sciences

Department of Philosophy

Master

Philosophy, MA

College of Liberal Arts and Social Sciences > Department of Philosophy > Philosophy, MA

Admission Requirements

For unconditional admission to the Master of Arts program in philosophy, applicants must normally have completed 18 term hours in philosophy at an accredited institution, including courses that are the equivalents of those required for our bachelor's degree:

1. Two courses in the history of western philosophy, one of which must cover either Ancient Philosophy or Early Modern Philosophy
2. Ethics
3. Logic I

Applicants must have a grade point average of at least 3.33 (A=4.00) on the last 60 hours of course credit. Unconditional admission also requires that applicants have acceptable scores on the Graduate Record Examination. Admission is possible if some course requirements have not been met, provided that GPA and GRE scores are strong. However, these requirements will need to be completed early in the student's graduate career and lower division course work done in satisfying these requirements will not count toward the term hours required for the master's degree.

Applicants who do not have the course requirements for unconditional admission may be admitted conditionally, on the understanding that such requirements must be satisfied after entering the program; Conditional admission may also be granted to applicants who do not satisfy the grade requirements for unconditional admission if 1) their overall grade point average on the last 60 hours of course credit is at least a 2.67 (A=4.00); 2) their grade point average in philosophy courses is at least a 3.00 (A=4.00), and 3) their scores on the Graduate Record Examination are high enough to indicate probable success in the program.

Degree Requirements

Candidates must complete either 30 or 36 term hours in courses numbered 6000 or above for which graduate credit is accepted by the department. These courses must include 18 term hours in regular graduate seminars in the department. Courses taken outside the department will count toward the required hours only with the approval of the director of graduate studies. An arrangement exists with Rice University's Philosophy



Department that allows students in our program to take graduate level courses they offer. These courses qualify as being taken in our department, but they do not qualify as seminars.

Plan I (Thesis Option)

Candidates choosing this plan must complete a thesis, and the 6 hours of thesis courses will count as part of the 30 hours required for the degree. At least 24 of the required 30 hours must be taken in the Department of Philosophy. Students taking the thesis option must have an A- average in their first year of graduate study in the program

Plan II (Non-thesis Option)

Candidates must complete 36 term hours of approved courses, of which 30 hours must be taken in the Department of Philosophy. In addition, candidates must submit to the director of graduate studies, by the middle of their final term a copy of the term paper they judge to be best. The paper should be revised and corrected in light of further consultation with the professor in the seminar.

Department of Political Science

Master

Political Science, MA

The department offers programs of study leading to the Master of Arts degree in political science and the Master of Arts degree in public administration. For more information about the Master of Arts degree in public administration, refer to the public administration program in this section of the catalog. Course offerings in political science cover the following general topics: American politics, public policy, public administration, public law, political theory, research methods, and comparative politics.

Admission Requirements

In addition to meeting the college graduate admission requirements, applicants must meet the following minimum requirements for unconditional admission to the Master of Arts in Political Science program:

Applicants must have a baccalaureate degree from an accredited institution, at least a 3.00 grade point average (A=4.00) in the most recent 60 term hours of undergraduate or graduate courses and have taken the Graduate Record Examination (GRE).

A satisfactory score of 550 on the TOEFL paper-based exam or 213 for the computer-based exam or 79 on the Internet-based TOEFL (iBT) is generally acceptable proof of English proficiency for international students. Applicants should prepare a one-to two-page statement of purpose and should also submit three letters of recommendation, preferable from professors directly familiar with their academic work. Go to <http://www.polsci.uh.edu/graduate/graduate.html> and click on graduate then admissions for more information on admissions requirements.

Political Science students are generally admitted only in the Fall term. However, Spring and Summer admissions are decided on a space available basis. The deadlines for submitting applications are February 15 for the Fall term and October 1 for the Spring term. Applications are judged on a competitive basis by the Department's Graduate Committee.

The program offers two MA options as follows:

MA degrees are awarded to students in one of the following categories:

1. Those whose educational objective is a Master's degree and do not wish to proceed to the degree of PhD;
2. Those who do not meet the requirements for the degree of PhD and who are advised to obtain a terminal Master's degree;



3. Those who are proceeding towards a PhD but wish the Master's credential for professional purposes.

Thirty to thirty-six term hours of approved course work, at least 24 term hours of which must be at the 6000 level or above, is required. Also, at least 27 hours of credit for the Master's degree must be earned in residence at the University of Houston campus. No more than 6 term hours of transferred course work may be applied to the Master of Arts degree. Determination of course equivalency of transferred work resides with the Director of Graduate Studies and the Graduate Committee. Credit for post baccalaureate courses will not be given. A degree plan should be completed, in consultation with the Director of Graduate Studies, within the first 12 hours of course work and filed with the Graduate Office. A Master's degree program must be completed within five years of the date of enrollment at the University of Houston.

There are 3 plans under which graduate students can earn a Master of Arts degree:

1. MA Plan I: 30 hours of coursework and 6 hours of Master's thesis hours;
2. MA Plan II (Terminal Degree): 33 hours of coursework and 3 hours of Bibliographic Essay hours;
3. MA by Examination: This program is designed to provide an interim professional qualification for candidates who are in the process of working towards a PhD. Candidates who pass the Comprehensive Examinations for the PhD degree may petition to have this pass recognized as fulfilling the requirements for a Master of Arts degree.

For more information on the degree requirements and types of degrees, please refer to the Graduate Programs page.

Doctoral

Political Science, PhD

The graduate program of the Department of Political Science provides advanced training in the discipline of political science to students whose career goals include college teaching and advanced research.

The department is organized into six major subfields: American politics, comparative politics, international relations, political theory, quantitative methods, and public policy. Students take comprehensive exams in a major and minor subfield of their choice.

Recent graduates of the PhD program have obtained teaching positions at colleges and universities throughout the U.S. and abroad.

Admission Requirements

In addition to meeting the college graduate admission requirements, applicants must meet the following minimum requirements for unconditional admission to the Ph.D. in Political Science program:

- Applicants must have a baccalaureate degree from an accredited institution by the date of enrollment with at least a 3.00 grade point average (A = 4.00) in the most recent 60 hours of undergraduate course work and at least a 3.0 cumulative grade point average for any graduate level courses.
- International applicants have further documentation requirements, including proof of English language proficiency, which are described on the International Graduate Students website.
- Applicants should prepare a one-to two-page statement of purpose.
- Secure three letters of recommendation from professors directly familiar with the student's work.
- Application fee (\$65 domestic applicants/\$140 international applicants).

Political Science students are generally admitted only in the Fall semester. However, Spring admissions are decided on a space available basis.

Degree Requirements

Credit hours required for this degree: 60.0

A minimum of 48 hours of course work is required for a political science PhD, plus at least 12 hours of dissertation credit. Students must successfully complete oral and written comprehensive examinations.



Comprehensive examinations are normally given after two and a half years of coursework, or the equivalent in terms of credit hours for part-time students. Upon successfully completing exams, students are expected to be continuously enrolled in dissertation hours until the degree is completed. Students who are not on teaching fellowships may enroll for as little as 3 dissertation hours per semester (this includes the summer), but note that a student must enroll for a minimum of 12 dissertation hours prior to completion of the degree. Following the completion of a dissertation, students must participate in an oral dissertation defense. Students who enroll as doctoral candidates must complete their degree requirements within 10 years of the date of first enrollment with a doctoral degree objective. Failure to comply will result in the candidate being ineligible for the doctoral degree. Doctoral students who fail to complete the dissertation within 5 years after passing the comprehensive examination must retake the examination.

Core Courses

All students intending to obtain a PhD must take the three required core courses in their first two years in the program, or, in the case of part-time students, as soon as practically possible. Students who are admitted to the PhD program with financial support must enroll in the department's core courses during their first year in the program.

- POLS 6302 - Research Design for Political Scientists Credit Hours: 3.0
- POLS 6480 - Quantitative Methods I Credit Hours: 4
- POLS 6481 - Quantitative Methods II Credit Hours: 4

The core curriculum is designed to provide beginning PhD students with a broad overview of important topics in Political Science. For the beginning student, the core should provide the necessary background to select areas for further concentrated study. The methodological component of the core (POLS 6480 and POLS 6481) is designed to provide the student with the appropriate statistical foundation to become an informed consumer of Political Science research and to set the stage for the student to perform research of his/her own.

Degree Plan

During the last term of core course work students should develop a degree plan in consultation with the Director of Graduate Studies and the student's academic adviser. Students must select two areas of study in Political Science in which to concentrate. One of the chosen areas is designated a student's major area, and a minimum of twelve credit hours (four courses) is required in this area. In the minor area of study, nine credit hours (three courses) are required as a minimum. Students will also have six hours (two courses) in elective courses which can be taken in any area chosen.

It is required that students with a major or minor in American Politics take at least one course from each of the following two subsets:

1. Elections, Public Opinion, Psychology and Politics
2. Legislative Process, The Presidency, Political Parties

Tools Requirement

The tools requirement exists for the purpose of assuring competence in the methods necessary for effective scholarship in the student's chosen specialty. Each student must complete two relevant research courses (6 hours) beyond POLS 6480 and POLS 6481. Choice of possible tool offerings should in all cases be guided by the question of appropriateness for the student's academic interest. Students should consult with their advisor about the most appropriate courses for them. In all cases, the student's choice of tool requirements must be approved by the Director of Graduate Studies.

Among the possible course offerings that may satisfy the requirement area:

A. Political methodology courses:

- POLS 6480 - Quantitative Methods I Credit Hours: 4
- POLS 6482 - Quantitative Methods III: Maximum Likelihood Estimation Credit Hours: 4



Plus one additional course (for instance,

- POLS 6384 - Survey Research Methods Credit Hours: 3 ,
- POLS 6385 - Time Series Methods Credit Hours: 3 , or
- POLS 6386 - Measurement Theory for Political Science Credit Hours: 3

B. Computer Applications at a more advanced level than POLS 6480 and POLS 6481.

C. Foreign language (in rare instances).

D. Other research methods specifically relevant to the dissertation research of the student.

Degree Path

In most cases, the American politics core course and the first two courses in the methods sequence should be completed in the student's first year. Progress toward degree will normally take a path similar to the following:

Year One:	Year Two:	Year Three:
1. Research Design (POLS 6302)	7. Tools (1)	13. Major (4)
2. Methods (POLS 6480)	8. Major (2)	14. Elective (2)
3. Elective (1)	9. Minor (2)	15. Prospectus seminar
4. Methods (POLS 6481)	10. Tools (2)	
5. Major (1)	11. Major (3)	
6. Minor (1)	12. Minor (3)	

Academic Policies

- University of Houston Academic Policies
- Academic Policies: College of Liberal Arts and Social Sciences

Students must also successfully complete oral and written comprehensive exams. Upon successfully completing comprehensive exams, students are expected to be continuously enrolled in dissertation hours (a minimum of 12 dissertation hours must be completed prior to the completion of the degree). Upon completion of the dissertation, the student will participate in an oral dissertation defense.

SATISFACTORY PROGRESS TOWARD THE DEGREE

Every spring term the department's faculty meets to review the progress of all students in the department's PhD program. This review will usually involve consultation with all faculty members who have taught the student during the previous two semesters. The Director of Graduate Studies will refer to the Graduate Committee for review any students who do not seem to be making adequate progress toward the PhD degree.

Students are expected to meet the following minimum standards:

- maintain a 3.0 grade point average,



- receive one A or A- for every three courses completed, and
- carry on their transcripts no more than two incompletes at any one time (except in cases of medical emergency, which must be documented to the satisfaction of the Director of Graduate Studies).

Students who have not met these minimal requirements will be deemed not to have made satisfactory progress. After having registered for 18 hours or more of course credit, students who have not made satisfactory progress will be counseled by the graduate committee and given the opportunity to explain what steps they will take to improve their performance in the future. Such students will be advised that they are in jeopardy of losing financial support or being expelled from the political science PhD program. A letter to that effect will be entered into each student's file. These students will be given a probationary term to improve their grades and/or to remove incompletes from their records.

Students who have any incompletes or have not achieved grades of A or A- for one third of their graduate credit hours will not be permitted to take doctoral comprehensive exams. Full-time students will normally take their exams after their third year. Part-time students must complete a minimum of 48 hours of course credit before taking comprehensive exams.

Independent of the "progress review", the Director of Graduate Studies is responsible each term for monitoring whether students are making satisfactory progress toward their degrees, discussing the situation with the student, and reporting and making recommendations to the Graduate Committee regarding any student failing to make satisfactory progress.

Students in the Political Science Graduate Program who are not doing satisfactory work may be advised to pursue the MA degree only and not go on for the PhD. Depending on how many courses they have completed at the point such advice is given, these students may choose either the Plan I MA (which requires a thesis) or a Plan II MA (which requires more course work and a bibliographic essay). Students who are not doing satisfactory work will receive a letter from the department notifying them of this. Any student who fails to make satisfactory progress may be suspended from the Graduate Program by the Director of Graduate Studies. A student may appeal a suspension to the Graduate Committee.

Dual Degree - Accelerated Pathway

Political Science, Accelerated BA/MA

College of Liberal Arts and Social Sciences > Department of Political Science > Political Science, Accelerated BA/MA

Program Description

This program allows outstanding Political Science majors to complete their BA and MA at UH in five years. This program saves students a year of time and tuition, and gives them a graduate degree that can help them be more competitive in the job market and on their applications to grad school and law school.

Political Science, MA

Interested students should submit a preliminary application in their Junior year by April 15. If admitted into the program, students would begin taking graduate-level courses in the Fall of their Senior year.

Shared Course Credit

The most important feature of the program is that 6 term hours of graduate-level courses can be used as dual credit for both the BA and the MA degrees. All other requirements for the degrees must still be fulfilled.

Application Process



To be eligible for the program, students must maintain a minimum of 3.33 GPA.

Preliminary Application: the first stage of the application process begins in the student's Junior year. This application consists of a statement of purpose, unofficial transcripts, and one letter of recommendation. The application would be evaluated by the Graduate Committee in the Political Science department. Acceptance at this stage only means that a student may begin taking graduate courses his/her Senior year.

Full Graduate Application: Students accepted at the preliminary stage must still apply normally to the Political Science department. They would do so in February of their Senior year. The details for application can be found here:

<http://www.uh.edu/class/political-science/graduate/admissions/index.php>

Capstone Seminar Paper

The capstone project consists in a qualifying paper. This paper should be of sufficient quality to be presented at an academic conference or to be submitted for publication.

Sample Schedule

Spring Junior Year	Preliminary Application due by April 15
Fall Senior Year	<ul style="list-style-type: none"> • 3 credits double counted to BA & MA • 3 credits to be transferred to MA
Spring Senior Year	<ul style="list-style-type: none"> • 3 credits double counted to BA & MA • 3 credits to be transferred to MA • Full Application due February 15
Summer before 5 th year	<ul style="list-style-type: none"> • 3 credits
Fall 5 th year	<ul style="list-style-type: none"> • 9 credits
Spring 5 th year	<ul style="list-style-type: none"> • 9 credits
Summer after 5 th year	<ul style="list-style-type: none"> • 3 credits (Capstone Project)
Total	36 SCH

Department of Psychology

Joint Programs

- Measurement, Quantitative Methods, and Learning Sciences, PhD

Doctoral

Clinical Psychology, PhD



Admission Requirements

The Doctor of Philosophy degree in Psychology is offered in the areas of clinical, developmental, industrial/organizational, and social psychology. The department of psychology only accepts full-time graduate students.

In addition to meeting the college graduate admission requirements, applicants must meet the following minimum requirements for unconditional admission to the Ph.D. in Psychology program:

Requirements include either a baccalaureate degree in psychology or an undergraduate degree that includes 24 semester hours in psychology; a 3.00 (A=4.00) grade point average in the most recent 60 semester hours of undergraduate or graduate courses; Graduate Record Examination (GRE) scores; three letters of recommendation; and a goals statement. (Verbal, quantitative, and analytical writing GRE scores are examined separately and evaluated as one information source in the total application.)

The psychology department admits only students whose objective is a Doctor of Philosophy degree. Admission is for the fall term only, with a December 1 deadline for the Clinical Psychology program. Prospective students should apply directly to the department.

Between 10 and 15 students are accepted annually from approximately 400 applicants. Successful applicants have approximately a 3.50 (A=4.00) grade point average and average scores in at least the 70th percentile on both the GRE verbal and quantitative tests.

Application information may be found at the Psychology Department website.

Doctor of Philosophy Program

Program Requirements

Master of Arts Degree (36 semester hours)

Department Core:

- PSYC 6300 - Stat for Psy Credit Hours: 3.0
- PSYC 6302 - Expermental Dsgn Credit Hours: 3.0

Research or applied practica. Credit Hours: 12.0

Major Concentration. Credit Hours: 12.0

Thesis Research:

- PSYC 6399 - Masters Thesis Credit Hours: 3
- PSYC 7399 - Masters Thesis Credit Hours: 3

Doctor of Philosophy Degree (36 semester hours)

- PSYC 6301 - Psychological Theory His/Sys Credit Hours: 3.0

Major area, minor area, and specified related courses. Credit Hours: 15.0

Distribution electives taken from foundation courses or equivalents. Credit Hours: 6.0

Disstertation Research. Credit Hours: 12.0

taken from:



- PSYC 8399 - Doctoral Dissertation Credit Hours: 3
- PSYC 8699 - Doctoral Dissertation Credit Hours: 6
- PSYC 8999 - Doctoral Dissertation Credit Hours: 9

Total (minimum) 72

Students must also complete a thesis, dissertation, comprehensive examination, and any special requirements of the major area of concentration.

Special Academic Regulations

Three grades of C or lower during the course of the graduate program are grounds for automatic dismissal. The master's degree should be completed within two years after admission to graduate school. The Ph.D. degree is expected to be completed by students within four years after admission to graduate school for those areas not requiring internship, externship, or practicum, and within five years after admission for those areas requiring internship, externship, or practicum. The maximum expected time allowed for the completion of the Ph.D. degree after admission is six years for those areas not requiring an internship, externship, or practicum and seven years for those areas requiring internship, externship, or practicum. A satisfactory rate of progress toward completion of the degree requirements is required throughout enrollment. The department may terminate a student's enrollment at any time if the rate of progress or academic performance is not satisfactory.

Industrial/Organizational Psychology, PhD

College of Liberal Arts and Social Sciences > Department of Psychology > Industrial/Organizational Psychology, PhD

Admission Requirements

The Doctor of Philosophy degree in Psychology is offered in the areas of clinical, developmental, industrial/organizational, and social psychology. The department of psychology only accepts full-time graduate students.

In addition to meeting the college graduate admission requirements, applicants must meet the following minimum requirements for unconditional admission to the Ph.D. in Psychology program:

Requirements include either a baccalaureate degree in psychology or an undergraduate degree that includes 24 semester hours in psychology; a 3.00 (A=4.00) grade point average in the most recent 60 semester hours of undergraduate or graduate courses; Graduate Record Examination (GRE) scores; three letters of recommendation; and a goals statement. (Verbal, quantitative, and analytical writing GRE scores are examined separately and evaluated as one information source in the total application.)

The psychology department admits only students whose objective is a Doctor of Philosophy degree. Admission is for the fall term only, with a January 15 deadline for the I/O Psychology program. Prospective students should apply directly to the department.

Between 5 and 10 students are accepted annually from approximately 150 applicants. Successful applicants have approximately a 3.50 (A=4.00) grade point average and average scores in at least the 70th percentile on both the GRE verbal and quantitative tests.

Application information may be found at the Psychology Department website.

Doctor of Philosophy Program

Program Requirements

Master of Arts Degree (36 semester hours)



Department Core:

- PSYC 6300 - Stat for Psy Credit Hours: 3.0
- PSYC 6302 - Experimental Dsgn Credit Hours: 3.0

Research or applied practica. Credit Hours: 12.0

Major Concentration. Credit Hours: 12.0

Thesis Research:

- PSYC 6399 - Masters Thesis Credit Hours: 3
- PSYC 7399 - Masters Thesis Credit Hours: 3

Doctor of Philosophy Degree (36 semester hours)

- PSYC 6301 - Psychological Theory His/Sys Credit Hours: 3.0

Major area, minor area, and specified related courses. Credit Hours: 15.0

Distribution electives taken from foundation courses or equivalents. Credit Hours: 6.0

Disstertation Research. Credit Hours: 12.0

taken from:

- PSYC 8399 - Doctoral Dissertation Credit Hours: 3
- PSYC 8699 - Doctoral Dissertation Credit Hours: 6
- PSYC 8999 - Doctoral Dissertation Credit Hours: 9

Total (minimum) 72

Students must also complete a thesis, dissertation, comprehensive examination, and any special requirements of the major area of concentration.

Special Academic Regulations

Three grades of C or lower during the course of the graduate program are grounds for automatic dismissal. The master's degree should be completed within two years after admission to graduate school. The Ph.D. degree is expected to be completed by students within four years after admission to graduate school for those areas not requiring internship, externship, or practicum, and within five years after admission for those areas requiring internship, externship, or practicum. The maximum expected time allowed for the completion of the Ph.D. degree after admission is six years for those areas not requiring an internship, externship, or practicum and seven years for those areas requiring internship, externship, or practicum. A satisfactory rate of progress toward completion of the degree requirements is required throughout enrollment. The department may terminate a student's enrollment at any time if the rate of progress or academic performance is not satisfactory.

Integrative Program in Developmental, Cognitive, and Behavioral Neuroscience, PhD

College of Liberal Arts and Social Sciences > Department of Psychology > Integrative Program in Developmental, Cognitive, and Behavioral Neuroscience, PhD

Admission Requirements



The Doctor of Philosophy degree in Psychology is offered in the areas of clinical, developmental, industrial/organizational, and social psychology. The department of psychology only accepts full-time graduate students.

In addition to meeting the college graduate admission requirements, applicants must meet the following minimum requirements for unconditional admission to the Ph.D. in Psychology program:

Requirements include either a baccalaureate degree in psychology or an undergraduate degree that includes 24 semester hours in psychology; a 3.00 (A=4.00) grade point average in the most recent 60 semester hours of undergraduate or graduate courses; Graduate Record Examination (GRE) scores; three letters of recommendation; and a goals statement. (Verbal, quantitative, and analytical writing GRE scores are examined separately and evaluated as one information source in the total application.)

The psychology department admits only students whose objective is a Doctor of Philosophy degree. Admission is for the fall term only, with a December 1 deadline for the Developmental Psychology program. Prospective students should apply directly to the department.

Between 5 and 10 students are accepted annually from approximately 40 applicants. Successful applicants have approximately a 3.50 (A=4.00) grade point average and average scores in at least the 70th percentile on both the GRE verbal and quantitative tests.

Application information may be found at the Psychology Department website.

Doctor of Philosophy Program

Program Requirements

Master of Arts Degree (36 semester hours)

Department Core:

- PSYC 6300 - Stat for Psy Credit Hours: 3.0
- PSYC 6302 - Experimental Dsgn Credit Hours: 3.0

Research or applied practica. Credit Hours: 12.0

Major Concentration. Credit Hours: 12.0

Thesis Research:

- PSYC 6399 - Masters Thesis Credit Hours: 3
- PSYC 7399 - Masters Thesis Credit Hours: 3

Doctor of Philosophy Degree (36 semester hours)

- PSYC 6301 - Psychological Theory His/Sys Credit Hours: 3.0

Major area, minor area, and specified related courses. Credit Hours: 15.0

Distribution electives taken from foundation courses or equivalents. Credit Hours: 6.0

Dissertation Research. Credit Hours: 12.0

taken from:

- PSYC 8399 - Doctoral Dissertation Credit Hours: 3
- PSYC 8699 - Doctoral Dissertation Credit Hours: 6
- PSYC 8999 - Doctoral Dissertation Credit Hours: 9



Total (minimum) 72

Students must also complete a thesis, dissertation, comprehensive examination, and any special requirements of the major area of concentration.

Special Academic Regulations

Three grades of C or lower during the course of the graduate program are grounds for automatic dismissal. The master's degree should be completed within two years after admission to graduate school. The Ph.D. degree is expected to be completed by students within four years after admission to graduate school for those areas not requiring internship, externship, or practicum, and within five years after admission for those areas requiring internship, externship, or practicum. The maximum expected time allowed for the completion of the Ph.D. degree after admission is six years for those areas not requiring an internship, externship, or practicum and seven years for those areas requiring internship, externship, or practicum. A satisfactory rate of progress toward completion of the degree requirements is required throughout enrollment. The department may terminate a student's enrollment at any time if the rate of progress or academic performance is not satisfactory.

Social Psychology, PhD

College of Liberal Arts and Social Sciences >Department of Psychology >Social Psychology, PhD

Admission Requirements

The Doctor of Philosophy degree in Psychology is offered in the areas of clinical, developmental, industrial/organizational, and social psychology. The department of psychology only accepts full-time graduate students.

In addition to meeting the college graduate admission requirements, applicants must meet the following minimum requirements for unconditional admission to the Ph.D. in Psychology program:

Requirements include either a baccalaureate degree in psychology or an undergraduate degree that includes 24 semester hours in psychology; a 3.00 (A=4.00) grade point average in the most recent 60 semester hours of undergraduate or graduate courses; Graduate Record Examination (GRE) scores; three letters of recommendation; and a goals statement. (Verbal, quantitative, and analytical writing GRE scores are examined separately and evaluated as one information source in the total application.)

The psychology department admits only students whose objective is a Doctor of Philosophy degree. Admission is for the fall term only, with a January 15 deadline for the Social Psychology program. Prospective students should apply directly to the department.

Between 5 and 10 students are accepted annually from approximately 100 applicants. Successful applicants have approximately a 3.50 (A=4.00) grade point average and average scores in at least the 70th percentile on both the GRE verbal and quantitative tests.

Application information may be found at the Psychology Department website.

Doctor of Philosophy Program

Program Requirements

Master of Arts Degree (36 semester hours)

Department Core:

- PSYC 6300 - Stat for Psy Credit Hours: 3.0
- PSYC 6302 - Experimental Dsgn Credit Hours: 3.0

Research or applied practica. Credit Hours: 12.0



Major Concentration. Credit Hours: 12.0

Thesis Research:

- PSYC 6399 - Masters Thesis Credit Hours: 3
- PSYC 7399 - Masters Thesis Credit Hours: 3

Doctor of Philosophy Degree (36 semester hours)

- PSYC 6301 - Psychological Theory His/Sys Credit Hours: 3.0

Major area, minor area, and specified related courses. Credit Hours: 15.0

Distribution electives taken from foundation courses or equivalents. Credit Hours: 6.0

Dissertation Research. Credit Hours: 12.0

taken from:

- PSYC 8399 - Doctoral Dissertation Credit Hours: 3
- PSYC 8699 - Doctoral Dissertation Credit Hours: 6
- PSYC 8999 - Doctoral Dissertation Credit Hours: 9

Total (minimum) 72

Students must also complete a thesis, dissertation, comprehensive examination, and any special requirements of the major area of concentration.

Special Academic Regulations

Three grades of C or lower during the course of the graduate program are grounds for automatic dismissal. The master's degree should be completed within two years after admission to graduate school. The Ph.D. degree is expected to be completed by students within four years after admission to graduate school for those areas not requiring internship, externship, or practicum, and within five years after admission for those areas requiring internship, externship, or practicum. The maximum expected time allowed for the completion of the Ph.D. degree after admission is six years for those areas not requiring an internship, externship, or practicum and seven years for those areas requiring internship, externship, or practicum. A satisfactory rate of progress toward completion of the degree requirements is required throughout enrollment. The department may terminate a student's enrollment at any time if the rate of progress or academic performance is not satisfactory.

Public Administration Program

Our Mission

The Master of Public Administration Program (MPA) provides higher levels of training and education for pre-service and in-service public managers, and public officials to address major public policy issues in a metropolitan scenario.

The UH MPA program was approved by the State of Texas Higher Education Coordinating Board over 40 years ago, and we have produced over 400 graduates for public service. We have been a member of the National Association of Schools of Public Administration and Affairs (NASPAA) and recognized as one of the excellent MPA programs in the nation.

Our Program



With the campus situated only a few miles from downtown Houston and in the center of over 5 million people, 133 cities, 79 independent school districts, 727 municipal utility districts, and hundreds of special districts, the University of Houston MPA Program is appropriately metropolitan driven. Students have a first-hand look at significant policy questions such as health-care, environment, immigration, energy, and transportation. Students are asked to contribute to the debate on these issues through course work and with visitors who participate in the local decision-making process. To accommodate in-service students, our courses are scheduled in the evenings, Monday - Thursday.

Master

Public Administration, MPA

The Master of Public Administration Program (MPA) provides higher levels of training and education for pre-service and in-service public managers, and public officials to address major public policy issues in a metropolitan scenario. Visit the Master of Public Administration Program website: <http://www.uh.edu/class/mpa>.

Admission Requirements

Admission to the MPA program at the University of Houston requires an undergraduate degree* from an accredited college or university with a 3.0 (B) or better grade point average in the last 60 hours of course work. The Graduate Record Exam (GRE) if required .

*An applicant (domestic or international) has to be awarded his or her undergraduate degree by the end of the prior Spring term for Fall application.

Application Deadline

All required application materials including official GRE Score report should be sent by

Spring application deadline: October 15th**

Fall application deadline: June 15th

How to apply

Applicants should submit the following required material online: <https://www.applyweb.com/uhouston/index.ftl>

1. A statement of purpose for pursuing an MPA degree
2. Three letters of reference (there is no specific form)
3. A hard copy of official transcripts from each university attended
4. A completed application form (apply to our program through the online system: <https://www.applyweb.com/uhouston/index.ftl>)
5. Official copy of scores from the Graduate Record Exam (GRE)*
 - Requesting your official score: ETS GRE website*
 - Exam Schedule: Please check The University of Houston Testing Center or any college near you.

*The GRE score must be sent directly from Educational Testing Service (ETS) to the University of Houston (UH Code for the GMAT/GRE is R6870). GRE Scores older than 5 years will not be accepted.

International Applicants

To apply to the MPA program, students should submit the following online: <https://www.applyweb.com/uhouston/index.ftl>

Application materials common for all applicants



- A statement of purpose for pursuing an MPA degree
- Three letters of reference (there is no specific form)
- Two hard copies of official transcripts from each university attended
- A completed application form (apply to our program through online application: <https://www.applyweb.com/uhouston/index.ftl>)
- Official copy of scores from the Graduate Record Exam (GRE)
- Application materials and requirements specific to International applicants

All application materials should be submitted to Office of International Admissions. Your application materials will be processed at Office of International Admissions prior to our review.

Please consult the Office of International Admissions webpage for additional application materials and criteria including TOEFL: <http://www.uh.edu/graduate-school/international-students/>.

- How to apply (International Admissions)
 - Steps in applying
 - Residency Requirements
 - Dates and Deadlines
- Admission Criteria
 - Documentation
- Admissions Forms
- International graduate tuition and fees

UH MPA Curriculum

12 courses - 38 credit hours

The UH MPA program focuses on the management side in the public sector. The total core curriculum consists of eight courses or 26 hours. Three of the remaining four courses are electives oriented to your specialization. The Capstone Problem Project, PUBL 6325, is the final course. This results in an overall total of 12 courses or 38 hours for the MPA degree. The electives are tailored to the students' specialty needs. A full time student should be able to complete the coursework in two school years.

- **PUBL 6310 - Administrative Theory Credit Hours: 3.0**
- **PUBL 6398 - Special Probs Publ Adm/Policy Credit Hours: 3.0**
Topic(s):
 - Administrative Law and Regulations
- **PUBL 6313 - Fundamentals of Policy Analysis Credit Hours: 3.0**
- **PUBL 6410 - Quantitative Methods I Credit Hours: 4.0**
- **PUBL 6311 - Public Administration and Policy Implementation Credit Hours: 3.0**
- **PUBL 6342 - Budgeting For Public Agencies Credit Hours: 3.0**
- **PUBL 6350 - Public Management Credit Hours: 3.0**
- **PUBL 6415 - Decision Science for Public Affairs Credit Hours: 4.0**

Electives

Three courses are required and chosen in consultation with advisor. Electives will be tailored to the students' specialty needs and career goals using an inter-disciplinary approach across UH departments.

The elective curriculum is complemented by nine hours (three courses) in the students' area of specialization. The specialization courses are chosen by the student and must be approved by the program director.



Early in the second year of the program students are required to submit a formal statement of specialization to the MPA Director. This statement should describe the specialization and the three courses, which will be used to fulfill the requirements. Electives will be tailored to the students' specialty needs and career goals using an inter-disciplinary approach across UH departments such as:

- PUBL 6321 - Seminar in Urban Politics Credit Hours: 3.0
- PUBL 6343 - GIS for Urban Applications Credit Hours: 3.0
- PUBL 6349 - Seminar in Non-Profit Management Credit Hours: 3.0

- PUBL 6347 - Seminar in Health Care Policy Credit Hours: 3.0
cross-listed with
- POLS 6315 - Health Care Policy Credit Hours: 3.0

- PUBL 6346 - Seminar in Emergency Management Credit Hours: 3.0
- Inter-disciplinary courses - Political Science, Business, Psychology, Economics, Law, Social Work, Architecture, and Sociology.

Note(s):

Elective courses can be taken from UT Health Science Center and Rice University through inter-institutional arrangements.

Examples of specializations include: personnel management; city management; environmental policy; higher education, and management for non-profits. Specialization courses can be taken in a variety of colleges throughout the University including Business, Social Work, Psychology, Economics, Political Science, Computer Sciences, Architecture, and Law Center. For a list of Specialization Electives see <http://www.uh.edu/class/mpa/degree-requirements/specialization/>.

Final Requirements

- PUBL 6325 - Capstone Problem Project Credit Hours: 3
This course represents the culmination of graduate work in the MPA program. This course permits the student to demonstrate mastery of the skills and knowledge acquired in their core and specialization courses. Each student is expected to formulate and analyze a real issue of public administration, organization, or policy; to examine alternative solutions or procedures; and to make independent and specific recommendations dealing with the issue.
Students should submit project proposal to the Director prior to commencing his or her project, as projects are subject to approval by the Director.

MPA Comprehensive Exam

At or near the completion of course work, students are asked to demonstrate their familiarity with the literature in the field and their ability to apply it to problems of public administration in a one-day exam. This exam is typically taken during the last term of course work.

Internship

Determined in consultation with advisor. The internship requirement is designed for those who have not had a full time work experience in private, public, or non-profit sector.

(No credit)

Visit the Master of Public Administration website.

Department of Sociology



Master

Sociology, MA

The Department of Sociology at the University of Houston offers an MA in sociology with graduate training directed towards professional career success in both academic and non-academic fields. The Sociology department offers both a thesis track and an applied internship track for the Master's degree.

Admission Requirements

Applicants must have a BA or BS from an accredited institution, preferably with a major in sociology or any other social science. In addition, applicants should have the following credentials:

- All applicants should have a 3.00 grade point average (A=4.00) on the most recent 60 term hours of undergraduate coursework (In some cases, graduate coursework hours can also be used in this calculation).
- Applicants with a grade point average below 3.0 must provide a Graduate Record Examination (GRE) score that is not more than 5 years old for conditional admission.
- International students must also provide a TOEFL or IELTS score that is no more than 5 years old. The TOEFL score must be 79 or higher and the combined IELTS must be 6.5 or higher.
- It is highly recommended, but not required, that applicants have taken undergraduate courses in Social Theory, Social Statistics, and Research Methods.

Degree Requirements

Credit hours required for thesis/non-thesis track degree: 36.0

Thesis Track Program Requirements

- SOC 6300 - Sem-Sociological Theory Credit Hours: 3.0 (The course must be completed with a grade of B- or better.)
- SOC 6302 - Research and Writing in the Social Sciences Credit Hours: 3.0 (The course must be completed with a grade of B- or better.)
- SOC 6304 - Social Statistics Credit Hours: 3.0 (The course must be completed with a grade of B- or better.)
- SOC 6306 - Sem in Quant Methods Credit Hours: 3.0 (The course must be completed with a grade of B- or better.)
- SOC 6311 - Qualitative Soc Methods Credit Hours: 3.0 (The course must be completed with a grade of B- or better.)
- Five additional graduate seminars (each course 3.0 Credit Hours) **Total Credit Hours: 15.0**
- SOC 6399 - Masters Thesis Credit Hours: 3
- SOC 7399 - Masters Thesis Credit Hours: 3

Total 36 Hours

Students must maintain a cumulative grade point average of 3.00 or above and successfully defend the thesis.

Applied Internship Track Program



- SOC 6300 - Sem-Sociological Theory **Credit Hours: 3.0** (The course must be completed with a grade of B- or better.)
- SOC 6302 - Research and Writing in the Social Sciences **Credit Hours: 3.0** (The course must be completed with a grade of B- or better.)
- SOC 6304 - Social Statistics **Credit Hours: 3.0** (The course must be completed with a grade of B- or better.)
- SOC 6306 - Sem in Quant Methods **Credit Hours: 3.0** (The course must be completed with a grade of B- or better.)
- SOC 6311 - Qualitative Soc Methods **Credit Hours: 3.0** The course must be completed with a grade of B or better.
 - Five additional graduate seminars (each course 3.0 Credit Hours) **Total Credit Hours: 15.**
- SOC 7395 - Internship in Sociology **Credit Hours: 3.0**
- SOC 7396 - Internship in Sociology **Credit Hours: 3.0**

Total 36 Hours

Students must maintain a cumulative grade point average of 3.00 or above and successfully defend an internship paper.

Academic Policies

- University of Houston Academic Policies
- Academic Policies: College of Liberal Arts and Social Sciences

Women's, Gender, and Sexuality Studies Program

About Us

The Women's, Gender, and Sexuality Studies Program offers two undergraduate minors and a graduate certificate. Ours is an interdisciplinary program combining empirical study and theoretical frameworks to look critically at the gender dynamics of the past and present and to open discussion about shaping the world of the future. Our courses explore gender dynamics as they intersect with race, class and sexuality, within the US and internationally. WGSS students come from all disciplines. The program draws on faculty from across the university to teach and to develop and participate in programming. The program has a strong community arm in the Friends of Women's Studies.

History

Since the early 1970s, teaching and research in Women's Studies has grown rapidly in the U.S. There are Programs and Departments focused on women's and gender studies in most US colleges and universities. The field is also well represented internationally. Women's Studies at the University of Houston was established in 1991. The Friends of Women's Studies formed in 1993, and the Women's Archive and Research Center (WARC) opened in 1996. The program added a GLBT minor in 2007, and changed our name to reflect our expanded focus.

Graduate Certificate

Women's Studies Interdisciplinary Certificate

College of Liberal Arts and Social Sciences > Women's, Gender, and Sexuality Studies Program > Women's Studies Interdisciplinary Certificate

Graduate Certificate



The Graduate Certificate in Women's Studies is a nine (9) credit interdisciplinary concentration open to students in all UH graduate and professional degree programs. The Graduate Certificate in Women's Studies adds interdisciplinary breadth to a student's course of study while increasing the depth and coherence of students' work on women and gender within their primary fields. Given the growing importance of women and gender issues in both scholarship and social policy, many students find this formal recognition of their work in Women's Studies to be a valuable credential in both academic and non-academic job markets. Students who have earned or are pursuing the Graduate Certificate also receive first consideration for Women's Studies graduate fellowships and assistantships.

Explanation of Certificate

The Graduate Certificate in Women's Studies is a 9-credit interdisciplinary concentration open to students in all UH graduate, professional degree, and post-baccalaureate programs.

Requirements for the Graduate Certificate include three (3) Women's Studies graduate courses (9 credit hours):

- Required core course: WGSS 6301 - Feminist Theory & Methodology
- Two (2) cross-listed courses, one of which must be from outside the student's home department.

Students may petition to substitute for one of the cross-listed courses one of the following options:

- Taking a graduate course that is not cross-listed but in which they can focus their individual work (e.g. research paper) on women, gender, or feminist theory. Such a course must be taught by an affiliated Women's Studies faculty member who will certify that the student's work in the course satisfies women's studies requirements.
- Taking an undergraduate course cross-listed in Women's Studies for graduate credit. Additional requirements will be determined by the instructor in accordance with university policy.

How to Apply for the Certificate Individuals interested in the Graduate Certificate in Women's Studies can fill out the online application available on the WGSS web page.

Why Certificate

The Graduate Certificate in Women's Studies adds interdisciplinary breadth to a student's course of study while increasing the depth and coherence of students' work on women and gender within their primary fields.

Given the growing importance of women and gender issues in both scholarship and social policy, many students find this formal recognition of their work in Women's Studies to be a valuable credential in both academic and non-academic job markets.

Students who have earned or are pursuing the Graduate Certificate also receive first consideration for Women's Studies graduate fellowships and assistantships. There are also opportunities to take advantage of essay contests. The fellowships, contests and assistantships process begins spring term and awards are made in May.

In addition graduate students are notified of Women's Studies events--speakers, panels, the Living Archive series, etc.



Certificate Programs

A certificate signifies to current and future employers that an individual has attained a level of competency in a particular area of study. The Women's, Gender, and Sexuality Studies Program currently offers an interdisciplinary graduate certificate in women's studies and the African American Studies Program offers a graduate certificate in African American studies. The Department of English offers two departmental certificates, one in translation studies and one in empire studies. The World Cultures and Literatures Program in the Department of Modern and Classical Languages offers two graduate certificates, one in Global Cinema Studies and one in Applied Linguistics in Teaching Chinese. The Department of Health and Human Performance offers graduate certificates in Sport and Fitness Operations and in Strength and Conditioning. CLASS also participates in the Graduate Certificate in Global Energy Development and Sustainability (GEDS), a cross-disciplinary and cross-college certificate program sponsored by the UH Energy initiative. Please contact the relevant programs directly for information about the certificates that they offer.



Department Heads

Jack J. Valenti School of Communication

Director: Dr. C. Temple Northup

Director of Graduate Studies: Dr. Jen Vardeman-Winter

Department of Communication Sciences and Disorders

Chair: Dr. Lynn Maher

Director of Graduate Studies: Dr. Michelle Ivey

Department of Comparative Cultural Studies

Interim Chair: Dr. Janis Hutchinson

Director of Graduate Studies (Anthropology): Dr. Rebecca Storey

Department of Economics

Chair: Dr. David Papell

Directors of Graduate Studies: Dr. Dietrich Vollrath, Dr. Bent Sorensen, Dr. Rebecca Thornton

Department of English

Chair: Dr. J. Kastely

Director of Graduate Studies: Dr. Sally Connolly

Department of Health and Human Performance

Chair: Dr. Dan O'Connor

Graduate Studies Program Director: Ms. Lauren Abbott

Department of Hispanic Studies

Chair: Dr. Pedro Gutierrez

Director of Graduate Studies: Dr. Elizabeth Goodin-Mayeda

Department of History

Chair: Dr. Philip Howard

Director of Graduate Studies: Dr. Karl Ittmann

Department of Modern and Classical Languages



Chair: Dr. Hildegard Glass
Director of Graduate Studies: Dr. Alessandro Carrera

Department of Philosophy

Chair: Dr. David Phillips
Director of Graduate Studies: Dr. Josh Weisberg

Department of Political Science

Chair: Dr. Susan Scarrow
Director of Graduate Studies: Dr. Jeffrey Church

Department of Psychology

Chair: Dr. Jack Fletcher
Director of Graduate Studies: Dr. Chip Knee

Department of Sociology

Chair: Dr. Amanda Baumle
Graduate Director: Dr. Scott Savage

Program in African American Studies

Director: Dr. James Conyers

Program in Public Administration

Director: Dr. James Thurmond

Program in Women's Gender, and Sexuality Studies

Director: Dr. Elizabeth Gregory



Comparative Cultural Studies: Anthropology Program

Kenneth L. Brown. Professor of Anthropology. B.S., Western Michigan University; M.A., Ph.D., Pennsylvania State University.

Andrew J. Gordon. Associate Professor of Anthropology. M.P.H., Harvard University; Ph.D., University of Wisconsin.

Janis Hutchinson. Professor of Anthropology. B.A., M.A., University of Alabama; Ph.D., University of Kansas; M.P.H., University of Texas, Houston.

Keith McNeal. Associate Professor of Anthropology. B.A. Boston University, M.A. and Ph.D., Emory University.

Susan J. Rasmussen. Professor of Anthropology. B.A., Northwestern; M.A., University of Chicago; Ph.D., Indiana University.

Rebecca Storey. Graduate Program Director and Associate Professor of Anthropology. A.B., Smith College; M.A., Columbia University; Ph.D., Pennsylvania State University.

Randolph J. Widmer. Associate Professor of Anthropology. B.S., Florida State University; M.A., Ph.D., Pennsylvania State University.

R. Alexander Bently, Chair of Comparative Cultural Studies and Professor of Anthropology, PhD University of Wisconsin-Madison, BA, Bowdoin College.

Elizabeth Farfán-Santos, PhD, Assistant Professor of Anthropology, PhD University of California-Berkeley, BA, Trinity University.



Jack J. Valenti School of Communication

Lindita Camaj. Associate Professor of Communication. B.A., University of Pristina, Kosovo; M.A., Ph.D., Indiana University.

Hoojun Choi. Assistant Professor of Communication. B.A., Hanyang University; M.A., Ph.D., University of Georgia.

Summer Harlow. Assistant Professor of Journalism. Bachelor of Journalism from and B.A. in Spanish, University of Missouri-Columbia; M.A., University of Texas at Austin; Ph.D., University of Texas-Austin.

Martha J. Haun. Associate Professor of Communication. B.S., M.A., University of Texas at Austin; Ph.D., University of Illinois.

William Hawes. Professor Emeritus of Communication. B.A., Eastern Michigan University; M.A., Ph.D., University of Michigan.

Robert L. Heath. Professor Emeritus of Communication. B.A., Western State College of Colorado; M.A., University of New Mexico; Ph.D., University of Illinois.

Lea Hellmueller. Assistant Professor of Journalism. B.A., M.A., Ph.D., University of Fribourg in Switzerland.

Garth S. Jowett. Professor of Communication. B.A., York University, Toronto; M.A., Ph.D., University of Pennsylvania.

Jaesub Lee. Professor of Communication. B.A., Chonnam National University; M.A., Auburn University; Ph.D., University of Texas at Austin.

Wenlin Liu. Assistant Professor of Communication. B.A., Peking University; M.A., University of Washington; Ph.D., University of Southern California.

Dani Madrid-Morales. Assistant Professor of Journalism. B.A., Universitat Autònoma de Barcelona (Spain); M.A., Universitat Autònoma de Barcelona (Spain); M.A., Freie Universität, Berlin (Germany); Ph.D., City University of Hong Kong.

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Temple Northup. Director, Valenti School of Communication and Associate Professor of Communication. B.A., Wake Forest University; M.A., Syracuse University; Ph.D., University of North Carolina, Chapel Hill.

Beth Olson. Associate Professor of Communication. B.S., Bemidji State University; M.A., Texas Tech University; Ph.D., Indiana University.

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Jennifer Vardeman. Director of Graduate Studies and Associate Professor of Communication. B.S., University of Texas at Austin, M.A., Ph.D., University of Maryland.

Zhiwen Xiao. Associate Professor of Communication. B.A., Wuhan University, China; M.A., Southern Illinois University, Carbondale; Ph.D., University of Kentucky.

Jill Yamasaki. Associate Professor of Communication. B.A., University of Colorado at Denver, M.A., University of Houston; Ph.D., Texas A & M University.



Faculty Emeriti

Martin R. Adams. Professor Emeritus of Communication. B.A., M.A., University of Redlands; Ph.D., Southern Illinois University.

Fay Wright Anthis. Professor Emerita of Human Development and Consumer Sciences. B.S., Kansas State University; M.S., University of Texas at Austin; Ed.D., Texas Woman's University.

William Austin. Professor Emeritus of Philosophy. B.A., Wesleyan University; B.D., Ph.D., Yale University.

Phillip Bacon. Professor Emeritus of Geography. B.A., University of Miami; M.A., Ed.D., Vanderbilt University.

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Richard Bean. Professor Emeritus of Economics. B.A., M.A., Texas A&M University; Ph.D., University of Washington.

John Bernard. Professor Emeritus of English and the Honors College. A.B., M.A.T., Harvard University; Ph.D., University of Minnesota.

Lynn Bliss. Professor Emerita of Communication Sciences and Disorders. Certificate of Clinical Competence in Speech-Language Pathology. B.A., University of Wisconsin; M.A., Columbia University; Ph.D., University of Michigan.

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Harmon S. Boertien. Associate Professor Emeritus of English. B.A., M.A., University of Washington; Ph.D., University of Texas at Austin.

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Luisetta Chomel. Professor Emerita of Italian Studies. Ph.D., Rice University.

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Samye Cimerhanzel-Nestlerode. Professor Emerita of Modern and Classical Languages. B.A., M.A., Ed.D., University of Houston.

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Dennis Parle. Professor Emeritus of Hispanic Studies. B.A., Oakland University; M.A., University of Wisconsin at Madison; Ph.D., University of Kansas.

Gertrud B. Pickar. Professor Emerita of German. B.A., Allegheny College; M.A., University of California, Los Angeles; Ph.D., Rice University.

James Pickering. Professor Emeritus of English. B.A., Williams College; Ph.D., Northwestern University.

Dora N. Pozzi. Professor Emerita of Greek. B. Litt., Oxford University; Profesora en Filosofia, Universidad de Buenos Aires.

William Lee Pryor. Professor Emeritus of English. B.A., Florida Southern College; M.A., Ph.D., Florida State University.

Karl Reinhardt. Associate Professor Emeritus of Spanish. A.B., Guilford College; M.A., University of New Mexico; Ph.D., University of Texas at Austin.

Claus Reschke. Professor Emeritus of German. B.A., M.A., University of Oregon; Ph.D., Cornell University.

Harrell Rodgers. Professor Emeritus of Political Science. B.A., Sam Houston State University; M.A., University of Houston; Ph.D., University of Iowa.

Richard Rozelle. Professor Emeritus of Psychology. B.S., University of Wisconsin, Madison; M.S., Ph.D., Northwestern University.

Paul Michael Ryan. Professor Emeritus of Communication. B.A., M.A., University of Texas at Austin; Ph.D., Southern Illinois University.

Edward P. Sheridan. Provost Emeritus and Professor Emeritus of Psychology. B.A., University of Windsor; M.A., University of Detroit; Ph.D., Loyola University.

Alexander W. Siegel. Professor Emeritus of Psychology. B.A., Amherst College; M.A., Ph.D., Stanford University.

Barton Smith. Professor Emeritus of Economics. B.A., Birmingham Young University; M.A., Ph.D., University of Chicago.

Floy P. Soule. Professor Emerita of Spanish. B.A., University of Texas at Austin; M.A., Southern Methodist University.

Ted Stanton. Professor Emeritus of Communication. B.A., Colgate University; M.S., Columbia University.



Alan Stone. Professor Emeritus of Political Science. A.B., Union College; M.A., Ph.D., University of Chicago; J.D., Columbia University.

Donald Clint Streeter. Professor Emeritus of Speech. B.S., University of Minnesota; M.A., Ph.D., Iowa State University.

Loyd S. Swenson, Jr. Professor Emeritus of History. A.B., Rice University; Ph.D., Claremont Graduate School.

Les Switzer. Professor Emeritus of Communication. B.A., M.A., University of California, Berkeley; Ph.D., University of Natal, Pietermaritzburg, South Africa.

Fannie Scott Tapper. Assistant Professor Emerita of French. B.A., Baylor University; Ph.D., Rice University.

Philip B. Taylor, Jr. Professor Emeritus of Political Science. B.A., M.A., Ph.D., University of California.

Helen S. Thomas. Professor Emerita of English. B.A., M.A., Ph.D., Rice University.

Campbell B. Titchener. Professor Emeritus of Communication. B.M., M.S., University of Illinois; B.A., Ph.D., Ohio State University.

David J. Tomatz. Professor Emeritus of Music. B.M., University of Wisconsin; M.A., Ph.D., Catholic University.

Ruth Tomfohrde. Professor Emerita of Music. B.A., Artist Diploma, The Juilliard School of Music.

Amy Lee Turner. Associate Professor Emerita of English. B.A., Rice University; M.A., University of Colorado; Ph.D., Rice University.

Joyce Valdes. Professor Emerita of English. B.A., M.A., Ph.D., University of Texas at Austin.

Harry Walsh. Professor Emeritus of Modern and Classical Languages. B.A., M.A., University of Texas at Austin; Ph.D., University of North Carolina.

Janice Clemons Wendt. Professor Emerita of Health and Human Performance. B.S., M.Ed., Sam Houston State University; Ed.D., University of Houston.

Linda Westervelt. Professor Emerita of English. B.S., Georgetown University; Ph.D., Rice University.

Ira Wolinsky. Professor Emeritus of Health and Human Performance. B.S., City College of New York; M.S., Ph.D., University of Kansas.

Michael Wyschogrod. Professor Emeritus of Religious Studies. B.S.S., City University of New York, City College; Ph.D. Columbia University; D.H.L., Seton Hall University.

M.G. Yoes, Jr. Professor Emeritus of Philosophy. B.A., M.A., Baylor University; Ph.D., University of Pennsylvania.

Marc Zimmerman. Professor Emeritus of Modern and Classical Languages. B.A., M.A., San Francisco State University; Ph.D., University of California, San Diego.



About the College of Natural Sciences and Mathematics

Office of the Dean

(713) 743-2611
214 Science and Research 1 Building

Department of Biology and Biochemistry

(713) 743-2666
342 Science and Research 2 Building

Department of Chemistry

(713) 743-2701
112 Lamar J. Fleming, Jr. Building

Department of Computer Science

(713) 743-3350
501 Philip G. Hoffman Hall

Department of Earth and Atmospheric Sciences

(713) 743-3399
312 Science and Research 1 Building

Department of Mathematics

(713) 743-3500
651 Philip G. Hoffman Hall

Department of Physics

(713) 743-3550
617 Science and Research 1 Building

Dean:

Dan Wells, Ph.D., Indiana University

Associate Dean for Graduate Studies:



Anne Delcour, Ph.D., Cornell University

Associate Dean for Student Success and Undergraduate Affairs:

Donna Stokes, Ph.D., University of Houston

Associate Dean for Research:

T. Randall Lee, Ph.D., Harvard University

Associate Dean for Faculty Affairs:

Jim Briggs, Ph.D., Purdue University

Program Director for Undergraduate Studies:

Tristan Sims, B.S., University of Houston

Program Director for Graduate Studies:

Melissa Lowrey, B.A., University of Houston - Clear Lake

General Information

The College of Natural Sciences and Mathematics (NSM) research activities and graduate programs impact health, energy, industry, the environment, and space exploration, reaching far beyond our city and nation.

NSM offers numerous advantages for students pursuing an advanced degree:

- Nationally and internationally recognized faculty

- Six academic departments offering numerous programs, including interdisciplinary training

- A strong national and international research agenda

- State-of-the-art facilities and instrumentation

- Collaborative relationships with the Texas Medical Center, NASA, other universities, national laboratories, the energy industry and international corporations

The College offers master's degrees in ten disciplines and doctoral degrees in nine disciplines. These degrees prepare graduates for a variety of in-demand careers, including working in industry, health care, or teaching and performing research in a college or university.

Facilities

The College of Natural Sciences and Mathematics leads the University in generating research grant funding. Numerous cutting-edge research centers and facilities allow faculty and students to engage in interdisciplinary, collaborative research. On campus, NSM research and teaching occurs in eight (8) facilities: Science and Engineering Research Center, Science & Research Building 1, Science & Research Building 2, Lamar B. Fleming Building, Science Teaching Laboratory Building, Houston Science Center, Phillip G. Hoffman Hall, and the Health and Biomedical Sciences Building.



Admission Requirements: College of Natural Sciences and Mathematics

The college requires a bachelor's degree from a recognized institution and an adequate background in the subject to be studied for entry into any of its graduate programs. Applicants must satisfy all University of Houston Admission Requirements as specified in this catalog. For specific degree requirements, applicants should consult the appropriate department chair, graduate director, or graduate advisor.

Admission to individual departments in the College of Natural Sciences and Mathematics is based on thorough examination of the applicant's prior academic and professional experience. The general requirements for consideration for acceptance into graduate programs in the College of Natural Sciences and Mathematics are:

Submission of an application for admission to graduate studies.

Submission of official Transcripts from all institutions of higher education previously attended. Transcripts should be sent to the Graduate School, University of Houston, 4800 Calhoun Road, 102 E. Cullen Building, Houston, Texas 77204-2012.

Both the cumulative GPA and GPA computed using the last 60 hours will be taken into consideration.

Submission of Graduate Record Examination scores by Educational Testing Service (Institution code 6870). GRE scores are optional for some graduate programs. Applicants should contact the program to verify the requirement.

Proof of English proficiency for applicants who do not hold a prior degree from a US institution or countries exempted by the University of Houston from this requirement (see University of Houston Admission Requirements). For English proficiency, the requirement is an overall score at least 79 on the Test of English as a Foreign Language (TOEFL), or an overall score of 6.5 on the International English Language Testing System (IELTS), or an overall score of 105 on DuoLingo.

A brief statement as to the applicant's aspirations at the graduate level.

Three letters of recommendation.

Applicants should contact the individual departments to determine what additional materials may be required to accompany the application for admission. In addition, applicants should check on the departmental web sites for information on application deadlines. Some departments have Fall admissions only.

Conditional and Unconditional Admission Requirements

To be eligible for unconditional admission, students must have a grade point average of at least 3.00 (A=4.00) during the last 60 semester hours of graduate and/or undergraduate work attempted.

Conditional admission may be granted to students who have earned their degrees at an accredited United States institution, who have a grade point average of at least 2.60 (A=4.00) during the last 60 semester hours of graduate and/or undergraduate work attempted, and whose scores on the GRE are high enough to indicate probable success in the graduate program. To remain in a graduate studies program, conditionally admitted students must earn a cumulative grade point average of at least 3.00 (A=4.00) at the end of the term in which the student has completed 12 hours of letter-graded coursework in the program in which they were conditionally admitted, and have the recommendation of their department.

Applicants without a strong background for graduate study in the discipline may be requested to take remedial courses as a condition of admission.

Pre-Grad Status

A pre-grad student is one who has earned a Bachelor's degree at an accredited institution, has the intention of pursuing a graduate career, but is not formally admitted to a graduate program. Rather, the pre-grad student is allowed to take up to 12 hours of graduate courses in a non-degree capacity. Students may apply courses taken in the pre-grad status to a graduate degree, subject to the approval of the individual department. Students are encouraged to consult their respective departments about this matter before embarking on a course of action.

Non-Degree Objective Graduate Status

A graduate student with a non-degree objective is a student who has earned a Bachelor's degree and does not have the intention to obtain a graduate degree, but wishes to enroll in one or a few graduate courses. No more than 18 hours of graduate courses will be allowed in this status. Students should consult with the respective departments for admission procedures.



Additional Requirements

Along with the minimal requirements for conditional or unconditional admission, each department in the College of Natural Sciences and Mathematics has additional admission requirements, depending on the discipline and degree objective. Questions concerning these additional requirements should be addressed to the graduate advisor of the respective department.



Graduate Degree Requirements: College of Natural Sciences and Mathematics

General Requirements

In accordance with University policies, the College requires that graduate students have a cumulative GPA of 3.0 in order to graduate. Students who have received 12 hours of U grades and/or grades of C+ or lower are not eligible to receive a graduate degree. Students may need to fulfill specific prerequisite requirements for their degree program, and are encouraged to visit the departmental web sites for this information. Students who need to make any changes to their major or degree plan will need to submit a Graduate Petition form that requires the approval of their Department and the College.

Master of Art Degree

Degree Requirements

The MA degree is designed for the professional scientist who wishes to focus on excellence in training rather than excellence in research.

This 33 hour program requires:

- 15 hours in a discipline with at least 9 hours at the 5000 or above level; and
- A minimum of 15 hours in approved areas with at least 9 hours at the 5000 or above level; and
- A minimum of three hours in a special problem or tutorial.

Currently, only the Department of Mathematics offers an MA degree. This MA program is viewed as a terminal degree program.

Master of Science Degree

Degree Requirements

The Master of Science (MS) degree will be awarded after students have successfully completed requirements specified in one of the two following plans:

Plan I: Thesis Option

Students may satisfy degree requirements by completing a minimum of 30 approved credit hours. At least three, but not more than six, credit hours of the Master's Thesis course and a thesis acceptable to the department and the College must be completed. At the option of the department, a qualifying and/or final comprehensive examination may be required.

Students who complete a thesis as part of their degree requirements must specify a thesis committee and have the names on file in the Office of the Dean at least one term prior to their graduation. The committee must consist of a minimum of two faculty members who have their primary appointment within the major department and one approved member external to the major department from industry or academia who is acceptable to the department and approved by the college. A faculty member with a joint appointment in the major department is considered as an outside member unless he/she chairs the committee. In this case, an additional external member outside the major department is required. After these minimum requirements for committee members are satisfied, additional committee members may be approved from industry or academia, but 50% of the committee must be tenured/tenure-track faculty at the University of Houston. Research faculty, instructional faculty and emeritus faculty may serve on thesis committees but not chair the committees. However, a research professor may serve as a co-advisor with a tenured/tenure-track faculty. For the purpose of committee composition, an emeritus faculty is considered as an internal non-tenure-track faculty member.



Plan II: Non-Thesis Option

In some departments, students may obtain a Master's degree by completing coursework, seminars, and in some cases a tutorial, practicum or capstone project, without the requirement for writing and defending a Master's thesis. At the option of the department, a qualifying examination and/or final comprehensive examination may be required.

Doctor of Philosophy Degree

Degree Requirements

Award of the Doctor of Philosophy (PhD) degree signifies that the recipient has acquired a broad knowledge of the discipline and has demonstrated, by successful completion of an acceptable dissertation, research competence meeting the discipline's national standards. The PhD program requires a minimum of 54 credit hours; one academic year of continuous full-time residence (Fall/Spring or Spring/Summer/Fall); enrollment in at least three credit hours of the Doctoral Dissertation course; and successful completion of examinations in the discipline, at the discretion of the department.

Doctoral students' dissertation committees must be comprised of a minimum of four members to include three faculty members who have their primary appointment within the major department and one approved member external to the major department from industry or academia who is acceptable to the department and approved by the college. A faculty member with a joint appointment in the major department is considered as an outside member unless he/she chairs the committee. In this case, an additional external member outside the major department is required. After these minimum requirements for committee members are satisfied, additional committee members may be approved from industry or academia, but 50% of the committee must be tenured/tenure-track faculty at the University of Houston. Research faculty, instructional faculty and emeritus faculty may serve on dissertation committees, but not chair the committees. However, a research professor may serve as a co-advisor with a tenured/tenure-track faculty. For the purpose of the committee composition, an emeritus faculty is considered as internal non-tenure-track faculty member. Candidates must specify a dissertation committee and have the names on file in the Office of the Dean at least one term prior to their graduation.

Starting in the third year of the PhD program, a doctoral student must present his/her research at a yearly meeting with the student's entire dissertation committee in order for the committee to assess progress, to provide feedback to the student and to ensure that the student is on track in the research.

Obtaining a Master's Degree Together with a PhD Degree

Occasionally, a student in a PhD program may want to obtain an MS degree in the same major. In this case, the student must petition the department and college, as described below.

Non-Thesis MS: a student admitted into a PhD program who wishes to obtain a non-thesis MS along with the PhD will need: to petition no sooner than at the beginning of the 4th academic year in the PhD program and have passed the candidacy/qualifying exam. The petition will be accompanied by a letter of support from the research advisor acknowledging that the student remains on track for a PhD. If the petition is approved, the MS career will be open for one term only, when the student wishes to obtain the MS degree.

Thesis MS: it is expected that a student in a PhD program should focus all his or her efforts on the PhD rather than working towards a Master's thesis. Therefore, obtaining a thesis MS while in a PhD program is not encouraged by the College. However it is understood that there might be special circumstances, such as a student wishing to switch advisor, that could warrant obtaining a thesis MS prior to the PhD. In this case, a PhD student will need to petition no later than the second academic year in the PhD program. The petition will be accompanied by:

a letter of support from the research advisor, acknowledging that the student remains on track for a PhD and that the PhD work will be different from the MS thesis work, and evidence that the student is registered in 6 hours of Master's thesis for that term. If the student is switching advisor when continuing with the PhD, then letters from both advisors will be required. If the petition is approved, the MS career will be open for one term only, when the student wishes to obtain the MS degree. Therefore the student must plan carefully with his or her research advisor and committee to schedule the MS defense that term. In addition, the student will not be eligible for the Graduate Tuition Fellowship while the MS career is active.



Academic Policies: College of Natural Sciences and Mathematics

Graduate Course Load

The following course load regulations apply to all graduate programs within the College of Natural Sciences and Mathematics. Nine credit hours is considered a full-time course load for a Fall or Spring term, and six hours for the Summer, for both masters and doctoral students. A student working on a thesis or dissertation must be continuously enrolled in a minimum of three hours each Fall and Spring term, and a minimum of three hours of thesis or dissertation in the term in which the work is completed and submitted to the dean's office for approval.

With approval of the instructor and the graduate advisor, graduate students may drop courses, in compliance with the deadlines published by the university in the Academic Calendar. However, international students and graduate student assistants must maintain full-time enrollment in the Fall and Spring terms.

Thesis and Dissertation Defenses

Students in their graduating term should schedule their defenses at a time when all their committee members are able to attend. However, it is understood that committee members may have scheduling conflicts and not be in Houston for the defense. In this case, it is acceptable that the committee members attend the defense via video conferencing. If only a phone connection is available to absent member, the student presentation must have been sent to the absent member ahead of time, so all committee members are able to view the presentation. However, **at least half of the committee** must be physically present at the defense of an MS thesis or a PhD dissertation. The absence of only one member of the committee due to an emergency the day of the defense is permitted, otherwise the defense must be rescheduled.

Any decision regarding the outcome of the defense (either pass or fail) requires full committee approval. If the committee cannot reach a consensus, then the committee chair should request an independent review of the thesis or dissertation by both the Department Chair and the Graduate Chair, or their designees.

The submission of an MS thesis or PhD dissertation to the college must be accompanied with the Thesis/Dissertation Approval Form from the Graduate School, that has been signed by all committee members (including the committee chair) to acknowledge that the document is approved for submission to the College. Actual signatures are preferred, but committee members who attended the defense remotely are allowed to use electronic signatures. In no circumstance should another committee member, the committee chair, or any other faculty sign the signature page on behalf of the absent committee member.

All theses and dissertations will be checked by one of the College readers for formatting, grammar and compliance with the guidelines provided on the College website. Students should familiarize themselves with the formatting and submission instructions available on the College website. The College will allow no more than three revisions of a thesis or dissertation within the 2-week revision period following the posted deadline for initial submission of a thesis/dissertation. If the fourth submission is not acceptable by the reader or if the revision period has passed (whichever comes first), the student will need to defer graduation to the following term, and submit a revised version to be approved by the College.

Graduate Student Assistants

Graduate student assistants are graduate students in good standing enrolled full-time who hold an appointment requiring the performance of such duties as classroom and/or laboratory instruction, grading papers and exams, or research. There are five graduate student appointment categories, encompassing the position of Teaching Fellow, Graduate Assistant, Teaching Assistant, Instructional Assistant and Research Assistant.

Graduate students may hold an assistantship for no more than three years in pursuit of a master's degree, no more than six years in pursuit of a doctoral degree, or a combined total of no more than six years. Faculty consider such factors as the steady progress toward the completion of an advanced degree and the quality of performance of assigned duties in determining the continued assignment of an assistantship. The college grants exceptions to these policies only in rare circumstances, and these exceptions depend solely upon the written petition of a department chair with the approval of both the Dean of the College and the Dean of the Graduate School.



Graduate assistants will normally be limited to a 50 percent appointment, which usually entails service for no more than an average of 20 hours per week, including time spent in preparation, in the classroom and laboratory, in reading papers and examinations, and in any combination of these or other activities as assigned. In rare instances, assistants may receive up to a 67 percent appointment with the stipend increased and the required course load decreased proportionately. Approval of these deviations must be justified on an individual basis, involve an exceptional set of circumstances, and receive the consent of both the Dean of the College and the Dean of the Graduate School. Teaching Fellows (graduate students teaching a course for credit) must have completed a minimum of 18 credit hours in graduate credit in their teaching field, must be in good standing and must be making satisfactory progress toward the degree. The Teaching Fellow may be listed as the instructor of record.

International and non-resident graduate student assistants are granted a non-resident tuition waiver, which allows them to pay only in-state tuition.

Scholarships and Financial Aid

The College offers students scholarships and fellowships to help defray the cost of their graduate education. The Graduate Tuition Fellowship covers the cost of in-state tuition and mandatory fees for qualified PhD students who are employed as Teaching Fellows, Research Assistants, Instructional Assistants or Teaching Assistants. Exceptional PhD applicants to our programs are also eligible for a Presidential Fellowship for the first two years of their graduate study.

Enrollment and Residency Requirements

The College requires all graduate students to be continuously enrolled in a minimum of 3 credit hours in each Fall and Spring term. MA and MS students are required to complete their degree in 5 years. PhD students are required to fulfill one academic year of continuous full-time residency (Fall/Spring or Spring/Summer/Fall) and to complete their degree in 10 years.

Leave of Absence

All graduate students (MA, MS Thesis, MS Non-Thesis, PhD) who do not plan to enroll in a long term (Fall or Spring term) need to file a leave of absence (LOA) to be approved by the Department and the College. The LOA petition will be approved for only one term at a time. If a student plans to be away from graduate work for more than a term at a time, he/she will have to petition for another LOA prior to the beginning of the following term. Students will not be granted more than three LOAs in their whole graduate career. It can be three consecutive long terms, or any three individual terms, or any combination. A Dean's hold will be placed on the student account once the LOA has been approved. The student will need to submit a graduate petition for requesting a graduate studies reinstatement prior to the start of the term in which they plan to return. Once the reinstatement is approved, the hold will be removed and the student can enroll in classes. Students who do not return to school at the end of the approved LOA and have not petitioned for another LOA will be terminated from the program per University policies.

Grievance Policy

For matters of academic honesty, students should refer to the University Academic Honesty policy. For all other matters, a multi-level procedure for redress of a grievance is available to any graduate student of the college. Prior to initiating the grievance process at the departmental level, the grieving student has the opportunity to seek advice from the College, by requesting an appointment with the Associate Dean for Graduate Studies. The Associate Dean may recommend that the student meet with one or two members of the College Graduate Committee, who are not in the same department as the student, to discuss the issues at hand. Every effort shall be made by the student, faculty member, and chair to resolve the grievance within the departmental structure. If the departmental grievance procedures do not resolve the grievance, the graduate student may petition the college for redress of the grievance. The student must file written notice of a formal grievance with the Associate Dean for Graduate Studies within ten calendar days from the receipt of the departmental decision regarding the grievance.

In this notice, the grievant must state:

The issue being grieved and provide evidence to support the grievance.

The desired resolution.



The Associate Dean will form an ad hoc committee to hear the complaint. This ad-hoc committee will be composed of two faculty members and one graduate student from the College of Natural Sciences and Mathematics. One of the two faculty members will be from the department concerned, and the second faculty member will chair the committee. A student from the department concerned shall not be appointed.

The ad hoc committee is empowered to know the department's proposed solutions and, if deemed appropriate, to take testimony from individuals involved in the case. Such individuals will be contacted to set a time, place, and date for their testimony to be given. No formal record of the proceedings need be kept. Normally, the ad hoc committee shall complete its work within thirty calendar days of the request for a hearing unless extenuating circumstances make this deadline impossible to meet.

A brief, written summary of the findings of the ad hoc committee and their recommendations will be provided to the Dean of the college upon completion of the committee's work. The Dean will make a final decision which shall be binding on both the department and the student, and shall notify the grievant and the department in writing within ten calendar days from the receipt of the committee's report.

If the student does not find the Dean's decision acceptable, the student may, within thirty calendar days of the receipt of the Dean's decision, appeal their case to the Vice Provost/Dean of the Graduate School. After the case has been reviewed by the Graduate School, if the student wishes to further appeal the decision of the Vice Provost/Dean of the Graduate School, the student may file, within 10 working days of the notification by the Vice Provost/Dean of the Graduate School, a written appeal to the Senior Vice President for Academic Affairs and Provost.

*Because assigning a grade or evaluating a student's academic performance involves the faculty's professional judgment and is an integral part of the faculty's teaching responsibilities, disagreement with an instructor concerning a grade or evaluation is not a justifiable grievance under this policy. In cases where such is in question, the faculty member shall be responsible for the assignment of grades.

Special Departmental Academic Regulations

Each department within the College of Natural Sciences and Mathematics maintains a detailed set of academic regulations governing both the master's and doctoral programs. It is the responsibility of students to be informed of these regulations from their respective departments at the time of their initial enrollment.

General Regulations

Students are strongly encouraged to become familiar with the General Information section of this catalog, which details general university information, regulations, and requirements.



College of Natural Science and Mathematics Departments

Departments and Programs

Department of Biology and Biochemistry

Admission to Master's and Doctoral Programs

The Department of Biology and Biochemistry (DBB) offers programs of research and study leading to the M.S. and Ph.D. degrees in Biology or Biochemistry. In addition to the College of Natural Science and Mathematics Admission Requirements, applicants should have a Baccalaureate Degree (B.S.) in Biology, Biochemistry, or an equivalent discipline. See the Biology and Biochemistry Admission Requirements for more details.

Evaluation of applicants involves a broad range of criteria including undergraduate preparation, GRE scores, three letters of recommendation, a statement of purpose, and relevant scientific experience.

For more information, please contact:

Graduate Program Coordinator
Department of Biology and Biochemistry

369 Science and Research Building 2
University of Houston
Houston, Texas 77204-5001
E-mail: biogradaffair@mail.nsm.uh.edu

Master

Biochemistry, MS

The Department of Biology and Biochemistry offers programs of research and study leading to the M.S. degree in Biochemistry.

For more information, please view <http://www.uh.edu/nsm/biology-biochemistry/graduate/>.

Admission Requirements

In addition to the College of Natural Science and Mathematics admission requirements, applicants should have a Baccalaureate Degree (B.S.) in Biology, Biochemistry, or an equivalent discipline. Evaluation of applicants involves a broad range of criteria including undergraduate preparation, GRE scores, three letters of recommendation, a statement of purpose, and relevant scientific experience.

International students should visit <http://www.uh.edu/graduate-school/admissions/international-students/> for information on additional requirements, including the application fee.

Degree Requirements

The Master of Science (M.S.) degree will be awarded after students have successfully completed the requirements specified in one of the two following plans:

Plan Selection



Plan I: Thesis Option

Students may satisfy the degree requirements by completing at least 30 approved semester hours; satisfactorily completing the laboratory rotations and formal graduate-level course requirements including seminars; enrolling in 3-6 semester hours of thesis courses; and completing and defending a thesis acceptable to the thesis committee. All students must be continuously enrolled until the degree requirements are completed.

Plan II: Non-Thesis Option

Students may satisfy the degree requirements by completing at least 36 approved semester hours. All students must be continuously enrolled until the degree requirements are completed.

Major Professor and Thesis or Study Committee

Selection of the Major Professor

Each student is required to select, by mutual agreement, a primary, secondary or jointly appointed member of the faculty of the Division of Biochemistry as a thesis advisor (major professor) who, with the thesis (MS Plan I) or study (MS Plan II) committee, will supervise the student's graduate studies. This faculty member will chair the committee. A faculty advisor should be selected by the end of the first long semester (Fall or Spring) but in no case later than the end of the 2nd long semester of residence in the program.

The Chair of the student's committee shall be a tenured or tenure-track faculty member with primary or secondary appointment or voting privileges in the Biochemistry Division of the Department of Biology and Biochemistry. A student may also choose a faculty member from the Department of Biology and Biochemistry who does not hold any appointment in the Division of Biochemistry provided that, as with any Biochemistry candidate, the student meets all the requirements of the Biochemistry graduate program, including those on committee composition, course work, and the biochemistry examinations.

Selection Committee

In consultation with the major professor, the student shall select, by mutual agreement, faculty members to serve on the thesis or study committee. The committee should be chosen within the 30 day period following selection of the advisor, but in no case after the end of the 2nd long semester of residence. Failure to meet this requirement may result in dismissal from the program. The membership of this committee is subject to approval by the Associate Chair for Graduate Affairs, the Chair of the Department and Dean of the college. The major functions of this committee are to approve a program of studies for the student, to administer the necessary examinations, and to evaluate the student's progress. In the event that a member of the committee leaves the University or is not available for an examination or thesis defense, the committee and student can recommend a suitable substitute. The appointment to committees of faculty members from other institutions as the outside member is encouraged.

Composition of Committee

A Master's thesis (Plan I) or study (Plan II) committee shall consist of at least three members. These shall include the major professor, one other member from the Division including emeritus faculty, and one member who shall be from outside the Division of Biochemistry. Research faculty may serve on the committee in addition to the core of three committee members who must be tenured or tenure-track faculty. For the purpose of establishing a thesis or study committee, a Biology and Biochemistry faculty member holding a secondary appointment in the Division of Biochemistry shall be considered to be from outside the Division. Further details on committee composition can be found here.

Research Faculty

Research faculty with primary appointments in the Department of Biology and Biochemistry will be allowed to serve on thesis committees and participate in all committee activities. However, they will not be allowed to chair the committee or vote on questions regarding student progress. For purposes of committee structure, their Division affiliation will not be considered. No more than one research faculty member can serve on a thesis or dissertation committee.

Program of Studies

The student should prepare and submit a program of studies to the Graduate Advisor and his/her thesis or study committee within 60 days after choosing an advisor but in no case later than the end of the 2nd long semester of residence. Failure to do so may result in dismissal from the program. The program of studies must be approved at a meeting of the student's thesis or study committee. Details about the composition of the Program of Studies can be found here.



Course Requirements

MS Core Course Requirements

All students must fulfill the MS core course requirements as described below.

M.S. Plan I core requirement

16.0 Credit Hours

BCHS 6226 - Enzyme Catalysis and Kinetics Credit Hours: 2.0

BCHS 6227 - Membranes/Signal Transduction Credit Hours: 2.0

BCHS 6228 - Advanced Nucleic Acids Credit Hours: 2.0

BCHS 6229 - Protein Structure and Function Credit Hours: 2.0

BCHS 6230 - Grad Biochem Lab Rotation I Credit Hours: 2.0

BCHS 6231 - Grad Biochem Lab Rotation II Credit Hours: 2.0

Four additional hours in formal graduate courses offered by the Division of Biochemistry.

M.S. Plan II core requirement

20.0 Credit Hours

BCHS 6226 - Enzyme Catalysis and Kinetics Credit Hours: 2.0

BCHS 6227 - Membranes/Signal Transduction Credit Hours: 2.0

BCHS 6228 - Advanced Nucleic Acids Credit Hours: 2.0

BCHS 6229 - Protein Structure and Function Credit Hours: 2.0

BCHS 6230 - Grad Biochem Lab Rotation I Credit Hours: 2.0

BCHS 6231 - Grad Biochem Lab Rotation II Credit Hours: 2.0

Eight additional hours in formal graduate courses, of which at least four hours must be in courses offered by the Division of Biochemistry

Course limitations for all graduate degrees in Biochemistry

For the purpose of fulfilling the above core course requirements, the following courses are NOT acceptable:

BCHS 6113 - Graduate Biochemistry Seminar Credit Hours: 1.0

BCHS 6198 - Special Problems Credit Hours: 1.0

BCHS 6X99 - Masters Thesis

BCHS 6X98 - Special Problems

BCHS 8X98 - Doctoral Research

BCHS 8X99 - Doctoral Dissertation

Seminar Requirements

MS students (both Plan I and Plan II) are required to enroll in BCHS 6113 - Graduate Biochemistry Seminar every long semester.

BCHS 6113 - Graduate Biochemistry Seminar Credit Hours: 1.0

Thesis Courses

MS Plan I students should avoid enrolling in Master Thesis courses until the semester in which they will graduate. Instead, they should enroll in the appropriate number of Master Research hours needed to meet enrollment requirements.



MS Plan II students may enroll in Special Problems to meet enrollment requirements.

Course Transfers

In general, a maximum of 6 approved credit hours for the MS degree may be transferred from another institution with an acceptable academic ranking. The student must have received a grade of B or better in any course for which transfer credit is requested; the transferred course must not have been taken in the context of an earned degree and should not be older than 5 years by the time of graduation at UH. In addition, a Master's degree with thesis can be used to waive up to 2 credit hours of non-BCHS elective courses.

Transfer credit will typically not be given for the required courses:

BCHS 6226 - Enzyme Catalysis and Kinetics Credit Hours: 2.0

BCHS 6227 - Membranes/Signal Transduction Credit Hours: 2.0

BCHS 6228 - Advanced Nucleic Acids Credit Hours: 2.0

BCHS 6229 - Protein Structure and Function Credit Hours: 2.0

Coursework Performance Requirements

Per University regulations, graduate students must maintain a minimum grade point average of 3.00 in all course work attempted for graduate credit to be considered in good standing. Students not in good standing cannot receive a graduate degree, are ineligible for support as a Graduate Assistant (TA or RA), and will be ineligible for the Graduate Tuition Fellowship. Graduate students who receive grades of C+ or lower in 12 or more semester hours of course work attempted for graduate credit are ineligible for any advanced degree at this institution. Semester hours of "U" grades in S/U-graded courses apply toward the above 12 hour total.

Rotation Requirements

(BCHS 6230 and BCHS 6231)

MS Plan I and Plan II students are required to enroll in two laboratory rotation courses during their first year of study.

The first rotation must be with a tenured or tenure track faculty member whose primary appointment is in the Biochemistry Division. The second rotation can be with any tenured or tenure track faculty member in the Department of Biology and Biochemistry.

The first rotation should begin at the beginning of the student's first long semester in the program.

The second rotation can also be done with tenured or tenure track faculty from other Departments that have a joint appointment in the Biochemistry Division.

The second rotation should be started no later than the first week of the student's 2nd semester in the program and preferably beginning in the eighth week of the first semester.

Rotations with research faculty will not satisfy the rotation course requirement.

Each rotation course is to last seven weeks.

The student will submit a short report describing the purpose and experimental findings at the end of each course. This report and the student's participation will be evaluated by the faculty member with whom the laboratory rotation was conducted. The head of the laboratory where the rotation was done will then forward a grade to the instructor of record who will coordinate the course.

Any exceptions to the rotation policy must be approved by the faculty member who is coordinating the course.

BCHS 6230 - Grad Biochem Lab Rotation I Credit Hours: 2.0

BCHS 6231 - Grad Biochem Lab Rotation II Credit Hours: 2.0

Courses Taken Outside the Department

Courses that do not promote the student's academic development in Biology & Biochemistry, or do not contribute directly to the current research program of the student, will not count towards the student's course requirements. Students who wish to take courses outside the Department need the approval of their thesis committee and the Associate Chair for Graduate Affairs in order to receive credit in their degree program. Students may not pursue another degree program concurrently with a MS in Biology and Biochemistry.



Students taking approved courses at other institutions need to notify the Graduate Advisor prior to the start of the semester in order for the appropriate paperwork to be processed in time by the Office of the University Registrar and the Office of Graduate and Professional Studies.

Comprehensive Examination

Each student is required to take a comprehensive written examination, which is intended to test mastery of the principles which underlie the biochemical sciences. The examination will be offered within three weeks of the end of the student's second long semester. The examination will be prepared and administered by a member of the Division of Biochemistry core faculty designated by the Biochemistry Policy Leader. A grade of 70% or better will be considered passing. Students that fail the examination will be offered a single second chance. Depending on circumstances this may be a completely new examination or a selection of topics

Initial Research Meeting

Before the end of their second year in the program each student pursuing a **MS Plan I** degree will present their research plan and progress to their committee in detail. Based on the results of this meeting **MS Plan I** students will be advised as to what further progress is required before they can prepare and defend their thesis.

Final Examinations

General Considerations

Each student must submit and defend the thesis or report when it is in final form. Although any member of the University community may attend the final examination, the thesis or study committee has sole responsibility for deciding whether or not the examination is passed. In order for a student to pass the examination, an affirmative vote by the major professor and no more than one negative vote by other committee members must be recorded. If the committee includes a research faculty member he/she can participate in discussion but will not be allowed to vote.

MS Plan I

The candidate must defend a thesis. The examination will emphasize research achievements. In addition, competence in the candidate's field of research will be expected.

MS Plan II

The candidate shall present and defend a formal report to the study committee. The candidate will critically evaluate and summarize a problem of biochemical interest and will be expected to be knowledgeable of contemporary methods and concepts in the biochemical sciences.

Academic Policies

University Academic Policies

Academic Policies: College of Natural Sciences and Mathematics

Biology, MS

The Department of Biology and Biochemistry offers programs of research and study leading to MS degrees in Biology.

For more information, please see <http://www.uh.edu/nsm/biology-biochemistry/graduate>.

Admission Requirements

In addition to the College of Natural Science and Mathematics admission requirements, applicants should have a Baccalaureate Degree (BS) in Biology, Biochemistry, or an equivalent discipline. Evaluation of applicants involves a broad range of criteria including undergraduate preparation,



GRE scores (or MCAT scores for the Biomedical Sciences Certificate track), three letters of recommendation, a statement of purpose, and relevant scientific experience.

International students should visit <http://www.uh.edu/graduate-school/admissions/international-students/> for information on additional requirements, including the application fee.

Degree Requirements

Plan Selection

The Master of Science (MS) degree will be awarded after students have successfully completed the requirements specified in one of the two following plans:

Plan I: Thesis Option

Students may satisfy the degree requirements by completing at least 30 approved semester hours; satisfactorily completing the formal graduate level course requirements including seminars; enrolling in at least three semester hours of thesis courses, and completing and defending a thesis acceptable to the thesis committee. All students must be continuously enrolled until the degree requirements are completed.

Plan II: Non-Thesis Option

Students may satisfy the degree requirements by completing at least 30.0 approved Credit Hours; satisfactorily completing the formal graduate level course requirements including seminars. All students must be continuously enrolled until the degree requirements are completed.

Track Selection

There are three degree tracks in the Biology MS program:

- Cell and Molecular Biology (CMB) Degree Track
- Ecology and Evolution Degree Track
- Biomedical Sciences Certificate Track

Cell and Molecular Biology Degree Track

Course Requirements

MS Plan I: 10.0 Credit Hours

- BIOL 6230 - Advanced Cell Biology I Credit Hours: 2.0
 - BIOL 6231 - Advanced Cell Biology II Credit Hours: 2.0
 - BIOL 6240 - Molecular Genetics 1 Credit Hours: 2.0
 - BIOL 6241 - Molecular Genetics 2 Credit Hours: 2.0
- at least one additional formal graduate level course

MS Plan II: 14.0 Credit Hours

- BIOL 6230 - Advanced Cell Biology I Credit Hours: 2.0
 - BIOL 6231 - Advanced Cell Biology II Credit Hours: 2.0
 - BIOL 6240 - Molecular Genetics 1 Credit Hours: 2.0
 - BIOL 6241 - Molecular Genetics 2 Credit Hours: 2.0
- at least three additional formal graduate level courses



Seminar Requirements

At least one seminar course per year (in either fall or spring semester). BIOL 6110 Biology Seminar does not apply to this requirement. MS Plan I and Plan II students may petition the Department for modification of required courses, but a minimum of 10 and 14 hours of formal (letter-graded) graduate lecture courses are required for the MS Plan I and Plan II degrees, respectively.

Course Transfers

Transfer credits for electives are limited to 2.0 approved Credit Hours toward an MS Plan I or II.

A grade of a B or better is required for transfer of course credit.

Transferred courses must be at the graduate level but not have been taken in the context of an earned degree.

Transferred courses must not be older than 5 years by the time of graduation at UH.

Moreover, credits cannot be transferred to replace a core course without the approval of the CMB advising committee and will be limited to one 2-credit module.

Students may appeal this process by submitting course information and a written statement justifying the transfer of specific course credits to the CMB Divisional Leader and the Associate Chair for Graduate Affairs.

Course information should include a syllabus that covers course material and a letter from the course instructor that addresses course content and student performance.

A successful appeal will require a 2/3rds majority vote by the primary CMB faculty.

Scholastic Requirement

Graduate students must maintain a minimum grade point average of 3.0 in all course work to be considered in good standing.

Students not in good standing cannot receive a graduate degree and can be declared ineligible for support with a graduate assistantship (IA, TA or RA).

Graduate students who receive grades of C+ or lower in 12 or more semester hours of course work attempted for graduate credit are ineligible for any advanced degree at this institution.

Semester hours of "U" grades in S/U-graded courses apply toward the above 12-hour total.

Courses Taken Outside the Department

Courses that do not promote the student's academic development in Biology & Biochemistry, or do not contribute directly to the current research program of the student, will not be allowed.

Students who wish to take courses outside the Department need the approval of their thesis or dissertation committee.

Students may not pursue another degree program concurrently with a M.S. in Biology

Students taking approved courses at other institutions need to notify the Graduate Coordinator prior to the start of the semester in order for the appropriate paperwork to be processed in time by the Office of the University Registrar and the Graduate School.

Graduate Student Rotations

The CMB faculty requires that all graduate students enrolled in an MS Plan I program complete at least two rotations in research labs during the first year, and prior to selection of the Major Professor.

Rotation periods are flexible but must last at least six weeks.

At the end of each rotation, students will submit a short report to their rotation advisor, which will include the initial goals, the procedures used and techniques learned, and the results achieved.

A written evaluation of each rotation will be completed by the rotation advisor and submitted to the Division Graduate Committee (DGC).

Rotation reports and evaluations must be submitted to the DGC before the next rotation can begin.

Any exceptions to the rotation policy must be approved by the DGC.

Exemption from a second rotation may be granted by petition to the Associate Chair for Graduate Affairs and will require justification and approval by the student's advisor.



If a student has applied to our Graduate Program with the explicit goal of working with a specific advisor and does not wish to carry out the second rotation, he or she may request an exception, outlining the rationale for declining the second rotation. This request must be accompanied by a letter from the prospective major professor explaining why the decision not to participate in a second research rotation is in the best interest of the student.

MS Plan II students are not required to complete rotations.

First Year Evaluation

At the end of the second semester in residence (not counting summers) all MS Plan I students will undergo a first year evaluation administered by the DGC. A positive evaluation must be received for the student to remain in good standing. The evaluation will consider the student's progress and take into account the following:

- Courses taken and grades.
- Seminar class performance.
- Attendance at departmental seminars.
- Reports from rotation advisors.
- Student's acceptance into a research lab.
- Other information as required by the DGC.

Committee Meetings

All MS Plan I students must form and meet with their thesis committee no later than the third semester following admission (not counting summer sessions). The first committee meeting will focus on their research plan. In addition, all students must convene a meeting of their committee, at which a majority of the members are present, at least once per calendar year to discuss their progress until graduation.

Thesis Research, Preparation and Defense

Each student whose objective is the MS Plan I degree is expected to commence graduate research as soon as possible. It should be recognized that research is an integral component of the degree requirements and that failure to maintain an adequate program of research constitutes unsatisfactory progress toward a degree.

The laboratory research thesis submitted by an MS Plan I candidate must give evidence of the ability to conduct an independent and original investigation on a defined research problem. All students (MS Plan I and II) will be expected to be knowledgeable of contemporary methods and concepts in cell and molecular biology.

Each MS Plan I student must submit and defend a thesis when it is in final form. Part of the defense will include the presentation of a seminar open to the public. Following this seminar, a formal defense/examination will take place, which is open to any faculty member of the University community. Despite the open nature of the defense, the thesis committee has sole responsibility in deciding whether or not the examination is passed. In order for a student to pass the examination, an affirmative vote by the major professor and no more than one negative vote by other committee members must be recorded.

Ecology and Evolution Degree Track

Major Professor and Dissertation Committee

During the first year, each student is required to select, by mutual agreement, a tenured or tenure-track member of the faculty of the Division of Ecology and Evolution as a major professor who, with the thesis (MS Plan I) or study (MS Plan II) committee, will supervise the student's graduate studies. The student's choice of faculty advisor must be approved by the graduate committee chair. If a student wishes to work jointly with more than one professor, an understanding as to who is primarily responsible for supervision of the student's graduate studies should be reached.



In consultation with the major professor the student shall select, by mutual agreement, faculty members to serve on their committee. The committee shall be chosen before the end of the second semester of residence. Details on the committee composition are given in the Academic Policies section below.

Course Requirements

8.0 Credit Hours

BIOL 6204 - Advanced Ecology & Evolution I Credit Hours: 2.00

BIOL 6205 - Advanced Ecology & Evolution II Credit Hours: 2.00

Additional formal graduate level courses

Seminar Requirements

At least one seminar course per year (typically, BIOL 7167 Population Biology Seminar, in either fall or spring semester). BIOL 6110 Biology Seminar does not apply to this requirement.

Course Transfers

Transfer credits for electives are limited to 4 approved credit hours toward an MS degree (Plan I or II).

For transfer of course credit, a grade of B or better is required, the credits must not have been taken towards a prior degree and they must be have been taken within 5 years of the time of graduation at UH.

Students may initiate the transfer process by submitting course information and a written statement justifying the transfer of specific course credits to the E&E Division Policy Leader and the Associate Chair for Graduate Affairs. Course information must include a syllabus that covers course material.

A successful transfer will require unanimous support by the Associate Chair for Graduate Affairs, the E&E Division Policy Leader, the E&E members of the Graduate Committee and the student's thesis/dissertation committee if it has been formed.

First Year Evaluation

During the second long term, all students will undergo a first year evaluation administered by faculty in the division (typically, division members of the Graduate Committee). A positive evaluation must be received for the student to remain in good standing. The evaluation will consider the student's progress and take into account the following:

Courses taken and grades.

Seminar class performance.

Attendance at departmental seminars.

Research progress.

Report from research advisor(s).

Committee Meetings

All MS Plan I students must form and meet with their thesis committee no later than the third semester following admission (not counting summer sessions).

The first meeting will focus on the student's initial research progress and plans for future research.

After the first meeting, all students will meet with their committees (from which no more than one committee member may be absent), at least once per calendar year to discuss their progress towards completion of the degree.

At any time the committee may decide that additional meetings should take place.

At least one week before every committee meeting, the student will distribute a 2-3 page progress report to each committee member.

After the first meeting, the student will bring a copy of the Committee Status Report from the previous meeting.



At the end of each meeting, the chair of the committee will summarize the meeting and make recommendations to the student using a Committee Status Report form.

If a committee member is absent from a meeting, the student will meet him/her within two weeks of the meeting.

Final Examinations

Each student must submit and defend a thesis/report when it is in final form.

MS Plan I candidates must defend a thesis.

The examination will emphasize research achievements.

In addition, competence in the candidate's field of research will be expected.

MS Plan II candidates shall present and defend a formal report to a study committee composed of the advisor and at least one other tenured or tenure-track faculty member.

The candidate will critically evaluate and summarize a problem of interest and will be expected to be knowledgeable of general concepts in the fields of ecology and evolution.

Biomedical Sciences Certificate Track

Course Requirements

This track has only a non-thesis option. All students seeking the graduate certificate in Biomedical Sciences must be pursuing concurrently a non-thesis MS in Biology, under the Biomedical Sciences Certificate track. All MS students in this track are required to successfully complete the following courses for a total of 30 credit hours.

Core Courses

12.0 Credit Hours

BIOL 6351 - Integrative Anatomy & Physiology Credit Hours: 3.0

BIOL 6352 - Molecular Mechanisms of Disease Credit Hours: 3.0

BIOL 6355 - Introduction to Health Systems Credit Hours: 3.0

BIOL 6356 - Medical Ethics Credit Hours: 3.00

Practicum

6.0 Credit Hours

BIOL 6350 - Biomedical Sciences Practicum Credit Hours: 3.0

Note: students enroll in this class in two separate semesters.

Electives

12.0 Credit Hours

Students choose four graduate courses from the list of courses below.

BCHS 6361 - Clinical Biochemistry Credit Hours: 3

BIOL 6310 - Biostatistics Credit Hours: 3

BIOL 6315 - Neuroscience Credit Hours: 3.0

BIOL 6323 - Immunology Credit Hours: 3

BIOL 6324 - Bioinformatics Credit Hours: 3

BIOL 6330 - Molecular Basis of Infectious Diseases Credit Hours: 3

BIOL 6333 - Advanced Microbial Physiology Credit Hours: 3



BIOL 6354 - Endocrinology Credit Hours: 3
BIOL 6374 - Cell Biology Credit Hours: 3.0
BIOL 6384 - Developmental Biology Credit Hours: 3.0

Any substitution of elective courses must be petitioned to the co-directors of the certificate program. Core courses and practicum may not be substituted.

Practicum

The practicum is carried out across two academic terms for a total of 6 credit hours (3 credit hours over 2 terms, one of which must be the summer term). Students will have the choice of selecting either 6 credit hours of internship, or 6 credit hours of laboratory research, or 3 credit hours of each.

The internship is selected from an approved list of options. Laboratory research projects are performed under the guidance of a faculty member in the Department of Biology and Biochemistry. Students performing a practicum are expected to devote 9-10 hours per week to the practicum. Fewer than 8 hours per week will not be permitted. Satisfactory completion of the practicum will require a report from the faculty or supervisor overseeing the student's practicum. Students enrolled in the practicum course in the Fall or Spring term will have to meet with the practicum instructor of record once a week at the time assigned to the practicum course.

Other Requirements

Students will be required to meet with the co-directors of the certificate in Biomedical Sciences program prior to the beginning of the Fall and Spring terms to establish a course plan for the coming terms and review progress towards the completion of the degree.

Transfers

Students will not be permitted to transfer courses towards the 18 hours of certificate (core courses and practicum). They may be allowed to transfer no more than 6 hours of courses towards the electives, only if the courses were taken at the graduate level and not in the context of an earned degree, as per University policies. All transfer requests will need approval by the co-directors of the certificate program.

Academic Policies

University Academic Policies
Academic Policies: College of Natural Sciences and Mathematics

Program Academic Policies

Whether they follow the Cell and Molecular Biology degree track or the Ecology and Evolution degree track, students in the Biology MS plan I program must specify a thesis committee and have the names on file in the Office of the Dean at least one semester before their graduation. The committee must consist of at least three members, to include two faculty members who have their primary appointment in the Department of Biology and Biochemistry and one approved member external to the department.

Further details on committee composition can be found here. Additionally, specific requirements for each degree track apply as follows.

Cell and Molecular Biology Degree Track

At least half of the committee members must have their primary appointment in the Cell and Molecular Biology Division.
Research faculty may serve on the committee in addition to the core of three committee members who are tenured or tenure-track faculty

Ecology and Evolution Degree Track

The committee must consist of at least four members.



These shall include the student's major professor(s) and three other members.

At least three of the committee members (advising or non-advising) must be tenured or tenure-track faculty members with a primary appointment in the Department of Biology and Biochemistry.

The three non-advising members must include one member with a primary appointment in the Ecology and Evolution Division of the Department of Biology and Biochemistry and one member from outside the Department of Biology and Biochemistry.

At least two of the committee members (advising or non-advising) must have their primary appointment in the Ecology and Evolution Division.

Committee decisions can only involve one dissenting vote from a committee member.

Doctoral

Biochemistry, PhD

The Department of Biology and Biochemistry offers a program of research and study leading to a PhD degree in Biochemistry.

For more information, please view the Graduate Programs Overview page.

Admission Requirements

In addition to the College of Natural Science and Mathematics Admission Requirements, applicants should have a Baccalaureate Degree (B.S.) in Biology, Biochemistry, or an equivalent discipline. Evaluation of applicants involves a broad range of criteria including undergraduate preparation, three letters of recommendation, a statement of purpose, and relevant scientific experience. GRE scores are optional. International students should visit <http://www.uh.edu/graduate-school/admissions/international-students/> for information on additional requirements.

Degree Requirements

Minimum credit hours required for the degree: 54.0

The Doctor of Philosophy (PhD) degree will be awarded after students have successfully completed the following requirements. Students may satisfy the degree requirements by completing at least 54 approved credit hours; satisfactorily completing the laboratory rotations and formal graduate level course requirements including seminars; completing 3-12 credit hours of dissertation courses; and completing and defending a dissertation acceptable to the dissertation committee. All students must be continuously enrolled full time until the degree requirements are complete.

Major Professor and Thesis, Study, or Dissertation Committee

Selection of Major Professor

Each student is required to select, by mutual agreement, a primary, secondary or jointly appointed member of the faculty of the Division of Biochemistry as a dissertation advisor (major professor) who, with the dissertation (PhD) committee, will supervise the student's graduate studies. This faculty member will chair the committee. A faculty advisor should be selected by the end of the first long semester (Fall or Spring) but in no case later than the end of the 2nd long semester of residence in the program. The Chair of the student's committee shall be a tenured or tenure-track faculty member with primary or secondary appointment or voting privileges in the Biochemistry Division of the Department of Biology and Biochemistry. A student may also choose a faculty member from the Department of Biology and Biochemistry who does not hold any appointment in the Division of Biochemistry provided that, as with any Biochemistry candidate, the student meets all the requirements of the Biochemistry graduate program, including those on committee composition, course work and the biochemistry comprehensive and oral qualifying examinations.

Selection of Committee

In consultation with the major professor, the student shall select, by mutual agreement, faculty members to serve on the thesis, study, or dissertation committee. The committee should be chosen within the 30 day period following selection of the advisor, but in no case after the end of the 2nd long semester of residence. Failure to meet this requirement may result in dismissal from the program. The membership of this committee is subject to approval by the Associate Chair for Graduate Affairs, the Chair of the Department and Dean of



the College. The major functions of this committee are to approve a program of studies for the student, to administer the necessary oral qualifying examinations and final examinations, and to evaluate the student's progress. In the event that a member of the committee leaves the University or is not available for an examination or thesis/dissertation defense, the committee and student can recommend a suitable substitute. The appointment to committees of faculty members from other institutions as the outside member is encouraged.

Composition of Committee

A doctoral dissertation committee shall consist of at least four members. These shall include the major professor, one other member of the Division including emeritus faculty, one member who may belong to any Division within the Department, and one member who shall be from outside the Department of Biology & Biochemistry. At least one-half of the committee must be composed of tenured or tenure-track faculty members with primary appointments in the Division of Biochemistry. Research faculty may serve on the committee in addition to the core of four committee members who must be tenured or tenure-track faculty. For the purpose of establishing a thesis, study, or dissertation committee, a Biology and Biochemistry faculty member holding a secondary appointment in the Division of Biochemistry shall be considered to be from outside the Division. Further details on committee composition can be found here.

Research Faculty

Research faculty with primary appointments in the Department of Biology and Biochemistry will be allowed to serve on thesis and dissertation committees and participate in all committee activities. However, they will not be allowed to chair the committee or vote on questions regarding student progress. For purposes of committee structure, their Division affiliation will not be considered. No more than one research faculty member can serve on a thesis or dissertation committee.

Program of Studies

The student should prepare and submit a program of studies to the Graduate Advisor and his/her dissertation committee within 60 days after choosing an advisor but in no case later than the end of the 2nd long semester of residence. Failure to do so may result in dismissal from the program. The program of studies must be approved at a meeting of the student's dissertation committee. Details about the composition of the Program of Studies can be found here.

Course Requirements

Specific Course Requirements

All students must fulfill the PhD core course requirements (20 hours) as described below.

Graduate Biochemistry Series

BCHS 6226 - Enzyme Catalysis and Kinetics Credit Hours: 2.0

BCHS 6227 - Membranes/Signal Transduction Credit Hours: 2.0

BCHS 6228 - Advanced Nucleic Acids Credit Hours: 2.0

BCHS 6229 - Protein Structure and Function Credit Hours: 2.0

Graduate Biochemistry Lab Rotation

BCHS 6230 - Grad Biochem Lab Rotation I Credit Hours: 2.0

BCHS 6231 - Grad Biochem Lab Rotation II Credit Hours: 2.0

Additional Hours

Eight additional hours in formal graduate courses, of which at least four hours must be in courses offered by the Division of Biochemistry.

Course Limitations for All Graduate Degrees in Biochemistry

For the purpose of fulfilling the above core course requirements, the following courses are not acceptable:

BCHS 6113 - Graduate Biochemistry Seminar

BCHS 6125 - Seminar in Nucleic Acids

BCHS 6X98 - Special Problems

BCHS 6X99 - Masters Thesis

BCHS 8X98 - Doctoral Research

BCHS 8X99 - Doctoral Dissertation



Seminar Requirements

Graduate students are required to enroll in BCHS 6113 - Graduate Biochemistry Seminar every long semester until they pass the oral qualifying examination. Thereafter, they are required to enroll in a seminar course at least once per academic year beginning with the long semester after the oral qualifying examination is passed. Any one credit hour seminar course offered by the Department of Biology and Biochemistry (except BIOL 6110 Biology Seminar), subject to approval by the student's Major Advisor, will meet this requirement.

Doctoral Dissertation Courses

All students should avoid enrolling in Doctoral Dissertation courses until the semester in which they will graduate. Instead they should enroll in the appropriate number of Doctoral Research hours needed to meet enrollment requirements.

Course Transfers

In general, a maximum of eight approved credit hours for the PhD degree may be transferred from another institution with an acceptable academic ranking. The student must have received a grade of B or better in any course for which transfer credit is requested; the transferred course must not have been taken in the context of an earned degree and should not be older than 10 years by the time of graduation at UH. In addition, a Master's degree with thesis can be used to waive up to 2 credit hours of non-BCHS elective courses. Transfer credit will typically not be given for the required courses; BCHS 6226, 6227, 6228 and 6229.

Coursework Performance Requirements

Per University regulations, graduate students must maintain a minimum grade point average of 3.00 in all course work attempted for graduate credit to be considered in good standing. Students not in good standing cannot receive a graduate degree, are ineligible for support with a graduate assistantship (TA, RA/TE or RA), and will be ineligible for the Graduate Tuition Fellowship. Graduate students who receive grades of C+ or lower in 12 or more semester hours of course work attempted for graduate credit are ineligible for any advanced degree at this institution. Semester hours of "U" grades in S/U-graded courses apply toward the above 12 hour total.

Rotation Requirements

Graduate students are required to enroll in two laboratory rotation courses during their first year of study.

The first rotation must be with a tenured or tenure track faculty member whose primary appointment is in the Biochemistry Division.

The first rotation should begin at the beginning of the student's first long semester in the program.

The second rotation can be with any tenured or tenure track faculty member in the Department of Biology and Biochemistry. The second rotation can also be done with tenured or tenure track faculty from other Departments that have a joint appointment in the Biochemistry Division.

The second rotation should be started no later than the first week of the student's 2nd semester in the program and preferably beginning in the eighth week of the first semester.

Rotations with research faculty will not satisfy the rotation course requirement.

Each rotation course is to last seven weeks.

The student will submit a short report describing the purpose and experimental findings at the end of each course. This report and the student's participation will be evaluated by the faculty member with whom the laboratory rotation was conducted. The head of the laboratory where the rotation was done will then forward a grade to the instructor of record who will coordinate the course.

Any exceptions to the rotation policy must be approved by the faculty member who is coordinating the course.

BCHS 6230 - Grad Biochem Lab Rotation I Credit Hours: 2.0

BCHS 6231 - Grad Biochem Lab Rotation II Credit Hours: 2.0

Courses Taken Outside the Department



Courses that do not promote the student's academic development in Biology & Biochemistry, or do not contribute directly to the current research program of the student, will not count towards the student's course requirements. Students who wish to take courses outside the Department need the approval of their thesis or dissertation committee and the Associate Chair for Graduate Affairs in order to receive credit in their degree program. Students may not pursue another degree program concurrently with a PhD in Biology and Biochemistry. Students taking approved courses at other institutions need to notify the Graduate Advisor prior to the start of the semester in order for the appropriate paperwork to be processed in time by the Registrar's office and the Graduate School.

Comprehensive Examination

Each student is required to take a comprehensive written examination, which is intended to test mastery of the principles which underlie the biochemical sciences. The examination will be offered within three weeks of the end of the student's second long semester. The examination will be prepared and administered by a member of the Division of Biochemistry core faculty designated by the Biochemistry Policy Leader. A grade of 70% or better will be considered passing. Students that fail the examination will be offered a single second chance. Depending on circumstances this may be a completely new examination or a selection of topics. A PhD degree student who has completed all other requirements (rotations, selection of committee, program of studies) and has passed this examination will be considered to have advanced to candidacy.

Initial Research Meeting

Before the end of their second year in the program each student pursuing a PhD degree will present their research plan and progress to their committee in detail. Based on the results of this meeting, students pursuing the PhD will be either approved to prepare their research proposal for the oral qualifying examination or required to hold a second research meeting within six months for reconsideration.

Evaluation of Progress Prior to Advancement to Candidacy

At the end of each long semester, the progress of all students enrolled in the Biochemistry graduate programs that have not yet advanced to candidacy will be evaluated. A positive evaluation must be received for a student to remain in good standing. Students that are not in good standing may lose eligibility for tuition fellowships, fee waivers, and/or teaching assistantships. In addition, they will face possible dismissal from the program.

The evaluation will consider the student's progress based upon:

- Courses taken and grades;
- Performance as a TA (when information is provided by teaching faculty);
- Grades from rotation advisors and reports if any;
- The student's acceptance into a research laboratory (major professor chosen);
- The formation of a thesis, study, or dissertation committee as consistent with the student's program;
- Passing score on the comprehensive examination;
- Results of Initial Research Meeting with their committee;
- The timeliness of completion of the various requirements;
- Other information as may be required.

The evaluation committee will consist of the Division of Biochemistry Policy Leader and the Biochemistry Division's members of the Graduate Committee. At the committee's discretion, students whose performance is in question may be asked to meet with the committee in person. Students that are found to not be in good standing will be reported to the Associate Chair for Graduate Affairs and the Departmental Chair for possible punitive action.

Advancement to Candidacy: Oral Qualifying Examination

General Considerations

The Division of Biochemistry shall consider a student to be a candidate for the PhD degree after successful completion of oral qualifying examination. In order to be eligible to take the oral examination the student must have completed all prior requirements. This includes selection of a committee, completion of a program of studies, completion of all required courses, passing of the written comprehensive examination and favorable recommendation from their most recent research meeting with their committee.



Oral Qualifying Examination

Each PhD student in the program must take the oral qualifying examination prior to the end of their second full year in residency. Failure to do so will result in automatic dismissal from the PhD program. The qualifying examination shall be administered by the student's dissertation committee. The examination shall consist of a written research proposal followed by an oral examination. Prior to scheduling of the oral examination, the student will prepare a written proposal directly related to the research they are conducting. This proposal will be circulated in hard and electronic copy to each committee member at least one month before the planned meeting. Based on response from the committee members the advisor will determine if the proposal is ready for oral presentation or requires revision prior to scheduling of the oral examination.

During the oral examination, students will be asked to present and defend their proposal as well as to demonstrate a broad-based understanding of their field. If a student does not pass the examination he/she may, at the discretion of the dissertation committee, be allowed to retake the examination before the end of their 5th long semester. Advancement to candidacy for the PhD shall not occur until a student has written a research proposal and successfully defended it before his/her dissertation committee. Details of the proposal format and expectations are provided here.

Examination Evaluation

In order for a student to pass the examination, an affirmative vote by the major professor and no more than one negative vote by the other committee members must be recorded.

Reexamination

If the student fails either part of the examination (fails to submit a satisfactory written proposal or fails the oral examination), his/her dissertation committee shall recommend a future course of action. This may include: remedial course work, repetition of the examination or termination of the student from the PhD degree program. Such recommendation shall be given verbally, normally by the major professor, immediately after the examination and followed by a written notification within one week. Any recommended action must be completed before the end of the student's 5th semester in the program. Failure to do this shall result in mandatory dismissal from the PhD program.

Additional Committee Meetings

Following successful completion of the qualifying examination, all students should meet periodically with their Dissertation Committee to discuss research progress.

Final Examinations

Each doctoral student must submit and defend the dissertation when it is in final form. Although any member of the University community may attend the final examination, the dissertation committee has sole responsibility in deciding whether or not the examination is passed. In order for a student to pass the examination, an affirmative vote by the major professor and no more than one negative vote by other committee members must be recorded. If the committee includes a research faculty member he/she can participate in the discussion but will not be allowed to vote. The examination will emphasize research achievements. In addition, competence in the candidate's field of research and the biochemical sciences, in general, will be expected.

Academic Policies

University of Houston Academic Policies
College Academic Policies

Biology, PhD

The Department of Biology and Biochemistry offers programs of research and study leading to a PhD degree in Biology.

For more information, please see <http://www.uh.edu/nsm/biology-biochemistry/graduate>.

Admission Requirements



In addition to the College of Natural Science and Mathematics Admission Requirements, applicants should have a Baccalaureate Degree (B.S.) in Biology, Biochemistry, or an equivalent discipline. Evaluation of applicants involves a broad range of criteria including undergraduate preparation, three letters of recommendation, a statement of purpose, and relevant scientific experience. GRE scores are optional. International students should visit <http://www.uh.edu/graduate-school/admissions/international-students/> for information on additional requirements.

Degree Requirements

Minimum credit hours required for this degree: 54.0

There are two degree tracks in the Biology PhD program, Cell and Molecular Biology (CMB) Degree Track and Ecology and Evolution Degree Track.

Cell and Molecular Biology (CBM) Degree Track

The Doctor of Philosophy (PhD) degree will be awarded after students have successfully completed the following requirements. Students may satisfy the degree requirements by completing at least 54 approved credit hours; satisfactorily completing the laboratory rotations and formal graduate-level course requirements including seminars; completing 3-12 credit hours of doctoral dissertation courses; and completing and defending a dissertation acceptable to the dissertation committee. All students must be continuously enrolled until the degree requirements are completed.

Course Requirements

14.0 Credit Hours

BIOL 6240 - Molecular Genetics 1 Credit Hours: 2.0

BIOL 6241 - Molecular Genetics 2 Credit Hours: 2.0

BIOL 6230 - Advanced Cell Biology I Credit Hours: 2.0

BIOL 6231 - Advanced Cell Biology II Credit Hours: 2.0

At least three additional formal graduate level courses.

Seminar Requirements

At least one seminar course per year (in either fall or spring semester). BIOL 6110 Biology Seminar does not apply to this requirement. PhD students may petition the Department for modification of required courses.

Course Transfers

Transfer credits for electives are limited to 4 approved credits towards a PhD. A grade of B or better is required for transfer of course credit. Transferred courses must be at the graduate level but not have been taken in the context of an earned degree. They must not be older than 10 years by the time of graduation at UH. Moreover, credits cannot be transferred to replace a core course without the approval of the CMB advising committee and will be limited to one 2-credit module. Students may appeal this process by submitting course information and a written statement justifying the transfer of specific course credits to the CMB Divisional Leader and the Associate Chair for Graduate Affairs. Course information should include a syllabus that covers course material, and a letter from the course instructor that addresses course content and student performance. A successful appeal will require a 2/3rds majority vote by the primary CMB faculty.

Scholastic Requirement

Graduate students must maintain a minimum grade point average of 3.0 in all course work to be considered in good standing. Students not in good standing cannot receive a graduate degree and can be declared ineligible for support with a graduate assistantship (IA, TA, RA/TE or RA). Graduate students who receive grades of C+ or lower in 12 or more credit hours of course work attempted for graduate credit are ineligible for any advanced degree at this institution. Credit hours of "U" grades in S/U-graded courses apply toward the above 12-hour total.



Courses Taken Outside the Department

Courses that do not promote the student's academic development in Biology & Biochemistry, or do not contribute directly to the current research program of the student, will not be allowed.

Students who wish to take courses outside the Department need the approval of their thesis or dissertation committee.

Students may not pursue another degree program concurrently with a PhD in Biology.

Students taking approved courses at other institutions need to notify the Graduate coordinator prior to the start of the term in order for the appropriate paperwork to be processed in time by the Registrar's Office and the Graduate School.

Graduate Student Rotations

The CMB faculty requires that all graduate students enrolled in a PhD program complete at least two rotations in research labs during the first year, and prior to selection of the major professor. Rotation periods are flexible, but must last at least six weeks. At the end of each rotation, students will submit a short report to their rotation advisor, which will include the initial goals, the procedures used and techniques learned, and the results achieved. A written evaluation of each rotation will be completed by the rotation advisor and submitted to the Division Graduate Committee (DGC). Rotation reports and evaluations must be submitted to the DGC before the next rotation can begin. Any exceptions to the rotation policy must be approved by the DGC. Exemption from a second rotation may be granted by petition to the Associate Chair for Graduate Affairs, and will require justification and approval by the student's advisor. If a student has applied to our Graduate Program with the explicit goal of working with a specific advisor and does not wish to carry out a second rotation, he or she may request an exception, outlining the rationale for declining the second rotation. This request must be accompanied by a letter from the prospective major professor explaining why the decision not to participate in a second research rotation is in the best interest of the student.

First Year Evaluation

At the end of the second term in residence (not counting summers) all students will undergo a first year evaluation administered by the DGC. A positive evaluation must be received for the student to remain in good standing. The evaluation will consider the student's progress and take into account the following:

Courses taken and grades.

Seminar class performance.

Attendance at departmental seminars.

Reports from rotation advisors.

Student's acceptance into a research lab.

Other information as required by the DGC.

Committee Meetings

All students must form and meet with their thesis/dissertation committee no later than the third term following admission (not counting summer sessions). For PhD students, the first meeting will focus on the qualifying exam topic. After passing their qualifying exam, PhD students must meet with their committee during their 5th term (not counting summer sessions) to discuss their research plan. In addition, all students must convene a meeting of their committee, at which a majority of the members are present, at least once per calendar year to discuss their progress until graduation.

PhD Qualifying Examination

The Cell and Molecular Biology Division requires graduate students to pass a qualifying exam in their second year. This exam serves to develop and reinforce the skills required for developing experimental programs to test hypotheses and to communicate scientific ideas in a concise manner. Students unable to successfully demonstrate these skills will fail the examination and will not remain as doctoral candidates in the program. The exam has three components: 1) a written thesis proposal, 2) an exam to test general foundational knowledge that is necessary for a successful career in cell and molecular biology research, and 3) an oral defense of the written proposal. The dissertation committee will evaluate the student's performance. At any point during these three exam components, the committee may decide that the student has an unconditional pass and can



move on to the next component; a conditional pass in which the student needs to go back and make improvements before moving on or that the student needs to take extra coursework; or in rare situations, the student has failed without recourse. Details and due dates of the qualifying exam can be found here. Students who do not complete all three qualifying exam components by the end of their second year shall receive an unsatisfactory grade for their research hours for that second term of their second year. The student will continue to receive an unsatisfactory grade for research hours for every following term until they complete the exam or change degree plans to a Masters in Science. A student who accumulates a total of 12 credits of unsatisfactory grades in courses and research hours will be automatically dismissed from the University. Students who are given the option to retake the qualifying exam, but are unable to reschedule or retake in the second term of their second year will be given a grade of incomplete for their research hours. The grade will be changed to an "S" or "U" depending on whether the student retakes or does not retake the exam in the following academic session (summer or spring term). Every effort should be made for the student to retake the exam by the end of their second year in the program. If prolonged absence of a committee member would make it impossible for a student to meet this requirement, that committee member will be replaced.

Preparation of the Dissertation

Each student whose objective is the PhD degree is expected to commence graduate research as soon as possible. It should be recognized that research is an integral component of the degree requirements and that failure to maintain an adequate program of research constitutes unsatisfactory progress toward a degree.

Permission to write and defend the dissertation

PhD students will need to obtain formal permission to write and defend their dissertation from their dissertation committee. The "Dissertation Committee Permission Form" will need to be signed by all committee members and turned in to the Graduate Coordinator no later than the end of the term prior to the anticipated term of the defense. It is recommended, but not mandatory, that the student have a committee meeting at that time in order for the committee to be aware of the student progress and make final recommendations before the defense. It is expected that the student make progress towards graduation within a year of filing the form.

Submission and Defense of the Dissertation

Each student must submit and defend the dissertation when it is in final form. Part of the defense will include the presentation of a seminar open to the public. Following this seminar, a formal defense/examination will take place, which is open to any faculty member of the University community. Despite the open nature of the defense, the thesis or dissertation committee has sole responsibility in deciding whether or not the examination is passed. In order for a student to pass the examination, an affirmative vote by the major professor and no more than one negative vote by other committee members must be recorded.

Ecology and Evolution Degree Track

The Doctor of Philosophy (PhD) degree will be awarded after students have successfully completed the following requirements. Students may satisfy the degree requirements by completing at least 54 approved credit hours; satisfactorily completing the formal graduate-level course requirements including seminars; completing 3-12 hours of doctoral dissertation courses; and completing and defending a dissertation acceptable to the dissertation committee. All students must be continuously enrolled full time until the degree requirements are completed.

Major Professor and Dissertation Committee

During the first year, each student is required to select, by mutual agreement, a tenured or tenure-track member of the faculty of the Division of Ecology and Evolution as a major professor who, with the dissertation (PhD) committee, will supervise the student's graduate studies. The student's choice of faculty advisor must be approved by the graduate committee chair. If a student wishes to work jointly with more than one professor, an understanding as to who is primarily responsible for supervision of the student's graduate studies should be reached.

In consultation with the major professor the student shall select, by mutual agreement, faculty members to serve on their committee. The committee shall be chosen before the end of the second term of residence. Details on the committee composition are given in the section "Academic Policies" below.

Course Requirements

12.0 Credit Hours



BIOL 6204 - Advanced Ecology & Evolution I Credit Hours: 2.00
BIOL 6205 - Advanced Ecology & Evolution II Credit Hours: 2.00

One of the following:

BIOL 6310 - Biostatistics Credit Hours: 3

BIOL 6410 - Applied Biostatistics Credit Hours: 4

Additional formal graduate level courses

Seminar Requirements

At least one seminar course per year (typically, BIOL 7167 Population Biology Seminar, in either fall or spring semester). BIOL 6110 Biology Seminar does not apply to this requirement.

Course Transfers

Transfer credits for electives are limited to 6 approved credit hours toward a Ph.D. degree.

For transfer of course credit, a grade of B or better is required, the credits must not have been taken towards a prior degree and they must have been taken within 10 years of the time of graduation at UH.

Students may initiate the transfer process by submitting course information and a written statement justifying the transfer of specific course credits to the E&E Division Policy Leader and the Associate Chair for Graduate Affairs. Course information must include a syllabus that covers course material.

A successful transfer will require unanimous support by the Associate Chair for Graduate Affairs, the E&E Division Policy Leader, the E&E members of the Graduate Committee and the student's thesis/dissertation committee if it has been formed.

First Year Evaluation

During the second long term all students will undergo a first year evaluation administered by faculty in the division (typically, division members of the Graduate Committee). A positive evaluation must be received for the student to remain in good standing. The evaluation will consider the student's progress and take into account the following:

- Courses taken and grades
- Seminar class performance
- Attendance at departmental seminars
- Research progress
- Report from research advisor(s)

Advancement to PhD Candidacy

A student advances to candidacy for a PhD degree after completion of a qualifying exam. The qualifying exam will be administered by the student's dissertation committee, and will consist of three parts: (1) a written exam, (2) a dissertation proposal, and (3) an oral exam. Details and due dates of the qualifying exam can be found [here](#).

The qualifying exam must be completed by the end of the fourth term following admission (not counting summer sessions). In exceptional circumstances, a student may petition to take the proposal and/or oral parts of the qualifying exam in the fifth term. A successful petition will require unanimous support by the student's dissertation committee and the Associate Chair for Graduate Affairs.

If the student fails any part of the qualifying exam, the dissertation committee will prescribe a course of action. This may include (a) remedial courses; (b) repetition of the exam; or (c) termination of the student from the PhD program. In the case of the oral exam, such a prescription shall be given verbally immediately after the examination and followed by a written notification within one week. Any retakes must be completed by the end of the subsequent long term. Each exam may be taken no more than twice. Failure after the second try will result in either award of a terminal MS degree or dismissal from the graduate program.

A student who fails to attempt the qualifying exam within the fourth term will receive a grade of "U" (unsatisfactory) in 2 credit hours or research. A student who is allowed to take the proposal and/or oral parts of the qualifying exam in the fifth term, but fails to complete the qualifying exam within the fifth term, will receive a grade of "U" in 2 credit hours or research. Any further delay will result in additional "U"



grades in 6 research credit hours per long term (or 3 credit hours in the summer). Once a student who has not yet taken his/her qualifying exam has accumulated 12 hours of "U" grades, he/she will be automatically dismissed from the University.

Students who fail to pass part of the qualifying exam in one term and were given the recommendation to retake the exam but were unable to reschedule within the same term will receive a grade of "I" (incomplete) for 2 credit hours or research. The grade will be changed to an "S" or "U" depending on whether the student retakes or does not retake the exam in the following term (not counting summer sessions). Note that the "S" or "U" grades reflect only whether or not the student has taken the exam in the given term. Failure to pass the qualifying exam will not result in a "U" in these research hours.

Committee Meetings

All students must form and meet with their thesis/dissertation committee no later than the third term following admission (not counting summer sessions). The first meeting will focus on the student's initial research progress and plans for future research. For PhD students, the first meeting will also include some discussion of which committee members will conduct the written part of the qualifying exam, and the topics that will be covered. For PhD students, the second committee meeting will typically be the oral exam. After the first meeting, all students will meet with their committees (from which no more than one committee member may be absent), at least once per calendar year to discuss their progress towards completion of the degree. At any time the committee may decide that additional meetings should take place. At least one week before every committee meeting, the student will distribute a 2-3 page progress report to each committee member (see exception for qualifying oral exam in section D). After the first meeting, the student will bring a copy of the Committee Status Report from the previous meeting. At the end of each meeting, the chair of the committee will summarize the meeting and make recommendations to the student using a Committee Status Report form. If a committee member is absent from a meeting, the student will meet him/her within two weeks of the meeting.

Final Examinations

PhD students will need to obtain formal permission to write and defend their dissertation from their dissertation committee. The Dissertation Committee Permission Form will need to be signed by all committee members and turned in to the Graduate Coordinator no later than the end of the term **prior** to the anticipated term of the defense. It is recommended, but not mandatory, that the student have a committee meeting at that time in order for the committee to be aware of the student progress and make final recommendations before the defense. It is expected that the student make progress towards graduation within a year of filing the form.

Each PhD candidate must submit and defend the dissertation when it is in final form. Although any member of the University community may attend the final examination, the committee has sole responsibility in deciding whether or not the examination is passed. In order for a student to pass the examination, an affirmative vote by the major professor and no more than one negative vote by other committee members must be recorded. The examination will emphasize research achievements. In addition, competence in the candidate's field of research and in the field of ecology and evolution in general will be expected. If the candidate fails to successfully defend his/her dissertation the committee may, 1) outline additional work to be completed and reassessed by the committee or, 2) recommend award of a terminal MS degree. PhD candidates shall have at least one manuscript based on their dissertation submitted for publication before their defense.

Academic Policies

Whether they follow the Cell and Molecular Biology degree track or the Ecology and Evolution degree track, students in the Biology PhD program must specify a dissertation committee and have the names on file in the Office of the Dean at least one term before their graduation. The committee must consist of at least four members, to include three faculty members who have their primary appointment within the department of Biology and Biochemistry and one approved member external to the department. Further details on committee composition can be found here. Additionally, specific requirements for each degree track apply as follows.

Cell and Molecular Biology Degree Track

At least two of the committee members must have their primary appointment in the Cell and Molecular Biology Division of the Department of Biology and Biochemistry. Research faculty may serve on the committee in addition to the core of four committee members who are tenured or tenure-track faculty.

Ecology and Evolution Degree Track



At least three of the committee members (advising or non-advising) must be tenured or tenure-track faculty members with a primary appointment in the Department of Biology and Biochemistry. The three non-advising members must include one member with a primary appointment in the Ecology and Evolution Division of the Department of Biology and Biochemistry and one member from outside the Department of Biology and Biochemistry. At least two of the committee members (advising or non-advising) must have their primary appointment in the Ecology and Evolution Division. Committee decisions can only involve one dissenting vote from a committee member.

University of Houston Academic Policies

College Academic Policies

Graduate Certificate

Biomedical Sciences, Certificate

The Biomedical Sciences certificate is offered to students who seek post-baccalaureate academic preparation to develop a stronger foundation for future studies in biomedical or allied health professional programs. The program integrates components of professional development and humanistic approaches to health with fundamental biomedical science, trains students to apply their knowledge of biology, biochemistry, and genetics to specific diseases, and offers a practicum in research or clinical settings. The students can only pursue the certificate together with a non-thesis MS degree in Biology. Students graduating with an MS degree with the Biomedical Sciences certificate are typically bound to medical or dental schools, or other health-related careers.

Admission Requirements

To apply to the Certificate in Biomedical Sciences, applicants must apply to an MS in Biology under the Biomedical Sciences Certificate track.

Applicants must have completed a bachelor's degree in Biology or Biochemistry, or related field, with a minimum cumulative grade point average (GPA) of 3.00 (out of 4.00) in the last 60 hours of all course work. Applicants with a cumulative GPA between 2.6 and 3.0 in the last 60 hours of course work may be admitted conditionally.

Applicants must have taken prerequisite courses in Biochemistry and Genetics, equivalent to the courses offered at UH as BCHS 3304 (Biochemistry) and BIOL 3301 (Genetics).

Applicants must provide officially reported GRE or MCAT scores.

An application fee is required for international applications.

TOEFL or IELTS scores must be provided by applicants who did not earn a prior degree from a US institution or a country where English is the medium of instruction (see list in the General Admission Policy).

Official transcripts and 3 letters of recommendation are required.

Applicants should provide a personal statement outlining future goals and expectations from the program.

Degree Requirements

Credit hours required for this certificate: 18.0

Core Courses

12.0 Credit Hours

BIOL 6351 - Integrative Anatomy & Physiology Credit Hours: 3.0

BIOL 6352 - Molecular Mechanisms of Disease Credit Hours: 3.0

BIOL 6355 - Introduction to Health Systems Credit Hours: 3.0

BIOL 6356 - Medical Ethics Credit Hours: 3.00



Practicum

6.0 Credit Hours

BIOL 6350 - Biomedical Sciences Practicum Credit Hours: 3.0

The practicum is carried out across two academic terms for a total of 6 credit hours (3 credit hours over 2 terms, one of which must include the summer term). Students will have the choice of selecting either 6 credit hours of internship, or 6 credit hours of laboratory research, or 3 credit hours of each.

The internship is selected from an approved list of options. Laboratory research projects are performed under the guidance of a faculty member in the Department of Biology and Biochemistry. Students performing a practicum are expected to devote 9 to 10 hours per week to the practicum. Fewer than 8 hours per week will not be permitted. Satisfactory completion of the practicum will require a report from the faculty or supervisor overseeing the student's practicum. Students enrolled in the practicum course in the Fall or Spring term will have to meet with the practicum instructor of record once a week at the time assigned to the practicum course.

Academic Policies

University of Houston Academic Policies

Academic Policies: College of Natural Sciences and Mathematics

Department Academic Policies

Students will be required to meet with the co-directors of the certificate in Biomedical Sciences program prior to the beginning of the Fall and Spring terms to establish a course plan for the coming terms and review progress towards the completion of the certificate.

Transfers

Students will not be permitted to transfer courses towards the 18 hours of certificate.

Department of Chemistry

Admission to Master's and Doctoral Programs

The requirements for admission to the MS and PhD programs are identical and are consistent with the Admission Requirements of the College of Natural Sciences and Mathematics. In evaluating individual applications for admission, a Department committee considers the content of undergraduate and graduate programs taken and grades earned, particularly in the areas of Chemistry, Physics, Biology, and Mathematics; scores earned on the GRE (competitive scores in either or both of the General GRE and Chemistry Subject GRE tests are favorably considered, though both tests are an optional component of the application); scores on the TSE and TOEFL exams; three letters of recommendation from individuals who are able to judge the candidate's likelihood for success in graduate school and his or her potential for scholarly scientific research; and any previous scientific and technical experience, publications, and presentations.

Master

Chemistry, MS

The Department of Chemistry at the University of Houston offers programs leading to Master of Science (MS) degree in analytical, biological, inorganic, materials, organic, physical and theoretical chemistry. With nationally recognized faculty who pursue research which provides a rich learning environment with the use of a wide variety of instrument facilities and excellent technical staff who support the research and teaching efforts within the department, students will have acquired a broad and in-depth knowledge of the discipline. Students have the option to pursue a thesis track option by demonstrating research competence with the successful completion and defense of acceptable thesis research, or a non-thesis



track where students demonstrate technical competence with successful completion of formal graduate-level course work in Chemistry and related disciplines. Our graduates successfully find employment after they graduate in academia and industry.

For more information, please visit <http://www.uh.edu/nsm/chemistry/about/>.

Admission Requirements

Candidates who have completed the normal four-year program leading to the bachelor's degree in chemistry and who present documentary evidence of the ability to pursue graduate study are eligible for consideration for admission to the graduate program.

A complete graduate school application (link <http://www.uh.edu/graduate-school/admissions/how-to-apply/>) must be submitted.

General GRE scores taken in the last 5 years are optional.

Letters of recommendation are also given considerable weight in the evaluation process.

Students who did not earn a prior degree from a U.S. institution or a country where English is the medium of instruction (see list here) must meet minimum test scores to demonstrate English language proficiency. To learn more, visit: <http://www.uh.edu/graduate-school/international-students/>.

International applications also require an application fee.

Admission to our graduate program is based on a competitive selection process. Meeting the minimum requirements published does not guarantee admission to our program. All applicants' credentials are evaluated by the admissions committee using a broad range of criteria, including:

- Content of undergraduate and graduate programs and grades earned, particularly in the areas of Chemistry, Physics, Biology, and Mathematics.

- GRE scores, if submitted (verbal, quantitative, and analytical writing; inclusion of the GRE advanced chemistry subject test score is viewed favorably by the department)

- A cumulative GPA of 3.00 or better in the last 60.0 Credit Hours.

- Letters of recommendation from three (3) individuals (preferably faculty members), who are able to judge the candidate's academic abilities and potential for scholarly scientific research.

- English proficiency scores, when applicable.

- Any previous scientific and technical experience, publications, and presentations.

Degree Requirements

Diagnostic Examinations

Prior to the first day of class, new graduate students take four diagnostic examinations in the areas of organic, inorganic, physical and analytical chemistry. These are used by the Department to assess the student's preparation for graduate study and to help guide the student in course selections.

Research Divisions and Programs

Immediately following the diagnostic examinations, a meeting is scheduled between the new student and the Graduate Chair to determine course enrollment for the first semester. At that time, the student must elect a division with which to be associated. The divisions are:

- Inorganic

- Organic

- Physical Chemistry

Course Requirements

Plan I: Thesis Option



A minimum of 30.0 approved Credit Hours including:

A. Divisional Courses

Completion of 6 graduate-level courses, no less than 18 credit hours, based on the course requirements in their elected division.

B. Master's Thesis Hours

Completion of 6.0 credit hours of Master's Thesis in the semester of anticipated graduation. Once enrolled in Master's Thesis, registration must be continuous and no grade is given until the Thesis is approved by the NSM Office of Academic Affairs.

CHEM 6399 - Masters Thesis Credit Hours: 3

CHEM 7399 - Masters Thesis Credit Hours: 3

C. Seminar Requirements

Credit Hours: 2.0

CHEM 6111 - Graduate Colloquium Credit Hours: 1.0

Note: Graduate students must take CHEM 6111 (Graduate Colloquium, one hour credit) in each long semester during which a full 9 credit hours of lecture-based courses are not taken during their first two years of study. At a minimum, students must be enrolled in CHEM 6111 once in their graduate career. Although participation in the Graduate Colloquium is required each semester the student is enrolled at the University, enrollment after the first two years of study is not required.

CHEM 6112 - Graduate Seminar Credit Hours: 1.0

Note: Graduate students must take CHEM 6112 (Graduate Seminar, one hour credit) in each long semester during which a full 9 credit hours of lecture-based courses are not taken during their first two years of study. At a minimum, students must be enrolled in CHEM 6112 once in their graduate career. Although participation in the Graduate Seminar is required each semester the student is enrolled at the University, enrollment after the first two years of study is not required.

D. Other Requirements

CHEM 6115 - Sem in Chm Lab Instruct Credit Hours: 1.0

Note: Students holding a teaching assistantship must register for CHEM 6115 (TA training, one hour credit) in each long semester during which they are teaching a course they have not previously taught and during which a full 9 credit hours of combined lecture-based courses and seminar courses are not taken.

CHEM 6015 - Sem in Chm Lab Instruct Credit Hours: 0.0

Note: Students holding a teaching assistantship who are already enrolled in 9 credit hours must register for CHEM 6015 (TA training, zero hour credit) during any semester in which they are a TA for a course they have not previously taught.

A final oral M.S. thesis defense is required and a finished Thesis must be submitted to the NSM Office of Academic Affairs by the deadline posted on the College website.

All courses must be in Chemistry or pre-approved courses in related fields at the 6000 level or above.

Chemistry coursework requirements must be met within the first five long terms (Fall and Spring terms). Graduate students cannot take coursework after the first five long terms in residence without approval from the Graduate Committee. Exceptions are granted only under extraordinary circumstances.

Two grades of C+ or less will result in the student being placed at the bottom of the priority list for receipt of a teaching fellowship.

Plan II: Non-Thesis Option

A minimum of 30.0 approved Credit Hours of formal graduate-level courses in Chemistry and related disciplines, with prior explicit Departmental approval to include:

CHEM 6311 - Mechanisms Credit Hours: 3.0

CHEM 6313 - Thermodynamics & Kinetics Credit Hours: 3.0



CHEM 6374 - Physical Inorganic Chem I Credit Hours: 3.0

Chemistry Division course, selected with approval of the Graduate Chair **Credit Hours: 3.0**

Elective courses selected from graduate-level CHEM courses **Credit Hours: 18.0**

Note: Graduate courses outside the department may be substituted with prior written permission from the Graduate Chair.

Other requirements:

Four diagnostic examinations must be taken no later than the beginning of the second semester of study.

A maximum of 6.0 hours may be transferred to satisfy the degree requirements, with permission of the Graduate Committee, provided that they were taken at the graduate level but not while in pursuit of an earned degree, the grades are B or higher, and the courses were taken within 5 years from the time of the graduation at UH.

Divisional Course Requirements

Completion of a minimum of 6 graduate-level courses is required. Students may take additional graduate-level courses with the written approval of their research advisors and Graduate Chair.

Inorganic Division

18.0 Credit Hours

Required Courses

3.0 Credit Hours

CHEM 6374 - Physical Inorganic Chem I **Credit Hours: 3.0**

Elective Course Options

15.0 Credit Hours

CHEM 6311 - Mechanisms **Credit Hours: 3.0**

CHEM 6312 - Bonding **Credit Hours: 3.0**

CHEM 6313 - Thermodynamics & Kinetics **Credit Hours: 3.0**

CHEM 6314 - Spectroscopy **Credit Hours: 3.0**

CHEM 6321 - Quantum Chemistry **Credit Hours: 3.0**

CHEM 6332 - Inorganic Material Analysis **Credit Hours: 3.0** *prerequisite: CHEM 6374*

CHEM 6375 - Physical Inorganic Chem II **Credit Hours: 3.0** *prerequisite: CHEM 6374*

CHEM 6376 - Organometallic Chemistry **Credit Hours: 3.0**

CHEM 6377 - Solid State Chemistry **Credit Hours: 3.0** *prerequisite: CHEM 6374*

Organic Division

18.0 Credit Hours

Required Courses

12.0 Credit Hours

CHEM 6311 - Mechanisms **Credit Hours: 3.0**

CHEM 6351 - Organic Structure Detrm **Credit Hours: 3.0**

Note: at the discretion of the research advisor, CHEM 6374 can be substituted for CHEM 6351

CHEM 6352 - Orgnc React & Synthesis **Credit Hours: 3.0**



CHEM 6353 - Physical Organic Chem Credit Hours: 3.0

Elective Course Options

6.0 Credit Hours

CHEM 6312 - Bonding Credit Hours: 3.0

CHEM 6313 - Thermodynamics & Kinetics Credit Hours: 3.0

CHEM 6314 - Spectroscopy Credit Hours: 3.0

CHEM 6374 - Physical Inorganic Chem I Credit Hours: 3.0

CHEM 6376 - Organometallic Chemistry Credit Hours: 3.0

CHEM 6332 - Inorganic Material Analysis Credit Hours: 3.0 *prerequisite: CHEM 6374*

CHEM 6375 - Physical Inorganic Chem II Credit Hours: 3.0 *prerequisite: CHEM 6374*

CHEM 6377 - Solid State Chemistry Credit Hours: 3.0 *prerequisite: CHEM 6374*

Physical Division

18.0 Credit Hours

Required Courses

12.0 Credit Hours

CHEM 6321 - Quantum Chemistry Credit Hours: 3.0

CHEM 6322 - Statistical Thermodynamics Credit Hours: 3.0

CHEM 6324 - Molecular Spectroscopy Credit Hours: 3.0

CHEM 6313 - Thermodynamics & Kinetics Credit Hours: 3.0

Elective Course Options

6.0 Credit Hours

Elective courses **Credit Hours: 6.0**

Must be selected with approval of advisor

Academic Policies

University Academic Policies

Academic Policies: College of Natural Sciences and Mathematics

Department/Program Policies

All MS students must be continuously enrolled full time until the degree requirements are completed. MS Plan I students must maintain full-time enrollment.

Transfer from the Plan I Program to the Plan II Program and vice versa is normally prohibited and is at the discretion of the Graduate Committee.

Any off-campus research that will become part of a thesis must have prior written approval of both the external company or institution involved and the Graduate Committee.

Scholastic requirement

Graduate students must maintain a minimum grade point average of 3.00 in all course work to be considered in good standing. Students not in good standing cannot receive a graduate degree and can be declared ineligible for support with a graduate assistantship (IA, TA or RA).



Thesis

A candidate for MS Plan I graduate degree conducts research under the direction of his or her research advisor and thesis committee. The results of the research form a large and necessary component of the thesis demonstrating that the student is capable of conducting original chemistry research and of systematically planning and executing a research project. After the thesis has been written, the candidate must pass an oral final thesis defense administered by the thesis committee. This defense deals extensively with that portion of the candidate's field of specialization under which the thesis falls. The thesis must be successfully defended no later than two weeks before the deadline for submission of the approved copy to the College of Natural Sciences and Mathematics Office of Academic Affairs. Copies of the thesis must be given to the committee members no less than two weeks prior to the oral final thesis examination. The college submission deadline can be found on the NSM website each semester.

Advisor Selection

The selection of a research advisor to guide a student through the thesis research is a critically important step. New graduate students should meet with several (at least four) members of the Chemistry faculty to discuss potential research projects and mutual interests. After meeting with faculty members and deciding which faculty member's research provides the best fit, students should ask the faculty member for permission to join the faculty member's research group. Students who enter in the fall semester must choose and be accepted by a research advisor no later than the first day of the spring semester (the earlier the better). Students are expected to begin research as soon as they have chosen an advisor. Students who cannot choose an advisor in the required time may request from the Graduate Committee an additional semester to decide. Extensions are granted, however, only under extraordinary circumstances. Failure to observe the time limit for choosing a research advisor may jeopardize a student's standing in the program.

Thesis Committee

The thesis committee of a student in the MS Plan I program is composed of five members: the research advisor, two (2) faculty members from within the student's division, one faculty member from outside the division but from within the Department, and one member from outside the Department, which may be a faculty member from the University, from another university or college, or a person from industry with a PhD. A thesis committee composition form required by the College of Natural Sciences and Mathematics (NSM) must be completed and submitted to the College one semester prior to the graduation. Should changes in the committee composition be necessary, a new form must be submitted for re-approval prior to the thesis defense exam.

Doctoral

Chemistry, PhD

The Department of Chemistry at the University of Houston offers programs leading to Doctor of Philosophy (PhD) degree in analytical, biological, inorganic, materials, organic, physical and theoretical chemistry. With nationally recognized faculty who pursue research which provides a rich learning environment with the use of a wide variety of instrument facilities and excellent technical staff who support the research and teaching efforts within the department, recipients will have acquired a broad and in-depth knowledge of the discipline meeting the national standards of the discipline. Our graduates successfully find employment after they graduate in academia, government labs, and industry.

For more information, please visit <http://www.uh.edu/nsm/chemistry/about/>.

Admission Requirements

Candidates who have completed the normal four-year program leading to the bachelor's degree in chemistry and who present documentary evidence of the ability to pursue graduate study are eligible for consideration for admission to the graduate program.

A complete graduate school application (link: www.uh.edu/graduate-school/admissions/how-to-apply) must be submitted.

General GRE scores taken in the last 5 years are optional.

Letters of recommendation are also given considerable weight in the evaluation process.

Students who did not earn a prior degree from a U.S. institution or a country where English is the medium of instruction (see list here) must meet minimum test scores to demonstrate English language proficiency. To learn more, visit: <http://www.uh.edu/graduate-school/international-students/>. International applications also require an application fee.

Admission to our graduate program is based on a competitive selection process. Meeting the minimum requirements published does not guarantee admission to our program. All applicants' credentials are evaluated by the admissions committee using a broad range of criteria, including:



Content of undergraduate and graduate programs and grades earned, particularly in the areas of Chemistry, Physics, Biology, and Mathematics

GRE scores, if submitted (verbal, quantitative, and analytical writing; inclusion of the GRE advanced chemistry subject test score is viewed favorably by the department)

A cumulative GPA of 3.00 or better in the last 60 hours

Letters of recommendation from three (3) individuals (preferably faculty members), who are able to judge the candidate's academic abilities and the potential for scholarly scientific research

English proficiency test scores, when applicable

Any previous scientific and technical experience, publications, and presentations

Degree Requirements

Diagnostic Examinations

Prior to the first day of class, new graduate students take four diagnostic examinations in the areas of organic, inorganic, physical and analytical chemistry. These are used by the Department to assess the student's preparation for graduate study and to help guide the student in course selections.

Research Divisions and Programs

Immediately following the diagnostic examinations, a meeting is scheduled between the new student and the Graduate Chair to determine course enrollment for the first term. At that time, the student must elect a division with which to be associated. The divisions are:

Inorganic

Organic

Physical Chemistry

A limited number of students may also request to participate in the Chemical Physics Program or the Chemical Biology Interdisciplinary Program.

A student who requests to participate in either of the latter two programs must obtain permission from the Graduate Chair and is subject to special requirements for participating in the programs and graduation. Students interested in the Chemical Physics or the Chemical Biology Interdisciplinary Programs should contact the Graduate Chair before the start of the first term.

Course Requirements

A minimum total of 54.0 Credit Hours of graduate-level work, which may include lecture courses, lab courses, seminars, research, etc., is required for the PhD program.

A. Divisional Courses

Completion of 6 graduate-level courses (no less than 18.0 Credit Hours) based on the course requirements in their elected division and special program, see below.

B. Doctoral Dissertation Hours

Completion of a minimum of 3.0 credit hours but no more than 12.0 Credit hours of Doctoral Dissertation in the term of anticipated graduation. Once enrolled in Doctoral Dissertation, registration must be continuous and no grade is awarded until the degree is conferred.

CHEM 8X99 - Doctoral Dissertation

C. Seminar Requirements



Credit Hours: 2.0

CHEM 6111 - Graduate Colloquium Credit Hours: 1.0

Note: Graduate students must take CHEM 6111 (Graduate Colloquium, one hour credit) in each long semester during which a full 9 credit hours of lecture-based courses are not taken during their first two years of study. At a minimum, students must be enrolled in CHEM 6111 once in their graduate career. Although participation in the Graduate Colloquium is required each semester the student is enrolled at the University, enrollment after the first two years of study is not required.

CHEM 6112 - Graduate Seminar Credit Hours: 1.0

Note: Graduate students must take CHEM 6112 (Graduate Seminar, one hour credit) in each long semester during which a full 9 credit hours of lecture-based courses are not taken during their first two years of study. At a minimum, students must be enrolled in CHEM 6112 once in their graduate career. Although participation in the Graduate Seminar is required each semester the student is enrolled at the University, enrollment after the first two years of study is not required.

D. Other Requirements

CHEM 6115 - Sem in Chm Lab Instruct Credit Hours: 1.0

Note: Students holding a teaching assistantship must register for CHEM 6115 (TA training, one hour credit) in each long semester during which they are teaching a course they have not previously taught and during which a full 9 credit hours of combined lecture-based courses and seminar courses are not taken.

CHEM 6015 - Sem in Chm Lab Instruct Credit Hours: 0.0

Note: Students holding a teaching assistantship who are already enrolled in 9 credit hours must register for CHEM 6015 (TA training, zero hour credit) during any semester in which they are a TA for a course they have not previously taught.

A final oral defense of the PhD dissertation is required.

At the end of the fourth term, the Graduate Chair reviews the course work of students in the Program. Two grades of C+ or less will result in the student being terminated from the Ph.D. program and enrolled in the MS Plan 1 program. In an effort to receive a higher grade, a student may retake a course in which a grade of C+ or less was received provided this is done before the end of the fourth term. Both grades are used, however, in computing a student's cumulative GPA.

After the second long term (Fall or Spring term) but prior to the end of the fifth long term, students must complete an Oral Research Progress Exam (see the next section of this document). Satisfactory completion of this exam along with the course requirements listed above results in promotion to PhD candidacy.

All courses must be in Chemistry or pre-approved courses in related fields at the 6000 level or above.

Chemistry coursework requirements must be met within the first five long terms. Graduate students cannot take coursework after the first five long terms in residence without approval from the Graduate Committee. Exceptions are granted only under extraordinary circumstances.

Divisional Course Requirements

Completion of a minimum of 6 graduate-level courses is required. Students may take additional graduate-level courses with the written approval of their research advisors and Graduate Chair.

Inorganic Division

18.0 Credit Hours

Required Courses

3.0 Credit Hours

CHEM 6374 - Physical Inorganic Chem I Credit Hours: 3.0

Elective Course Options

15.0 Credit Hours



CHEM 6311 - Mechanisms Credit Hours: 3.0
CHEM 6312 - Bonding Credit Hours: 3.0
CHEM 6313 - Thermodynamics & Kinetics Credit Hours: 3.0
CHEM 6314 - Spectroscopy Credit Hours: 3.0
CHEM 6321 - Quantum Chemistry Credit Hours: 3.0
CHEM 6332 - Inorganic Material Analysis Credit Hours: 3.0 *prerequisite: CHEM 6374*
CHEM 6375 - Physical Inorganic Chem II Credit Hours: 3.0 *prerequisite: CHEM 6374*
CHEM 6376 - Organometallic Chemistry Credit Hours: 3.0
CHEM 6377 - Solid State Chemistry Credit Hours: 3.0 *prerequisite: CHEM 6374*

Organic Division

18.0 Credit Hours

Required Courses

12.0 Credit Hours

CHEM 6311 - Mechanisms Credit Hours: 3.0
CHEM 6351 - Organic Structure Detrm Credit Hours: 3.0
Note: At the discretion of the research advisor, CHEM 6374 can be substituted for CHEM 6351
CHEM 6352 - Orgnc React & Synthesis Credit Hours: 3.0
CHEM 6353 - Physical Organic Chem Credit Hours: 3.0

Elective Course Options

6.0 Credit Hours

CHEM 6312 - Bonding Credit Hours: 3.0
CHEM 6313 - Thermodynamics & Kinetics Credit Hours: 3.0
CHEM 6314 - Spectroscopy Credit Hours: 3.0
CHEM 6332 - Inorganic Material Analysis Credit Hours: 3.0 *prerequisite: CHEM 6374*
CHEM 6374 - Physical Inorganic Chem I Credit Hours: 3.0
CHEM 6375 - Physical Inorganic Chem II Credit Hours: 3.0 *prerequisite: CHEM 6374*
CHEM 6376 - Organometallic Chemistry Credit Hours: 3.0
CHEM 6377 - Solid State Chemistry Credit Hours: 3.0 *prerequisite: CHEM 6374*

Physical Division

18.0 Credit Hours

Required Courses

12.0 Credit Hours

CHEM 6313 - Thermodynamics & Kinetics Credit Hours: 3.0
CHEM 6321 - Quantum Chemistry Credit Hours: 3.0
CHEM 6322 - Statistcl Thermodynamics Credit Hours: 3.0

CHEM 6324 - Molecular Spectroscopy Credit Hours: 3.0 OR
CHEM 6314 - Spectroscopy Credit Hours: 3.0



Elective Course Options

6.0 Credit Hours

Elective courses **Credit Hours: 6.0**

Must be selected with approval of advisor

Academic Policies

University of Houston Academic Policies

Academic Policies: College of Natural Sciences and Mathematics

Department/Program Policies

All Ph.D. students must be continuously enrolled full time until the degree requirements are completed.

Any off-campus research that will become part of a dissertation must have prior written approval of both the external company or institution involved and the Graduate Committee.

Two grades of C+ or less will result in the student being placed at the bottom of the priority list for receipt of a teaching fellowship.

Scholastic Requirement

Graduate students must maintain a minimum grade point average of 3.00 in all course work to be considered in good standing. Students not in good standing cannot receive a graduate degree and can be declared ineligible for support with a graduate assistantship (IA, TA, TA/TE or RA).

Oral Research Progress (ORP) Examination

After the second but prior to the end of the fifth long term, a student wishing to obtain a PhD must undergo an ORP examination administered by the student's ORP committee. The ORP exam must be completed before the end of the student's 5th term in residence. Failure to observe this time limitation will result in the student being placed in the MS Plan I program. The committee consists of four (4) faculty members; the student's research advisor(s) may not serve on the ORP committee. The committee has two (2) faculty members from within the student's division - one of whom will be designated as the "chair" of the committee, one (1) member from outside the division but within the Department, and one from outside the Department (researchers from industry with a PhD degree are eligible). The student's research advisor and the student choose two committee members, one of whom is the member from outside the department. The Graduate Chair appoints the two other committee members. The student's research advisor and the student may make recommendations for the other two members of the committee to the Graduate Chair and may request a particular faculty member (only one) be excluded from the committee. All four members of the ORP committee must be physically present during the entire ORP examination for it to be considered a valid exam. The ORP committee form can be found at the department web site for download and completion. Further details on the ORP exam can be found in the Graduate Study Handbook.

Dissertation

A Ph.D. student conducts research under the direction of his or her research advisor and dissertation committee. The results of the research form a large and necessary component of the dissertation demonstrating that the student is capable of conducting original chemistry research and of systematically planning and executing a research project. After the dissertation has been written, the candidate must pass an oral final dissertation examination administered by the dissertation committee. This examination deals extensively with that portion of the candidate's field of specialization under which the dissertation falls. The dissertation must be successfully defended no later than two weeks before the college deadline to submit the committee approved copy to the College of Natural Sciences and Mathematics Office of Academic Affairs. Copies of the dissertation must be given to the committee members no less than two weeks prior to the oral final dissertation examination. The college submission deadline can be found on the NSM website each term.

Advisor Selection

The selection of a research advisor to guide a student through his or her dissertation research is a critically important step. New graduate students should meet with several (at least four) members of the Chemistry faculty to discuss potential research projects and mutual interests. After meeting with faculty members and deciding which faculty member's research provides the best fit, students should ask the faculty member for permission to join the faculty member's research group. Students who enter in the fall term must choose and be



accepted by a research advisor no later than the first day of the spring term (the earlier the better). Students are expected to begin research as soon as they have chosen an advisor. Students who cannot choose an advisor in the required time may request from the Graduate Committee an additional term to decide. Extensions are granted, however, only under extraordinary circumstances. Failure to observe the time limit for choosing a research advisor may jeopardize a student's standing in the program.

Dissertation Committee

The student's dissertation committee is designated prior to the end of four long terms' enrollment (counting only fall and spring terms as "long terms"). The committee consists of five members: the student's research advisor, two faculty members in the student's division, one chemistry faculty member outside the student's division, and one member from outside the Department of Chemistry (this can be a faculty member from another department or another university, or a person from industry who has earned a Ph.D.). The research advisor and student choose one committee member from the department and one from outside the department. These selections, along with requests or recommendations for other committee members, are communicated in writing to the Chair of the Graduate Committee. The Graduate Chair then selects the other two members of the dissertation committee to give the prescribed distribution. The Graduate Committee must approve the final dissertation committee. A dissertation committee composition form required by the College of Natural Sciences and Mathematics (NSM) must be completed and submitted to the College one term prior to the graduation. Should changes in the committee composition be necessary, a new form must be submitted for re-approval prior to the Dissertation defense exam.

Department of Computer Science

The Department of Computer Science at the University of Houston was founded in 1967 and is considered one of the first established in the country. Some of the core research areas include: biomedical informatics and imaging, database systems, data mining and machine learning, high-performance computing, human-computer interaction and graphics, operating systems and networking, software engineering, and theory and computer security.

Graduate academic programs offered include: MS (thesis and non-thesis), PhD, and a graduate certificate in Interactive Game Development. All computer science students must comply with the admissions and academic policies established by the University of Houston (The Graduate School), College of Natural Sciences and Mathematics, and the Department of Computer Science.

Additional information regarding the department and academic programs can be found on the department website.

Master

Computer Science, MS

The MS in Computer Science provides a theoretical and applied understanding of various specialties in the computing field. Students can choose the non-thesis option or thesis option. The former is non-research based while the latter is research focused that prepares students to continue into a PhD program. Either option prepares a student to pursue a career in a variety of job sectors.

Our program places a strong emphasis on specialty to ensure students gain the in-demand skills and knowledge necessary for today's careers in computing. MS students are required to pursue a track specialization in Core Computer Sciences, Data Analytics, Parallel and Distributed Systems, or Interactive Media.

Students are expected to learn the fundamentals of Computer Science and gain hands-on skills, develop a deeper appreciation of computing and its applications towards a broad range of societal problems. Students will develop the necessary knowledge to apply mathematical and scientific reasoning to a variety of problems, and design, correctly implement and document computational solutions.

For more information, please visit the Computer Science, MS program page.

Admission Requirements



In addition to the University and the College of Natural Sciences and Mathematics admissions requirements, applicants are evaluated on their previous academic record, GPA, GRE test scores, quality of schools from which degrees were obtained, statement of purpose, resume, and three letters of recommendation. An applicant is expected to have a Bachelor's degree in Computer Science or a related field. Verbal, quantitative and analytical writing scores from the GRE are examined separately and are evaluated as one source of information in the total graduate application. An application fee of \$75 is required for international application.

TOEFL or IELTS scores must be provided by applicants who did not earn a prior degree from a US institution or a country where English is the medium of instruction (see list). Visit International Students to learn more.

Admission is based on a competitive selection process. Meeting the minimum requirements published does not guarantee admission to our programs. Applicants will not be granted conditional admission.

Program Prerequisites

Students admitted to the graduate program of the Computer Science department must have taken Calculus I, Calculus II and Linear Algebra before being admitted to the program. In addition they are required to demonstrate an appropriate level of proficiency in computer science. Level of proficiency is defined to mean either (a) having successfully passed an equivalent course, as determined by the Director of Graduate Studies, for each subject listed below, (b) complete the corresponding course with a grade of B- or better at the University of Houston, or (c) successfully pass a department placement exam in each of the required subjects.

Equivalent Coursework - evaluation of equivalent coursework for each subject listed below will be determined by the Director of Graduate Studies at the time of initial advising.

Completion After Admission - upon entering the graduate program, students may remedy deficiencies by taking courses from the list below and securing at least a B- grade. Any course in which a grade of "B-" or better is not made must be repeated the following term. Each course can be taken a maximum of two times to obtain the required grade of "B-" or better.

Department Placement Exam - A student must submit to the Director of Graduate Studies a request to take department placement exam(s) prior to the first day of their first term. If approved by the Director of Graduate Studies, the exam(s) must be completed within the first five class days. The result of the department placement exam(s) will be reported by the tenth class day and included in the student's academic file. If the student fails the department placement exam, the assigned required course must be taken no later than the term immediately following.

Courses taken to remedy deficiencies will not be counted in the total number of credit hours required for the graduate degree.

Remediation of deficiencies must be completed (a) within the first two long terms and (b) before a student will be allowed to enroll in the courses which are counted towards their degree. The only exception is the term in which the student will complete the deficiencies. In this situation, a student can enroll in courses required to remedy deficiencies concurrent with enrollment in graduate courses that will be applied towards the degree.

Courses that may be taken to remedy deficiencies in Computer Science:

COSC 6305 - Introduction to Computer Science II
COSC 6306 - Data Structures
COSC 6308 - Computer Architecture
COSC 6309 - Introduction to Automata and Computability
COSC 6310 - Fundamentals of Operating Systems

Degree Requirements

Credit hours required for this degree: 30.0

Thesis Option

Requires a minimum of 30 credit hours, with a defended thesis, subject to the following restrictions:



At least 15 credit hours of graduate level COSC lecture courses.

Excludes COSC 6300-6311 deficiency courses

Excludes COSC 6397 special topics courses

Includes track courses

An additional 9 credit hours must be taken from:

Graduate level COSC lecture courses

Excludes COSC 6300-6311 deficiency courses

COSC 6397 Special Topics (limit 6 hours)*

COSC 6398 Special Problems (limit 6 hours)*

Outside department courses (limit 6 hours)*

Transfer coursework from a previous institution (limit 6 hours, which is stricter than the university standard)*

Visit the university transfer credit policy for details

COSC 6399 and COSC 7399 in two consecutive terms prior to graduation. A student must be enrolled in COSC 7399 in the term of graduation.

*Requires prior approval from the director of graduate studies via a Graduate & Professional Student Petition

A student in the thesis option of the MS degree program must successfully complete and defend a thesis. Details on preparation of a thesis document can be found on the department website.

No later than one term before the anticipated graduation date of the student, a thesis advisory committee must be formed, which consists of the advisor and at least two (2) other members: one other member of the Computer Science faculty and one from outside the Department of Computer Science (either faculty from another department, another university or from industry). Further details on committee composition can be found here. The thesis advisory committee will be the comprehensive examination committee. The thesis is not considered to be complete until the student passes a comprehensive examination, which is primarily a defense of the thesis. The examination will be given upon the request of the student with the approval of the research advisor.

The comprehensive examination thesis defense is open to the University community and must be publicized at least two weeks in advance. Details on how to announce the defense can be found on the department website.

Non-Thesis Option

Requires a minimum of 30 credit hours, with no thesis requirement, subject to the following:

At least 21 credit hours of graduate level COSC lecture courses

Excludes COSC 6300-6311 deficiency courses

Excludes COSC 6397 special topics courses

Includes track courses

An additional 9 credit hours must be taken from:

Graduate level COSC lecture courses

Excludes COSC 6300-6311 deficiency courses

COSC 6397 Special Topics (limit 6 hours)*

COSC 6398 Special Problems (limit 6 hours)*

Outside department courses (limit 6 hours)*

Transfer coursework from a previous institution (limit 6 hours, which is stricter than the university standard)*

Visit the university transfer credit policy for details

*Requires prior approval from the director of graduate studies via a Graduate & Professional Student Petition

MS Tracks

Tracks allow MS students to specialize in key areas within computer science. The MS core computer science track is the default track unless an alternate track is declared. A track can be changed while enrolled in the MS program. To graduate, students must complete all track requirements which includes completing all track courses, maintaining a 3.00 or higher GPA in all track courses, and all other MS degree requirements including the total number of credits to complete the degree.



Core Track

Students must complete at least 4 courses for this track. Students must complete at least 4 courses for this track. At least 2 courses must be from Block 1. The remaining 2 courses can be from either Block 1 or Block 2.

Block 1: Theory

- COSC 6369 - Theory of Computation Credit Hours: 3.0
- COSC 6320 - Data Structures & Algorithms Credit Hours: 3.0
- COSC 6364 - Adv Numerical Analysis Credit Hours: 3.0
- COSC 6342 - Machine Learning Credit Hours: 3.0

Block 2: Systems

- COSC 6340 - Database Systems Credit Hours: 3.0
- COSC 6377 - Computer Networks Credit Hours: 3.0
- COSC 6385 - Computer Architecture Credit Hours: 3.0
- COSC 6360 - Operating Systems Credit Hours: 3.0

Data Analysis Track

The Data Analysis Track emphasizes a practical approach to the study of data analytics, imparting fundamentals supported by hands-on skills acquisition and problem solving involving real-world applications. The track facilitates preparation for positions in product development and research in industries pursuing image computing, data mining, and data analysis as well as for advanced studies in the field. Students must complete at least 4 courses for this track. At least 3 courses must be from Block 1. The remaining 1 course can be from Block 1 or Block 2.

Block 1: Introductory

- COSC 6323 - Statistical Methods in Research Credit Hours: 3.0
- COSC 6335 - Data Mining Credit Hours: 3.0
- COSC 6336 - Natural Language Processing Credit Hours: 3.0
- COSC 6339 - Big Data Analytics Credit Hours: 3.0
- COSC 6340 - Database Systems Credit Hours: 3.0
- COSC 6342 - Machine Learning Credit Hours: 3.0
- COSC 6344 - Visualization Credit Hours: 3.0
- COSC 6368 - Artificial Intelligence Credit Hours: 3.0
- COSC 6373 - Computer Vision Credit Hours: 3.0
- COSC 6380 - Digital Image Processing Credit Hours: 3.0

Block 2: Advanced Topics

- COSC 6391 - Biomedical Image Analysis Credit Hours: 3.0
- COSC 7336 - Advanced Natural Language Processing Credit Hours: 3.0
- COSC 7362 - Advanced Machine Learning Credit Hours: 3.0
- COSC 7373 - Advanced Computer Vision Credit Hours: 3.0

Parallel and Distributed Systems Track

The Parallel and Distributed Systems Track is a systems focused track with emphasis on theory, design and evaluation of parallel computations, protocols, and vector and distributed data applications. Students must complete at least 4 courses for this track. At least 3 courses must be from Block 1. The remaining 1 course can be from Block 1 or Block 2.

Block 1: Fundamentals

- COSC 6326 - Distributed Algorithms Credit Hours: 3.0
- COSC 6327 - Shared Memory Programming Credit Hours: 3.0
- COSC 6365 - Intro High-Performance Comput Credit Hours: 3.0
- COSC 6374 - Parallel Computations Credit Hours: 3.0



COSC 6377 - Computer Networks Credit Hours: 3.0
COSC 6376 - Cloud Computing Credit Hours: 3.0
COSC 6384 - Real-Time Systems Credit Hours: 3.0

Block 2: Advanced Topics

COSC 6339 - Big Data Analytics Credit Hours: 3.0
COSC 7364 - Adv Parallel Computatns Credit Hours: 3.0
COSC 7388 - Advanced Distributed Computing Credit Hours: 3.0

Interactive Media Track

The Interactive Media Track studies theoretical and applied aspects of interface, visualization, graphics and gaming. Students must complete at least 4 courses for this track. At least 3 courses must be from Block 1. The remaining 1 course can be from Block 1 or Block 2.

Block 1: Introductory

COSC 6344 - Visualization Credit Hours: 3.0
COSC 6355 - Ubiquitous Computing Credit Hours: 3.0
COSC 6356 - Computer Animation and Simulation Credit Hours: 3.0
COSC 6358 - Interactive Game Development Credit Hours: 3.0
COSC 6372 - Computer Graphics Credit Hours: 3.0
COSC 6373 - Computer Vision Credit Hours: 3.0
COSC 6380 - Digital Image Processing Credit Hours: 3.0

Block 2: Specialization

COSC 6348 - Introduction to Game Art and Animation Credit Hours: 3.0
COSC 6349 - Intermediate Game Art and Animation Credit Hours: 3.0
COSC 6359 - Intermediate Game Development Credit Hours: 3.0

Time Limitations

MS students must complete the program within five years of the date of enrollment with a master's degree objective at the University of Houston. Transfer credit may not apply to any master's degree if the course credit is more than five years old at commencement.

Refer to the Time Limitations of Completion of Degree Requirements section of the Graduate Catalog.

Academic Policies

University of Houston Academic Policies
Academic Policies: College of Natural Science and Mathematics

Doctoral

Computer Science, PhD

College of Natural Sciences and Mathematics > Department of Computer Science > Computer Science, PhD

The PhD degree program in Computer Science provides for a rigorous foundation in theoretical and applied computer science. Students obtain in-depth knowledge by satisfying a breadth course requirement intended to ensure broad knowledge of computer sciences as well as satisfy a depth requirement in the ability to conduct research to advance knowledge and application of Computer Sciences to diverse fields.



Our program places a strong emphasis on research and on graduates making novel contributions to Computer Science in the form of a dissertation and scholarly publications. Students pursuing the PhD degree are trained to become teachers, researchers, and technical leaders in industry, academia, or research labs.

Students will be prepared to be technical problem solvers, competent in the state of the art, and will master a particular aspect of Computer Science. They will be trained to identify and clearly formulate problems, to develop and analyze algorithmic solutions, and to direct research.

For more information, please visit the Computer Science, PhD program page.

Admission Requirements

In addition to the University and the College of Natural Sciences and Mathematics admissions requirements, applicants are evaluated on their previous academic record, GPA, quality of schools from which degrees were obtained, statement of purpose, resume, and three letters of recommendation. GRE scores are optional. An applicant is expected to have a Bachelor's degree in Computer Science or a related field. If submitted, verbal, quantitative and analytical writing scores from the GRE are examined separately and are evaluated as one source of information in the total graduate application.

TOEFL or IELTS scores must be provided by applicants who did not earn a prior degree from a US institution or a country where English is the medium of instruction (see list here). Visit International Students to learn more.

Admission to our graduate program is based on a competitive selection process. Meeting the minimum requirements published does not guarantee admission to our programs. Applicants will not be granted conditional admission.

Applicants can apply directly to the PhD program with a bachelor's degree. Current UH Computer Science MS students who intend to pursue a UH Computer Science PhD are advised to submit the PhD application early and inform the Graduate Advisor of their intent.

Prerequisites and Deficiencies

Students admitted to the graduate program of the Computer Science department must have taken Calculus I, Calculus II and Linear Algebra before being admitted to the program. In addition, they are required to demonstrate an appropriate level of proficiency in computer science. Level of proficiency is defined to mean either (a) having successfully passed an equivalent course, as determined by the Director of Graduate Studies, for each subject listed below, (b) complete the corresponding course with a grade of "B-" or better at the University of Houston, or (c) successfully pass a department placement exam in each of the required subjects.

Equivalent Coursework - evaluation of equivalent coursework for each subject listed below will be determined by the Director of Graduate Studies at the time of initial advising.

Completion After Admission - upon entering the graduate program, students may remedy deficiencies by taking courses from the list below and securing at least a B- grade. Any course in which a grade of "B-" or better is not made must be repeated the following term. Each course can be taken a maximum of two times to obtain the required grade of "B-" or better.

Department Placement Exam - A student must submit to the Director of Graduate Studies a request to take department placement exam(s) prior to the first day of their first term. If approved by the Director of Graduate Studies, the exam(s) must be completed within the first five class days. The result of the department placement exam(s) will be reported by the tenth class day and included in the student's academic file. If the student fails the department placement exam, the assigned required course must be taken no later than the term immediately following.

Courses taken to remedy deficiencies will not be counted in the total number of credit hours required for the graduate degree.

Remediation of deficiencies must be completed (a) within the first two long terms and (b) before a student will be allowed to enroll in the courses which are counted towards their degree. The only exception is the term in which the student will complete the deficiencies. In this situation, a student can enroll in courses required to remedy deficiencies concurrent with enrollment in graduate courses that will be applied towards the degree.

Courses that may be taken to remedy deficiencies in Computer Science:



COSC 6305 - Introduction to Computer Science II
COSC 6306 - Data Structures
COSC 6308 - Computer Architecture
COSC 6309 - Introduction to Automata and Computability
COSC 6310 - Fundamentals of Operating Systems

Degree Requirements

Minimum credit hours required for this degree: 66.0

A student must complete a minimum of 66 credit hours subject to the following restrictions:

At least 30 credit hours of COSC graduate-level courses 6320-6397, 7300-7397, with the following exceptions:

Can include 1 hour of COSC 6110

Can include up to 3 hours of COSC 6398 Special Problems*

Can include up to 6 hours of non-COSC graduate courses*

Can include up to 9 hours of transfer graduate coursework following university Transfer Credit policy*

**Requires prior approval from the director of graduate studies via a Graduate & Professional Student Petition*

At least 24 credit hours of Doctoral Research (COSC 8x98).

At least 3, but not more than 12 credit hours of dissertation (COSC 8x99), to be taken in the term of anticipated graduation.

In addition, students have to fulfill the following requirements:

Satisfactory completion of the core requirement.

Obtain a research advisor.

Satisfactory performance on the proposal defense (preliminary examination).

Maintain satisfactory progress.

Preparation of a written dissertation and satisfactory defense thereof. Details on preparation of a dissertation document can be found on the

Thesis Guidelines page.

Publication of doctoral research.

Time Limitations

Students who enroll as doctoral candidates must complete their degree requirements within 10 years of the date of first enrollment with a doctoral degree objective. Failure to comply will result in the candidate being ineligible for a doctoral degree.

Doctoral students who fail to complete their dissertation within five years after completion of the comprehensive examination must retake the examination.

Refer to the Time Limitations of Completion of Degree Requirements section of the Graduate Catalog.

Core Completion Period

The "core completion period" begins as soon as the student has accumulated 18 or more hours of credits applicable to a graduate degree (MS or PhD) in Computer Science. These include transferred credits, waived credits, and credits earned at UH. The core completion period applies to PhD students as well as MS students who later pursue the PhD program.

Full-time students must complete the core requirements in at most 2 consecutive long terms after the start of the core completion period. Part-time students (6 hours or less every term) must complete the core requirement in at most 4 consecutive long terms after the start of the core completion period. Failure to complete the core requirements with the required GPA and within the specified timeframe normally results in an MS student not being allowed to continue into the PhD program and a PhD student being dismissed from the PhD program.



Graduate Colloquium/Research Methods

All PhD students are required to complete the Graduate Colloquium (COSC 6110) or Research Methods in Computer Science (COSC 6321) within the first two years of enrollment.

Research Advisor

Students are urged to find a research advisor as early as possible. Full-time and part-time students should have a research advisor by the end of the second long term. Student may enroll in doctoral research hours if they have an advisor and have completed the core requirement.

Proposal Defense

A student must pass a proposal defense (also referred as the preliminary examination) administered by the student's dissertation committee. The dissertation committee consists of the student's research advisor and at least three (3) other members. At least one member of the committee must be from outside the department and the majority of members must be voting faculty of the Computer Science Department. More details on committee composition can be found [here](#).

The proposal defense is open to the public and should be announced two weeks in advance. The purpose of the proposal defense is to evaluate and give feedback on the dissertation research of the student. The exact content of the examination is at the discretion of the dissertation committee. All faculty members in attendance as well as the committee members may ask the student questions related to the proposal or the student's preparation for a PhD level research. The committee may have a closed session with the student at the end of the proposal defense. The committee will submit a written report to the Director of Graduate Studies concerning the student's performance on the proposal defense and assign an overall evaluation of satisfactory (pass) or unsatisfactory (fail). A student in the PhD program becomes a PhD candidate upon a satisfactory proposal defense.

Full-time and part-time students must attempt the proposal defense no later than the end of the third long term after completing the core requirement. The proposal defense cannot be taken before fulfilling the core requirement. The proposal defense must be completed at least six months before dissertation defense.

At the proposal defense, a summary of the student's academic performance, including the student's previous degree(s), past work/research experience, GPA, core course performance and duration of study, should be presented to the committee in a closed session.

Details on how to announce the defense can be found on the [Thesis Guidelines page](#).

Dissertation Defense

A candidate will be required to present her/his dissertation in a public defense. The dissertation defense should be scheduled at least six months after successfully passing the proposal defense. The dissertation committee decides the acceptability of the dissertation. Candidates are expected to publish results of their dissertation research prior to the dissertation defense.

The dissertation defense is open to the University community and the student must inform the department at least two weeks in advance so that it can be publicized. Details on how to announce the defense can be found on the [Thesis Guidelines page](#).

Core Requirements

A student satisfies the core requirement by taking a set of four or more courses from the two lists below with a GPA of 3.40 or better and no grade less than B. Two courses must be from the Theory list and two from the Systems list. The Director of Graduate Studies may in exceptional cases waive at most one of the four courses based on similar courses taken at another university.



Theory (select two):

COSC 6320 - Data Structures & Algorithms Credit Hours: 3.0

COSC 6342 - Machine Learning Credit Hours: 3.0

COSC 6364 - Adv Numerical Analysis Credit Hours: 3.0

COSC 6369 - Theory of Computation Credit Hours: 3.0

Systems (select two):

COSC 6340 - Database Systems Credit Hours: 3.0

COSC 6360 - Operating Systems Credit Hours: 3.0

COSC 6377 - Computer Networks Credit Hours: 3.0

COSC 6385 - Computer Architecture Credit Hours: 3.0

Academic Policies

University of Houston Academic Policies

Academic Policies: College of Natural Sciences and Mathematics

Department Academic Policies

In addition to the university and college academic policies and scholastic standards outlined in the graduate catalog, students must comply academic policies set forth by the Department of Computer Science.

A student must maintain a GPA of 3.00 or better for all deficiencies (if assigned) and all graduate courses taken at the University of Houston.

No more than six hours of coursework outside computer science in related fields of science, engineering and business may be counted. All outside coursework must receive approval of the Director of Graduate Studies.

Satisfactory Progress

Ensuring that the PhD student gains broad knowledge in computer science and develops skills to produce research products is of utmost priority to the department. A student is expected to always maintain satisfactory progress towards these goals. The Director of Graduate Studies, in consultation with the student's research advisor, will monitor and review the academic progress of each student.

To maintain satisfactory academic progress prior to completing the core course requirements, students should:

Fulfill the GPA and timing requirements for the core courses.

Establish a research advisor by the end of the second long term of entering the PhD program.

Attend the required number of department seminars (5 per term).

To maintain satisfactory academic progress after completing the core course requirements, students should participate in educational and research activities under the guidance of the research advisor with a goal to:

Produce research products such as publications, presentations, patents and software releases. It is recommended to work towards one or more publications before the proposal defense and additional publications or submissions before the dissertation defense.

Attempt the proposal defense and receive a "satisfactory" or "pass" grade from the dissertation committee by the end of the third long term after completing the core course requirements.

Attend the required number of department seminars (5 per term).

A student who is evaluated as not making satisfactory progress on two consecutive reviews is normally removed from the PhD program.

A decision to remove a student from the PhD program for failure to successfully complete the core requirement within the time limitation or for two consecutive unsatisfactory reviews will be brought to the entire faculty for a vote.

Annual Review



Every PhD student must complete the formation of a dissertation committee no later than the end of the 2nd year in the program. Each student will be reviewed annually by the dissertation committee during a review meeting; the review is mandatory starting on the 3rd year. It is encouraged but not required to have the external member of the committee attend the review meetings. The review meeting should be integrated to the proposal defense in the year in which the proposal defense takes place, and it is not necessary in the year of the dissertation defense.

After meeting with the student, the dissertation committee will submit a "PhD Annual Review - Committee Evaluation Form" to the Director of Graduate Studies. The evaluation can be satisfactory "S", unsatisfactory "U", or needs improvement "NI". If the student receives a "U" or "NI" grade, the student must be provided with a clear plan to return to a satisfactory status, and reviewed again in the next long semester. A subsequent evaluation of "NI" or "U" can result in removal of the program.

Deadlines

The PhD Annual Review - Self-Evaluation Form must be submitted by the student before the following deadlines:

Fall: October 31 (for students enrolled in the spring)

Spring: March 31 (for students enrolled in the fall)

The PhD Annual Review - Committee Evaluation Form must be submitted by the dissertation committee no later than the end of the Spring or Fall semester.

Graduate Certificate

Interactive Game Development, Certificate

College of Natural Sciences and Mathematics > Department of Computer Science > Interactive Game Development, Certificate

The graduate certificate program provides a solid foundation in game development processes as well as arts and animation; preparing students to become game developers in the largest sector of the entertainment industry. The program prepares students to understand fundamental game processes across multiple platforms, understand features of game development, create a game environment, and apply concept art and animation. It includes a hands-on component involving game creation to understand the challenges and solutions in game development across a variety of platforms.

The certificate is a part-time only, non-degree seeking program, which may have financial aid restrictions (not eligible for a student visa).

For additional information regarding the certificate program, please visit <http://www.uh.edu/nsm/computer-science/graduate/certificate/index.php>.

Admission Requirements

The application and admissions process for the certificate program is independent of the application and admissions process for the MS and PhD program. A student may pursue the certificate as a non-degree seeking only student or may pursue the certificate concurrently with the MS or PhD Degree. Enrolling into the certificate program does not guarantee admission to the MS or PhD program.

Applications are considered only for the fall term. Applicants must submit an application, one-page statement of purpose, resume, official transcripts with degrees (and English translation if original in another language). GRE scores and letters of recommendation letters are not required. Information on additional documentation for international applicants, including fulfilling the English language proficiency requirement, is found at International Students. International applications require a \$75 application fee.

Prerequisites:

Applicants for the graduate certificate should demonstrate an appropriate level of proficiency in computer science. Level of proficiency is defined as having a "B-" or better in the following courses or the equivalents.

Math 1431 - Calculus I

Math 1432 - Calculus II



Math 2331 - Linear Algebra
COSC 1430/6305 - Introduction to Programming
COSC 2430/6306 - Programming and Data Structures

See this page for more details: <http://www.cs.uh.edu/graduate/certificate/index.php>

Certificate Requirements

Students are required to complete the following four (4) courses:

COSC 6348 - Introduction to Game Art and Animation Credit Hours: 3.0
COSC 6358 - Interactive Game Development Credit Hours: 3.0
COSC 6349 - Intermediate Game Art and Animation Credit Hours: 3.0
COSC 6359 - Intermediate Game Development Credit Hours: 3.0

Students considering application to the MS in Computer Science may normally take a maximum of two (2) graduate classes before being accepted into the program; however, all four (4) of the courses taken for the certificate may transfer in. Additional earned graduate credits will not apply to the degree. Any of the four (4) required certificate courses completed before official acceptance into the certificate program will not count towards the certificate.

Academic Policies

University of Houston Academic Policies

College Academic Policies

Department of Earth and Atmospheric Sciences

Admission to Master's and Doctoral Programs

In addition to the College of Natural Science and Mathematics' Admission Requirements, the Department of Earth and Atmospheric Sciences requires that applicants submit verbal, quantitative, and analytical writing GRE scores. Conditional admission may be granted to applicants with less than 3.00 on the last 60 hours if there is an indication that graduate work can be successfully completed. A faculty committee will evaluate the applications of all **Graduate** applicants. They will examine a broad range of criteria, which will normally include the content of undergraduate and graduate programs and grades earned, particularly in the areas of geosciences, physics, chemistry, and mathematics; scores earned on the general GRE tests; three letters of recommendation from individuals who are able to judge the candidate's likelihood for success in graduate school and his or her potential for scholarly scientific research; and scientific, professional, and technical publications and master's thesis.

Master

Atmospheric Science, MS

College of Natural Sciences and Mathematics > Department of Earth and Atmospheric Sciences > Atmospheric Science, MS

The Department of Earth & Atmospheric Sciences offers a wide range of courses leading to the Master of Science in Atmospheric Sciences degree. The Department will provide all its students with educational programs that encompass the fundamental principles of the atmospheric sciences and the body of knowledge associated with the application of these principles to the study of the atmospheric sciences. Masters level students will receive specialized instruction in the acquisition, processing, and interpretation of Atmospheric Science data and the application of Atmospheric Science methods to problem-solving. Students successfully completing the MS program will be prepared for a career as a professional atmospheric scientist.



For additional information, please visit Masters Science in Atmospheric Science Degree Program.

Admission Requirements

Candidates for the Master's of Science in Atmospheric Science are required to have successfully completed a Bachelor's of Science in Atmospheric Science equivalent to one at the University of Houston.

A complete graduate school application found here www.uh.edu/graduate-school/admissions/how-to-apply) must be submitted.

Scores from the General GRE examination taken in the last 5 years are optional.

Admission to our graduate program is based on a competitive selection process. Meeting the minimum requirements published does not guarantee admission to our program.

Domestic applicants with a lower cumulative GPA may be admitted conditionally.

Letters of recommendation are also given considerable weight in the evaluation process.

Students who did not earn a prior degree from a U.S. institution or a country where English is the medium of instruction (see list in the General Admission Policy) must meet minimum test scores to demonstrate English language proficiency. Visit <http://www.uh.edu/graduate-school/admissions/international-students/> to learn more.

The admissions committee and the department chair will evaluate the credentials of each applicant for the MS program, considering a broad range of criteria, including:

Content of undergraduate and graduate programs and grades earned, particularly in the areas of Meteorology, Physics, Mathematics, Chemistry, Geosciences, or related natural/physical sciences.

A cumulative GPA of 3.00 or better in the last 60 hours of course work.

Letters of recommendation from three (3) individuals (preferably faculty members), who are able to judge the candidate's academic abilities and potential for scholarly research.

GRE scores, if submitted (verbal, quantitative, and analytical writing; advanced GRE is recommended but optional).

English proficiency scores, when applicable.

In addition to these requirements, graduate admission may also be contingent upon a faculty advisor agreeing to supervise the applicant's research. Therefore, prospective students are strongly encouraged to contact faculty members in the applicant's field of interest prior to the application deadline.

Program Prerequisites

Candidates entering the Atmospheric Science MS program are expected to have the necessary science and mathematics background and should have successfully completed course work deemed equivalent to the following courses at the University of Houston:

MATH 2331 (Linear Algebra)

MATH 2433 (Calculus III)

MATH 3363 (Intro. to Partial Differential Equations)

GEOL 1302 (Introduction to Global Climate Change)

GEOL 1350 (Introduction to Meteorology)

GEOL 3342 (Principles of Air Pollution)

GEOL 3378 (Principles of Atmospheric Science)

The department will determine what deficiencies -if any - are present, and the acceptable means of removing those deficiencies (e.g. course work within and/or outside the Department, directed study, research papers). Substitution of courses equivalent to those listed above as well as waivers of requirements will be considered on an individual basis. Applicants with a few deficiencies can satisfy those requirements while also taking graduate courses at the University of Houston; these requirements will be listed in an offer letter should the student be admitted. It is normally recommended that a student with 6 or more deficiency courses -e.g., those whose Bachelor's degree was in another discipline-work toward a second Bachelor's degree in Atmospheric Science prior to graduate work.

Degree Requirements

The MS degree will be awarded after students have successfully completed requirements.



A minimum of 30.0 approved Credit Hours are required:

Formal Atmospheric Science courses at the 6000 level or higher **Credit Hours: 15.0**

Thesis courses (GEOL 6399 & GEOL 7399) **Credit Hours: 6.0**

Elective course **Credit Hours: 9.0**

Courses can be selected from approved courses outside the area of atmospheric science, but relevant to the degree program, with prior permission of the Atmospheric Science Graduate Faculty Advisor.

No more than 6 hours of special problems courses can be counted towards the required 30.0 Credit Hour minimum.

Core Course Requirements

Minimum 9.0 Credit Hours

In order to ensure breadth, each MS student is required to take at least one course from each of the 3 core course categories below.

Students are encouraged to consult with the Atmospheric Science Graduate Faculty Advisor to make their selections of the remaining graduate courses.

Category 1 (Atmospheric Dynamics and Physics)

GEOL 6337 - Atmospheric Physics **Credit Hours: 3.0**

GEOL 6336 - Boundary Layers and Turbulence **Credit Hours: 3.0**

GEOL 6330 - Dynamic Meteorology **Credit Hours: 3.0**

GEOL 6327 - Atmospheric Radiation **Credit Hours: 3.0**

GEOL 6397 - Selected Topics in Geology **Credit Hours: 3.00**

Topic: Mesoscale Meteorology

Category 2 (Atmospheric Chemistry)

GEOL 6327 - Atmospheric Radiation **Credit Hours: 3.0**

GEOL 6332 - Air Pollution Meteorology **Credit Hours: 3.0**

GEOL 6334 - Atmospheric Chemistry **Credit Hours: 3.0**

GEOL 6370 - Atmospheric Biogeochemistry **Credit Hours: 3.0**

Category 3 (Atmospheric Measurement and Modeling)

GEOL 6325 - Remote Sensing **Credit Hours: 3.0**

GEOL 6335 - Atmospheric Numerical Modeling **Credit Hours: 3.0**

GEOL 6329 - Atm Instrument & Measurement **Credit Hours: 3.0**

GEOL 6328 - Atmospheric Data Analysis and Statistics **Credit Hours: 3.0**

Thesis Requirement

6.0 Credit Hours

There is only a thesis option available for the MS in Atmospheric Science degree; All students must complete and defend a thesis acceptable to the department.

GEOL 6399 - Masters Thesis **Credit Hours: 3**

GEOL 7399 - Masters Thesis **Credit Hours: 3**



Academic Policies

University Academic Policies
Academic Policies: College of Natural Sciences and Mathematics

Department/Program Policies

Scholastic Requirements

Graduate students must maintain a minimum grade point average of 3.00 in all course work to be considered in good standing. Students not in good standing cannot receive a graduate degree and can be declared ineligible for support with a graduate assistantship (IA, TA or RA).

Research (Thesis) Advisor/Committee

Advisor

A formal thesis topic and thesis advisor must be chosen prior to the completion of 15 semester hours.

The student and the advisor will together plan the remainder of the student's course work.

The 30 required hours are a minimum and, for a specific area of interest, it may be necessary for the student to complete additional course work.

The initial selection of an advisor is not binding on the student or the faculty member.

The student may change his/her thesis advisor pending approval by the Geology Graduate Faculty Advisor, but it is the responsibility of the student to review his/her degree plan and prepare for potential changes in the department and/or faculty support with the new advisor.

In addition, if the student has already formally proposed their project, they may have to present another thesis proposal of their new project(s).

Committee

Students must specify a thesis committee and have the names on file in the NSM Office of Academic Affairs at least one term prior to their graduation.

The committee must consist of

a minimum of two faculty members who have their primary appointment within EAS and one approved external member, outside of EAS, from industry, or other academia, who is acceptable to the department and approved by the College.

A faculty member with a joint appointment in the major department is considered as an outside member unless he/she chairs the committee. In this case, an additional external member outside the major department is required.

After these minimum requirements for committee members are satisfied, additional committee members may be approved from industry or academia, but at least 50% of the committee must be tenured/tenure-track faculty at the University of Houston.

Research faculty or instructional faculty may serve on thesis committees, but not chair the committees. However, a research professor may serve as a co-advisor with a tenured/tenured-track faculty.

Thesis Proposal

Students must present a thesis proposal.

Timeline and Scheduling

All full-time students and students financially supported by the University must propose prior to the end of their second term in the program

by the first Monday in November in the Fall term, or the first Monday in April in the Spring term.

Scheduling of the thesis proposal is done by each applicant through the department academic advisor.

Proposals (and re-proposals) can be scheduled Monday-Friday, with starting times between 8:00 a.m. and 4:00 p.m., during the Fall and Spring terms.

Proposals cannot be presented during Summer sessions, vacations, reading days, weekends, or final examination periods (nor over spring break or inter-term breaks).

Two hours should be allocated for the thesis proposal presentation and questions.

Presentation



Proposals are preceded by the distribution of a 5 to 10 page (10 page suggested maximum for text) written description of the thesis project to the thesis committee.

A one page abstract must be posted and distributed to all EAS faculty members at least seven calendar days prior to presentation, and a copy of the full proposal filed with the department academic advisor at that time.

The proposal abstract must contain the title, time and place of the proposal, and the names of the committee members.

The thesis advisor and at least one other member of the committee must initial the abstract prior to posting, indicating that they approve of the presentation of the proposal.

Upon successful presentation of the proposal, a copy of the complete proposal with the thesis advisor's signature indicating approval must be placed in the student's permanent academic file.

Thesis Defense

Upon completion of the research and the writing of a thesis deemed acceptable by the thesis committee, a defense of the thesis is scheduled by the student.

A public defense of the complete thesis research will be presented to the faculty-at-large and may be attended by any other interested parties.

Preparation

An abstract, which lists the time and place of the defense, **must** be distributed to the department faculty and posted publicly at least seven calendar days prior to the scheduled date.

The thesis advisor and a least one other departmental committee member must initial the notice of defense, thus indicating that they approve of the defense.

An unbound copy of the thesis draft, including all illustrations, **must** be made available in the EAS office at least seven calendar days prior to the defense date for inspection by the EAS faculty.

Scheduling

M.S. defenses can be scheduled Monday-Friday during the Spring, Summer, and Fall terms with starting times between 8:00 a.m. and 4:00 p.m.

Defenses cannot be given during vacations, reading days, weekends, or final examination periods (nor over spring break or inter-term breaks).

Scheduling of defenses is done through the department academic advisor.

Decisions

A vote to pass by a majority of the thesis committee is required for successful defense of the thesis.

Once approved by the committee, the thesis must be submitted to the NSM Office of Academic Affairs no later than the deadline posted on the College website each term.

Geology, MS

College of Natural Sciences and Mathematics > Department of Earth and Atmospheric Sciences > Geology, MS

The Department of Earth and Atmospheric Sciences (EAS) will provide all of its students with educational programs that encompass the fundamental principles of the geosciences and the body of knowledge associated with the application of these principles to the study of the Earth and planetary materials. Masters-level students will receive specialized instruction in the acquisition, processing, and interpretation of geoscience data and the application of geoscience methods to problem-solving. Students successfully completing the MS program will be prepared for a career as a professional geoscientist and prepared to pursue a more advanced degree.

For further information, please visit <http://www.uh.edu/nsm/earth-atmospheric/>.

Admission Requirements

Admission to our graduate program is based on a competitive selection process. Meeting the minimum requirements published does not guarantee admission to our program.

Candidates for the Master's of Science in Geology are required to have successfully completed a Bachelor's of Science in Geology equivalent to one at the University of Houston.

A complete graduate school application (link: www.uh.edu/graduate-school/admissions/how-to-apply) must be submitted.



Scores from the General GRE examination taken in the last 5 years are optional.

Individuals with a lower cumulative GPA may be admitted conditionally.

Letters of recommendation are also given considerable weight in the evaluation process.

Students who did not earn a prior degree from a U.S. institution or a country where English is the medium of instruction (see list in the General Admission Policy) must meet minimum test scores to demonstrate English language proficiency.

Visit International Students to learn more.

The admissions committee and the department chair will evaluate the credentials of each applicant for the MS program, considering a broad range of criteria, including:

Content of the undergraduate program and, if applicable, graduate programs and grades earned, particularly in the areas of Geosciences, Mathematics, Physics, and Chemistry

A cumulative GPA of 3.00 or better in the last 60 hours of course work.

Letters of recommendation from three (3) individuals (preferably faculty members), who are able to judge the candidate's academic abilities and potential for scholarly research.

GRE scores, if submitted (verbal, quantitative, and analytical writing; advanced GRE is recommended but optional).

English proficiency test score, when applicable.

In addition to these requirements, graduate admission may also be contingent upon a faculty advisor agreeing to supervise the applicant's research. Therefore, prospective students are strongly encouraged to contact faculty members in the applicant's field of interest prior to the application deadline.

All part-time (6.0 Credit Hours per term or less) students will be admitted into the MS non-thesis track.

Prerequisites

Candidates are expected to have the necessary science and mathematics background and should have successfully completed coursework deemed equivalent to that of the BS in Geology degree at the University of Houston. These courses include:

GEOL 1330 (Physical Geology)

GEOL 3370 (Mineralogy)

GEOL 3330 (Paleobiology)

GEOL 3372 (Petrography)

GEOL 3340 (Geologic Field Methods)

GEOL 3350 (Stratigraphy)

GEOL 3373 (Igneous/Metamorphic Petrogenesis)

GEOL 3345 (Structural Geology)

GEOL 3374 (Sedimentary Petrogenesis)

GEOL 4330 (Introduction to Geophysics)

GEOL 3355 and 3360 (Field Camp)

Allied required courses include:

3 semesters of Calculus

2 semesters of Calculus-based Physics

2 semesters of Chemistry

The department will determine what deficiencies - if any - are present, and the acceptable means of removing those deficiencies (e.g. course work within and/or outside the department, directed study, research papers). Substitution of courses equivalent to those listed above as well as waivers of requirements will be considered on an individual basis. Applicants with a few deficiencies can satisfy those requirements while also taking graduate courses at the University of Houston; these requirements will be listed in an offer letter should the student be admitted. It is normally recommended that a student with 6 or more deficiency courses-e.g., those whose Bachelor's degree was in another discipline-work toward a second Bachelor's degree in Geology prior to graduate work.

Degree Requirements



The Master of Science (MS) degree will be awarded after students have successfully completed requirements specified in one of the two following plans:

Plan I: Thesis Option

All students completing the thesis option must complete and defend a thesis acceptable to the department.

This option requires a **minimum of 30.0 approved Credit Hours**, to include

Formal Earth and Atmospheric Science courses (GEOL) at the 6000 level or higher **Credit Hours: 15.0**

Thesis courses (GEOL 6399 & GEOL 7399) **Credit Hours: 6.0**

Elective course **Credit Hours: 9.0**

Courses can be selected from approved courses outside the area of Earth and Atmospheric Science, but relevant to the degree program, with prior permission of the Geology Graduate Faculty Advisor.

No more than 6.0 Credit Hours of special problems courses can be counted towards the required 30.0 Credit Hour minimum.

Plan II: Non-Thesis Option

Completing a thesis is not required, but students must take additional course work and have the option of completing a capstone research project.

Students may satisfy the MS Plan II degree requirements by satisfactorily completing a **minimum of 36.0 approved Credit Hours**, to include

Formal Earth and Atmospheric Science courses (GEOL) at the 6000 level or higher **Credit Hours: 30.0**

Elective courses **Credit Hours: 6.0**

Selections should be courses at the 6000 level, or above, and can be selected from approved courses outside the area of Earth and Atmospheric Science, but relevant to the degree program, with prior permission from the Geology Graduate Faculty Advisor.

Students can petition to have a 3-hour elective course substituted for a capstone project (GEOL 7301 - Capstone project)

Note: Research hours do not count toward this degree.

After completion of 18 hours, students with a cumulative GPA of 3.40 or above and demonstrated abilities to conduct research may petition to switch to a thesis-based degree. In order to do this, the student must have an advisor and committee members willing to supervise them. The thesis research advisor, Geology Graduate Faculty Advisor, and Department Chair must sign a petition indicating approval of the change to a thesis-based MS degree and it must be filed with the department academic advisor. The student must successfully defend their thesis proposal (as outlined below) after they have completed their core course requirements and prior to completion of 27.0 Credit Hours of course credit. This change will not extend the 5-year limit to complete the MS degree.

Core Category Course Requirements

In order to ensure breadth, all MS students in Plan I are required to take 3 core courses, and students in Plan II are required to take 5 core courses, with at least one course from 3 of the 4 categories of graduate core courses. Students are encouraged to consult with the Geology Graduate Faculty Advisor to make their selections of the remaining graduate courses. These core categories are:

Category 1 (Igneous and Metamorphic Petrology/Geochemistry)

GEOL 6386 - Igneous Petrogenesis & Plate Tectonics **Credit Hours: 3.0**

GEOL 6374 - Radiogenic Isotope Geochemistry **Credit Hours: 3.0**

GEOL 6339 - Igneous Petrology **Credit Hours: 3.0**

GEOL 6340 - Metamorphic Petrology **Credit Hours: 3.0**

GEOL 6341 - Geochemistry **Credit Hours: 3.0**

Category 2 (Sedimentary Geology/Stratigraphy)



GEOL 6380 - Sequence Stratigraphy Credit Hours: 3.0
GEOL 6376 - Adv Tect and Sedimentation Credit Hours: 3.0
GEOL 6358 - Terrigenous Depositional System Credit Hours: 3.0
GEOL 6363 - Carbonate Sedimentology Credit Hours: 3.0
GEOL 6366 - Hydrogeology Credit Hours: 3.0

Category 3 (Structure/Tectonics)

GEOL 6349 - Geodynamics Credit Hours: 3.0
GEOL 6350 - Advanced Structural Geology Credit Hours: 3.0
GEOL 6352 - Microtectonics Credit Hours: 3.0
GEOL 6378 - Basin Analysis for Petroleum Exploration Credit Hours: 3.0
GEOL 6382 - Plate Tectonics Credit Hours: 3.0

Category 4 (Applied/Analytical)

GEOL 6325 - Remote Sensing Credit Hours: 3.0
GEOL 6347 - Sandstone Petrography Credit Hours: 3.0
GEOL 6372 - Petroleum Geochemistry Credit Hours: 3.0
GEOL 6381 - Petroleum Geology Credit Hours: 3.0
GEOL 6388 - Geospatial Analysis and Applications Credit Hours: 3.0

Academic Policies

University Academic Policies
Academic Policies: College of Natural Sciences and Mathematics
Department/Program Academic Policies

Scholastic Requirements

Graduate students must maintain a minimum grade point average of 3.00 in all course work to be considered in good standing. Students not in good standing cannot receive a graduate degree and can be declared ineligible for support with a graduate assistantship (IA, TA or RA).

Research (Thesis) Advisor/Committee

Advisor

A formal thesis topic and thesis advisor must be chosen prior to the completion of 15.0 Credit Hours.

The student and the advisor will together plan the remainder of the student's course work.

The 30 required hours are a minimum and, for a specific area of interest, it may be necessary for the student to complete additional course work.

The initial selection of an advisor is not binding on the student or the faculty member.

The student may change his/her thesis advisor pending approval by the Geology Graduate Faculty Advisor, but it is the responsibility of the student to review his/her degree plan and prepare for potential changes in the department and/or faculty support with the new advisor.

In addition, if the student has already formally proposed their project, they may have to present another thesis proposal of their new project(s).

Committee

Students must specify a thesis committee and have the names on file in the NSM Office of Academic Affairs at least one semester prior to their graduation.

The committee must consist of

a minimum of two faculty members who have their primary appointment within EAS and



one approved external member, outside of EAS, from industry, or other academia, who is acceptable to the department and approved by the College.

A faculty member with a joint appointment in the major department is considered as an outside member unless he/she chairs the committee. In this case, an additional external member outside the major department is required.

After these minimum requirements for committee members are satisfied, additional committee members may be approved from industry or academia, but at least 50% of the committee must be tenured/tenure-track faculty at the University of Houston. Research faculty or instructional faculty may serve on thesis committees, but not chair the committees. However, a research professor may serve as a co-advisor with a tenured/tenured-track faculty.

Thesis Proposal

Students must present a thesis proposal.

Timeline and Scheduling

All full-time students and students financially supported by the University must propose prior to the end of their second term in the program.

by the first Monday in November in the Fall term, or the first Monday in April in the Spring term.

Scheduling of the thesis proposal is done by each applicant through the department academic advisor.

Proposals (and re-proposals) can be scheduled Monday-Friday, with starting times between 8:00 a.m. and 4:00 p.m., during the Fall and Spring terms.

Proposals cannot be presented during Summer terms, vacations, reading days, weekends, or final examination periods (nor over spring break or inter-semester breaks).

Two hours should be allocated for the thesis proposal presentation and questions.

Presentation

Proposals are preceded by the distribution of a 5 to 10 page (10 page suggested maximum for text) written description of the thesis project to the thesis committee.

A one page abstract must be posted and distributed to all EAS faculty members at least seven calendar days prior to presentation, and a copy of the full proposal filed with the department academic advisor at that time.

The proposal abstract must contain the title, time and place of the proposal, and the names of the committee members.

The thesis advisor and at least one other member of the committee must initial the abstract prior to posting, indicating that they approve of the presentation of the proposal.

Upon successful presentation of the proposal, a copy of the complete proposal with the thesis advisor's signature indicating approval must be placed in the student's permanent academic file.

Thesis Defense

Upon completion of the research and the writing of a thesis deemed acceptable by the thesis committee, a defense of the thesis is scheduled by the student.

A public defense of the complete thesis research will be presented to the faculty-at-large and may be attended by any other interested parties.

Preparation

An abstract, which lists the time and place of the defense, must be distributed to the department faculty and posted publicly at least seven calendar days prior to the scheduled date.

The thesis advisor and at least one other departmental committee member must initial the notice of defense, thus indicating that they approve of the defense.

An unbound copy of the thesis draft, including all illustrations, must be made available in the EAS office at least seven calendar days prior to the defense date for inspection by the EAS faculty.

Scheduling

MS defenses can be scheduled Monday-Friday during the Spring, Summer, and Fall terms with starting times between 8:00 a.m. and 4:00 p.m.

Defenses cannot be given during vacations, reading days, weekends, or final examination periods (nor over spring break or inter-semester breaks).

Scheduling of defenses is done through the department academic advisor.



Decisions

A vote to pass by a majority of the thesis committee is required for successful defense of the thesis.

Once approved by the committee, the thesis must be submitted to the NSM Office of Academic Affairs no later than the deadline posted on the College website each semester.

Geophysics, MS

The Department of Earth and Atmospheric Sciences (EAS) offers a wide range of courses leading to the Master of Science in Geophysics degree. Required core courses ensure a breadth of knowledge in the discipline including rock physics, seismic wave propagation, geophysical data analysis, and potential field methods. A wide variety of electives allows concentration in areas such as exploration, geotechnical, or environmental geophysics, solid earth geophysics, petroleum exploration, marine geophysics, earthquake seismology, and geodynamics. The typical student pursuing this degree is interested in geophysics and has a good background in the geosciences, mathematics, physics, and computing. Graduates will typically pursue careers with resource companies; geophysical service companies; various federal, state, and local government agencies; in the financial sector; in education; or will continue study to pursue a doctorate.

For more information, please see <http://www.uh.edu/nsm/earth-atmospheric/graduate/degree-programs/ms-geophysics/>.

Admission Requirements

Admission to our graduate program is based on a competitive selection process. Meeting the minimum requirements published does not guarantee admission to our program. Applicants for the Master's of Science in Geophysics are required to have

Successfully completed a Bachelor's of Science in Geophysics equivalent to one at the University of Houston.

A complete graduate school application (link: www.uh.edu/graduate-school/admissions/how-to-apply) must be submitted.

Scores from the General GRE examination taken in the last 5 years are optional.

Individuals with a lower cumulative GPA *may* be admitted conditionally.

Letters of recommendation are also given considerable weight in the evaluation process.

Students who did not earn a prior degree from a U.S. institution or a country where English is the medium of instruction (see list in the General Admission Policy) must meet minimum test scores to demonstrate English language proficiency.

Visit <http://www.uh.edu/graduate-school/international-students/> to learn more.

The admissions committee and the department chair will evaluate the credentials of each applicant for the MS program, considering a broad range of criteria, including:

Content of the undergraduate program and, if applicable, graduate programs and grades earned, particularly in the areas of Geosciences, Mathematics, Physics, and Chemistry.

A cumulative GPA of 3.00 or better in the last 60 hours of course work.

Letters of recommendation from three (3) individuals (preferably faculty members), who are able to judge the candidate's academic abilities and potential for scholarly research.

GRE scores, if submitted (verbal, quantitative, and analytical writing: advanced GRE is recommended but optional)

English proficiency test scores, if applicable.

In addition to these requirements, graduate admission may also be contingent upon a faculty advisor agreeing to supervise the applicant's research. Therefore, prospective students are strongly encouraged to contact faculty members in the applicant's field of interest prior to the application deadline.

Part-time students (6.0 Credit Hours per term or less) will be only admitted into the MS non-thesis track.

Prerequisites

Candidates are expected to have the necessary science and mathematics background and should have successfully completed coursework deemed equivalent to courses in the B.S. in Geophysics degree at the University of Houston. These courses include:

GEOL 1130 (Physical Geology Laboratory)



GEOL 1330 (Physical Geology)
GEOL 3325 (Rocks and Minerals)
GEOL 3373 (Mineralogy)
GEOL 3340 (Geologic Field Methods)
GEOL 3345 (Structural Geology)
GEOL 3350 (Stratigraphy)
GEOL 3372 (Petrography)
GEOL 4330 (Introduction to Geophysics)
MATH 3331 (Differential Equations)
MATH 3363 (Intro. to Partial Differential Equations)
MATH 3364 (Intro. to Complex Analysis)

The department will determine what deficiencies - if any - are present, and the acceptable means of removing those deficiencies (e.g. course work within and/or outside the department, directed study, research papers). Substitution of courses equivalent to those listed above as well as waivers of requirements will be considered on an individual basis. Applicants with a few deficiencies can satisfy those requirements while also taking graduate courses at the University of Houston. It is normally recommended that a student with 6 or more deficiency courses, e.g., those whose Bachelor's degree is in another discipline, consider working toward a second Bachelor's degree in Geophysics prior to graduate work.

Degree Requirements

The Master of Science (MS) degree will be awarded after students have successfully completed requirements specified in one of the two following plans:

Plan I: Thesis Option

All students completing the thesis option must complete and defend a thesis acceptable to the department.

This option requires a **minimum of 30.0 approved Credit Hours**, to include

Formal Earth and Atmospheric Science courses (GEOL) at the 6000 level or higher **Credit Hours: 15.0**

Thesis courses (GEOL 6399 & GEOL 7399) **Credit Hours: 6.0**

Elective courses **Credit Hours: 9.0**

Courses can be selected from approved courses outside the area of Earth and Atmospheric Science (GEOL), but relevant to the degree program, with prior permission of the Geophysics Graduate Faculty Advisor.

No more than 6.0 Credit Hours of special problems courses can be counted towards the required 30.0 Credit Hours minimum.

Plan II: Non-Thesis Option

Completing a thesis is not required, but students must take additional course work and have the option of completing a capstone research project.

Students may satisfy the MS Plan II degree requirements by satisfactorily completing a **minimum of 36.0 approved Credit Hours**, to include

Formal Earth & Atmospheric Science courses (GEOL) at the 6000 level or higher **Credit Hours: 30.0**

Elective courses **Credit Hours: 6.0**

Selections should be courses at the 6000 level, or above, and can be selected from approved courses outside the area of Earth and Atmospheric Science, but relevant to the degree program, with prior permission from the Geophysics Graduate Faculty Advisor.

Students can petition to have a 3-hour elective course substituted for a capstone project (GEOL 7301 - Capstone Project)

Note: Research hours do not count toward this degree.

After completion of 18 hours, students with a cumulative GPA of 3.40 or above and demonstrated abilities to conduct research may petition to switch to a thesis-based degree. In order to do this, the student must have an advisor and committee members willing to supervise them. The thesis research advisor, Geophysics Graduate Faculty Advisor, and Department Chair must sign a petition indicating approval of the change to a thesis-based MS degree and it must be filed with the department academic advisor. The student must successfully defend their thesis proposal (as outlined



below) after they have completed their core course requirements and prior to completion of 27.0 Credit Hours of course credit. This change will not extend the 5-year limit to complete the MS degree.

Core Course Requirements

Upon completion of their program, students are expected to have breadth and a fundamental background in the essential elements Geophysics. To provide a fundamental background in the essential elements of geophysics, all MS students are required to take the courses listed below. Students are encouraged to consult with the Geophysics Graduate Faculty Advisor to make their selections of the remaining graduate courses.

- GEOL 7330 - Potntl Fld Mtds-Geophys **Credit Hours: 3.0**
- GEOL 7341 - Geophysical Data Processing **Credit Hours: 3**
- GEOL 7333 - Seismic Wave & Ray Theory **Credit Hours: 3.0**
- GEOL 7324 - Rock Physics **Credit Hours: 3.0**

Academic Policies

- University Academic Policies
- Academic Policies: College of Natural Sciences and Mathematics
- Department/Program Academic Policies:

Scholastic Requirements

Graduate students must maintain a minimum grade point average of 3.00 in all course work to be considered in good standing. Students not in good standing cannot receive a graduate degree and can be declared ineligible for support with a graduate assistantship (IA, TA or RA).

Research (Thesis) Advisor/Committee

Advisor

A formal thesis topic and thesis advisor must be chosen prior to the completion of 15.0 Credit Hours.

The student and the advisor will together plan the remainder of the student's course work.

The 30 required hours are a minimum and, for a specific area of interest, it may be necessary for the student to complete additional course work.

The initial selection of an advisor is not binding on the student or the faculty member.

The student may change his/her thesis advisor pending approval by the Geophysics Graduate Faculty Advisor, but it is the responsibility of the student to review his/her degree plan and prepare for potential changes in the department and/or faculty support with the new advisor.

In addition, if the student has already formally proposed their project, they may have to present another thesis proposal of their new project(s).

Committee

Students must specify a thesis committee and have the names on file in the NSM Office of Academic Affairs at least one term prior to their graduation.

The committee must consist of

a minimum of two faculty members who have their primary appointment within EAS and one approved external member, outside of EAS, from industry, or other academia, who is acceptable to the department and approved by the College.

A faculty member with a joint appointment in the major department is considered as an outside member unless he/she chairs the committee. In this case, an additional external member outside the major department is required.

After these minimum requirements for committee members are satisfied, additional committee members may be approved from industry or academia, but at least 50% of the committee must be tenured/tenure-track faculty at the University of Houston.

Research faculty or instructional faculty may serve on thesis committees, but not chair the committees. However, a research professor may serve as a co-advisor with a tenured/tenured-track faculty.



Thesis Proposal

Students must present a thesis proposal.

Timeline and Scheduling

All full-time students and students financially supported by the University must propose prior to the end of their second term in the program.

by the first Monday in November in the Fall term, or the first Monday in April in the Spring term.

Scheduling of the thesis proposal is done by each applicant through the department academic advisor.

Proposals (and re-proposals) can be scheduled Monday-Friday, with starting times between 8:00 a.m. and 4:00 p.m., during the Fall and Spring terms.

Proposals cannot be presented during Summer terms, vacations, reading days, weekends, or final examination periods (nor over spring break or inter-semester breaks).

Two hours should be allocated for the thesis proposal presentation and questions.

Presentation

Proposals are preceded by the distribution of a 5 to 10 page (10 page suggested maximum for text) written description of the thesis project to the thesis committee.

A one page abstract must be posted and distributed to all EAS faculty members at least seven calendar days prior to presentation, and a copy of the full proposal filed with the department academic advisor at that time.

The proposal abstract must contain the title, time and place of the proposal, and the names of the committee members.

The thesis advisor and at least one other member of the committee must initial the abstract prior to posting, indicating that they approve of the presentation of the proposal.

Upon successful presentation of the proposal, a copy of the complete proposal with the thesis advisor's signature indicating approval must be placed in the student's permanent academic file.

Thesis Defense

Upon completion of the research and the writing of a thesis deemed acceptable by the thesis committee, a defense of the thesis is scheduled by the student.

A public defense of the complete thesis research will be presented to the faculty-at-large and may be attended by any other interested parties.

Preparation

An abstract, which lists the time and place of the defense, must be distributed to the department faculty and posted publicly at least seven calendar days prior to the scheduled date.

The thesis advisor and a least one other departmental committee member must initial the notice of defense, thus indicating that they approve of the defense.

An unbound copy of the thesis draft, including all illustrations, must be made available in the EAS office at least seven calendar days prior to the defense date for inspection by the EAS faculty.

Scheduling

MS defenses can be scheduled Monday-Friday during the Spring, Summer, and Fall terms with starting times between 8:00 a.m. and 4:00 p.m.

Defenses cannot be given during vacations, reading days, weekends, or final examination periods (nor over spring break or inter-semester breaks).

Scheduling of defenses is done through the department academic advisor.

Decisions

A vote to pass by a majority of the thesis committee is required for successful defense of the thesis.

Doctoral

Atmospheric Sciences, PhD



The Department of Earth & Atmospheric Sciences offers a wide range of courses leading to the Degree of PhD in Atmospheric Sciences. The Department will provide all its students with educational programs that encompass the fundamental principles of the atmospheric sciences and the body of knowledge associated with the application of these principles to the study of the atmosphere. PhD students will receive advanced, research-intensive instruction that concentrates upon the acquisition of new knowledge, innovative approaches to problem-solving and the dissemination of research results. Students successfully completing the PhD program will be prepared for a career as a researcher, educator, or professional atmospheric scientist.

For further information, please visit: <http://www.uh.edu/nsm/earth-atmospheric/>.

Admission Requirements

A doctoral applicant will have earned a Bachelor's or a Master's degree. Scores from the General GRE examination taken in the last 5 years are optional (verbal, quantitative, and analytical writing; advanced GRE is recommended but optional). English language proficiency test scores, such as TOEFL or IELTS, scores must be provided by applicants who did not earn a prior degree from a US institution or a country where English is the medium of instruction (see list in the General Admission Policy).

Visit <http://www.uh.edu/graduate-school/international-students/> to learn more.

The admissions committee and the department chair will evaluate the credentials of each applicant for the PhD program, considering a broad range of criteria, including

- Content of the undergraduate program and, if applicable, graduate programs and grades earned, particularly in the areas of Meteorology, Geosciences, Mathematics, Physics, Chemistry, or related natural/physical sciences.

- A cumulative GPA of 3.0 or better in the last 60 hours of course work.

- Letters of recommendation from three (3) individuals (preferably faculty members), who are able to judge the candidate's academic abilities and potential for scholarly research.

- GRE scores, if submitted (see above).

- English proficiency test scores, when applicable.

- Scientific, professional, technical publications, and a Master's Thesis (if applicable).

In addition to these requirements, graduate admission may also be contingent upon a faculty advisor agreeing to supervise the applicant. Therefore, prospective students are strongly encouraged to contact faculty members in the applicant's field of interest prior to the application deadline.

Prerequisite courses

Candidates entering the Atmospheric Science PhD program must demonstrate general proficiency in mathematics, physics, and chemistry (when atmospheric chemistry is the chosen area of specialty). Some graduate courses explicitly require prerequisite courses, or their equivalent at other institutions, as listed below:

- MATH 2331 (Linear Algebra)

- MATH 2433 (Calculus III)

- MATH 3363 (Intro. to Partial Differential Equations)

- GEOL 1302 (Introduction to Global Climate Change)

- GEOL 1350 (Introduction to Meteorology)

- GEOL 3342 (Principles of Air Pollution)

- GEOL 3378 (Principles of Atmospheric Science)

The department will determine what deficiencies - if any - are present, and the acceptable means of removing those deficiencies (e.g. course work within and/or outside the Department, directed study, research papers). Substitution of courses equivalent to those listed above as well as waivers of requirements will be considered on an individual basis. Applicants with a few deficiencies can satisfy those requirements while also taking graduate courses at the University of Houston. It is normally recommended that a student with 6 or more deficiency courses, e.g., those whose Bachelor's degree is in another discipline, consider working toward a second Bachelor's degree in Geology prior to graduate work.

Degree Requirements



All doctoral students must have a minimum of one continuous academic year (two terms (Fall/Spring or Spring/Summer/Fall)) as a full-time student which consists of 9.0 Credit Hours per term.

A student working on a dissertation must be continuously enrolled in a minimum of 3.0 Credit Hours of doctoral research each Fall and Spring term, and in a minimum of 3.0 Credit Hours of doctoral dissertation in their final term.

Up to 6.0 Credit Hours of courses taken outside the department, but relevant to the degree program, can apply to the degree with prior approval from the Atmospheric Science Graduate Faculty Advisor.

Sequence and Timing

First year in program:

- Appropriate course work
- Removal of all deficiencies
- Establishment of PhD Research Committee

Second year in program:

- Candidacy exam
- Presenting Research and Dissertation Proposals
- Completion of all formal course work
- Initiation of research

Third and successive years:

- Conduct the proposed research
- Submit and revise papers
- Completion and defense of dissertation

Course Requirements

Credit hours required for this degree: 54.0

a) PhD students entering with a MS degree

- Formal EAS courses **Credit Hours: 18.0**
- Dissertation **Credit Hours: 6.0 - 12.0**
- The remaining hours may include Coursework, Doctoral Research, Seminars and Special Problems

b) PhD students entering with a Bachelor's degree

- Formal EAS elective courses **Credit Hours: 15.0**
- EAS Core Category Course Selections **Credit Hours: 9.0**
- Dissertation **Credit Hours: 6.0 - 12.0**
- The remaining hours may include Coursework, Doctoral Research, Seminars and Special Problems

Core Categories

9.0 Credit Hours *comprised of 3.0 Credit Hours from each category. Course substitutions may be allowed on an individual basis, with prior approval from the Atmospheric Sciences Graduate Faculty Advisor.*

Category 1 (Atmospheric Dynamics and Physics)

- GEOL 6337 - Atmospheric Physics **Credit Hours: 3.0**



GEOL 6336 - Boundary Layers and Turbulence Credit Hours: 3.0
GEOL 6330 - Dynamic Meteorology Credit Hours: 3.0
GEOL 6327 - Atmospheric Radiation Credit Hours: 3.0
GEOL 6397 - Selected Topics in Geology Credit Hours: 3.00
Topic: Mesoscale Meteorology

Category 2 (Atmospheric Chemistry)

GEOL 6327 - Atmospheric Radiation Credit Hours: 3.0
GEOL 6332 - Air Pollution Meteorology Credit Hours: 3.0
GEOL 6334 - Atmospheric Chemistry Credit Hours: 3.0
GEOL 6370 - Atmospheric Biogeochemistry Credit Hours: 3.0

Category 3 (Atmospheric Measurement and Modeling)

GEOL 6325 - Remote Sensing Credit Hours: 3.0
GEOL 6335 - Atmospheric Numerical Modeling Credit Hours: 3.0
GEOL 6329 - Atm Instrument & Measurement Credit Hours: 3.0
GEOL 6328 - Atmospheric Data Analysis and Statistics Credit Hours: 3.0

Academic Policies

University Academic Policies
Academic Policies: College of Natural Sciences and Mathematics

Department/Program Policies

Scholastic Requirement

Graduate students must maintain a minimum grade point average of 3.0 in all course work to be considered in good standing. Students not in good standing cannot receive a graduate degree and can be declared ineligible for support with a graduate assistantship (IA, TA or RA).

Research (Dissertation) Advisor/Research Committee

PhD applicants are encouraged to formulate their dissertation committee promptly in order to ensure proper guidance throughout their research.

Doctoral students' dissertation committees must be comprised of a minimum of four members to include three faculty members who have their primary appointment within EAS and one approved member external to the major department from industry or academia who is acceptable to the department and approved by the college.

A faculty member with a joint appointment in EAS is considered as an outside member unless he/she chairs the committee. In this case, an additional external member outside the major department is required.

After these minimum requirements for committee members are satisfied, additional committee members may be approved from industry or academia, but at least 50% of the committee must be tenured/tenure-track faculty at the University of Houston.

Research faculty or instructional faculty may serve on dissertation committees, but not chair the committees. However, a research professor may serve as a co-advisor with a tenured/ tenure-track faculty.

Candidates must specify a dissertation committee and have the names on file in the NSM Office of Academic Affairs at least one term prior to their graduation.

Candidacy

To become a candidate for the doctoral degree a student must meet a set of requirements established by the EAS Department. For all EAS doctoral aspirants, there are two options available to attain candidacy. It is the responsibility of the dissertation advisor to notify the department academic



advisor and applicable graduate advisor which path to candidacy the graduate student will undertake by the end of the term preceding the candidacy exam or paper submission (Candidacy Options 1 and 2, respectively. See below).

Candidacy Option 1 - Oral Exam and Proposal:

A five-member examining committee will administer a written exam, approximately four hours in length, given during the seventh to eighth week of each term.

It will test the breadth of the candidate's knowledge within their discipline.

The student must pass the candidacy examination before proceeding to the dissertation proposal.

Approval by a majority of the members of the examining committee is required for the student to pass the examination.

At the discretion of the examining committee, a student who fails the general examination can be permitted to re-take it; however, the exam cannot be taken more than twice by the applicant.

Re-examination will take place within one (1) month of the initial examination.

All candidacy and proposal requirements must be completed by the end of the fourth term in the program.

Candidacy Option 2 - Manuscript Submission and Proposal:

Submission of a manuscript to an Institute for Scientific Information (ISI)-indexed, peer-reviewed journal by the sixth week of the fourth term in the program and approval of an oral and written PhD proposal.

Research work for the manuscript must have been completed at UH. This timing implies that the student is full-time and supported as a Research Assistant (RA) or Teaching Assistant (TA).

In order to proceed along this pathway for the PhD, the dissertation advisor and research committee must agree that the candidate has produced a publishable manuscript capable of passing a rigorous external peer review for a scientific journal and has completed and successfully defended a research proposal.

Prior to the presentation of the dissertation proposal, the manuscript must be submitted to a peer-reviewed journal.

The oral proposal of the dissertation must be presented before the end of the fourth term.

Dissertation Proposal

The oral dissertation proposal will be given during the term in which the candidacy exam has been successfully completed (Candidacy Option 1) or the manuscript has been submitted to an approved peer-reviewed journal (i.e. before the end of the fourth term) (Candidacy Option 2).

Scheduling for Presentation of Proposal

PhD proposals can take place Monday-Friday, with starting times between 8:00 a.m. and 4:00 p.m., during the Fall and Spring terms.

The proposal must be presented by the first Monday in November in the Fall term, or the first Monday in April in the Spring term.

Proposals cannot be presented during Summer terms, vacations, reading days, weekends, or final examination periods (nor over spring break or inter-term breaks).

A minimum of two hours should be allocated for the dissertation proposal presentation and questions.

Preparation for Presentation

Proposal presentations are preceded by the distribution of a research committee approved 5 to 10 page (10 page maximum for text) written description of the dissertation project.

A one-page abstract must be posted and distributed to all faculty members at least seven calendar days prior to presentation and a copy of the full proposal filed with the department academic advisor at that time.

The proposal abstract must contain the title, time and place of the proposal, and the names of the committee members.

The dissertation advisor and at least one other member of the committee must initial the abstract prior to posting, thus indicating that they approve of the presentation of the proposal.

Presentation

The oral presentation, approximately 30 to 45 minutes long, will be followed by a period during which all present can ask questions of the student related to the suitability and feasibility of the project, as well as the student's ability to perform the research.

All faculty present can participate in the deliberations.

Proposal Decisions

All EAS faculty, as well as other committee members present, may vote on the success or failure of the student's performance in the dissertation proposal.

Approval by a majority of those voting is needed to pass the proposal. Upon successful presentation of the dissertation proposal, the student will be granted PhD candidacy status.

Upon successful presentation of the proposal, a copy of the complete proposal with the dissertation advisor's signature indicating approval of the proposal as originally presented or modified must be placed in the student's permanent academic file.



The examining committee, at their discretion, can allow a student who failed the dissertation proposal to re-propose, this, however, can be done no more than once.

The second presentation must take place within 30 calendar days of the initial presentation.

Dissertation Defense

A public oral defense of the completed dissertation research will be presented to the faculty-at-large and may be attended by any other interested parties.

Format of Dissertation

The format of the dissertation must follow NSM guidelines.

Questions pertaining to specific requirements should be addressed to the appropriate advisor.

Prior to Defense of the dissertation,

the student will submit at least one (1) completed manuscript, based on the dissertation research, to a peer-reviewed journal.

This manuscript must have been judged publication-ready by the dissertation advisor and at least one other faculty member on the dissertation committee prior to submission.

For the defense, an abstract, which lists the time and place of the defense, must be distributed to the EAS faculty and posted publicly at least seven calendar days prior to the scheduled date for the defense.

The dissertation advisor and at least one other committee member must initial the notice of defense, indicating approval of the defense.

An unbound copy of the final draft of the dissertation, including all illustrations, must be made available in the EAS department office at least seven calendar days prior to the defense date for inspection by the EAS faculty.

Scheduling for Defense

PhD defenses can be given Monday-Friday during the Fall, Spring, and Summer terms with starting times between 8:00 a.m. and 4:00 p.m.

Defenses cannot be given during vacations, reading days, weekends, or final examination periods (nor over spring break or inter-term breaks).

Scheduling of defenses is done through the department academic advisor.

Defense Decisions

A positive vote by a majority of the dissertation committee is required for successful defense of the dissertation.

If the student does not complete and successfully defend the PhD dissertation within five years after passing the candidacy examination, retaking of the candidacy examination may be required.

Once approved by the committee, the dissertation must be submitted to the NSM Office of Academic Affairs no later than the deadline posted on the College website each term.

Geology, PhD

The Department of Earth and Atmospheric Sciences (EAS) will provide all its students with educational programs that encompass the fundamental principles of the geosciences and the body of knowledge associated with the application of these principles to the study of the Earth and planetary materials. PhD students will receive advanced, research-intensive instruction that concentrates upon the acquisition of new knowledge, innovative approaches to problem-solving, and the dissemination of research results. Students successfully completing the PhD program will be prepared for a career as a researcher, educator, or professional geoscientist.

For more information please see <http://www.uh.edu/nsm/earth-atmospheric>.

Admission Requirements

Applicant will have earned a Bachelor's or a Master's degree

Scores from the General GRE examination taken in the last 5 years are optional (verbal, quantitative, and analytical writing; advanced GRE is recommended but optional)

English language proficiency test scores, such as TOEFL or IELTS scores, must be provided by applicants who did not earn a prior degree from a US institution or a country where English is the medium of instruction (see list in the General Admission Policy).

Visit <http://www.uh.edu/graduate-school/international-students/> to learn more.



The admissions committee and the department chair will evaluate the credentials of each applicant for the Ph.D. program, considering a broad range of criteria, including:

Content of the undergraduate program and, if applicable, graduate programs and grades earned, particularly in the areas of Geosciences, Mathematics, Physics, and Chemistry.

A cumulative GPA of 3.00 or better in the last 60 hours of course work.

Letters of recommendation from three (3) individuals (preferably faculty members), who are able to judge the candidate's academic abilities and potential for scholarly research.

GRE scores, if submitted (see above).

English proficiency test scores, when applicable.

Scientific, professional, technical publications, and Master's Thesis (if applicable).

In addition to these requirements, graduate admission may also be contingent upon a faculty advisor agreeing to supervise the applicant. Therefore, prospective students are strongly encouraged to contact faculty members in the applicant's field of interest prior to the application deadline.

Prerequisite Courses

Candidates entering the Geology PhD program must demonstrate general proficiency in mathematics, physics, and chemistry. Some graduate courses explicitly require prerequisite courses to be successful as listed below:

GEOL 1330 (Physical Geology)

GEOL 3370 (Mineralogy)

GEOL 3330 (Paleobiology)

GEOL 3372 (Petrography)

GEOL 3340 (Geologic Field Methods)

GEOL 3350 (Stratigraphy)

GEOL 3373 (Igneous/Metamorphic Petrogenesis)

GEOL 3345 (Structural Geology)

GEOL 3374 (Sedimentary Petrogenesis)

GEOL 4330 (Introduction to Geophysics)

GEOL 3355 and 3360 (Field Camp)

Or their equivalent at other institutions

Required allied courses include:

3 semesters of Calculus,

2 semesters of Chemistry

The department will determine what deficiencies -if any - are present, and the acceptable means of removing those deficiencies (e.g. course work within and/or outside the department, directed study, research papers). Substitution of courses equivalent to those listed above as well as waivers of requirements will be considered on an individual basis. Applicants with a few deficiencies can satisfy those requirements while also taking graduate courses at the University of Houston. It is normally recommended that a student with 6 or more deficiency courses, e.g., those whose Bachelor's degree is in another discipline, consider working toward a second Bachelor's degree in Geology prior to graduate work.

Degree Requirements

All doctoral students must have a minimum of one continuous academic year (two terms (Fall/Spring or Spring/Summer/Fall)) as a full-time student which consists of 9.0 Credit Hours per term.

A student working on a dissertation must be continuously enrolled in a minimum of 3.0 Credit Hours of doctoral research each Fall and Spring term, and in a minimum of 3.0 Credit Hours of doctoral dissertation in their final term.

Up to 6.0 Credit Hours of courses taken outside the department, but relevant to the degree program, can apply to the degree with prior approval from the Geology Graduate Faculty Advisor.

Sequence and Timing



First year in program:

Appropriate course work
 Removal of all deficiencies
 Establishment of PhD Research Committee

Second year in program:

Candidacy exam
 Presenting Research and Dissertation
 Completion of all formal course work
 Initiation of research

Third year in program:

Conduct the proposal research
 Submit revise papers
 Completion and defense dissertation

Course Requirements

Credit hours required for this degree: 54.0

a) PhD students entering with a MS degree

Formal EAS courses **Credit Hours: 18.0**
 Dissertation **Credit Hours: 6.0 - 12.0**
 The remaining hours may include Coursework, Doctoral Research, Seminars and Special Problems

b) PhD students entering with a Bachelor's degree

Formal EAS elective courses **Credit Hours: 15.0**
 EAS Core Category Course Selections **Credit Hours: 9.0**
 Dissertation **Credit Hours: 6.0 - 12.0**
 The remaining hours may include Coursework, Doctoral Research, Seminars and Special Problems

Core Category Course Requirements

9.0 Credit Hours *comprised of 3.0 Credit Hours maximum from three of the four categories with no more than 3.0 Credit Hours in any category. Course substitutions may be allowed on an individual basis, with prior approval from the Geology Graduate Faculty Advisor.*

Most of these courses are offered in Fall or Spring terms, in alternate years.

Category 1 (Igneous and Metamorphic Petrology/Geochemistry)

GEOL 6339 - Igneous Petrology **Credit Hours: 3.0**
 GEOL 6340 - Metamorphic Petrology **Credit Hours: 3.0**
 GEOL 6341 - Geochemistry **Credit Hours: 3.0**
 GEOL 6374 - Radiogenic Isotope Geochemistry **Credit Hours: 3.0**
 GEOL 6386 - Igneous Petrogenesis & Plate Tectonics **Credit Hours: 3.0**

Category 2 (Sedimentary Geology/Stratigraphy)

GEOL 6358 - Terrigenous Depositional System **Credit Hours: 3.0**



GEOL 6363 - Carbonate Sedimentology Credit Hours: 3.0
GEOL 6366 - Hydrogeology Credit Hours: 3.0
GEOL 6376 - Adv Tect and Sedimentation Credit Hours: 3.0
GEOL 6380 - Sequence Stratigraphy Credit Hours: 3.0

Category 3 (Structure/Tectonics)

GEOL 6349 - Geodynamics Credit Hours: 3.0
GEOL 6350 - Advanced Structural Geology Credit Hours: 3.0
GEOL 6378 - Basin Analysis for Petroleum Exploration Credit Hours: 3.0
GEOL 6352 - Microtectonics Credit Hours: 3.0
GEOL 6382 - Plate Tectonics Credit Hours: 3.0

Category 4 (Applied/Analytical)

GEOL 6325 - Remote Sensing Credit Hours: 3.0
GEOL 6347 - Sandstone Petrography Credit Hours: 3.0
GEOL 6372 - Petroleum Geochemistry Credit Hours: 3.0
GEOL 6381 - Petroleum Geology Credit Hours: 3.0
GEOL 6388 - Geospatial Analysis and Applications Credit Hours: 3.0

Academic Policies

University Academic Policies

Academic Policies: College of Natural Sciences and Mathematics

Department/Program Academic Policies:

Scholastic Requirements

Graduate students must maintain a minimum grade point average of 3.00 in all course work to be considered in good standing.

Students not in good standing cannot receive a graduate degree and can be declared ineligible for support with a graduate assistantship (IA, TA, RA/TE or RA).

Graduate students who receive grades of C+ or lower in 12 or more semester hours of course work attempted for graduate credit are ineligible for any advanced degree at this institution.

Semester hours of "U" grades in S/U-graded courses apply toward the above 12-hour total.

Research (Dissertation) Advisor/Research Committee

Ph.D. applicants are encouraged to formulate their dissertation committee promptly in order to ensure proper guidance throughout their research.

Committee Composition

Doctoral students' dissertation committees must be comprised of:

a minimum of four members to include three faculty members who have their primary appointment within EAS
one approved member external to the major department from industry or academia who is acceptable to the department and approved by the college.

A faculty member with a joint appointment in EAS is considered as an outside member unless he/she chairs the committee. In this case, an additional external member outside the major department is required.

After these minimum requirements for committee members are satisfied, additional committee members may be approved from industry or academia, but at least 50% of the committee must be tenured/tenure-track faculty at the University of Houston.

Research faculty or instructional faculty may serve on dissertation committees, but not chair the committees. However, a research professor may serve as a co-advisor with a tenured/tenure-track faculty.



Candidates must specify a dissertation committee and have the names on file in the NSM Office of Academic Affairs at least one term prior to their graduation.

Candidacy

To become a candidate for the doctoral degree a student must meet a set of requirements established by the EAS Department. For all EAS doctoral aspirants, there are two options available to attain candidacy. It is the responsibility of the dissertation advisor to notify the department academic advisor and applicable graduate advisor which path to candidacy the graduate student will undertake by the end of the term preceding the candidacy exam or paper submission (Candidacy Options 1 and 2, respectively. See below).

Candidacy Option 1 - Qualifying Exam and Proposal:

A five member examining committee will administer a written exam, approximately 4 hours in length, given during the seventh to eighth week of each term.

It will test the breadth of the candidate's knowledge within their discipline.

Approval by a majority of the members of the examining committee is required for the student to pass the examination.

At the discretion of the examining committee, a student who fails the general examination can be permitted to re-take it; however, the exam cannot be taken more than twice by the applicant.

Re-examination will take place within one (1) month of the initial examination.

The student must pass the candidacy examination before proceeding to the dissertation proposal.

All candidacy and proposal requirements must be completed by the end of the 4th term in the program.

Candidacy Option 2 - Manuscript Submission and Proposal:

Submission of a manuscript to an Institute for Scientific Information (ISI)-indexed, peer-reviewed journal by the 6th week of the fourth term in the program and approval of an oral and written Ph.D. proposal.

Research work for the manuscript must have been completed at UH. This timing implies that the student is full-time and supported as a Research Assistant (RA) or Teaching Assistant (TA).

In order to proceed along this pathway for the Ph.D., the dissertation advisor and research committee must agree that the candidate has produced a publishable manuscript capable of passing a rigorous external peer-review for a scientific journal and has completed and successfully defended a research proposal.

Prior to the presentation of the dissertation proposal, the manuscript must be submitted to a peer-reviewed journal.

The oral proposal of the dissertation must be presented before the end of the 4th semester.

Dissertation Proposal

The oral dissertation proposal will be given during the semester in which the candidacy exam has been successfully completed (Candidacy Option 1) or the manuscript has been submitted to an approved peer-reviewed journal (i.e. before the end of the fourth semester) (Candidacy Option 2).

Scheduling for Presentation of Proposal

PhD proposals can take place Monday-Friday, with starting times between 8:00 a.m. and 4:00 p.m., during the Fall and Spring terms.

The proposal must be presented by the first Monday in November in the Fall term, or the first Monday in April in the Spring term.

Proposals cannot be presented during Summer terms, vacations, reading days, weekends, or final examination periods (nor over spring break or inter-term breaks).

A minimum of two hours should be allocated for the dissertation proposal presentation and questions.

Preparation for Presentation

Proposal presentations are preceded by the distribution of a research committee approved 5 to 10 page (10 page maximum for text) written description of the dissertation project.

A one-page abstract must be posted and distributed to all faculty members at least seven calendar days prior to presentation and a copy of the full proposal filed with the department academic advisor at that time.

The proposal abstract must contain the title, time and place of the proposal, and the names of the committee members.

The dissertation advisor and at least one other member of the committee must initial the abstract prior to posting, thus indicating that they approve of the presentation of the proposal.

Presentation

The oral presentation, approximately 30 to 45 minutes long, will be followed by a period during which all present can ask questions of the student related to the suitability and feasibility of the project, as well as the student's ability to perform the research.



All faculty present can participate in the deliberations.

Proposal Decisions

All EAS faculty, as well as other committee members present, may vote on the success or failure of the student's performance in the dissertation proposal.

Approval by a majority of those voting is needed to pass the proposal. Upon successful presentation of the dissertation proposal, the student will be granted PhD candidacy status.

Upon successful presentation of the proposal, a copy of the complete proposal with the dissertation advisor's signature indicating approval of the proposal as originally presented or modified must be placed in the student's permanent academic file.

The examining committee, at their discretion, can allow a student who failed the dissertation proposal to re-propose, this, however, can be done no more than once.

The second presentation must take place within 30 calendar days of the initial presentation.

Dissertation Defense

A public oral defense of the completed dissertation research will be presented to the faculty-at-large and may be attended by any other interested parties.

Format of Dissertation

The format of the dissertation must follow NSM guidelines.

Questions pertaining to specific requirements should be addressed to the appropriate advisor.

Prior to Defense of the dissertation,

the student will submit at least one (1) completed manuscript, based on the dissertation research, to a peer-reviewed journal.

This manuscript must have been judged publication-ready by the dissertation advisor and at least one other faculty member on the dissertation committee prior to submission.

For the defense, an abstract, which lists the time and place of the defense, must be distributed to the EAS faculty and posted publicly at least seven calendar days prior to the scheduled date for the defense.

The dissertation advisor and at least one other committee member must initial the notice of defense, indicating approval of the defense.

An unbound copy of the final draft of the dissertation, including all illustrations, must be made available in the EAS department office at least seven calendar days prior to the defense date for inspection by the EAS faculty.

Scheduling for Defense

PhD defenses can be given Monday-Friday during the Fall, Spring, and Summer terms with starting times between 8:00 a.m. and 4:00 p.m.

Defenses cannot be given during vacations, reading days, weekends, or final examination periods (nor over spring break or inter-term breaks).

Scheduling of defenses is done through the department academic advisor.

Defense Decisions

A positive vote by a majority of the dissertation committee is required for successful defense of the dissertation.

If the student does not complete and successfully defend the PhD dissertation within five years after passing the candidacy examination, retaking of the candidacy examination may be required.

Once approved by the committee, the dissertation must be submitted to the NSM Office of Academic Affairs no later than the deadline posted on the College website each term.

Geophysics, PhD

The Department of Earth and Atmospheric Sciences (EAS) offers a wide range of courses leading to the degree of Doctor of Philosophy in Geophysics. A wide variety of electives allows concentration in areas such as exploration, geotechnical, or environmental geophysics, solid earth geophysics, petroleum exploration, marine geophysics, earthquake seismology, and geodynamics. The typical student pursuing this degree is interested in geophysics and has a good background in the geosciences, mathematics, physics, and computing. Graduates will typically pursue careers with resource companies, geophysical service companies, various federal, state, and local government agencies, in the financial sector, or in education/academia.



Admission Requirements

Applicant will have earned a Bachelor's or a Master's degree

Scores from the General GRE examination taken in the last 5 years are optional (verbal, quantitative, and analytical writing; advanced GRE is recommended but optional)

English language proficiency test scores, such as TOEFL or IELTS scores must be provided by applicants who did not earn a prior degree from a US institution or a country where English is the medium of instruction (see list in the General Admission Policy).

Visit <http://www.uh.edu/graduate-school/international-students/> to learn more.

The admissions committee and the department chair will evaluate the credentials of each applicant for the PhD program, considering a broad range of criteria, including:

Content of the undergraduate program and, if applicable, graduate programs and grades earned, particularly in the areas of Geosciences, Mathematics, Physics, and Chemistry.

A cumulative GPA of 3.0 or better in the last 60 hours of course work

Letters of recommendation from three (3) individuals (preferably faculty members), who are able to judge the candidate's academic abilities and potential for scholarly research.

GRE scores, if submitted (see above).

English proficiency test scores, when applicable.

Scientific, professional, technical publications, and Master's Thesis (if applicable).

In addition to these requirements, graduate admission may also be contingent upon a faculty advisor agreeing to supervise the applicant. Therefore, prospective students are strongly encouraged to contact faculty members in the applicant's field of interest prior to the application deadline.

Deficiencies

Candidates in the Geophysics PhD program must demonstrate general proficiency in mathematics, physics, and geology. Some graduate courses explicitly require prerequisite courses, as listed below:

GEOL 1130 (Physical Geology Laboratory)

GEOL 1330 (Physical Geology)

GEOL 3325 (Rocks and Minerals)

GEOL 3373 (Mineralogy)

GEOL 3340 (Geologic Field Methods)

GEOL 3345 (Structural Geology)

GEOL 3350 (Stratigraphy)

GEOL 3372 (Petrography)

GEOL 4330 (Introduction to Geophysics)

MATH 3331 (Differential Equations)

MATH 3363 (Intro. to Partial Differential Equations)

MATH 3364 (Intro. to Complex Analysis)

The department will determine what deficiencies -if any - are present, and the acceptable means of removing those deficiencies (e.g. course work within and/or outside the department, directed study, research papers). Substitution of courses equivalent to those listed above as well as waivers of requirements will be considered on an individual basis. Applicants with a few deficiencies can satisfy those requirements while also taking graduate courses at the University of Houston. It is normally recommended that a student with 6 or more deficiency courses, e.g., those whose Bachelor's degree is in another discipline, consider working toward a second Bachelor's degree in Geophysics prior to graduate work.

Degree Requirements

All doctoral students must have a minimum of one continuous academic year (two terms (Fall/Spring or Spring/Summer/Fall)) as a full-time student which consists of 9.0 Credit Hours per term.



A student working on a dissertation must be continuously enrolled in a minimum of 3.0 Credit Hours of doctoral research each Fall and Spring term, and in a minimum of 3.0 Credit Hours of doctoral dissertation in their final term.

Up to 6.0 Credit Hours of courses taken outside the department, but relevant to the degree program, can apply to the degree with prior approval from the Geophysics Graduate Faculty Advisor.

Course Requirements

Credit hours required for this degree: 54.0

a) PhD students entering with a MS degree

Formal EAS courses **Credit Hours: 18.0**

Dissertation **Credit Hours: 6.0 - 12.0**

The remaining hours may include Coursework, Doctoral Research, Seminars, and Special Problems

b) PhD students entering with a Bachelor's degree

Formal EAS elective courses **Credit Hours: 12.0**

EAS Core Courses **Credit Hours: 12.0** (see list below)

Dissertation **Credit Hours: 6.0 - 12.0**

The remaining hours may include Coursework, Doctoral Research, Seminars and Special Problems

Students are encouraged to consult with the Geophysics Graduate Faculty Advisor to make their selections of graduate courses.

EAS Core Courses

To provide a fundamental background in the essential elements of geophysics, all PhD students entering with a Bachelor's degree are required to take the following 4 courses:

GEOL 7324 - Rock Physics Credit Hours: 3.0

GEOL 7330 - Potntl Fld Mtds-Geophys Credit Hours: 3.0

GEOL 7333 - Seismic Wave & Ray Theory Credit Hours: 3.0

GEOL 7341 - Geophysical Data Processing Credit Hours: 3

Course substitutions may be allowed on an individual basis, with prior approval from the Geophysics Graduate Faculty Advisor.

Sequence and Timing

First year in program:

Appropriate course work

Removal of all deficiencies

Establishment of Ph.D. Research Committee

Second year in program:

Candidacy exam

Presenting Research and Dissertation Proposals

Completion of all formal course work

Initiation of research

Third and successive years:

Conduct the proposed research

Submit revised papers



Academic Policies

University of Houston Academic Policies
Academic Policies: College of Natural Sciences and Mathematics
Department/Program Academic Policies:

Scholastic Requirement

Graduate students must maintain a minimum grade point average of 3.00 in all course work to be considered in good standing.

Students not in good standing cannot receive a graduate degree and can be declared ineligible for support with a graduate assistantship (IA, TA, RA/TE or RA).

Graduate students who receive grades of C+ or lower in 12 or more semester hours of course work attempted for graduate credit are ineligible for any advanced degree at this institution.

Semester hours of "U" grades in S/U-graded courses apply toward the above 12-hour total.

Research (Dissertation) Advisor/Research Committee

Ph.D. applicants are encouraged to formulate their dissertation committee promptly in order to ensure proper guidance throughout their research.

Committee Composition

Doctoral students' dissertation committees must be comprised of:

a minimum of four members to include three faculty members who have their primary appointment within EAS
one approved member external to the major department from industry or academia who is acceptable to the department and approved by the college.

A faculty member with a joint appointment in EAS is considered as an outside member unless he/she chairs the committee. In this case, an additional external member outside the major department is required.

After these minimum requirements for committee members are satisfied, additional committee members may be approved from industry or academia, but at least 50% of the committee must be tenured/tenure-track faculty at the University of Houston.

Research faculty or instructional faculty may serve on dissertation committees, but not chair the committees. However, a research professor may serve as a co-advisor with a tenured/tenure-track faculty.

Candidates must specify a dissertation committee and have the names on file in the NSM Office of Academic Affairs at least one semester prior to their graduation.

Candidacy

To become a candidate for the doctoral degree a student must meet a set of requirements established by the EAS Department. For all EAS doctoral aspirants, there are two options available to attain candidacy. It is the responsibility of the dissertation advisor to notify the department academic advisor and applicable graduate advisor which path to candidacy the graduate student will undertake by the end of the term preceding the candidacy exam or paper submission (Candidacy Options 1 and 2, respectively. See below).

Candidacy Option 1 - Qualifying Exam and Proposal:

A five-member examining committee will administer a written exam, approximately 4 hours in length, given during the seventh to eighth week of each term.

It will test the breadth of the candidate's knowledge within their discipline.

Approval by a majority of the members of the examining committee is required for the student to pass the examination.

At the discretion of the examining committee, a student who fails the general examination can be permitted to re-take it; however, the exam cannot be taken more than twice by the applicant.

Re-examination will take place within one (1) month of the initial examination.

The student must pass the candidacy examination before proceeding to the dissertation proposal.



All candidacy and proposal requirements must be completed by the end of the 4th term in the program.

Candidacy Option 2 - Manuscript Submission and Proposal:

Submission of a manuscript to an Institute for Scientific Information (ISI)-indexed, peer-reviewed journal by the 6th week of the fourth semester in the program and approval of an oral and written Ph.D. proposal.

Research work for the manuscript must have been completed at UH. This timing implies that the student is full-time and supported as a Research Assistant (RA) or Teaching Assistant (TA).

In order to proceed along this pathway for the Ph.D., the dissertation advisor and research committee must agree that the candidate has produced a publishable manuscript capable of passing a rigorous external peer review for a scientific journal and has completed and successfully defended a research proposal.

Prior to the presentation of the dissertation proposal, the manuscript must be submitted to a peer-reviewed journal.

The oral proposal of the dissertation must be presented before the end of the 4th term.

Dissertation Proposal

The oral dissertation proposal will be given during the term in which the candidacy exam has been successfully completed (Candidacy Option 1) or the manuscript has been submitted to an approved peer-reviewed journal (i.e. before the end of the fourth term) (Candidacy Option 2).

Scheduling for Presentation of Proposal

PhD proposals can take place Monday-Friday, with starting times between 8:00 a.m. and 4:00 p.m., during the Fall and Spring terms.

The proposal must be presented by the first Monday in November in the Fall term, or the first Monday in April in the Spring term.

Proposals cannot be presented during Summer terms, vacations, reading days, weekends, or final examination periods (nor over spring break or inter-semester breaks).

A minimum of two hours should be allocated for the dissertation proposal presentation and questions.

Preparation for Presentation

Proposal presentations are preceded by the distribution of a research committee approved 5 to 10 page (10 page maximum for text) written description of the dissertation project.

A one-page abstract must be posted and distributed to all faculty members at least seven calendar days prior to presentation and a copy of the full proposal filed with the department academic advisor at that time.

The proposal abstract must contain the title, time and place of the proposal, and the names of the committee members.

The dissertation advisor and at least one other member of the committee must initial the abstract prior to posting, thus indicating that they approve of the presentation of the proposal.

Presentation

The oral presentation, approximately 30 to 45 minutes long, will be followed by a period during which all present can ask questions of the student related to the suitability and feasibility of the project, as well as the student's ability to perform the research.

All faculty present can participate in the deliberations.

Proposal Decisions

All EAS faculty, as well as other committee members present, may vote on the success or failure of the student's performance in the dissertation proposal.

Approval by a majority of those voting is needed to pass the proposal. Upon successful presentation of the dissertation proposal, the student will be granted PhD candidacy status.

Upon successful presentation of the proposal, a copy of the complete proposal with the dissertation advisor's signature indicating approval of the proposal as originally presented or modified must be placed in the student's permanent academic file.

The examining committee, at their discretion, can allow a student who failed the dissertation proposal to re-propose, this, however, can be done no more than once.

The second presentation must take place within 30 calendar days of the initial presentation.

Dissertation Defense

A public oral defense of the completed dissertation research will be presented to the faculty-at-large and may be attended by any other interested parties.

Format of Dissertation

The format of the dissertation must follow NSM guidelines.



Questions pertaining to specific requirements should be addressed to the appropriate advisor.

Prior to Defense of the dissertation,

the student will submit at least one (1) completed manuscript, based on the dissertation research, to a peer-reviewed journal.

This manuscript must have been judged publication-ready by the dissertation advisor and at least one other faculty member on the dissertation committee prior to submission.

For the defense, an abstract, which lists the time and place of the defense, must be distributed to the EAS faculty and posted publicly at least seven calendar days prior to the scheduled date for the defense.

The dissertation advisor and at least one other committee member must initial the notice of defense, indicating approval of the defense.

An unbound copy of the final draft of the dissertation, including all illustrations, must be made available in the EAS department office at least seven calendar days prior to the defense date for inspection by the EAS faculty.

Scheduling for Defense

PhD defenses can be given Monday-Friday during the Fall, Spring, and Summer terms with starting times between 8:00 a.m. and 4:00 p.m.

Defenses cannot be given during vacations, reading days, weekends, or final examination periods (nor over spring break or inter-term breaks).

Scheduling of defenses is done through the department academic advisor.

Defense Decisions

A positive vote by a majority of the dissertation committee is required for successful defense of the dissertation.

If the student does not complete and successfully defend the PhD dissertation within five years after passing the candidacy examination, retaking of the candidacy examination may be required.

Once approved by the committee, the dissertation must be submitted to the NSM Office of Academic Affairs no later than the deadline posted on the College website each term.

Graduate Certificate

Geographical Information Science (GIS) Certificate

The Geographical Information System (GIS) Certificate offered by the Department of Earth and Atmospheric Sciences is available to both graduate students and non-degree seeking professionals. The certificate provides students with knowledge and experience to work in the field of geospatial data science and analytics both in the public and private sectors. The combination of courses focuses on the acquisition, storing, processing, visualization, modeling, and analysis of geospatial big data with emphasis on geospatial applications.

Admission Requirements

Students seeking this certificate must have:

A bachelor's degree in science or engineering, or additional course work to make up undergraduate deficiencies may be required.

Well-qualified candidates in other fields may be approved by the GIS Faculty Advisor.

Deficiencies will be noted at the time of admission.

A minimum cumulative grade point average (GPA) of 3.00 (A=4.00) is required in the last 60 hours of all course work.

Transcripts are required

GRE scores are not required.

For students enrolled in a graduate program, courses used for certification can also be used towards a graduate degree.

A student may be admitted either:

to a graduate program in the Department of Earth and Atmospheric Sciences at the University of Houston, or directly to the GIS Certificate program as a "non-degree seeking" graduate student.

Certificate Coursework



Certificate Total: 15.0 Credit Hours

Core Course Requirements

9.0 Credit Hours

Course substitutions relevant to the certificate may be allowed on an individual basis, with prior permission from the GIS Faculty Advisor.

GEOL 6324 - Satellite Positioning & Geodesy Credit Hours: 3.0

GEOL 6325 - Remote Sensing Credit Hours: 3.0

GEOL 6388 - Geospatial Analysis and Applications Credit Hours: 3.0

Elective Course Options

6.0 Credit Hours

GEOL 6323 - Geoscience Applications of GPS & LIDAR Credit Hours: 3.0

GEOL 6389 - Gis for Geologists Credit Hours: 3.0

CIVE 6382 - Lidar Systems and Applications Credit Hours: 3.0

CIVE 6384 - Satellite Altimetry and Interferometric Synthetic Aperture Radar Credit Hours: 3

COSC 6315 - Data Science for Everyone Credit Hours: 3

Or approved elective, relevant to the certificate, with prior permission from the GIS Faculty Advisor.

Academic Policies

University Academic Policies

Academic Policies: College of Natural Sciences and Mathematics

Hydrogeology, Certificate

The Hydrogeology Certificate offered by the Department of Earth and Atmospheric Sciences is available to both graduate students and non-degree seeking professionals. This certificate is designed for professionals who wish to be recognized as obtaining a broad background in the area of hydrogeology without completion of an advanced degree. This may include geologists currently working in the petroleum industry who wish to obtain positions in the environmental industry, as well as those with hydrogeology positions but lacking formal course work in that area. Classes for certification are part of the Department of Earth and Atmospheric Sciences regular course offerings and thus are generally offered once every two years.

For additional information regarding the certificate program and new elective course options for the certificate, please visit:

<http://www.uh.edu/nsm/earth-atmospheric/graduate/hydrogeology-certification/>.

Admission Requirements

Must have completed a bachelor's degree in geosciences or civil engineering with a minimum cumulative grade point average (GPA) of 3.00 (A=4.00) in the last 60 hours of all course work.

Must have completed undergraduate course work equivalent to that required for a Bachelor's degree in Geology, Geophysics, or Environmental Sciences (Environmental Geosciences Option only) at the University of Houston, or additional course work to make up undergraduate deficiencies may be required.

Deficiencies will be noted at the time of admission.

Transcripts are required.

GRE scores are not required.

For students enrolled in a graduate program, courses used for certification can also be used towards a graduate degree.



A student can be admitted either:

to a graduate program in the Department of Earth and Atmospheric Sciences at the University of Houston, or
to the Hydrogeology Certificate program as a "non-degree seeking" graduate student.

For Admission information, visit www.uh.edu/graduate-school/admissions/.

Certificate Requirements

Credit hours required for this certificate: 15.0

Core Course Requirements

12.0 Credit Hours

Course substitutions may be allowed on an individual basis, with prior approval from the Hydrogeology Certificate faculty advisor.

GEOL 6341 - Geochemistry Credit Hours: 3.0

GEOL 6346 - Geochemistry of Water-Rock Systems Credit Hours: 3.0

GEOL 6366 - Hydrogeology Credit Hours: 3.0

GEOL 6388 - Geospatial Analysis and Applications Credit Hours: 3.0

Elective Course Options

3.0 Credit Hours

GEOL 6332 - Air Pollution Meteorology Credit Hours: 3.0

GEOL 6335 - Atmospheric Numerical Modeling Credit Hours: 3.0

GEOL 6370 - Atmospheric Biogeochemistry Credit Hours: 3.0

GEOL 6357 - Soils and Paleosols Credit Hours: 3

Or other approved electives (see certificate advisor for list), with prior approval from the Hydrogeology Certificate faculty advisor.

Academic Policies

University of Houston Academic Policies

Academic Policies: College of Natural Sciences and Mathematics

Department of Mathematics

Admission to Master's and Doctoral Programs

The Mathematics Department offers four Master's degrees: the MS in Mathematics which offers a thesis or a tutorial option, the MS in Applied Mathematics (non-thesis only), the MS in Statistics and Data Science (non-thesis only), and the MA in Mathematics (non-thesis only). In addition to the College of Natural Sciences and Mathematics Admission Requirements, unconditional admission to the MS in Mathematics requires a baccalaureate degree in mathematics or its equivalent (27 semester hours of upper-division math or math-related courses); for unconditional admission to the MS in Applied Mathematics, a baccalaureate degree is required and the completion of at least nine hours of math at the junior or senior level, preferably in courses such as advanced linear algebra, analysis, differential equations, or probability and statistics. GRE aptitude scores, English language proficiency scores (if applicable), three letters of recommendation, and a statement of aims and goals are also requested. For admission to the doctoral program, the department requires a bachelor's or master's degree in mathematics or equivalent.

Send all application materials to:



Master

Applied Mathematics, MS

The intent of the Master's of Science in Applied Mathematics is to provide students with training in mathematics appropriate for many professional positions in industry. In particular, this program is aimed at developing practical computational and analytical mathematical skills required to tackle realistic problems. Students entering this program are required to have some background in applied mathematics equivalent to at least a minor in mathematics. Several professional certificate programs are offered under this program for students who want to specialize in a particular area of interest.

For additional information, please visit the Program Outline page.

Admission Requirements

An MS in Applied Mathematics applicant will have earned a bachelor's or a master's degree. Scores from the General GRE examination taken in the last 5 years are optional (verbal, quantitative, and analytical writing; advanced GRE is recommended but optional). TOEFL or IELTS scores must be provided by applicants who did not earn a prior degree from a US institution or a country where English is the medium of instruction see list at English Language Proficiency Requirements.

The admissions committee will evaluate the credentials of each applicant for the MS in Applied Mathematics program, considering a broad range of criteria, including:

- Content of undergraduate program and, if applicable, graduate programs and competency in mathematics
- A cumulative GPA of 3.00 or better in the last 60 hours of course work
- Letters of recommendation from three (3) individuals (preferably faculty members)
- GRE scores, if submitted (see above)
- English proficiency test scores (where applicable)

The prerequisite for admission to the program is the equivalent of a Bachelor's degree in mathematics as defined at the University of Houston. Prior experience with advanced undergraduate mathematical concepts is necessary.

Degree Requirements

Credit hours required for this degree: 30.0

A student must successfully complete 30 credit hours of the following mathematics courses below.

1) Basic Course Sequences

Complete two out the following four basic course sequences:

A. Applicable Analysis

MATH 6360 - Applicable Analysis Credit Hours: 3.0

MATH 6361 - Applicable Analysis Credit Hours: 3.0

B. Numerical Analysis



MATH 6370 - Numerical Analysis Credit Hours: 3.0
MATH 6371 - Numerical Analysis Credit Hours: 3.0

C. Probability and Statistics

MATH 6382 - Probability Statistics Credit Hours: 3.0
MATH 6383 - Probability Statistics Credit Hours: 3.0

D. Optimization

MATH 6366 - Optimization Theory Credit Hours: 3.0
MATH 6367 - Optimization Theory Credit Hours: 3.0

2) 5000, 6000, and 7000 Level Courses

Successfully complete another 12 credit hours of courses at the 5000, 6000 or 7000 level.

At most two of these courses can be selected from MATH 6308, MATH 6309, MATH 6312, MATH 6313.

At most two of these courses can be 5000 level subject to approval from the Graduate Director.

"Special Problems" courses may not be used to satisfy this requirement

At most two of these courses can be taken outside of the Department of Mathematics

3) Tutorial Project

Complete a tutorial project by completing MATH 6315 and 7315, Master's Tutorial under the supervision of a faculty member. Alternatively, the student, with consent of the Director of Graduate Studies, may decide to satisfy this requirement by taking two regularly scheduled classes. To pass MATH 7315, a student writes a project report, which must be approved by his/her supervisor and a summary of the project must be provided to the Director of Graduate Studies.

Any course from the four basic course sequence with a grade of C- or lower will have to be retaken. Undergraduate classes will not count towards this degree.

Academic Policies

University of Houston Academic Policies
Academic Policies: College of Natural Sciences and Mathematics

Scholastic Requirements

Graduate students must maintain a minimum grade point average of 3.00 in all course work to be considered in good standing. Students not in good standing cannot receive a graduate degree and can be declared ineligible for support with a graduate assistantship (IA, TA or RA).

Mathematics, MA

The primary purpose of the MA program is to prepare students to teach mathematics at the secondary school and junior/community college levels. In the MA program, all courses are offered online and the students do not need to come to our campus.

For additional information, please visit the Program Outline page: <http://www.uh.edu/nsm/math/graduate/ma-outline/>.

Admission Requirements



An M.A. applicant will have earned a bachelor's or a master's degree. Scores from the General GRE examination taken in the last 5 years are optional (verbal, quantitative, and analytical writing; advanced GRE is recommended but optional). International applicants have further documentation requirements, including proof of English language proficiency, which are described here: <http://www.uh.edu/graduate-school/international-students/>. The admissions committee will evaluate the credentials of each applicant, considering a broad range of criteria, including:

Content of undergraduate program and, if applicable, graduate programs and competency in mathematics.

A cumulative GPA of 3.00 or better in the last 60 hours of course work.

Letters of recommendation from three (3) individuals (preferably faculty members), who are able to judge the candidate's academic abilities and potential for scholarly research.

GRE scores, if submitted (see above).

Fulfilling the university's English Language Proficiency requirement.

The prerequisite for admission to the program is the equivalent of a Bachelor's degree in mathematics as defined at the University of Houston.

Prior experience with advanced undergraduate mathematical concepts is necessary.

Degree Requirements

Credit hours required for this degree: 33.0

The program requires 33 total term hours of course work to include:

A minimum of 21 term hours of graduate courses in mathematics.

Completion of at least one 3 hour course in each of the groups: Algebra, Analysis, Probability and Statistics, and Applied Mathematics.

Three (3) hours of MATH 6315, Master's Tutorial.

A maximum of 9 semester hours of course work may be taken outside of the mathematics department with prior approval from the graduate faculty advisor.

Academic Policies

University of Houston Academic Policies

Academic Policies: College of Natural Sciences and Mathematics

Mathematics, MS

The Master of Science in Mathematics program provides a rigorous training in the area of mathematics. This program emphasizes a curriculum in pure mathematics which is geared towards developing analytical mathematical skills. Students entering this program are expected to be familiar with mathematical proofs at the undergraduate level. This program prepares students for further academic career, as well as teaching in a higher education institution.

For more information, please visit the Program Outline page: <http://www.uh.edu/nsm/math/graduate/ms-outline/>.

Admission Requirements

An MS applicant will have earned a bachelor's or a master's degree. Scores from the General GRE examination taken in the last 5 years are optional (verbal, quantitative, and analytical writing; advanced GRE is recommended but optional). TOEFL or IELTS scores, must be provided by applicants who did not earn a prior degree from a US institution or a country where English is the medium of instruction (see list here: General Admission Policy).

Visit International Students (<http://www.uh.edu/graduate-school/international-students/>) to learn more.

The admissions committee will evaluate the credentials of each applicant for the M.S. program, considering a broad range of criteria, including:

Content of undergraduate program and, if applicable, graduate programs and competency in mathematics

A cumulative GPA of 3.00 or better in the last 60 hours of course work



Letters of recommendation from three (3) individuals (preferably faculty members), who are able to judge the candidate's academic abilities and potential for scholarly research
GRE scores, if submitted (see above)
English proficiency test scores, if applicable.

The prerequisite for admission to the program is the equivalent of a Bachelor's degree in mathematics as defined at the University of Houston. Prior experience with advanced undergraduate mathematical concepts is necessary. All applications are evaluated with respect to the research potential of the candidate.

Degree Requirements

Credit hours required for this degree: Thesis, 30.0/Tutorial, 36.0

To receive an MS in Mathematics, a student must satisfy one of the two options below:

Plan I - Thesis

A minimum of 30 credit hours is required. These hours include a minimum of 3 credit hours (no more than 6) of MATH 6399 or 7399 Master's Thesis, and a minimum of 24 credit hours in course work. These 24 credit hours must consist of 18 credit hours of courses in mathematics at the 6000 level or above, except for MATH 6308 (Advanced Linear Algebra), MATH 6309 (Advanced Linear Algebra II), MATH 6312 (Introduction to Real Analysis), or MATH 6313 (Introduction to Real Analysis). No more than 3 of the 24 credit hours may be in special problems. An oral and/or written examination over the candidate's background will be conducted by the thesis committee, and a written thesis will be submitted to the department and college.

Plan II - Tutorial

A minimum of 36 credit hours is required. These hours must include 6 credit hours of MATH 6315, Master's Tutorial credit and a minimum of 30 credit hours in other course work. Of these 30 hours at least 21 hours must be in regularly scheduled mathematics courses at the 6000 level or above, except for MATH 6308 (Advanced Linear Algebra), MATH 6309 (Advanced Linear Algebra II), MATH 6312 (Introduction to Real Analysis), or MATH 6313 (Introduction to Real Analysis). No more than 6 of the 30 credit hours may be in special problems. The tutorial requirement may be satisfied by participating in regularly scheduled classes, if this is the decision of the student and advisor. At most 6 hours of courses taken outside the mathematics department will be allowed with prior approval of the director of graduate studies.

Core Course Requirements

All MS students must complete at least 12 hours from the following master's degree core courses, with a one-year sequence in two of the following three areas:

Area 1:

Functions of a Real Variable (MATH 6320; 6321)
Complex Analysis (MATH 6322; 6323)
Functional Analysis (MATH 7320; 7321)

Area 2:

Modern Algebra (MATH 6302; 6303)
Topology/Geometry (MATH 6342; 7350)

Area 3:

Differential Equations (MATH 6324; 6325)
Partial Differential Equations (MATH 6326; 6327)
Numerical Analysis (MATH 6370; 6371)
Probability Models and Mathematical Statistics (MATH 6382; 6383)
Applicable Analysis (MATH 6360; 6361)



MATH 6323, MATH 6303, MATH 7350, MATH 6325 can be substituted by other courses in the same area with prior approval from the director of graduate studies.

Academic Policies

University of Houston Academic Policies

Academic Policies: College of Natural Sciences and Mathematics

Establishing a Thesis Research Committee

Students who are completing a thesis must assemble a thesis committee. A thesis committee must be on file with the department and College no later than the term prior to the anticipated graduating term. More details on committee composition can be found here: Graduate Degree Requirements: College of Natural Sciences and Mathematics.

Scholastic Requirements

Graduate students must maintain a minimum grade point average of 3.00 in all course work to be considered in good standing. Students not in good standing cannot receive a graduate degree and can be declared ineligible for support with a graduate assistantship (IA, TA or RA).

Statistics and Data Science, MS

The Master of Science in Statistics and Data Science, offered by the Department of Mathematics, provides students with training in the statistical analysis of data sets, as well as in state of the art data mining techniques. The program includes computational implementations on real data sets and learning key theoretical concepts. The program provides students with necessary skills required for professional positions in data analysis and statistics. Students will be equipped for employment in biomedical fields and health institutions, in oil and gas research and development, in financial and actuarial sectors, and related areas. Recent graduates from our U of H applied mathematics MS and PhD programs who acquired similar skills are currently employed in the banking, biomedical, energy, insurance and financial industries, or teach in high schools and community colleges.

For further information, please see the Master of Science in Statistics and Data Science page.

Admission Requirements

A complete graduate school application must be submitted along with any applicable fee. An MS applicant will have earned a bachelor's or a master's degree. Scores from the General GRE examination taken in the last 5 years are optional (verbal, quantitative, and analytical writing; advanced GRE is recommended but optional). For students who did not earn a prior degree from a U.S. institution or a country where English is the medium of instruction, (see list) students must meet minimum test scores to demonstrate English language proficiency.

The admissions committee will evaluate the credentials of each applicant for the MS program, considering a broad range of criteria, including:

the content of the undergraduate program and, if applicable, graduate programs and competency in mathematics,

Applicants must have a good background in mathematics (including calculus / advanced mathematics, and linear algebra)

a cumulative GPA of 3.00 or better in the last 60 hours of course work,

letters of recommendation from three (3) individuals (preferably faculty members), who are able to judge the candidate's academic abilities and potential for scholarly research, and

GRE scores, if submitted (see above).

English language proficiency test scores, if applicable.

Additional notes:

A student needs not to have majored in mathematics to be admitted.

A background in probability and statistics is not essential but is a plus.

Proficiency in at least one of the main programming languages used in data analysis (R, SAS, Matlab, Python, etc) is not required but is helpful.

Degree Requirements



Credit hours required for this degree: 30.0

Required Courses

24.0 Credit Hours

- MATH 6350 - Statistical Learning and Data Mining Credit Hours: 3.00
- MATH 6357 - Linear Models and Design of Experiments Credit Hours: 3.0
- MATH 6358 - Probability Models and Statistical Computing Credit Hours: 3.0
- MATH 6359 - Applied Statistics and Multivariate Analysis Credit Hours: 3.0
- MATH 6373 - Deep Learning and Artificial Neural Networks Credit Hours: 3.00
- MATH 6380 - Programming Foundation for Data Analytics Credit Hours: 3.0
- MATH 6381 - Information Visualization Credit Hours: 3.0
- MATH 6386 - Big Data Analytics Credit Hours: 3.0

Elective Course Options

3.0 Credit Hours from the list below

- MATH 6387 - Biomed Data Analysis and Computing Credit Hours: 3.0
- MATH 6388 - Genome Data Analysis Credit Hours: 3.0
- MATH 6397 - Selected Topics in Math Credit Hours: 3

Summer Research Project

3.0 Credit Hours

- MATH 6315 - Masters Tutorial Credit Hours: 3.0

Students successfully complete a summer research project in data analysis under the supervision of a faculty mentor. Within these requirements, students are encouraged to pursue their own interests. In particular, the subject matter of the summer research project is often related to a student's professional work. Research projects typically involve studying a real world data analysis problem, in a wide range of data types (biomedical, clinical, financial, energy, psychological or social). Each project involves understanding the data structure, conducting an efficient data analysis, and writing a full report with the guidance of a faculty mentor. The research project report is expected to present thoroughly and in depth the data set studied, the methods computationally-implemented, and the results obtained. To pass Math 6315, a student writes a project report which must be approved by his/her supervisor and a summary of the project report must be provided to the Director of Graduate Studies.

Academic Policies

University of Houston Academic Policies
Academic Policies: College of Natural Sciences and Mathematics

Scholastic Requirements

Graduate students must maintain a minimum grade point average of 3.00 in all course work to be considered in good standing. Students not in good standing cannot receive a graduate degree and can be declared ineligible for support with a graduate assistantship (IA, TA or RA).

Doctoral



Mathematics, PhD

The PhD in mathematics program is open to students who wish to pursue a career in academic research or teaching, as well as in industry. This program emphasizes research in pure and applied mathematics. Therefore, students with a strong background in mathematics with a major in quantitative fields such as pure and applied mathematics, economics, engineering, physics are encouraged to apply. The program aims to prepare students for positions in academia and industry which require a deep knowledge of advanced mathematical concepts. Students completing this program must demonstrate research competence by successfully defending a dissertation in one of the research areas represented in the department.

For additional information, please visit [Mathematics, PhD Outline](#) page.

Admission Requirements

A doctoral applicant will have earned a bachelor's or a master's degree, and submitted scores from the General GRE examination taken in the last 5 years (verbal, quantitative, and analytical writing; advanced GRE is recommended but optional). International applicants have further documentation requirements, including proof of English language proficiency, which are described at [International Students](#). International applications require a \$75 application fee. The admissions committee will evaluate the credentials of each applicant for the Ph.D. program, considering a broad range of criteria, including:

- Content of undergraduate program and, if applicable, graduate programs and competency in mathematics.

- A cumulative GPA of 3.00 or better in the last 60 hours.

- Letters of recommendation from three (3) individuals (preferably faculty members), who are able to judge the candidate's academic abilities and potential for scholarly research.

- GRE scores (see above).

- Fulfilling the university's English Language Proficiency Requirement.

The prerequisite for admission to the program is the equivalent of a Bachelor's degree in mathematics as defined at the University of Houston. Prior experience with advanced undergraduate mathematical concepts is necessary. All applications are evaluated with respect to the research potential of the candidate.

Please visit the program's [Graduate Admissions and Support](#) page for more information.

Degree Requirements

Credit hours required for this degree: 54.0

- A minimum of 54 graduate semester hours is required for the Ph.D. degree. Of these, at least 24 hours must be formal lecture courses in mathematics. Any courses taken outside the department of mathematics will require prior approval from the director of graduate studies.

- Completion of at least 3, but no more than 12, semester hours of MATH 8X99 Doctoral Dissertation courses.

- One academic year of continuous full-time enrollment (Fall/Spring or Spring/Summer/Fall).

- Completion of preliminary examinations.

- Completion of a successfully defended dissertation based on original research which must be submitted to the NSM Office of Academic Affairs by the deadline on the College website.

Academic Policies

- University of Houston Academic Policies

- Academic Policies: College of Natural Sciences and Mathematics

Establishing a Doctoral Research (Dissertation) Committee

Students must assemble a dissertation committee. A dissertation committee must be on file with the department and College no later than the term prior to the anticipated graduating term. More details on committee composition can be found at [Graduate Degree Requirements](#).



Preliminary examinations

PhD students must pass 3 preliminary examinations from different areas. Each exam is a 3-hour written test based on one of the graduate courses taught in the department of mathematics. Students are expected to pass all 3 preliminary examinations within the first two years of their study. Students who hold a Master's degree are expected to pass all 3 preliminary examinations within 1 year. Further details on the preliminary examinations can be found at [Preliminary Examinations](#).

Scholastic Requirements

Graduate students must maintain a minimum grade point average of 3.00 in all course work to be considered in good standing. Students not in good standing cannot receive a graduate degree and can be declared ineligible for support with a graduate assistantship (IA, TA, RA/TE or RA).

Graduate Certificate

Computational Mathematics Certificate

Student in the Master of Science in Applied Mathematics program may take 18 credit hours from the specialized course list to receive the Computational Mathematics Certificate. This certificate is particularly suitable for students who wish to pursue an industrial career in scientific computing.

For more information, please visit the Certificate in Computational Mathematics (CCM) website.

Admission Requirements

Students must be admitted in the Applied Mathematics MS program and can add the certificate to the degree by petition.

Please visit: [Graduate Admissions](#)

Certificate Requirements

Credit hours required for this certificate: 18.0

Successful completion of:

MATH 6370 - Numerical Analysis Credit Hours: 3.0

MATH 6371 - Numerical Analysis Credit Hours: 3.0

MATH 6378 - Basic Scientific Computing Credit Hours: 3.0

Successful completion of at least 9 credit hours of courses from:

MATH 6366 - Optimization Theory Credit Hours: 3.0

MATH 6367 - Optimization Theory Credit Hours: 3.0

MATH 6374 - Num Part Diff Equations Credit Hours: 3.0

MATH 6376 - Num Linear Algebra Credit Hours: 3.0

MATH 7374 - Finite Element Methods Credit Hours: 3.0

or a selected topics class in numerical analysis

Any course with a grade of C+ or lower will need to be retaken.

Scholastic Requirements

Graduate students must maintain a minimum grade point average of 3.00 in all course work to be considered in good standing. Students not in good standing cannot receive a graduate degree or certificate. Graduate students who receive grades of C+ or lower in 12 or more semester hours of course work attempted for graduate credit are ineligible for any advanced degree at this institution. Semester hours of "U" grades in S/U-graded courses apply toward the above 12-hour total.



Academic Policies

University of Houston Academic Policies
Academic Policies: College of Natural Sciences and Mathematics

Financial Mathematics Certificate

Students in the Master of Science in Applied Mathematics program can take 24 credit hours from a list of specific courses to receive the Financial Mathematics Certificate. This certificate provides the academic training for students who want to pursue a career in the financial industry.

Please visit the Financial Mathematics Certificate website for more information.

Admission Requirements

Students must be admitted in the MS Applied Mathematics program and can add the certificate to the degree by petition. Please visit the Graduate Admissions website for full requirements.

Certificate Requirements

Credit hours required for this certificate: 24.0

Successful completion of the following courses:

- MATH 6382 - Probability Statistics Credit Hours: 3.0
- MATH 6383 - Probability Statistics Credit Hours: 3.0
- MATH 6366 - Optimization Theory Credit Hours: 3.0
- MATH 6367 - Optimization Theory Credit Hours: 3.0
- MATH 6384 - Discrete Time Model in Finance Credit Hours: 3.0
- MATH 6385 - Continuous Time Models in Fina Credit Hours: 3.0

Successful completion of two more courses in financial mathematics or relevant areas with the prior approval of the graduate advisor.

Scholastic Requirements

Graduate students must maintain a minimum cumulative grade point average of 3.00 in all course work to be considered in good standing. Students not in good standing cannot receive a graduate degree or certificate. Graduate students who receive grades of C+ or lower in 12 or more semester hours of course work attempted for graduate credit are ineligible for any advanced degree at this institution. Semester hours of "U" grades in S/U-graded courses apply toward the above 12-hour total. Any course with a grade of C+ or lower will need to be retaken.

Academic Policies

University of Houston Academic Policies
Academic Policies: College of Natural Sciences and Mathematics

Department of Physics

Admission to Master's and Doctoral Programs

In addition to the College of Natural Science and Mathematics Admission Requirements, the Department of Physics requires a bachelor's degree in physical science or engineering and recommends the GRE advanced test in physics.



Master

Physics, MS

Physics is a broad subject that ranges from the origins of the universe to the design of better electronic memory devices. Students with a Bachelor's degree in physics or related fields are encouraged to apply to the Department of Physics Master's program. The program is suitable both as a means of professional development and preparation for further graduate study. Students will normally complete the requirements within four terms, starting with basic "core" courses in classical mechanics, electrodynamics, quantum mechanics and statistical physics, followed by a number of elective courses or a master's thesis. Our research groups provide world-class training and experience designed to give students the skills that are highly valued by the various electronics, medical, financial, and energy industries, as well as academia.

Please visit the Physics Graduate Programs page for more information: <http://www.uh.edu/nsm/physics/graduate/>.

Admission Requirements

Applicants are expected to have completed, or be in their last term of completing, a bachelor's in physics or a related field, or a master's degree, and have acquired a working knowledge of the basic areas of physics including mechanics, thermodynamics, and electromagnetism. Scores from the General GRE examination taken in the last 5 years are optional (verbal, quantitative, and analytical writing; advanced GRE is recommended but optional). International applicants have further documentation requirements, including proof of English language proficiency, as described on the Graduate International Students website.

Admission to the program is competitive within the applicant pool. The admissions committee and the department chair will evaluate the credentials of each applicant for the M.S. program, considering a broad range of criteria, including:

- Content of the undergraduate program and, if applicable, graduate program and grades earned, particularly in the areas of physics and mathematics.

- A cumulative GPA of 3.00 or better in the last 60 hours.

- Letters of recommendation from three (3) individuals (preferably faculty members).

- GRE scores, if submitted (see above).

- Fulfilling the university's English Language Proficiency requirement.

- Scientific, professional, and technical publications (if applicable).

Degree Requirements

Credit hours required for this degree: Thesis, 30.0/Non-Thesis, 36.0

To receive the degree of Master of Science in Physics, a student must satisfy one of the two options below:

Thesis Option

A student must successfully complete a minimum of 30 credit hours for which graduate credit is accepted by the department, to include the following courses:

Core Courses

- PHYS 6303 - Methods of Mathematical Physics | Credit Hours: 3.0

- PHYS 6309 - Advanced Mechanics | Credit Hours: 3.0

- PHYS 6315 - Quantum Mechanics I | Credit Hours: 3.0

- PHYS 6321 - Electrodynamics | Credit Hours: 3.0

- PHYS 6327 - Statistical Physics | Credit Hours: 3.0



Master's Thesis

PHYS 6X99 and/or PHYS 7X99, A minimum of three but no more than six credit hours in the graduating term

The student must select a thesis advisor before the second term of graduate work has been completed. Shortly after a thesis advisor has been selected, a thesis committee must be selected jointly by the student and the thesis advisor. The committee must consist of the advisor, at least two members of the physics graduate faculty, and at least one University of Houston faculty member from outside the department. Further details on committee composition can be found at NSM Graduate Degree Requirements. The student must present an acceptable thesis of original scientific research in physics and defend it orally before the thesis committee.

Non-Thesis Option

A student must successfully complete a minimum of 36 credit hours for which graduate credit is accepted by the department, to include the following courses:

Core Courses

PHYS 6303 - Methods of Mathematical Physics I Credit Hours: 3.0

PHYS 6309 - Advanced Mechanics I Credit Hours: 3.0

PHYS 6315 - Quantum Mechanics I Credit Hours: 3.0

PHYS 6321 - Electrodynamics Credit Hours: 3.0

PHYS 6327 - Statistical Physics Credit Hours: 3.0

Advanced Electives

In addition, 21 credit hours of work in either advanced physics and/or other fields will be required. (Course outside of physics will need permission from the Graduate Faculty Advisor).

Academic Policies

University of Houston Academic Policies

College of Natural Sciences and Mathematics Academic Policies

Department Academic Policies

Students must maintain a B average in the core graduate courses and may not make more than two B-minus grades in the core courses listed above. Students working on a thesis must have a thesis committee on file with the College no later than the term prior to the anticipated graduating term. Details about committee composition policies can be found on the College of Natural Sciences and Mathematics Graduate Degree Requirements webpage.

Scholastic Requirements: Graduate students must maintain a minimum grade point average of 3.00 in all course work to be considered in good standing. Students not in good standing cannot receive a graduate degree and can be declared ineligible for support with a graduate assistantship (IA, TA or RA).

All graduate students are required to attend the weekly Department of Physics Colloquium. Failure to do so without an approved proper excuse may result in a loss of financial support.

Doctoral

Physics, PhD

The Doctor of Philosophy in Physics degree signifies that the recipient has acquired a broad and in-depth knowledge of the discipline and has demonstrated research competence meeting the national standards. Students accepted for the program typically possess a four-year bachelor's degree in physics or related fields. Physicists are recognized for their ability to investigate secrets of the natural world through careful



experimentation, theoretical modelling or computer simulations or a combination of these, the final goal being uncovering/validating/extending laws of nature. These skills acquired during the degree are highly valued not only in academia and research labs but also by a variety of industries. Our graduates have gained employment in academia as well as in research labs, industries and businesses in a wide range of areas including oil & gas, renewable energy, medical research, semiconductors (example: Intel Corporation), financial analysis, software/hardware development and data science.

For more information, please visit the Physics Graduate Programs website: <http://www.uh.edu/nsm/physics/graduate/>.

Admission Requirements

Applicants are expected to have completed, or be in their last term of completing, a bachelor's in physics or a related field, or a master's degree, and have acquired a working knowledge of the basic areas of physics including mechanics, thermodynamics, and electromagnetism. The applicants holding a three-year bachelor's degree must have received or be in the final semester of finishing a master's degree in physics. The General GRE test is not required. Applicants have the option to submit scores from the General GRE examination taken in the last 5 years (verbal, quantitative, and analytical writing). The advanced GRE is recommended but optional. International applicants have further documentation requirements, including proof of English language proficiency, which are described on the International Graduate Students web page: <http://www.uh.edu/graduate-school/international-students/>.

Admission to the program is competitive within the applicant pool. The admissions committee and the department chair will evaluate the credentials of each applicant for the PhD program, considering a broad range of criteria, including:

- Content of the undergraduate program and, if applicable, graduate program and grades earned, particularly in the areas of physics and mathematics.

- A cumulative GPA of 3.00 or better in the last 60 hours.

- Letters of recommendation from three (3) individuals (preferably faculty members), who are able to judge the candidate's academic abilities and potential for scholarly research.

- GRE scores, if submitted (see above).

- Fulfilling the university's English Language Proficiency Requirement.

- Scientific, professional, technical publications and Master's Thesis (if applicable).

Degree Requirements

Credit hours required for this degree: 54.0

To receive a Ph.D. in Physics, a student must satisfy the following three requirements:

1. Course Requirements

Successful completion of a minimum of 54 credit hours for which graduate credit is accepted by the department. These 54 hours must include courses that satisfy Basic Core and Advanced Core requirements; and successful completion of a minimum of 3 and no more than 12 credit hours of doctoral dissertation. Courses taken outside the department of Physics will require prior approval from the graduate faculty advisor.

Basic Core Requirements (total credit hours: 18.0)

In order to qualify for the doctoral program, students need to pass each Basic Core course with a grade of B or higher. Students who have successfully completed equivalent graduate courses at another institution will be allowed to qualify for the doctoral program if they appear for a qualifying examination for each of those courses and earn a B or higher grade. The qualifying examinations will be offered before the start of the semester. Nonetheless, this will be counted as one of the two attempts for completing the qualifying exam (see Requirement 2 below for number of attempts criterion).

Basic Core Courses:



PHYS 6303 - Methods of Mathematical Physics I Credit Hours: 3.0
PHYS 6309 - Advanced Mechanics I Credit Hours: 3.0
PHYS 6315 - Quantum Mechanics I Credit Hours: 3.0
PHYS 6316 - Quantum Mechanics II Credit Hours: 3.0
PHYS 6321 - Electrodynamics Credit Hours: 3.0
PHYS 6327 - Statistical Physics Credit Hours: 3.0
PHYS 7316 - Quantum Field Theory Credit Hours: 3.0

Advanced Core/Elective Requirements(total credit hours: 12.0)

Four courses with a minimum of two from the Advanced Core course list below must be successfully completed. At most one of the remaining courses can be taken from outside of the Department with permission from the Chair of the Dissertation Committee and the Chair of the Graduate Studies Committee.

Advanced Core courses:

PHYS 6304 - Methods of Mathematical Physics II Credit Hours: 3.0
PHYS 6313 - Graduate Laboratory Credit Hours: 3.0
PHYS 6328 - Advanced Statistical Mechanics Credit Hours: 3
PHYS 6350 - Computational Physics Credit Hours: 3.0
PHYS 7315 - Quantum Many-Body Theory Credit Hours: 3.0
PHYS 7316 - Quantum Field Theory Credit Hours: 3.0
PHYS 7337 - Solid State Physics I Credit Hours: 3.0

2. Qualification for PhD Candidacy

Full-time students must advance to candidacy no later than 2 years after entry into the PhD program (within the first 36 hours of graduate coursework for part-time students). To advance to candidacy for the doctoral program, a student must pass all six Basic Core courses with a grade of B or higher. A student must also receive a grade of B or higher in the first attempt in at least four (4) of the six Basic Core courses. The student receiving a grade of B- or below is offered a second attempt to obtain a grade of B or higher in the remaining Basic Core courses; however, this opportunity will not be available for those who have taken the pre-semester exams as indicated in Requirement 1. A student who earns less than a B grade in three (3) or more Basic Core courses at the first attempt will be dismissed from the program due to failure to advance to candidacy. If the failure is due to extenuating circumstances, the student can appeal the decision to the Graduate Studies Committee.

3. Original Research Requirements

An acceptable dissertation based on original research in Physics must be presented and defended orally before the student's doctoral dissertation committee.

Advanced Electives

Advanced Elective courses will be offered at regular intervals. These are typically expositions of topics of current interest. The student body will be polled to find their choices at least a semester before an Advanced Elective is offered; the department will attempt to fulfill the students' wishes. Some Electives offered in recent years include:

General Relativity and Gravitation
Solid State Physics II
Atmospheric Physics
Particle Physics
Biological Physics



Scattering Theory
Seismic Physics I and II
Physics and Applications of Semiconductors
Optics

Academic Policies

Department Academic Policies

Students must assemble their doctoral committee within the first term after they pass all the Ph.D. core courses listed above, or before the end of their third academic year whichever comes first. The dissertation committee must consist of the research advisor, at least two (normally three) additional graduate faculty members from the Department of Physics, and at least one UH faculty member from outside the department. A dissertation committee must be on file with the College no later than the term prior to the anticipated graduating term. More details on committee composition can be found on the Graduate Degree Requirements: College of Natural Sciences and Mathematics.

Annual Progress Evaluation (APE): Before the end of the student's third academic year, AND IN EACH SUBSEQUENT ACADEMIC YEAR, the student must make an oral presentation to their doctoral dissertation committee. The committee must certify that the student is making adequate progress toward completion of their Ph.D. in a timely manner.

All graduate students are required to attend the weekly Department of Physics Colloquium. Failure to do so without an approved proper excuse may result in a loss of financial support.

Scholastic Requirements: Graduate students must maintain a minimum grade point average of 3.00 in all course work to be considered in good standing. Students not in good standing cannot receive a graduate degree and can be declared ineligible for support with a graduate assistantship (IA, TA, RA/TE or RA).

Admission Requirements

Applicants are expected to have completed, or be in their last term of completing, a bachelor's in physics or a related field, or a master's degree, and have acquired a working knowledge of the basic areas of physics including mechanics, thermodynamics, and electromagnetism. Applicants will need to submit scores from the General GRE examination taken in the last 5 years (verbal, quantitative, and analytical writing; advanced GRE is recommended but optional). International applicants have further documentation requirements, including proof of English language proficiency, which are described on the International Graduate Students web page: <http://www.uh.edu/graduate-school/international-students/>. International applications require a \$75 application fee.

Admission to the program is competitive within the applicant pool. The admissions committee and the department chair will evaluate the credentials of each applicant for the PhD program, considering a broad range of criteria, including:

Content of the undergraduate program and, if applicable, graduate program and grades earned, particularly in the areas of physics and mathematics.

A cumulative GPA of 3.00 or better in the last 60 hours.

Letters of recommendation from three (3) individuals (preferably faculty members), who are able to judge the candidate's academic abilities and potential for scholarly research.

GRE scores (see above).

Fulfilling the university's English Language Proficiency Requirement.

Scientific, professional, technical publications and Master's Thesis (if applicable).



Department of Biology and Biochemistry

Ricardo Azevedo. Associate Professor and Associate Chair for Graduate Affairs of Biology and Biochemistry. B.Sc., University of Lisbon, Portugal; Ph.D., University of Edinburgh, U.K.

Steven Bark. Assistant Professor of Biology and Biochemistry. Ph.D., The Scripps Research Institute.

Tasneem Bawa-Khalfe. Assistant Professor of Biology and Biochemistry. B.S., Baylor University; Ph.D., University of Houston.

James Briggs. Professor of Biology and Biochemistry and Associate Dean for Faculty Affairs, B.S., University of Texas at El Paso; Ph.D., Purdue University.

Li Chen. Assistant Professor of Biology and Biochemistry. M.D., Wuhan University; Ph.D., Baylor College of Medicine.

Sang-Hyuk Chung. Associate Professor of Biology and Biochemistry. B.S. and M.S., Korea University, Korea; Ph.D., Baylor College of Medicine.

Blaine J. Cole. Professor of Biology and Biochemistry. B.S., University of Kansas; M.A., Ph.D., Princeton University.

Kerri Crawford. Assistant Professor of Biology and Biochemistry. B.S., University of Tennessee; Ph.D., Rice University.

Brigitte Dauwalder. Associate Professor of Biology and Biochemistry. Ph.D., University of Zürich, Switzerland.

Anne H. Delcour. Professor of Biology and Biochemistry, and Associate Dean for Graduate Studies. B.S., University of Liege, Belgium; Ph.D., Cornell University.

Stuart E. Dryer. Moores Professor. B.A., University of Iowa; M.S., University of Arizona; Ph.D., St. Louis University.

Qin Feng. Associate Professor of Biology and Biochemistry. B.S./M.S., East China Normal University; Ph.D., University of North Carolina at Chapel Hill

George E. Fox. Moores Professor of Biology and Biochemistry. B.S.Ch.E., Ph.D., Syracuse University.

Robert Fox. Professor of Biology and Biochemistry. B.S., University of Pittsburgh; Ph.D., Yale University.

Tony Frankino. Associate Professor of Biology and Biochemistry. Ph.D., Indiana University.

Masaya Fujita. Professor of Biology and Biochemistry. B.S., Hiroshima University, Japan; Ph.D., Osaka University, Japan.

Xiaolian Gao. Professor of Biology and Biochemistry. B.S., Beijing Institute of Chemical Engineering; Ph.D., Rutgers University.

Dan Graur. Moores Professor of Biology and Biochemistry. B.Sc., M.Sc. Tel Aviv University; Ph.D., University of Texas at Houston.

Preethi Gunaratne. Professor of Biology and Biochemistry. B.S., University of Colombo, Sri Lanka; M.S. and Ph.D., Cornell University.

Jan-Åke Gustafsson. Robert A. Welch Professor of Biology and Biochemistry. M.D. and Ph.D., Karolinska Institute, Sweden.

Erin Kelleher. Associate Professor of Biology and Biochemistry. B.S., University of Virginia; Ph.D., University of Arizona.

Seema Khurana. Professor of Biology and Biochemistry. B.Sc. and M.Sc., Panjab University, India; Ph.D., Postgraduate Institute of Medical Education and Research, India.

Arne Lekven. Associate Professor of Biology and Biochemistry. Ph.D., University of California-Los Angeles.

Chin-Yo Lin. Associate Professor of Biology and Biochemistry. B.S., Brigham Young University; Ph.D., Harvard University.

Yu Liu. Associate Professor of Biology and Biochemistry. M.D., Xian Jiaotong University; Ph.D., University of Hong Kong (Hong Kong).

Frank McKeon. Professor of Biology and Biochemistry. Ph.D., University of California-San Francisco.



Richard Meisel. Assistant Professor of Biology and Biochemistry. B.A., Cornell University; Ph.D., Pennsylvania State University.

Mary Ann Ottinger. Professor of Biology and Biochemistry. B.S., Ph.D., University of Maryland.

Weiyi Peng. Assistant Professor of Biology and Biochemistry. M.D., Tongji Medical University, Ph.D., Baylor College of Medicine.

Steven Pennings. Professor of Biology and Biochemistry and Vice Chair of Biology and Biochemistry. B.S., Brown University; Ph.D., University of California.

Michael A. Rea. Professor of Biology and Biochemistry. B.S., Indiana State University; Ph.D., Indiana State University.

Amy K. Sater. Professor and Chair of Biology and Biochemistry. B.S., University of California, Santa Cruz; M.S., Stanford University; Ph.D., University of Texas at Austin.

Robert Schwartz. Cullen Distinguished Professor of Biology and Biochemistry. B.S., Brooklyn College; Ph.D., University of Pennsylvania.

Mehmet Sen. Assistant Professor of Biology and Biochemistry. B.S., Bogazici University (Robert College), Istanbul, Turkey; Ph.D., University of Houston.

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The Master of Science in Nursing offers tracks in nursing education, nursing administration, and family nurse practitioner.

Accreditation

The College of Nursing has full approval from the Texas Board of Nursing. The RN-BSN Track, Second Degree BSN Track, Traditional BSN Track and MSN Tracks in Nurse Administration, Nurse Education, and Family Nurse Practitioner have approval from the Texas Higher Education Coordinating Board. The baccalaureate degree in nursing and master's degree in nursing program at the University of Houston are accredited by the Commission on Collegiate Nursing Education (CCNE), 655 K Street NW, Suite 750, Washington DC 20001, Telephone 202-887-6791.
<http://www.ccneaccreditation.org/>

Mission

The Mission of the University of Houston College of Nursing is to provide innovative, dynamic, and nationally competitive nursing education to a diverse student population that builds professional leaders and clinical experts.

The University Of Houston College Of Nursing is committed to serving educational needs, supporting lifelong learning, advancing excellence in regional and global health care through strong inter-professional collaborations and partnerships while advancing scholarship, research, leadership and service.

Shared Values of the Mission

As its primary goal, the College of Nursing is dedicated to promoting nursing excellence. We uphold the values of nursing:

- Integrity
- Honesty
- Accountability
- Compassion
- Respect for all people

Vision



Goals

College of Nursing Goals

Provide accessible student-centered educational programs that blend innovative technology and face-to-face support.

Prepare valued nurse leaders for the communities served.

Maintain excellence in baccalaureate and graduate nursing curricula.

Develop strong clinical and service liaisons and partnerships with community groups, health care agencies, alumni, and other interested individuals.

Advance the nursing profession through faculty scholarship and professional involvement.

Professional Affiliations, Honor Societies, and Student Organizations

Sigma Theta Tau International - Phi Chi Chapter



College of Nursing - Leadership

Kathryn Tart, EdD, MSN, RN

Founding Dean and Professor, Humana Endowed Dean's Chair in Nursing; BA Luther College; MSN University of Texas Health Science Center at San Antonio; EdD University of Houston.

Kathleen Reeve, DrPH, ANP-BC, FNP-C

Associate Dean/Graduate Program Director/Clinical Professor, BSN University of Texas Health Science Center at Houston; MSN University of Texas Health Science Center at Houston; Adult Nurse Practitioner (ANP) University of Texas Health Science Center at Houston; DrPH University of Texas Health Science Center at Houston; Family Nurse Practitioner (FNP) Prairie View A&M University.



College of Nursing - Admissions

Admissions Requirements

All applicants must satisfy university requirements for a graduate degree in addition to the MSN track requirements below:

Completion of Bachelor of Science in Nursing (BSN) degree from an institution accredited professionally and by one of the six recognized regional accrediting associations as described in the General Admission Policy section of the university catalog.

Evidence of current, unencumbered, valid licensure as a registered nurse in the State of Texas.

Official transcripts from each institution attended reflecting a grade point average of 3.0 or above on a 4.0 point scale on coursework complete, and the baccalaureate (or higher) degree conferred.

Mail transcripts to:

NursingCAS

P.O. Box 9201

Watertown, MA 02471

Personal Statement

One page personal statement to include information about the applicant's education and experience as a professional nurse to date, reason for interest in graduate education, career goals for the next five (5) years, reason for choosing UH for graduate education, and contributions the applicant plans to make to the mission of UH College of Nursing and to advanced nursing practice.

A resume is required.

An interview.

Official score(s) of the Miller Analogies Test (MAT) or Graduate Record Examination (GRE) is not required for applicants with a GPA of at least 3.0 on a 4.0 scale. A GRE or MAT score will be required for applicants with a GPA between 2.75 - 2.9 for conditional admission. Scores may not be more than 5 years old.

Two letters of recommendation:

one from a university faculty and

one from an employer

Professional work experience as defined by individual tracks. It is preferred all FNP applicants have a minimum of one (1) year of experience as baccalaureate prepared registered nurse.

Applicants must satisfy the UH College of Nursing Policy for Clinical Readiness requirements.



College of Nursing - Policies

Please refer to the College of Nursing website for information regarding policies.



College of Nursing - Financial Information

Scholarships

The College of Nursing recommends scholarships for enrolled undergraduate and graduate students each semester based on the specific scholarship criteria. Scholarship information is available on the College of Nursing website at www.uh.edu/nursing.

Financial Aid

Please review the UH Scholarships and Financial Aid website for more general information about UH scholarships and financial aid available and the required application process.



College of Nursing

The Master of Science in Nursing program is designed to build upon the BSN degree. Students in this program are prepared to function at advanced levels with an expanded knowledge of theory, research and clinical application. Graduates are prepared to provide evidence-based health care and to work on collaborative teams. Each graduate will be able to function in an advanced practice role as a Nurse Administrator, Nurse Educator, and Family Nurse Practitioner. Nurses who have a master's degree in another discipline or who wish to be eligible for the Certified Nurse Educator exam may take the post master's educator certificate courses.

Graduate Certificate

Nursing Administration, Certificate

College of Nursing > Nursing Administration, Certificate

*Post Master's Certificate in Nursing Administration

Students who desire this additional certificate are required to complete the Nursing Administration, MSN requirements, in addition to the courses listed below:

Certificate Requirements

Credit hours required for this certificate: 9.0

Post Master's certificate candidates are required to achieve a grade of B or higher in all post MSN certificate courses to be eligible to receive the certificate.

Course Requirements

NURS 6309 - Advanced Leadership and Management **Credit Hours: 3.0**

NURS 6317 - Human Resource Management in Healthcare **Credit Hours: 3.0**

NURS 6319 - Healthcare Finance **Credit Hours: 3.0**

Nursing Education, Post Master's Certificate

Students who desire to complete a Post Master's Certificate in Nursing Education are required to complete the Nursing Education, MSN admission requirements.

*Post Master's certificate candidates are required to achieve a grade of B or higher in all post MSN certificate courses to be eligible to receive the certificate.

Certificate Requirements

Credit hours required for this certificate: 9.0

Course Requirements



NURS 6312 - Measurement & Evaluation in Nursing Education Credit Hours: 3
NURS 6313 - Theories and Methods of Teaching and Learning in Nursing Credit Hours: 3.0
NURS 6314 - Development of Nursing Curriculum Credit Hours: 3

Academic Policies

University of Houston Academic Policies
Student Policy
Graduate Student Policy

Master of Science in Nursing

Nurse Practitioner, MSN

Program Description

The primary educational objective of the Master of Science in Nursing program is to increase the career and educational opportunities available to registered nurses in the university's service region. Graduates of the program will have a broader understanding of the nursing profession and will bring that understanding to the practice of nursing in their places of employment. Graduates will be prepared to assume some leadership and management roles.

The Master of Science in Nursing program is designed to build upon the BSN degree. Students in this program are prepared to function at advanced levels with an expanded knowledge of theory, research and clinical application. Graduates are prepared to provide evidenced based health care and to work on collaborative teams. Each graduate will be able to function in an advanced practice role as a nurse administrator or for the role of a nurse educator.

The Master of Science in Nursing (MSN) Family Nurse Practitioner (FNP) degree program is designed to prepare nurses to practice as family nurse practitioners, as educators in nursing programs, to translate research into practice, or to assume leadership roles in advance nursing practice.

To find out about the MSN program requirements, click Program Requirements or email nursing@uh.edu for general information.

Admission Requirements

Admission Information

Complete the NursingCAS online application for graduate admission at the NursingCAS website. NursingCAS is a national centralized application service for students applying to registered nursing programs. Submit all required documents to NursingCAS so that your application can be processed in a timely manner. Request all official transcripts be sent directly to NursingCAS. Students should ensure that all official documents have been submitted to Nursing CAS a minimum of 2 weeks prior to the deadline date to allow for adequate processing time.

To be eligible for this program you must have a minimum 3.0 GPA in your cumulative (all) course work.

Please direct all questions regarding your application to:

NursingCAS Customer Service

Telephone: 617-612-2880

Email: nursingcasinfo@nursingcas.org

Applicants to the MSN Tracks must have graduated from an accredited BSN program. Applicants who have completed an international BSN program that is not affiliated to a university may not have satisfied the requirement for admission to the University of Houston College of Nursing graduate Tracks due to the non-academic nature of this type of coursework. Contact an advisor in the College of Nursing for additional information.

Applicants must provide evidence of an unencumbered, current Texas Registered Nurse license.



Official score(s) of the Miller Analogies Test (MAT) or Graduate Record Examination (GRE) is not required for applicants with a GPA of at least 3.0 on a 4.0 scale. A GRE or MAT score will be required for applicants with a GPA between 2.75 - 2.9 for conditional admission. Scores may not be more than 5 years old.

Applicants must complete a one page personal statement.

Applicants must submit 2 letters of recommendation. One from a university faculty and one from an employer.

An Interview is part of the admission process.

A current resume is required.

Degree Requirements

Credit hours required for this degree: 47.0

MSN REQUIRED CORE COURSES - Family Nurse Practitioner (15 hours)

NURS 6301 - Adv Rsrch Intgrtd Evidnce Prctc Credit Hours: 3.0

NURS 6306 - Policy, Role & Economics Credit Hours: 3.0

NURS 6320 - Healthcare Informatics Credit Hours: 3.0

NURS 6332 - Biostatistics Credit Hours: 3.0

NURS 6333 - Population Health Credit Hours: 3.0

ACADEMIC CONCENTRATION - Family Nurse Practitioner (32 hours)

NURS 6230 - Diagnostic Tests & Procedures Credit Hours: 2.0

NURS 6330 - Advanced Diagnostic Physical Examination Credit Hours: 3.0

NURS 6331 - Advanced Pharmacotherapy Credit Hours: 3.0

NURS 6335 - Management of Health Disorders in Adults Credit Hours: 3.0

NURS 6336 - Management of Health Disorders in Adults Clinical Credit Hours: 3.0

NURS 6338 - Advanced Pathophysiology Credit Hours: 3.0

NURS 6345 - Management of Health Disorders in Women and Children Credit Hours: 3.0

NURS 6346 - Management of Health Disorders in Women and Children Clinical Credit Hours: 3.0

NURS 6355 - Management of Health Disorders Across the Lifespan in Diverse Settings Credit Hours: 3.0

NURS 6356 - Management of Health Disorders Across the Lifespan in Diverse Settings Clinical Credit Hours: 3.0

NURS 6366 - FNP Capstone Clinical Credit Hours: 3

Total Program Requirements

Required Core Nursing Courses	15 hours
Academic Concentration	32 hours
Total	47 hours

Academic Policies

University of Houston Academic Policies

College of Nursing - Policies

Student Policy

Graduate Student Policy

Nursing Administration, MSN



Program Description

The primary educational objective of the Master of Science in Nursing program is to increase the career and educational opportunities available to registered nurses in the university's service region. Graduates of the program will have a broader understanding of the nursing profession and will bring that understanding to the practice of nursing in their places of employment. Graduates will be prepared to assume some leadership and management roles.

The Master of Science in Nursing program is designed to build upon the BSN degree. Students in this program are prepared to function at advanced levels with an expanded knowledge of theory, research and clinical application. Graduates are prepared to provide evidenced based health care and to work on collaborative teams. Each graduate will be able to function in an advanced practice role as a nurse administrator.

To find out about the MSN program requirements, click Program Requirements or email nursing@uh.edu for general information.

Admission Requirements

Admission Information

Complete the NursingCAS online application for graduate admission at the NursingCAS website. NursingCAS is a national centralized application service for students applying to registered nursing programs. Submit all required documents to NursingCAS so that your application can be processed in a timely manner. Request all official transcripts be sent directly to NursingCAS. Students should ensure that all official documents have been submitted to Nursing CAS a minimum of 2 weeks prior to the deadline date to allow for adequate processing time.

To be eligible for this program you must have a minimum 3.0 GPA in your cumulative (all) course work.

Please direct all questions regarding your application to:

NursingCAS Customer Service

Telephone: 617-612-2880

Email: nursingcasinfo@nursingcas.org

Applicants to the MSN Tracks must have graduated from an accredited BSN program. Applicants who have completed an international BSN program that is not affiliated to a university may not have satisfied the requirement for admission to the University of Houston College of Nursing graduate Tracks due to the non-academic nature of this type of coursework. Contact an advisor in the College of Nursing for additional information.

Applicants must provide evidence of an unencumbered, current Texas Registered Nurse license.

Official score(s) of the Miller Analogies Test (MAT) or Graduate Record Examination (GRE) is not required for applicants with a GPA of at least 3.0 on a 4.0 scale. A GRE or MAT score will be required for applicants with a GPA between 2.75 - 2.9 for conditional admission. Scores may not be more than 5 years old.

Applicants must complete a one page personal statement.

Applicants must submit 2 letters of recommendation. One from a university faculty and one from an employer.

An Interview is part of the admission process.

A current resume is required.

Degree Requirements

Credit hours required for this degree: 36.0

MSN REQUIRED CORE COURSES - Nurse Administration (18 hours)

NURS 6301 - Adv Rsrch Intgrtd Evdnce Prctc Credit Hours: 3.0

NURS 6306 - Policy, Role & Economics Credit Hours: 3.0

NURS 6320 - Healthcare Informatics Credit Hours: 3.0

NURS 6332 - Biostatistics Credit Hours: 3.0



NURS 6333 - Population Health Credit Hours: 3.0
NURS 6351 - Evidence-Based Practice Project Credit Hours: 3.0

ACADEMIC CONCENTRATION - Nurse Administration (18 hours)

NURS 6309 - Advanced Leadership and Management Credit Hours: 3.0
NURS 6316 - Healthcare Organizational Behavior Credit Hours: 3.0
NURS 6317 - Human Resource Management in Healthcare Credit Hours: 3.0
NURS 6318 - Healthcare Delivery Systems and Organization Credit Hours: 3.0
NURS 6319 - Healthcare Finance Credit Hours: 3.0
NURS 6321 - Leadership Practicum Credit Hours: 3.0

Total Program Requirements

Required Core Nursing Courses	18 hours
Academic Concentration	18 hours
Total	36 hours

Academic Policies

University of Houston Academic Policies
College of Nursing - Policies
Student Policy
Graduate Student Policy

Nursing Education, MSN

Program Description

The primary educational objective of the Master of Science in Nursing program is to increase the career and educational opportunities available to registered nurses in the university's service region. Graduates of the program will have a broader understanding of the nursing profession and will bring that understanding to the practice of nursing in their places of employment. Graduates will be prepared to assume some leadership and management roles.

The Master of Science in Nursing program is designed to build upon the BSN degree. Students in this program are prepared to function at advanced levels with an expanded knowledge of theory, research and clinical application. Graduates are prepared to provide evidenced based health care and to work on collaborative teams. Each graduate will be able to function in an advanced practice role as a nurse educator.

The Master of Science in Nursing (MSN) Nurse Education degree program is designed to prepare nurses to practice as educators in nursing programs, to enhance advanced critical thinking skills in nursing through the study of theory and research, and to apply the systematic application of knowledge and skills in nursing practice, evidence based practice, and nursing role as a Nurse Educator.

To find out about the MSN program requirements, click Program Requirements or email nursing@uh.edu for general information.

Admission Requirements



Admission Information

Complete the NursingCAS online application for graduate admission at the NursingCAS website. NursingCAS is a national centralized application service for students applying to registered nursing programs. Submit all required documents to NursingCAS so that your application can be processed in a timely manner. Request all official transcripts be sent directly to NursingCAS. Students should ensure that all official documents have been submitted to Nursing CAS a minimum of 2 weeks prior to the deadline date to allow for adequate processing time. To be eligible for this program you must have a minimum 3.0 GPA in your cumulative (all) course work.

Please direct all questions regarding your application to:

NursingCAS Customer Service

Telephone: 617-612-2880

Email: nursingcasinfo@nursingcas.org

Applicants to the MSN Tracks must have graduated from an accredited BSN program. Applicants who have completed an international BSN program that is not affiliated to a university may not have satisfied the requirement for admission to the University of Houston College of Nursing graduate Tracks due to the non-academic nature of this type of coursework. Contact an advisor in the College of Nursing for additional information.

Applicants must provide evidence of an unencumbered, current Texas Registered Nurse license.

Applicants must complete a one page personal statement.

Applicants must submit 2 letters of Recommendation.

An Interview is part of the admission process.

A current resume is required.

Degree Requirements

Credit hours required for this degree: 42.0

MSN REQUIRED CORE COURSES - Nurse Education (18 hours)

NURS 6301 - Adv Rsrch Intgrtd Evidnce Prctc Credit Hours: 3.0

NURS 6306 - Policy, Role & Economics Credit Hours: 3.0

NURS 6320 - Healthcare Informatics Credit Hours: 3.0

NURS 6332 - Biostatistics Credit Hours: 3.0

NURS 6333 - Population Health Credit Hours: 3.0

NURS 6351 - Evidence-Based Practice Project Credit Hours: 3.0

ACADEMIC CONCENTRATION - Nurse Education (24 hours)

NURS 6312 - Measurement & Evaluation in Nursing Education Credit Hours: 3

NURS 6313 - Theories and Methods of Teaching and Learning in Nursing Credit Hours: 3.0

NURS 6314 - Development of Nursing Curriculum Credit Hours: 3

NURS 6330 - Advanced Diagnostic Physical Examination Credit Hours: 3.0

NURS 6331 - Advanced Pharmacotherapy Credit Hours: 3.0

NURS 6335 - Management of Health Disorders in Adults Credit Hours: 3.0

NURS 6336 - Management of Health Disorders in Adults Clinical Credit Hours: 3.0

NURS 6338 - Advanced Pathophysiology Credit Hours: 3.0

Total Program Requirements



Required Core Nursing Courses	18 hours
Academic Concentration	24 hours
Total	42 hours

Academic Policies

University of Houston Academic Policies
College of Nursing - Policies
Student Policies
Graduate Student Policies



College of Nursing - Faculty

Faculty

Cheryl Brohard, Assistant Professor. BSN Ohio Wesleyan University; MSN Case Western Reserve University; PhD University of Utah.

Barbara L Brophy, Assistant Clinical Professor. BSN Prairie View A&M University; MSN University of Phoenix; DNP Chamberlain University.

Shermel Edwards-Maddox, Professor of Practice. BSN University of Houston-Victoria; MSN Texas Women's University.

Beena Joseph, Professor of Practice/Clinical Learning Coordinator. BSN Kasturba Medical College, India; MSN University of Houston-Victoria; DNP in Healthcare Systems Leadership Chamberlain College of Nursing.

Lee Anne Lightfoot, Assistant Clinical Professor. BSN Alfred University; MS Nursing Education and Administration, Texas Woman's University.

Tracy McManaman-Bridges, Lecturer. BA Acadia University, Canada; MSN, Grand Canyon University.

Lenora A. McWilliams, Assistant Professor. BSN, University of Massachusetts; MS in Nursing Administration, University of Massachusetts; PhD, Texas Woman's University.

Danielle Quintana, Assistant Clinical Professor. BSN Thomas Edison State College; MSN Thomas Edison State College.

Patricia Schrader, Assistant Clinical Professor/Second Degree BSN Track Manager. BSN Baylor University; MSN University of Texas Health Science Center at Houston.

Shainy Varghese, Associate Professor. BSN Dr. M. G. R. Medical University, India; MSN Pediatric Nurse Practitioner (PNP), University of Texas Health Science Center at Houston; PhD University of Texas Medical Branch Galveston.

S. Wade, Assistant Clinical Professor. BSN, Tennessee State University; MSN, Tennessee State University; DNSc, University of Tennessee Science Center.



About the College of Optometry

Office of Optometry Relations (Optometry Program)

(713) 743-2040

Graduate Program Office

(713) 743-1885

Office of the Dean

(713) 743-1889

Clinic Administrator

(713) 743-1886

Clinic Patient Appointments

(713) 743-2020

Optical Services

(713) 743-2030

Health Science Library

(713) 743-5462

Financial Aid Counselor

(832) 842-9024

Dean: Michael D. Twa, O.D., University of California-Berkeley; M.S., Ph.D., Ohio State University.

Associate Dean for Professional Studies: Kimberly A. Lambreghts, R.N., Pace University; O.D., SUNY College of Optometry.

Assistant Dean for Professional Studies: Ralph Herring, O.D., M.H.A., University of Houston.

Associate Dean for Graduate Studies and Research: Laura J. Frishman, John and Rebecca Moores Professor. Ph.D., University of Pittsburgh.

Associate Dean for Clinical Education and Professional Development: Marcus Piccolo, Executive Director, University Eye Institute and Surgical Services. O.D., Pennsylvania College of Optometry.

Assistant Dean for Clinical Education: Danica Marrelli, O.D., University of Houston.



Assistant Dean for Student Affairs: Melissa A. Mares

Chair, Department of Basic Vision Sciences: Vallabh E. Das, Benedict-Pitts, Professor. Ph.D., Chase Western Reserve University.

Chair, Department of Clinical Sciences: David A. Berntsen, O.D., University of Houston; M.S., Ph.D., Ohio State University.

General Information

The College of Optometry, housed in the Cora and J. Davis Armistead Building, is one of the University's fourteen colleges. Established in 1952, the college has seen unprecedented growth in patient care, didactic and laboratory facilities as well as student common areas. In 2013, its latest expansion, the Health and Biomedical Building 1, was built adjacent to, and connected with the Armistead building. This new addition houses an Ambulatory Surgical Center, a Refractive Surgery Center, and new classroom and laboratory spaces, making the optometric facility one of the most modern in the world.

Approximately, one hundred and five students are admitted into the professional optometric program each year from the United States and abroad. Accepted students must have a Bachelor's degree prior to matriculation into the professional program and are expected to have completed course work, including: biological science, advanced level biology, chemistry, organic chemistry, biochemistry, microbiology, statistics and psychology.

The college not only educates students planning to practice optometry, but also offers Master of Science and Doctor of Philosophy degree programs in physiological optics/vision science for students planning careers in teaching and research. Students who have a degree in biological or physical science or biomedical engineering with a special interest in vision or who are graduates of an optometry school or other professional health program may want to consider entering the graduate program.

Graduates from the professional optometric program may enter family practice or serve in multidisciplinary primary care clinics. Graduates also find careers in public health, teaching and research, industry and health administration. Residencies/fellowships are available in pediatric, primary care, contact lenses, rehabilitative, or hospital-based optometry. Special services for children, the elderly, and the partially-sighted can each be exclusively practiced. Helping to care for vision, our most treasured sense makes optometry a rewarding profession for students interested in a health career.

Professional Degree Program

<http://www.opt.uh.edu/future-students-residents/programs/doctor-of-optometry/>

The educational program in optometry requires four academic years and two summer sessions. All fourth-year students begin externships and specialty clinics just after the end of their third academic year. Two terms are devoted to external clinical rotations and one is spent at College of Optometry in advanced seminars and clinical practice in the University Eye Institute. Students must satisfactorily complete a total of 177 credit hours, at least seven hours of which must be in approved electives. With permission of the associate dean for graduate studies, students may also take graduate courses in physiological optics for elective credit in the professional degree program.

Graduate Program in Physiological Optics/Vision Science

<http://www.opt.uh.edu/future-students-residents/programs/graduate-program/>

The **Graduate Program in Physiological Optics/Vision Science** confers an MS, PhD or a dual degree for students already in the OD program, and prepares students to embark on a career in teaching and research in the basic and clinical science of vision.

Students are accepted into the MS or PhD program with a minimum of a BS degree (or equivalent) from a variety of fields such as optometry, physiological optics, vision sciences, medicine, ophthalmology, structural and functional biosciences, neuroscience, psychology, optics, optical engineering, bio- or electrical engineering, or biophysics.

The need for new knowledge in the vision sciences is great, and teaching and research opportunities are numerous in a spectrum of academic, industrial, and professional settings. Although the program has sufficient structure to provide a broad base of scientific knowledge about vision systems, it is at the same time appropriately flexible to permit students to develop expertise in areas of special interest. Students will join the labs of faculty mentors who are studying normal and abnormal visual processes, diseases and disorders of the eye, visual optics, the visual pathways, eye movement control systems, and the development of treatments to prevent loss of vision using a variety of approaches ranging from molecular and cellular, to behavioral and optical.



OD/MS Program

A combined OD/MS program is available to enrolled optometry students, who wish to pursue an MS degree in Physiological Optics/Vision Science concurrently with the doctor of optometry (OD) degree. OD students apply for the combined program in the Fall of their second year for admission in the Spring of that year. The combined program allows a student to obtain both degrees in four years. Entry into an accelerated PhD program is also possible for students who wish to enroll in a combined program. Applicants must submit separate applications to each program.

Other Educational Programs

The university also recognizes a responsibility to provide postgraduate clinical training, to bring continuing education to optometrists in the state and region, and to participate in the training of allied personnel.

Accreditation

The College of Optometry is accredited by the Accreditation Council on Optometric Education of the American Optometric Association.



Admission Requirements: College of Optometry

Graduate Program in Physiological Optics/Vision Science

The Graduate Program in Physiological Optics/Vision Science (<http://www.opt.uh.edu/academics/graduate/index.cfm>) confers an MS and/or PhD degree and prepares students to embark on a career in teaching and/or research in the basic or clinical science of vision. Students are accepted into the program with a minimum of a BS degree (or the equivalent) from a variety of fields such as optometry, physiological optics, vision sciences, medicine, ophthalmology, structural and functional biosciences, neuroscience, psychology, optics, optical engineering, bioengineering, and biophysics.

The need for new knowledge in the vision sciences is great, and teaching and research opportunities are numerous in a spectrum of academic, industrial, and professional settings. Although the program has sufficient structure to provide a broad base of scientific knowledge about visual systems, it is at the same time appropriately flexible to permit students to develop expertise in areas of special interest. Students will join the labs of faculty mentors who are studying normal and abnormal visual processes, diseases and disorders of the eye and visual pathways and the development of treatments to prevent loss of vision using a variety of approaches ranging from molecular and cellular, to behavioral and optical.

Admission Requirements for the MS/PhD Program:

Admittance to the graduate program in physiological optics/vision science normally requires the following:

- A Bachelor of Science degree from an accredited academic or professional institution comparable to the Bachelor of Science degree awarded at the University of Houston

- Sufficient training to undertake graduate study in physiological optics

- A grade point average of B (3.00) or above in all previous college-level work with particular attention being given to science courses

- Graduate Record Examination (GRE) general test. Historically, students who score below 300 total for verbal and quantitative sections, or 3.5 on the written/analytical section are typically not competitive.

- Satisfactory evaluation and recommendation by three professors or others familiar with the applicant's scholarship and research potential.

- Proficiency in speaking and writing English. International students whose native language is not English are expected to take a proficiency exam with a score of 213 or better - computer, 79-internet, on the Test of English as a Foreign Language (TOEFL) or the International English Language Testing Service (IELTS) with a score of 6.5 or better.

- For the OD/MS Program, a grade point average of B (3.00) or above for courses completed in Optometry school, and participation in research, generally in the OD summer research program during the summer between the first and second year.

Applying for Admission

For information on the application process to the graduate program (MS/PhD) in Physiological Optics and Vision Science, visit the graduate application information website.

Admission Requirements for the Professional (OD) Program:

Admission Requirements for the OD Program

To be eligible for admission, students must have a baccalaureate degree of any major and a grade of "C" or better in each required prerequisite course. While there is no minimum GPA required for application, the College of Optometry will generally not consider applicants with an overall GPA less than 3.00 to be competitive for admission. Students may apply for admission to the OD program while completing these requirements.



Letters of recommendation must be requested via and submitted directly to OptomCAS. UHCO recommends that the third letter be from an optometrist with whom the applicant has trained/shadowed.

The College of Optometry requires that newly admitted applicants complete and successfully pass a Criminal Background Check (CBC) prior to matriculation. Offers of admission are contingent upon this CBC and upon the UHCO Admissions Committee review of its findings.

NOTE: Fourth-year Professional students will complete external clinical rotations which might require an additional CBC, these include but are not limited to all U.S Federal sites such as Veterans Affairs, military sites and Indian Health Services. This CBC is separate and in addition to the one completed as part of the admissions process and must occur approximately 6-12 weeks prior to the date the external clinical rotation begins and will be determined by the site.

All applicants must:

complete an application via OptomCAS (<http://www.optomcas.org/>), during which the applicant will submit official transcripts of all post-secondary academic work, complete a brief essay, submit a minimum of three letters of recommendation, and list professional work and job shadowing experiences;

pay the OptomCAS application fee of \$175.00;

complete the UHCO supplemental application (available via the UHCO web site during open application periods); and

pay the UHCO supplemental application fee of \$50.00;

and, complete the Optometry Admission Test (OAT), the Medical College Admissions Test (MCAT); and/ or the Graduate Record Examination-general (GRE) in time for scores to be verified by March 30 prior to the term in which the applicant expects to enter the OD program.

Applications for admission via OptomCAS are accepted between July 1 and March 30 prior to the fall term in which the applicant expects to enter the OD program. All supporting materials are due by March 30 prior to the term in which the applicant expects to enter.

All supporting material should be sent to:

The University of Houston College of Optometry

Office of Optometry Relations

4901 Calhoun Rd.

J. Davis Armistead Building

Houston, TX 77204-2020

Prerequisite Coursework for Admission:

General Biological Sciences with Labs - 2 courses (8 credit hours)

Courses should be equivalent to those required for biological sciences majors

Coursework should be completed with a minimum grade of "C" and not more than five (5) years prior to the date of the application.

Junior/ Senior-Level Biology related to Human Science - (8 credit hours). Part of this 8 credit hour requirement must include Junior/ Senior level human anatomy and physiology. It is highly recommended that these upper-division courses be taken at a four-year Institution

Any combination of human anatomy and physiology is acceptable, as long as both disciplines are covered. A single combined human anatomy-physiology course will be accepted as long as it is at least 3 credit hours. Please note: Freshman/ Sophomore-level courses will not satisfy this human anatomy and physiology course requirement

Acceptance of other advanced biology courses to satisfy the remaining prerequisite requirements is at the discretion of the Admissions Committee

It is recommended that applicants receive prior approval from the Program Manager for Admissions for applicable courses

Courses such as genetics, molecular biology, cell biology, neuroscience, mammalian physiology, immunology, histology, and endocrinology will be accepted to satisfy any remaining credits of the 8-hour requirement

Courses such as plant physiology, botany, ecology, biodiversity, or biotechnology will not be accepted

Coursework should be completed with a minimum grade of "C" and not more than five (5) years prior to the date of the application

Microbiology with Lab - 1 course (4 credit hours)

Courses should be equivalent to those required for biological sciences majors



Coursework should be completed with a minimum grade of "C" and not more than five (5) years prior to the date of the application.
Fundamentals of Chemistry with Labs - 2 courses (8 credit hours)

Courses should be equivalent to those required for biological sciences majors.

Coursework should be completed with a minimum grade of "C" and not more than five (5) years prior to the date of the application.
Organic Chemistry with Lab - 1 course (4 credit hours)

Coursework should be completed with a minimum grade of "C" and not more than five (5) years prior to the date of the application.
Biochemistry - 1 course (3 credit hours)

Coursework should be completed with a minimum grade of "C" and not more than five (5) years prior to the date of the application.
General Physics with Labs - 2 courses (8 credit hours)

Courses should be equivalent to those required for biological sciences majors.

Courses should have an optics section dedicated to the study of wave theory and the propagation of light. Calculus-based physics is not required; trigonometry- or algebra-based physics is acceptable.

Coursework should be completed with a minimum grade of "C" and not more than five (5) years prior to the date of the application.
Calculus - 1 course (3 credit hours)

It is recommended (but not required), that applicants take one or more courses in algebra, trigonometry, pre-calculus, and/ or analytical geometry in addition to calculus.

Coursework should be completed with a minimum grade of "C" and not more than five (5) years prior to the date of the application.
Statistics - 1 course (3 credit hours)

Coursework should be completed with a minimum grade of "C" and not more than five (5) years prior to the date of the application.
Psychology - 1 course (3 credit hours)

Coursework should be completed with a minimum grade of "C" and not more than five (5) years prior to the date of the application.

Standardized Entrance Examinations:

Beginning July 1, 2019, UHCO will accept scores for three standardized entrance examinations: OAT, MCAT, and GRE General Test. Applicants may choose to complete any or all of these exams; however, competitive preference may be given to completion of the OAT. Official scores must be received by the UHCO Office of Optometry Relations no later than March 30 prior to the fall term during which the applicant intends to matriculate.

Optometry Admission Test (OAT):

The OAT is a standardized examination sponsored by the Association of Schools and Colleges of Optometry. It is designed to measure general academic ability and comprehension of scientific information and accepted by all schools and colleges of optometry in the U.S. and the University of Waterloo, Canada. The OAT consists of: survey of the natural sciences (biology, general chemistry and organic chemistry), reading comprehension, physics and quantitative reasoning. At least one year of college education; which should include courses in biology, general chemistry, organic chemistry and physics, is required prior to taking the OAT. Although examinees are able to take the OAT's an unlimited amount of times; waiting at least 90 days between attempts, only scores from the four most recent attempts are reported. The total number of attempts will also be reported.

While there is no minimum score required for admission to UHCO's OD program, a Total Science and Academic Average score of 330 (200-400 scale) is considered competitive. For subject information, application to take the OAT, scoring procedures, study guides, and more, please visit: <http://www.ada.org/en/oat>. Additional information may be found at <http://www.opted.org> or call:

Optometric Admission Testing Program

800-232-1694

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The GRE General Test is a standardized examination that is owned and administered by the Educational Testing Service (ETS). It is designed to measure verbal reasoning, quantitative reasoning, analytical writing, and critical thinking skills. GRE Subject Tests are available in Biology, Chemistry and Physics; however, these are optional and may be taken in addition to the General Test.

While there is no minimum score required for admission to UHCO's OD Program, a Verbal Reasoning and Quantitative Reasoning score of 150 (130-170 scale), and an Analytical Writing score of 3.5 (0-6 scale) is considered competitive. For subject information, application to take the GRE, scoring procedures, study guides, sending scores and more, please visit: www.ets.org/gre.

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The MCAT is a standardized, multiple-choice examination designed to assess problem solving, critical thinking, and knowledge of natural, behavioral, and social science concepts and principles. The exam covers biological and biochemical foundations of living systems, chemical and physical foundations of biological systems, physiological, social and biological foundations of behavior and critical analysis and reasoning skills.

While there is no minimum score required for admission to UHCO's OD Program, a Total score of 501 (472- 528 scale) is considered competitive. For subject information, application to take the MCAT, scoring procedures, study guides, sending scores and more, please visit: <https://students-residents.aamc.org/applying-medical-school/taking-mcat-exam/>.

Three (3) Letters of Recommendation:

Letters of recommendation must be requested via and submitted directly to OptomCAS. A minimum of three letters of recommendation are required, but OptomCAS will accept a maximum of four. Additionally, UHCO requires that TWO of the three letters be academic letters of recommendation written by college or university faculty members who have directly taught the applicant. UHCO strongly recommends that the third letter of recommendation be from an optometrist with whom the applicant has trained and/or shadowed. Letter not sent electronically to OptomCAS by the reviewer but instead sent directly to The College of Optometry will not be accepted.

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Interview:

An interview is required for admission, and competitive applicants will be invited for on-campus interviews until the class is filled. Not all applicants are interviewed. The interview allows UHCO's administration to learn more about an applicant's passion for optometry, preparation for UHCO's curriculum, why he/she has chosen to apply to UHCO, and more. Additionally, applicants have the opportunity to experience first-hand UHCO's facilities; visit with current students; and connect with UHCO's didactic, clinical, and research faculty.

Criminal Background Check:

The College of Optometry requires that newly admitted applicants to the Professional Optometric Program, complete and successfully pass a Criminal Background Check (CBC) prior to matriculation. Offers of admission are contingent upon the outcome of the CBC which will be reviewed by the UHCO Admission Committee. Students are expected to complete a second CBC in their fourth professional year, prior to beginning external



rotations (externships) at all US Federal Clinical sites (VA Hospitals, military sites, Indian Health Services). This CBC is required 6-12 weeks prior to the date the externship begins and/or as determined by the site.

Immunization Requirements:

An applicant accepted into the University of Houston College of Optometry Professional Program must present proof of adequate immunization against: rubeola (common measles), rubella (German measles), mumps, varicella (chickenpox), tetanus and Hepatitis B, prior to the beginning of the first Professional year.

A negative TB skin test or chest clearance must be documented no sooner than three months prior to beginning the fall term of the first professional year. Thereafter, a student must submit documentation of a negative TB skin test or chest clearance to the University of Houston College of Optometry Office of Optometry Relations.

Transfer Students:

In order for a student to be considered for transfer from another professional optometry program, the student must have satisfactorily completed a minimum of one year of coursework and be in good academic standing in a school or college of optometry accredited by the Accreditation Council on Education of the American Optometric Association. The student must also submit an official transcript, a letter stating the reasons for the transfer request, and a letter from his/her current dean supporting the request for transfer to UHCO. Unless the student is in the upper half of the class and presents justifiable reasons for requesting a transfer, such requests are ordinarily denied. The transfer student decision is based on space available in the class and compatibility of curricula between the two schools.

Master of Science Track

The Master of Science (MS) track requires about two years of study, including 30 credit hours of coursework and research, teaching experience, and a research project with a written thesis. The thesis committee must consist of a minimum of three faculty members, at least two of which are from within the graduate program; one member may be external to the program, from academia or industry, and is approved by the graduate program. Acceptance into the full-time MS program is often accompanied by program financial support, teaching or research assistantships. A combined OD/MS program is also offered.

Combined OD/MS Track

A combined OD/MS program is available for enrolled optometry students who wish to pursue a Master's of Science (MS, in Physiological Optics and Vision Science) degree concurrently with the doctor of optometry (OD) degree. This program runs simultaneously with the OD program, with students entering in the second year of the OD program. In addition to a total of 30 semesters hours of coursework (12 overlapping with OD coursework) and research hours, the combined OD/MS program requires a written thesis based on original research. The thesis committee is of the same composition as for MS students. The research project can be an extension of prior research, such as during optometry's federally funded summer research training program for OD students.

Doctor of Philosophy Track

The Doctor of Philosophy (PhD) track normally requires at least four years of study, including 60 credit hours of coursework and research hours, teaching experience, a foreign language or research skill, qualifying examinations, and a written dissertation based on a body of original research. Dissertation committees for PhD students must consist of a minimum of four members, including three faculty members from the graduate program, and one member external to the graduate program from academia and/or industry who is approved by the graduate program. Acceptance into the full-time PhD program is generally accompanied by program financial support, teaching or research assistantships. Placement in an accelerated PhD (OD/PhD) program for OD/MS students is **also offered**.



College of Optometry Programs

Physiological Optics, MS

The Graduate Program in Physiological Optics/Vision Science is structured to provide a broad base of scientific knowledge about both human and animal visual systems.

The program is appropriately flexible to permit students to develop expertise in areas of special interest. Students will join the labs of faculty mentors who are studying normal and abnormal visual processes, diseases and disorders of the eye and visual pathways and the development of treatments to prevent loss of vision using a variety of approaches ranging from molecular and cellular, to behavioral and optical. Thirty-one faculty members with diverse academic backgrounds and scientific interests participate in the program, which currently has 40 graduate students.

For more information please visit the College Of Optometry Graduate Programs website: <http://www.opt.uh.edu/future-students-residents/programs/graduate-program/>.

Admission Requirements

1. Bachelor of Science (BS) or an undergraduate Engineering degree from an accredited academic or professional institution comparable to the degrees awarded at the University of Houston in biological or physical sciences and engineering, or a BS or doctorate (or equivalent) degree in optometry or medicine
2. Sufficient training to undertake graduate level study in physiological optics/vision sciences
3. A grade point average of B (3.00) or above in all previous college-level or higher work with particular attention being given to science courses
4. Graduate Record Examination (GRE) general test (details are below in Required Materials)
5. Satisfactory evaluation and recommendation by three teachers or others familiar with the applicant's scholarship and research potential
6. Proficiency in speaking and writing English (details are below in Required Materials)

Full details on how to apply are found at

- www.uh.edu/graduate-school/admissions/how-to-apply
- www.opt.uh.edu/future-students-residents/programs/graduate-program/how-to-apply/
- Completed applications with all required documentation should be submitted between October 1 and February 1 preceding the fall term of expected entrance.

Required application materials:

- Completed Electronic Application
- Official Transcripts
 - Scanned copies may be uploaded as PDFs for admissions decision. However, if admitted, the applicant will not be able to enroll without an official transcript(s) showing undergraduate degree conferral on file.
 - Official transcripts should be sent by regular mail, express mail, or electronically as described on the University of Houston Graduate School Website:
 - <http://www.uh.edu/graduate-school/admissions/how-to-apply/>
- Recommendation Letters and Form
 - Submit the names of three persons who are familiar with your competencies and your potential for doctoral education on your application.
 - It is recommended that two (2) of the letters be from doctoral-degreed tenure track faculty (i.e., current and/or former graduate level professors from your previous college or graduate program).
 - Your references will receive an email with instructions for completing an online recommendation form. Please inform your references that they must use the online form and also to attach a scanned reference letter to accompany the form.
- Personal Statement of Purpose/Interest explaining why you want to join the graduate program and your career goals.



- GRE scores officially submitted to the University of Houston.
 - (≥ 300 V+M to be competitive) The University of Houston's ETS institutional code for the GRE is 6870.
- Curriculum Vitae /Resume
- International students have additional documentation and/or score reporting requirements. Visit <http://www.uh.edu/graduate-school/international-students/> for more information.
 - Application Fee for international applicants
- Additional information can be obtained by contacting the graduate program phopgrad@uh.edu or 1 (713) 743-1885.

Degree Requirements

- The Master of Science (MS) degree requires about two years of study, including 30.0 Credit Hours of coursework and research, teaching experience, and a research project with a written thesis.
- The thesis committee must consist of a minimum of three faculty members, at least two of which are from within the graduate program; one member may be external to the program, from academia or industry, and is approved by the graduate program.
- Acceptance into the full-time MS program is often accompanied by program financial support, teaching or research assistantships.
- A combined OD/MS program is also offered.

Coursework must include a minimum of 30.0 Credit Hours, including a written thesis.

Other requirements include original research, writing and defense of Thesis Proposal and a Thesis. These requirements are described in the Physiological Optics and Vision Science Graduate Program Handbook.

Basic Vision

6.0 Credit Hours

- PHOP 6241 - Vision Science Core-Part 1 Credit Hours: 2.0
- PHOP 6242 - Vision Science Core-Part 2 Credit Hours: 2.0
- PHOP 6243 - Vision Science Core-Part 3 Credit Hours: 2.0 (includes Vision Science Lab)

Advanced Module

4.0 Credit Hours

- PHOP 7241 - Pathophysiology of the Anterior and Posterior Segments Credit Hours: 2.0
- PHOP 7242 - Visual Neuroscience Credit Hours: 2.0
- PHOP 7243 - Optics and the Eye Credit Hours: 2.0

Basic Research Skills

11.0 Credit Hours

- PHOP 6275 - Professional Development for Vision Scientists Credit Hours: 2.0
- PHOP 6371 - Experimental Design in Visual Sciences Credit Hours: 3.0
- PHOP 6372 - Experimental Quantification in Visual Sciences Credit Hours: 3.0
- IDNS 6391 - Ethics in Science Credit Hours: 3.0

Seminar

Each Term



- PHOP 6160 - General Seminar Visual Sciences Credit Hours: 1.0

Elective Course Options

As-needed to strengthen student's education and/or skill in a particular research area, e.g.

- Courses in other colleges or approved universities in Houston; Engineering, Natural Science and Mathematics, Psychology, Technology, Education, Public Health
- PHOP 6377 - Introduction to Optical Sensing & Biophotonics Credit Hours: 3.0
- PHOP 7275 - Introduction to Computational Thinking with Python Credit Hours: 2.0
- PHOP 7276 - MATLAB Programming for Vision Science Credit Hours: 2.0
- PHOP 6X98 - Special Problems in Vision Science

Research Hours

Research hours (practicum) and independent study (tutorial) are offered on an "as needed" basis to meet the individual needs of students.

- PHOP 6X57 - Research Practicum B Credit Hours: 1.0 - 6.0
- PHOP 6X67 - Research Practicum A Credit Hours: 1.0 - 6.0
- PHOP 7399 - Masters Thesis Credit Hours: 3

Optometry, OD

The College of Optometry, housed in the Cora and J. Davis Armistead Building, is one of the University's fourteen colleges. Established in 1952, the college has seen unprecedented growth in patient care, didactic and laboratory facilities as well as student common areas. In 2013, its latest expansion, the Health and Biomedical Building 1, was built adjacent to, and connected with the Armistead building. This new addition houses an Ambulatory Surgical Center, a Refractive Surgery Center, and new classroom and laboratory spaces, making the optometric facility one of the most modern in the world.

Approximately, one hundred and five students are admitted into the professional optometric program each year from the United States and abroad. Accepted students must have a Bachelor's degree prior to matriculation into the professional program and are expected to have completed course work, including: biological science, advanced level biology, chemistry, organic chemistry, biochemistry, microbiology, statistics and psychology.

The college not only educates students planning to practice optometry, but also offers Master of Science and Doctor of Philosophy degree programs in physiological optics/vision science for students planning careers in teaching and research. Students who have a degree in biological or physical science or biomedical engineering with a special interest in vision or who are graduates of an optometry school or other professional health program may want to consider entering the graduate program.

Graduates from the professional optometric program may enter family practice or serve in multidisciplinary primary care clinics. Graduates also find careers in public health, teaching and research, industry and health administration. Residencies/fellowships are available in pediatric, primary care, contact lenses, rehabilitative, or hospital-based optometry. Special services for children, the elderly, and the partially-sighted can each be exclusively practiced. Helping to care for vision, our most treasured sense makes optometry a rewarding profession for students interested in a health career.

Please visit our website for more information: www.opt.uh.edu.

Admission Requirements

For information on the application process to the graduate program (MS/PhD) in Physiological Optics and Vision Science, visit the graduate application information website.

Admission Requirements for the OD Program:



To be eligible for admission, students must have a baccalaureate degree of any major and a grade of "C" or better in each required prerequisite course. While there is no minimum GPA required for application, the College of Optometry will generally not consider applicants with an overall GPA less than a 3.00 to be competitive for admission. Students may apply for admission to the OD program while completing these requirements.

Letters of recommendation must be requested via and submitted directly to OptomCAS. UHCO recommends that the third letter be from an optometrist with whom the applicant has trained/ shadowed.

The College of Optometry requires that newly admitted applicants complete and successfully pass a Criminal Background Check (CBC) prior to matriculation. Offers of admission are contingent upon this CBC and upon the UHCO Admissions Committee review of its findings.

NOTE: Fourth year Professional students will complete external clinical rotations which might require an additional CBC, these include but are not limited to all US Federal sites such as Veterans Affairs, military sites and Indian Health Services. This CBC is separate and in addition to the one completed as part of the admissions process and must occur approximately 6-12 weeks prior to the date the external clinical rotation begins and will be determined by the site.

All applicants must:

1. complete an application via OptomCAS (<http://www.optomcas.org/>), during which the applicant will submit official transcripts of all post-secondary academic work, complete a brief essay, submit a minimum of three letters of recommendation, and list professional work and job shadowing experiences;
2. pay the OptomCAS application fee of \$175.00;
3. complete the UHCO supplemental application (available via the UHCO web site during open application periods); and
4. pay the UHCO supplemental application fee of \$50.00;
5. and, complete the Optometry Admission Test (OAT), the Medical College Admissions Test (MCAT); and/ or the Graduate Record Examination-general (GRE) in time for scores to be verified by March 30 prior to the semester in which the applicant expects to enter the OD program.

Applications for admission via OptomCAS are accepted between July 1 and March 30 prior to the fall semester in which the applicant expects to enter the OD program. All supporting materials are due by March 30 prior to the semester in which the applicant expects to enter.

All supporting material should be sent to:

The University of Houston College of Optometry
Office of Optometry Relations
4901 Calhoun Rd.
J. Davis Armistead Building
Houston, TX 77204-2020

Prerequisite Coursework for Admission:

General Biological Sciences with Labs - 2 courses (8 credit hours)

- Courses should be equivalent to those required for biological sciences majors
- Coursework should be completed with a minimum grade of "C" and not more than five (5) years prior to the date of the application.

Junior/ Senior-Level Biology related to Human Science - (8 credit hours). Part of this 8 credit hour requirement must include Junior/ Senior level human anatomy and physiology. It is highly recommended that these upper division courses be taken at a four-year Institution

- Any combination of human anatomy and physiology is acceptable, as long as both disciplines are covered. A single combined human anatomy- physiology course will be accepted as long as it is at least 3 credit hours. Please note: Freshman/ Sophomore- level courses will not satisfy this human anatomy and physiology course requirement
- Acceptance of other advanced biology courses to satisfy the remaining prerequisite requirements is at the discretion of the Admissions Committee
- It is recommended that applicants receive prior approval from the Program Manager for Admissions for applicable courses



- Courses such as genetics, molecular biology, cell biology, neuroscience, mammalian physiology, immunology, histology, and endocrinology will be accepted to satisfy any remaining credits of the 8 hour requirement
- Courses such as plant physiology, botany, ecology, biodiversity, or biotechnology will not be accepted
- Coursework should be completed with a minimum grade of “C” and not more than five (5) years prior to the date of the application

Microbiology with Lab - 1 course (4 credit hours)

- Courses should be equivalent to those required for biological sciences majors
- Coursework should be completed with a minimum grade of “C” and not more than five (5) years prior to the date of the application.

Fundamentals of Chemistry with Labs - 2 courses (8 credit hours)

- Courses should be equivalent to those required for biological sciences majors.
- Coursework should be completed with a minimum grade of “C” and not more than five (5) years prior to the date of the application.

Organic Chemistry with Lab - 1 course (4 credit hours)

- Coursework should be completed with a minimum grade of “C” and not more than five (5) years prior to the date of the application.

Biochemistry - 1 course (3 credit hours)

- Coursework should be completed with a minimum grade of “C” and not more than five (5) years prior to the date of the application.

General Physics with Labs - 2 courses (8 credit hours)

- Courses should be equivalent to those required for biological sciences majors.
- Courses should have an optics section dedicated to the study of wave theory and the propagation of light. Calculus-based physics is not required; trigonometry- or algebra-based physics is acceptable.
- Coursework should be completed with a minimum grade of “C” and not more than five (5) years prior to the date of the application.

Calculus - 1 course (3 credit hours)

- It is recommended (but not required), that applicants take one or more courses in algebra, trigonometry, pre-calculus, and/ or analytical geometry in addition to calculus.
- Coursework should be completed with a minimum grade of “C” and not more than five (5) years prior to the date of the application.

Statistics - 1 course (3 credit hours)

- Coursework should be completed with a minimum grade of “C” and not more than five (5) years prior to the date of the application.

Psychology - 1 course (3 credit hours)

- Coursework should be completed with a minimum grade of “C” and not more than five (5) years prior to the date of the application.

Standardized Entrance Examinations:

Beginning July 1, 2019, UHCO will accept scores for three standardized entrance examinations: OAT, MCAT, and GRE General Test. Applicants may choose to complete any or all of these exams; however, competitive preference may be given to completion of the OAT. Official scores must be received by the UHCO Office of Optometry Relations no later than March 30 prior to the fall semester during which the applicant intends to matriculate.

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application fee is required. The OptomCAS application, UHCO Supplemental Application and all supporting materials must be completed and received by the University of Houston College of Optometry, Office of Optometry Relations by March 30 prior to the Fall semester in which the applicant is expected to enter. It may take 4-6 weeks after submission for the OptomCAS application to be verified by OptomCAS and delivered electronically to the College. For more information, visit <http://www.opt.uh.edu>.

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A negative TB skin test or chest clearance must be documented no sooner than three months prior to beginning the fall term of the first professional year. Thereafter, a student must submit documentation of a negative TB skin test or chest clearance to the University of Houston College of Optometry Office of Optometry Relations.

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In order for a student to be considered for transfer from another professional optometry program, the student must have satisfactorily completed a minimum of one year of coursework and be in good academic standing in a school or college of optometry accredited by the Accreditation Council on Education of the American Optometric Association. The student must also submit an official transcript, a letter stating the reasons for the transfer request, and a letter from his/her current dean supporting the request for transfer to UHCO. Unless the student is in the upper half of the class and presents justifiable reasons for requesting a transfer, such requests are ordinarily denied. The transfer student decision is based on space available in the class and compatibility of curricula between the two schools.

Degree Requirements

Credit hours required for this degree: 177.0

Students who attend the College of Optometry and matriculate in the professional program must meet the following requirements for a Doctor of Optometry degree:

1. Prior completion of a baccalaureate degree or equivalent.
2. Completion of 177 term hours over the course of four years.
3. A passing grade in each core and elective course.
4. A grade point average of 2.00 or better, each term, in the professional educational program.



5. Compliance with all other applicable requirements contained in the general information section of this catalog and the College of Optometry policies and procedures manual as well as the Student Handbook.

Professional Degree Program

First Professional Year:

Fall Term

- OPTO 5111 - Optics Lab I Credit Hours: 1.0
- OPTO 5133 - Adv Human Anat/Hist Lab Credit Hours: 1.0
- OPTO 5134 - Neuroanatomy Laboratory Credit Hours: 1.0
- OPTO 5171 - Clinic Practicum I Credit Hours: 1.0
- OPTO 5233 - Adv Human Anatomy and Hist Credit Hours: 2.0
- OPTO 5271 - Optometry I Credit Hours: 2.0
- OPTO 5314 - Optics I Credit Hours: 3.0
- OPTO 5320 - Vision Science I Credit Hours: 3.0
- OPTO 5334 - Neuroanat and Physio Credit Hours: 3.0
- OPTO 5344 - Adv Physiol and Molecular Biol Credit Hours: 3.0

Total Credit Hours: 20.0 (Lecture: 16, Lab: 12)

Spring Term

- OPTO 5112 - Optics Lab II Credit Hours: 1.0
- OPTO 5135 - Ocular Anatomy Lab Credit Hours: 1.0
- OPTO 5172 - Clinic Practicum II Credit Hours: 1.0
- OPTO 5194 - Ophthalmic Optics Lab Credit Hours: 1.0
- OPTO 5221 - Vision Science II Credit Hours: 2.0
- OPTO 5272 - Optometry II Credit Hours: 2.0
- OPTO 5282 - Community Health Optometry Credit Hours: 2.0
- OPTO 5315 - Optics II Credit Hours: 3.0
- OPTO 5331 - General Pathology & Medicine Credit Hours: 3.0
- OPTO 5335 - Ocular Anatomy and Physiology Credit Hours: 3.00

Total Credit Hours: 19.0 (Lecture: 15, Lab: 12)

Second Professional Year

Fall Term

- OPTO 6132 - Med Laboratory Proceid Credit Hours: 1.0
- OPTO 6163 - Primary Opt Lab Credit Hours: 1.0
- OPTO 6173 - Clinic Practicum III Credit Hours: 1.0
- OPTO 6190 - Ophthalmic Optics Laboratory Credit Hours: 1.0
- OPTO 6219 - Vision Science III Credit Hours: 2.0
- OPTO 6234 - Ocular Pathology I Credit Hours: 2.0
- OPTO 6311 - Optics III Credit Hours: 3.0
- OPTO 6363 - Primary Optometry Credit Hours: 3.0
- OPTO 6434 - General Pharmacology Credit Hours: 4.0

Total Credit Hours: 18.0 (Lecture: 14, Lab: 13)



Spring Term

- OPTO 6124 - Perception Credit Hours: 1
- OPTO 6151 - Pediatric Optometry I Lab Credit Hours: 1.0
- OPTO 6174 - Contact Lens Lab Credit Hours: 1.0
- OPTO 6291 - General Clinic II Credit Hours: 2.0
- OPTO 6312 - Optics IV Credit Hours: 3.0
- OPTO 6333 - Ocular Pharm and Therapeutics Credit Hours: 3.0
- OPTO 6335 - Ocular Pathology II Credit Hours: 3.0
- OPTO 6351 - Pediatric Optometry I Credit Hours: 3.0
- OPTO 6374 - Contact Lens I Credit Hours: 3.0

Total Credit Hours: 20.0 (Lecture: 17, Lab: 14)

Third Professional Year

Summer Term

- OPTO 6115 - Clinical Integration Credit Hours: 1.0
- OPTO 7150 - Developmental Optometry Credit Hours: 1.0
- OPTO 7493 - General Clinic IIIA Credit Hours: 4.0
- Electives Credit Hours: 2.0*

Total Credit Hours: 8.0 (Lecture: 6, Lab: 18)

Fall Term

- OPTO 7131 - Clinical Medicine Credit Hours: 1.0
- OPTO 7152 - Pediatric Optometry II Lab Credit Hours: 1.0
- OPTO 7230 - Glaucoma Credit Hours: 2.0
- OPTO 7252 - Pediatric Optometry II Credit Hours: 2.0
- OPTO 7336 - Ocular Pathology III Credit Hours: 3.0
- OPTO 7361 - Geriatric Optometry Credit Hours: 3.0
- OPTO 7375 - Contact Lens II Credit Hours: 3.0
- OPTO 7494 - General Clinic IIIb Credit Hours: 4.0
- Electives Credit Hours: 1.0*

Total Credit Hours: 20.0 (Lecture: 14, Lab: 19)

Spring Term

- OPTO 7120 - Opt III Rounds/Case Discussn Credit Hours: 1.0
- OPTO 7130 - Laser, Refract & Surg Lab Credit Hours: 1.0
- OPTO 7162 - Vision Rehabilitative Lab Credit Hours: 1.0
- OPTO 7253 - Pediatric Optometry III Credit Hours: 2.0
- OPTO 7262 - Rehabilitative Optometry Credit Hours: 2.0
- OPTO 7330 - Lasers, Refract Proced, Surg Credit Hours: 3.0
- OPTO 7337 - Ocular Pathology IV Credit Hours: 3.0
- OPTO 7383 - Practice Management I Credit Hours: 3.0
- OPTO 7495 - General Clinic IIIc Credit Hours: 4.0
- Electives Credit Hours: 1.0*



Total Credit Hours: 21.0 (Lecture: 14, Lab: 20)

Fourth Professional Year

Rotation A: (Summer, Fall, Spring)

Externship I- Primary Care

- OPTO 8990 - Community Health Clinic Credit Hours: 9.0
- OPTO 8991 - Community Health Clinic Credit Hours: 9.0

Total Credit Hours: 18.0 (Lecture: 0 Lab: 40)

Rotation B: (Summer, Fall, Spring)

Externship II- Medical Care

- OPTO 8992 - Community Health Clinic Credit Hours: 9.0
- OPTO 8993 - Community Health Clinic Credit Hours: 9.0
- Total Credit Hours: 18.0 (Lecture: 0 Lab: 40)

Rotation C: (Summer, Fall, Spring)

Specialty Clinic/Didactic Semester

- OPTO 8338 - Recent Developments/Round Credit Hours: 3.0
- OPTO 8384 - Practice Management II Credit Hours: 3.0
- OPTO 8696 - General Clinic IV Credit Hours: 6.0
- Electives Credit Hours: 3.0*

Total Credit Hours: 15.0 (Lecture: 6, Lab: 24)

NOTE:

*Elective requirements may be fulfilled at any time.

They are listed in this curriculum only for suggested times.

Academic Units

The professional curriculum is delivered by two academic departments; clinical sciences and basic sciences.

Summary of Elective Courses

Students must satisfactorily complete a minimum of seven semester credit hours in approved elective courses to qualify for the OD degree. Courses in the graduate program or upper division courses in another college may be selected with the approval of the student's academic advisor and the Associate Dean for Professional Studies.

Physiological Optics, PhD - Vision Science

The graduate program in Physiological Optics/Vision Science is structured to provide a broad base of scientific knowledge about both human and animal visual systems.



The program is appropriately flexible to permit students to develop expertise in areas of special interest. Students will join the labs of faculty mentors who are studying normal and abnormal visual processes, diseases and disorders of the eye and visual pathways and the development of treatments to prevent loss of vision using a variety of approaches ranging from molecular and cellular, to behavioral and optical. Thirty-one faculty members with diverse academic backgrounds and scientific interests participate in the program, which currently has 40 graduate students.

For more information, please visit the College of Optometry Graduate Programs website: <http://www.opt.uh.edu/future-students-residents/programs/graduate-program/>.

Admission Requirements

1. Bachelor of Science (B.S.) or an undergraduate Engineering degree from an accredited academic or professional institution comparable to the degrees awarded at the University of Houston in biological or physical sciences and engineering, or a B.S. or doctorate (or equivalent) degree in optometry or medicine
2. Sufficient training to undertake graduate level study in physiological optics/vision sciences
3. A grade point average of B (3.00) or above in all previous college-level or higher work with particular attention being given to science courses
4. Graduate Record Examination (GRE) general test (details are below in Required Materials)
5. Satisfactory evaluation and recommendation by three teachers or others familiar with the applicant's scholarship and research potential
6. Proficiency in speaking and writing English (details are below in Required Materials)

Full details on how to apply are found at www.uh.edu/graduate-school/admissions/how-to-apply/. Completed applications with all required documentation should be submitted between October 1 and February 1 preceding the fall semester of expected entrance.

Required application materials:

- Completed Electronic Application
- Official Transcripts
 - Scanned copies may be uploaded as PDFs for admissions decision. However, if admitted, the applicant will not be able to enroll without an official transcript(s) showing undergraduate degree conferral on file.
 - Official transcripts should be sent by regular mail, express mail, or electronically as described on the University of Houston Graduate School Website: <http://www.uh.edu/graduate-school/admissions/how-to-apply/>
- Recommendation Letters and Form
 - Submit the names of three persons who are familiar with your competencies and your potential for doctoral education on your application.
 - **It is recommended that two (2) of the letters be from doctoral-degreed tenure track faculty (i.e., current and/or former graduate level professors from your previous college or graduate program).**
 - Your references will receive an email with instructions for completing an online recommendation form. Please inform your references that they must use the online form and also to attach a scanned reference letter to accompany the form.
- Personal Statement of Purpose/Interest explaining why you want to join the UH Physiological Optics/Vision Science graduate program and your career goals.
- GRE scores officially submitted to the University of Houston.
 - (≥300 V+M to be competitive) The University of Houston's ETS institutional code for the GRE is 6870.
- Curriculum Vitae / Resume
- International students have additional documentation and/or score reporting requirements.
- Visit <http://www.uh.edu/graduate-school/international-students/> for more information.
 - Application Fee for international applicants
- Additional information including information on a new dual OD/PhD program can be obtained by contacting the graduate program phopgrad@uh.edu or (713) 743-1885.

Acceptance into the full-time PhD program is often accompanied by program financial support, teaching or research assistantships.

Degree Requirements



The doctor of philosophy (PhD) degree requires four to five years of study, including 60.0 Credit Hours of

- courses,
- teaching experience,
- reading knowledge of a foreign language or research/technical skill,
- written and oral qualifying examinations, and
- original research,
- writing and defense of the Dissertation Proposal and the Dissertation. Written dissertation must be approved by the dissertation committee.
- The dissertation committee must consist of a minimum of four faculty members, at least three of which are within, or affiliated with the graduate program; one member must be external, from academia or industry, and approved by the graduate program: see College Resources at <https://www.opt.uh.edu/current-students/>.

These requirements are described in the Physiological Optics and Vision Science Graduate Program Handbook.

Basic Vision

6.0 - 7.0 Credit Hours

- PHOP 6241 - Vision Science Core-Part 1 Credit Hours: 2.0
- PHOP 6242 - Vision Science Core-Part 2 Credit Hours: 2.0
- PHOP 6243 - Vision Science Core-Part 3 Credit Hours: 2.0
- PHOP 6152 - Basic Physiological Optics and Visual Sciences: Laboratory Credit Hours: 1.0 (may be included in PHOP 6243)

Advanced Module

4.0 Credit Hours (two of the following)

- PHOP 7241 - Pathophysiology of the Anterior and Posterior Segments Credit Hours: 2.0
- PHOP 7242 - Visual Neuroscience Credit Hours: 2.0
- PHOP 7243 - Optics and the Eye Credit Hours: 2.0

Basic Research Skills

11.0 Credit Hours

- PHOP 6275 - Professional Development for Vision Scientists Credit Hours: 2.0
- PHOP 6371 - Experimental Design in Visual Sciences Credit Hours: 3.0
- PHOP 6372 - Experimental Quantification in Visual Sciences Credit Hours: 3.0
- IDNS 6391 - Ethics in Science Credit Hours: 3.0 (or equivalent)

Seminar

Each Semester

- PHOP 6160 - General Seminar Visual Sciences Credit Hours: 1.0

Elective Course Options

Minimum 5.0 Credit Hours



As needed to strengthen student's education and/or skill in a particular research area, e.g.

- Courses in other colleges or approved universities in Houston; Engineering, Natural Science and Mathematics, Psychology, Technology, Education, Public Health
- PHOP 6377 - Introduction to Optical Sensing & Biophotonics Credit Hours: 3.0
- PHOP 7275 - Introduction to Computational Thinking with Python Credit Hours: 2.0
- PHOP 7276 - MATLAB Programming for Vision Science Credit Hours: 2.0
- PHOP 6X98 - Special Problems in Vision Science

Research Hours

- PHOP 6X57 - Research Practicum B Credit Hours: 1.0 - 6.0
- PHOP 6X67 - Research Practicum A Credit Hours: 1.0 - 6.0
- PHOP 6X98 - Special Problems in Vision Science (tutorials)
- PHOP 8X98 - Doctoral Research Credit Hours: 1.0 - 9.0
- PHOP 8X99 - Doctoral Dissertation (A maximum of 9 hours can be graded)

Optometry, OD / Physiological Optics, MS

A dual OD/MS program is available for enrolled optometry students who wish to pursue a Master's of Science (MS) degree in Physiological Optics/Vision Science concurrently with the doctor of optometry (OD) degree.

Admission Requirements

- OD students may apply for the OD/MS program in the Fall of the second academic year for admission in the Spring of their second year.
- The applicant must have a history of research with a faculty mentor. The prior research generally was done during the Summer between the first and second year of the OD program, in a federally- or college-funded summer research training program for OD students.

Degree Requirements

The dual OD/MS program requires:

- the entire Optometry, OD program curriculum.
- the MS curriculum, which is a total of 30.0 Credit Hours of coursework and research hours.
 - 12.0 Credit Hours of OPTO 6000-level science courses may be used for the MS portion of the dual degree
- a written thesis based on original research.
 - The student's thesis committee must consist of a minimum of three faculty members,
 - one member may be external to the program, from academia or industry, and is approved by the graduate program.
 - at least two of which are from within the graduate program;
 - The research project can be an extension of the research carried out in the summer research program.
 - The student must write and defend a thesis proposal and the thesis
- Graduate program coursework and research hours with the prefix PHOP are supported by the College of Optometry.
- Research hours (practicum) and independent study (tutorial) are offered on an "as needed" basis to meet the individual needs of students.
- The student must enroll in PHOP 7399 - Thesis Writing Credit Hours: 3.0

Basic Research Skills Courses

- PHOP 6372 - Experimental Quantification in Visual Sciences Credit Hours: 3.0
- PHOP 6371 - Experimental Design in Visual Sciences Credit Hours: 3.0
- PHOP 6275 - Professional Development for Vision Scientists Credit Hours: 2.0 optional



- PHOP 6160 - General Seminar Visual Sciences Credit Hours: 1.0 completed at least once

Elective Courses

As needed to strengthen student's education and/or skill in a particular research area.

Example:

- PHOP 7276 - MATLAB Programming for Vision Science Credit Hours: 2.0



Academic Policies and Procedures: College of Optometry

Introduction

These policies were developed in accordance with the General Provisions of the University of Houston Academic Honesty policy: "Honor systems within the professional colleges are especially encouraged." This document establishes the policies and procedures governing academic and clinical performance, as well as the general principles and expectations regarding ethical and professional conduct that apply to students taking courses in the professional program within the College of Optometry. This document was drafted by the college Academic Committee and is based on existing principles and practices established by the *University Student Handbook*, *College Student Handbook*, and *University Eye Institute Policies Manual*. Where applicable, the language, policies, and definitions are meant to conform to the University of Houston's academic policies as defined in the student handbook. However, these policies and procedures are intended to address the unique standards of academic performance and conduct expected of health-care professionals.

General Definitions

Class Day-Class days, for purposes of developing timelines in this policy, are defined as days that the College of Optometry is open and classes are meeting (excluding Saturdays and Sundays) as posted in the college Academic Calendar and are defined here for the purpose of establishing timeline uniformity.

Sanction-Sanction means the penalty assessed for academic or clinical performance failures or violation of the Academic Honesty Policy and Professional Conduct Code. Typical sanctions include, but are not limited to a lowered grade, failure on an examination, assignment, or course, and may also include:

Probation-refers to a level of academic standing between good standing and dismissal. Additional rules and standards may apply to students with probationary status.

Suspension-temporary dismissal from the college. Future readmission is possible under limited circumstances. Suspensions typically stand for one academic year, unless otherwise specified by the Academic Committee as the result of an academic hearing for appeal of the suspension.

Expulsion-permanent dismissal from the college without the possibility of future readmission.

Instructor-Instructor refers to individuals such as a faculty member, lecturer, teaching assistant, resident doctor, or teaching fellow in a given course or course section.

Student-Student refers to any individual who has ever enrolled and paid (made a complete payment or has made at least one installment payment) for a course, or courses at the University of Houston. This definition would normally include undergraduate students, graduate students, post-baccalaureates, professional school students and individuals auditing courses.

Notification-All required written notices shall be addressed to the student via their UH email or US mail at his/her mailing address as it appears in University of Houston records. It is the responsibility of the student to keep his/her current email and mailing address up to date in his/her student record (my.uh.edu). A notice properly addressed and so sent shall be presumed to have been received by the student. Additionally, communications from the student to faculty, staff, or administrators should be delivered in person, sent via overnight mail, or sent via their official University email account. Communications sent from a personal email account will not typically be accepted.

Grievances-Students have the right to file grievances regarding actions that are unjust or in error. Whenever possible, student grievances against a faculty member should be resolved through student communication with the faculty member. If that is not possible or the matter cannot be resolved, any grievance relating to matters other than those specifically addressed under these Academic Policies and Procedures may be filed following the University of Houston Grievance Policy and Procedure for Graduate, Professional, and Post-baccalaureate Students.

1. General Rules and Procedures

1.1 Academic Grading Policies & Student Responsibilities

The instructor of record determines final course grades. All final grades are reported by the coursemaster and displayed on the student's my.uh.edu account.



The faculty of the college has the responsibility of determining a student's qualifications to practice optometry. Personal integrity, initiative, motivation, and a professional attitude are essential attributes of optometrists. Therefore, while the grading of written, oral, and practical examinations represents the basic source of evaluating performance, these additional factors may be considered in determining the final grade in a given course.

Students are responsible for their own academic performance and should seek assistance when needed, as illustrated below.

The burden to seek support prior to earning poor grades rests with the student.

It is prudent for a student to report life circumstances that may be detrimental to the student's performance to the Associate Dean for Professional Studies, the Assistant Dean for Student Affairs, or a faculty advisor before they result in failing grades, probation or suspension. This enhances the consideration of these facts if they are later called into question.

A student should seek tutoring in areas of weakness **before** they become matters of academic record and should be prepared to document this action if it becomes necessary.

Students who believe they have a disability requiring an academic adjustment/auxiliary aid or other accommodation are encouraged to contact the Assistant Dean for Student Affairs in the Office of Optometry Relations within the first two weeks of class for assistance in filing requests for special accommodations, or promptly following a new diagnosis that occurs mid-semester. It is ultimately the student's responsibility to initiate requests for special accommodations. Accommodations will not be rendered until the approval process has been completed by main campus.

It is the responsibility of each student to know his/her academic status before attempting to matriculate for the subsequent semester.

Academic actions are based only upon the student's record in the University of Houston College of Optometry professional curriculum and will be taken at the conclusion of fall, spring and summer terms. The grade point average (GPA) for the professional program in optometry is calculated and recorded at the conclusion of fall, spring, and summer terms and shall be used as the basis for determining matriculation in, or probation and suspension from the College of Optometry. The GPA is calculated by dividing the total grade points earned (each weighted for associated semester hours) by the total semester hours of credit; see section 1.4 Grade Point Average (GPA). Grades earned at another institution, in the pre-optometry curriculum at University of Houston, or in any other University of Houston curriculum except the professional optometry program shall not be used in calculating the GPA. If any course in the professional program is repeated for any reason, both course grades are used in calculating the GPA. While grades earned for courses completed at another university are not used to calculate the GPA, course credit may be accepted at the discretion of the Dean on recommendation of the Admissions Committee.

1.2 Grades

Grades in the College of Optometry shall be awarded in each didactic and laboratory course at the end of each term. The criteria to earn a given letter grade in a course will be established individually by each coursemaster, including the percentage earned that corresponds to each letter. Instructors may use any of the following letter grade categories, including plus and minus designations, if they choose.

A	<i>EXCELLENT</i> - Demonstration of consistent outstanding performance in the comprehension and interpretation of the subject.
B	<i>GOOD</i> - Demonstration of comprehensive knowledge of the subject and marked ability to interpret it.
C	<i>FAIR</i> - Demonstration of an acceptable level of subject knowledge.
D	<i>MARGINAL</i> - Demonstration of a minimal passing level of understanding.
F	<i>FAILING</i> - Demonstration of major factual or conceptual errors; inability to achieve course requirements or withdrawal while not performing satisfactorily.
S & U	Grades of <i>S (Satisfactory)</i> and <i>U (Unsatisfactory)</i> may be awarded in certain cases.



INCOMPLETE - The grade of *I* (*Incomplete*) is a conditional and temporary grade given when a student is passing a course but, for reasons beyond his/her control, has not completed a relatively small part of all requirements. The student is responsible for informing his/her instructor immediately of the reason for not submitting an assignment on time or not taking an examination. The grade of *I* must be changed to a letter grade by fulfillment of course requirements within one academic year of the date awarded, or it will be changed automatically to an *F*. Only if the Dean grants an administrative withdrawal may an *I* be changed to a *W*.

WITHDRAWN - The grade of *W* (*Withdrawn*) indicates that (a) the student was passing, or (b) no evaluative data were available at the time the student dropped the course. The grade of *W* is assigned only to a course dropped after the last day to drop without receiving a grade, and before the final day to withdraw (students may, with approval of the instructor and the advisor, drop courses at any time until the beginning of final examinations). It is the responsibility of the student to initiate action to drop or withdraw from classes. A student who fails to do so will be retained on the class rolls even though he/she may be absent for the remainder of the semester. In such instances a grade of *F* will be assigned unless the conditions for a grade of *I* have been met.

The symbol (•) may be used to indicate that a student is performing satisfactorily in a course that continues beyond a given grading period.

1.3 Grade Points

Once an instructor has assigned a letter grade, grade points are assigned by the University according to the following table for the calculation of grade point average.

Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F
Points	4.00	3.67	3.33	3.00	2.67	2.33	2.00	1.67	1.33	1.00	0.67	0.00

1.4 Grade Point Average (GPA)

The grade point average is the quotient obtained by dividing the total number of grade points earned (each weighted for associated semester hours) by the total number of semester hours in which a student is enrolled. Per University policy, GPAs are truncated to two decimal places and not rounded. Required courses assigned a grade of *F* must be repeated until they are passed, and all of these grades must be used to calculate the GPA.

Grades of *S*, *U*, *I*, *W*, and (•) are not assigned grade point values and are not used in the computation of the grade point average. Grades of *S* and *U* will be used in consideration of appeals of academic suspension or probation. Although elective credit hours are used to calculate semester and cumulative GPAs, in cases of appeals of academic suspension, the Academic Committee strongly weighs performance in the core curriculum rather than elective courses when evaluating a student's likelihood for future success.

1.5 Scholastic Honors

At the end of each semester, the Office of Optometry Relations will compile the Dean's List for those students in each class whose cumulative grade point average and last semester grade point average are 3.50 or above. The grade of *S* is not included in this calculation. Students who earn a grade of *I* (except in a thesis course), *D*, *F*, or *U* during the semester are excluded from consideration for the Dean's List.

Students who earn a grade point average between 3.75 and 4.00 for the entirety of their optometry course work are eligible to graduate *summa cum laude*. Those who earn a cumulative grade point average between 3.50 and 3.74 are eligible to graduate *magna cum laude*.

The University of Houston chapter of Beta Sigma Kappa, the national optometric honor society, offers membership to students who maintain at least a 3.50 cumulative grade point average at the end of each professional year.

Phi Kappa Phi is a national university honor society that offers membership to students meeting its academic and personal standards. In addition, each year the college awards honors based on excellence in various aspects of academic performance and patient care.

1.6 Clinical Grading Policies



A clinical instructor will evaluate each student on every patient encounter on the basis of whether the student has met the behavioral objectives (refer to the current *Student Handbook* for a listing of the behavioral objectives) for a variety of performance categories. In addition, clinical instructors will determine an overall performance rating for the student for each patient encounter. Clinical instructors will complete a midterm and/or final evaluation at the end of each grading period and discuss performance with each student.

1.7 Clinical Grades

The following clinical grade categories are assigned to individual patient encounters, as well as the midterm, and final evaluations:

Excellent (5) Students may receive a grade of excellent if they demonstrate outstanding performance well beyond expectations based on the behavioral objectives outlined in the University Eye Institute (UEI) Policies Manual. A student who competently manages a case, demonstrates in-depth understanding of the case, and can work independently with no difficulty with decision making appropriate for the level of the student (i.e. 2nd year vs. 4th year) is eligible for a grade of excellent.

Above Expected (4) Students may receive a grade of above expected if they demonstrate performance at an above average/above expected level based on the behavioral objectives. A student who demonstrates some independence while managing a case in a complete and timely fashion, appropriate for the level of the student is eligible for a grade of above expected.

Expected (3) Students will receive a grade of expected if they exhibit performance at an expected level commensurate with their experience. This performance level should not deviate significantly from the behavioral objectives.

Below Expected / Probation (2) Students will receive a grade of below expected/probation if they demonstrate performance deficiencies in one or more areas which deviate significantly from the behavioral objectives, but not sufficiently to constitute failure, as defined below.

Failure (1) Students who demonstrate serious deficiencies in examination skills, assessment and/or a treatment plan which jeopardize the patients' health, comfort and/or visual efficiency, will receive a grade of *failure*. Other reasons for a grade of failure include, but are not limited to, failure to observe and/or record obvious ocular abnormalities or maintain adequate records.

Determination of final clinical course grades:

The Clinical Coursemaster(s) for each clinical year, in consultation with attending clinical instructors, will assign the final course grades based on individual patient-encounter evaluations, midterm and final evaluations from all clinic rotations.

Satisfactory (S) Students who achieve a clinical grade of Expected (3) or higher in *ALL* of their clinic rotations, will be assigned an overall clinical course grade of *Satisfactory (S)* for the term.

Incomplete (I) Students who achieve a clinical grade of *Below Expected/Probation (2)* in *ONE* clinical rotation will receive an overall clinical course grade of *Incomplete (I)* for the term. See section 4.1 Academic Sanctions for Clinical Grades, for an expanded explanation of sanctions.

Unsatisfactory (U) Students who achieve a clinical grade of *Failure (1)* in one clinical rotation *OR Below Expected/Probation (2)* in two or more clinical rotations will be given an overall clinical course grade of *Unsatisfactory (U)* for the semester. See section 4.1 Academic Sanctions for Clinical Grades for an expanded explanation of sanctions.

1.8 Clinical Letter of Excellence

The clinical instructors, in coordination with the appropriate clinical coursemasters, will identify candidates for *Clinical Letters of Excellence*. Candidates must have achieved *Excellent (5)* performance in the majority of their clinical rotations and may not have earned less than Expected (3) performance in any rotation. A Letter of Excellence is not awarded on the basis of performance in any one individual rotation but rather is determined by a compilation of performance in all clinics. Clinical coursemasters will individually inform students who have been selected to receive Letters of Excellence, after which time official recognition will be distributed by the Assistant Dean for Professional Studies.

2. Academic Committee

The Academic Committee is a standing college committee, whose charge is to: develop rules and guidelines for academic performance of students, consider requests by students for leaves of absence, serve as the hearing body to decide the outcomes of student appeals of academic suspensions,



and evaluate allegations against students regarding academic dishonesty and/or unprofessional conduct to affirm or dismiss such allegations and determine any associated consequences such as academic dismissal or repetition of course work.

2.1 Academic Committee Composition

The college Academic Committee shall consist of 6 faculty members (a non-voting chair and 5 voting members) and two voting students. The committee will be appointed by the Dean from the faculty and currently enrolled students from the professional program of the college. Appointment to the committee is solely the Dean's decision and not the result of an individual's request to participate on the committee. The chair of the committee is a faculty member appointed by the Dean to conduct and preside over hearings, ensure adherence to the policies described herein and facilitate communications among parties involved regarding the actions and recommendations of the committee. Committee members who have a conflict of interest for a given case (e.g. initiated charges of academic dishonesty or unprofessional conduct, or were material witnesses to the incident) shall be recused from voting on the case in question. Any student for whom a hearing is being conducted may also request that a committee member (faculty or student) be recused if a conflict exists, consistent with the process outlined in section 9.4 Student Counsel and Resources. If any member is recused or unavailable to attend the hearing, the Dean will appoint a temporary replacement to maintain a minimum of 5 voting faculty members and 2 students at each hearing. If the committee chair has a conflict of interest for a given case, the committee will elect a replacement from the existing faculty committee members to serve as the temporary chair for all matters pertaining to that case and the Dean will appoint a temporary voting faculty member to replace that faculty member and maintain 5 voting faculty members for the hearing.

2.2 Duties of the Academic Committee Chair

- Set and give notice of the time and place of the college hearing;
- Oversee the collection and preparation of materials to be reviewed at the hearing;
- Conduct the hearing in an orderly manner so that both sides are given an opportunity to state and clarify (in response to questions from members of the committee) their case;
- Rule on procedural matters;
- Participate in the committee's deliberations and facilitate discussion of the committee;
- Prepare and submit a copy of the decision to the student, Dean, Associate Dean for Professional Studies, relevant Department Chair, Office of Optometry Relations, and, when relevant, the faculty member initiating charges against the student;
- Serve as the committee liaison to the Dean related to student appeals of committee decisions;
- Conduct additional committee review of student appeals of committee decisions to the Dean;
- Participate in the review and approval/denial of waivers of academic hearings related to unprofessional conduct or academic dishonesty;
- Investigate grade change requests by students facing academic or clinical probation or suspension.

2.3 Duties of the Academic Committee

The Academic Committee serves as the standing committee of the faculty to hear appeals and render decisions on the following academic issues:

Academic and Clinical Probation: Probation is automatic under the rules described in section 3.1 Academic Sanctions: Probation and Suspension and section 4.1 Academic Sanctions for Clinical Grades; it does not require action by the committee. However, if a student believes that the determination of probation was made in error, he/she may attempt to resolve this matter with the Associate Dean for Professional Studies who may set aside the probation in instances of clerical error. If not resolved, the student may appeal to the Academic Committee.

Academic and Clinical Suspension: Suspension is automatic under the rules described in section 3.1 Academic Sanctions: Probation and Suspension and section 4.1 Academic Sanctions for Clinical Grades; it does not require action by the committee. If extenuating circumstances exist, the student may appeal their suspension to the Academic Committee. If a student receives an incomplete (I) during the semester that the student is placed on suspension, the Academic Committee will not consider the final grade received for the course even if the coursework is completed prior to the date that the student files an appeal for reinstatement.

Grade Disputes: The awarding of grades is the responsibility of the course instructor. Because assigning a grade or evaluating a student's work performance involves the faculty member's professional judgment and is an integral part of faculty teaching responsibilities, disagreement with an instructor concerning a grade or evaluation is not a justifiable grievance to be considered under this policy unless a violation of university, college, or department academic policies or procedures can be shown to have affected that grade or evaluation. If a student wishes to dispute or appeal a course grade, he or she should first discuss the matter with the responsible instructor. Alternatively, the student may wish to arrange a joint consultation with the instructor and the applicable Department Chair. Continued requests of a faculty member to alter a grade after justification has been given is considered unprofessional conduct (see section 6.2 Acts of Unprofessional Conduct), and thus if the matter is not satisfactorily resolved, the student may appeal to the Associate Dean for Professional Studies in writing to request a hearing of the appeal by the Academic Committee. If a request for appeal is determined by the Associate Dean for Professional Studies to warrant a hearing, the Academic Committee Chair



will set a date for the hearing following the process outlined in section 9 College Academic Hearing Procedures. The decision of the committee is the final determination of a grade appeal.

Grade Disputes for Students on Probation or Facing Suspension: A student who is on probation or facing suspension shall not use this information to influence an instructor to issue a higher grade or to change a grade. Therefore, any student who is on probation or facing suspension must make grade change requests through the Academic Committee Chair as described below. If a student approaches an instructor seeking a grade change which would have the effect of removing the student from suspension or probation, and tries to influence the instructor by implying that the instructor is somehow responsible for the student's suspension, the student may also be charged with unprofessional conduct (see section 6.2 Acts of Unprofessional Conduct).

If a student requests a grade change through the Academic Committee Chair, the Chair will serve as the intermediary between the student and the faculty member by communicating the request directly to the faculty member, collecting the response, and delivering it to the student. If the outcome of the grade change request is not satisfactory to the student, the student may then appeal to the Associate Dean for Professional Studies in writing to request a hearing of the appeal by the Academic Committee. If a request for appeal is determined by the Associate Dean for Professional Studies to warrant a hearing, the Academic Committee Chair will set a date for the hearing following the process outlined in section 9 College Academic Hearing Procedures. If the student is simultaneously requesting an Academic Committee hearing for an appeal of an academic/clinical suspension, the Academic Committee will hear the case involving the grade appeal first. The time transpiring between the request for a grade appeal hearing and the rendering of the committee's decision will not be counted against the timeline to conduct the hearing for appeal of the academic/clinical suspension, but will instead be counted beginning from the completion of the grade appeal process, if the suspension appeal hearing is still requested by the student. The decision of the committee is the final determination of grade appeals.

Requests for a Leave of Absence: Requests for Leave of Absence should initially be presented to the Associate Dean for Professional Studies who may recommend to the Dean the granting of the request and may outline requirements for return to the college. If the circumstances surrounding the request are complex, or if the student is not in good academic standing, the Associate Dean must refer the request to the Academic Committee. The committee will consider issues which the student believes would justify a leave of absence from the professional program. Students wishing to receive this type of consideration must submit written requests to the Associate Dean. Should the student be denied a leave of absence by the Associate Dean, the student may appeal that decision to the Academic Committee. Decisions of the Academic Committee may be further appealed to the college Dean following the process outlined in section 9.13 Right to Appeal.

Allegations of Academic Dishonesty and Unprofessional Conduct: The objective of a hearing on academic dishonesty or unprofessional conduct is to assess allegations of student violations of college and/or university policy. When it is concluded that violations did occur the committee will determine the appropriate sanctions.

Extension of Educational Program: Students in good standing may develop a plan for extending their educational program beyond the minimum time of four years. Such plans should be submitted to the Associate Dean for Professional Studies. The Academic Committee will then be asked to judge the necessity of the extension and the academic feasibility of the student's plan. Upon receiving the committee's positive recommendation, the Associate Dean will be responsible for providing final approval of the plan. In the case that the Academic Committee does not recommend an extension of the education program, students may further appeal their case to the college Dean as outlined in section 9.13 Right to Appeal.

Design of Remedial Curricula or Altered Course Sequences: The Academic Committee, in consultation with the Associate Dean for Professional Studies, the relevant Department Chair, and the appropriate clinical and didactic coursemasters will provide input on the design and intent of remedial schedules or altered course sequencing for students that require remediation or special circumstances. While this may most often be required for students having academic difficulty, altered schedules may also be considered for students in special circumstances upon written appeal to the committee for consideration. In developing remedial schedules or altered course sequences, all course prerequisites will be taken into account and the altered schedule will also need to be deemed academically and educationally sound. In other words, even if all prerequisites for a given course have been completed, students may still be instructed to delay entry into a particular course until enrollment is deemed to be educationally sound in the context of the student's academic and clinical trajectory.

3. Academic Probation and Suspension

3.1 Academic Sanctions: Probation and Suspension



A full-time student in the professional program shall be placed on academic probation at the end of any term or summer session in which his/her semester GPA falls below 2.00. A full-time student shall be suspended from the professional program for academic reasons under any of the following conditions:

- The student earns a semester grade point average of 1.00 or below in any term;
- The student earns a grade lower than a "C" (i.e. C- or lower) in four or more courses in any term;
- The student is placed on probation (either clinical or academic) for two terms (consecutive or nonconsecutive), including any fulltime summer session;
- The student's performance results in *both* academic and clinical probation (see section 4.1, Academic Sanctions due to Clinical Performance, and section 4.2, Procedures for Clinical Probation, Failure, and Suspension) in the same term;
- The student earns an overall failing grade on the 2nd year clinical competency examination after 2 attempts (initial attempt and 1 re-take) and either entered or completed the 2nd year fall term on academic probation;
- The student's cumulative grade point average falls below a 2.00 in any term after the first term in the program;
- The student receives a grade of less than "C" (i.e. C- or lower) when repeating a course;
- A student who is otherwise in good academic standing fails to successfully pass the 2nd year clinical competency examination 3 total times (initial attempt, 1st re-take, and 2nd re-take after completing one semester of clinical skills remediation).

3.2 Automatic Sanctions

Academic probation and suspension are automatic and do not require any initiating or confirming action by the Dean, the Academic Committee or any other administrative unit. The Associate Dean for Professional Studies will notify students regarding these sanctions and place a letter in the student's academic file via the Assistant Dean for Student Affairs concerning the student's status of probation, or suspension. Unsuccessful notification for any reason does not abrogate these sanctions. It is the responsibility of each student to know his/her academic status before attempting to matriculate for the subsequent term.

3.3 Appeal of Academic Sanctions

Exceptions from academic or clinical sanctions may be granted on appeal. **The student must initiate any and all appeals procedures.** Appeal of academic and/or clinical sanctions (probation or suspension) within the College of Optometry shall be filed by the student in writing, as described in Appendix 1 Item 4 of this document, and delivered either in person, via overnight mail, or electronically via the student's official University email account to the Academic Committee Chair within 5 class days of student notification by the college. Appeals of academic sanctions are heard by the college Academic Committee, as described in section 9 of this document. A student may further appeal decisions of the Academic Committee to the Dean of the college; however, the basis for appeals of Academic Committee decisions is limited to serious procedural errors in the appeals process that could have affected the outcome, or to instances in which substantial new evidence that was previously unknown to the student became available only after completion of the Academic Committee hearing. Non-disclosure of issues existing at the time of the hearing will not be considered grounds to appeal the Academic Committee's decision. Electronic communications must be sent via the student's official University email account. Requests for an extension of time to file an appeal may be granted at the discretion of the Academic Committee Chair. A student considering an appeal must consult with the Assistant Dean for Student Affairs in the Office of Optometry Relations and may also seek other guidance to help prepare an appeal.

3.4 Sanctions under Appeal

Students who have been suspended and have an appeal in process are permitted to continue in the college as long as the appeal is pending; however, all normal prerequisite requirements for curriculum still apply, and thus a student appealing an academic suspension may only be eligible to continue in a subset of the typical curriculum, depending upon the prior grades earned. This modified or altered curriculum also needs to make sound academic and educational sense and therefore might not include courses the student would otherwise be eligible to take based on prerequisite requirements. Sanctions do not become final and may not be applied while any appeal permissible under these policies is pending. If an automatic suspension is overturned as a result of an academic hearing, the student may still be required to drop current courses, and/or remediate previous courses, dependent upon the conditions set by the committee at the time the suspension is overturned.

3.5 Exceptions to Academic Sanctions

Exceptions to automatic academic sanctions will be determined by the Associate Dean for Professional Studies, with written notification to the Academic Committee Chair and may be granted in the following circumstances:

- A student who has been placed on academic probation at the end of one term who fails to raise their cumulative GPA above a 2.00 in the subsequent term (an outcome which would ordinarily result in suspension), but nevertheless achieves a term GPA of 2.5 or better and has no individual course grade below a C, may not be suspended. If the suspension is set aside for this reason, the student will remain on academic probation.



Students placed on suspension for academic reasons may continue in the professional program only with the recommendation and under the conditions specified by the Academic Committee. These conditions may exceed those demanded of students at the same level who are not on probation or suspension. In these rare circumstances, the student's status will be probationary. Removal from probation will require that the student meets all stipulations specified by the Academic Committee and will not occur automatically when the cumulative GPA is raised to 2.00 or higher.

3.6 Readmission after Academic Sanctions

Students on suspension who fail to matriculate for a particular term either because they did not file an appeal within 5 days of notification of their suspension, or such an appeal was denied, must apply to the Admissions Committee if they wish to be considered for readmission to the College of Optometry. Applications must be filed in the same manner as any new applicant to the program within the standard admissions cycles posted on the college website. The suspension typically stands for a period of at least one academic year, but may be lesser or greater as determined by the Academic Committee at the time of appeal. The student may not be re-admitted until the suspension period is complete. Previously suspended students can only be readmitted by the Admissions Committee following consultation between the Admissions Committee and representatives of the Academic Committee, and will be considered with other current applicants to the college (i.e. will not be given priority over other applicants). The Admissions Committee will determine whether admission will be granted while the Academic Committee will determine the level at which the student is readmitted. Any student readmitted at a level other than the fall term first year will be on probation for a minimum of one semester following readmission. During this time, the Associate Dean for Professional Studies must approve the student's class schedule. The Academic Committee will recommend which courses, if any, must be repeated. For students readmitted at any level other than fall term first year, suspension does not require two terms below a 2.00 but may occur at any time the student fails to satisfy any of the stipulated requirements defined at the time of readmission.

4. Clinical Probation and Suspension

The University of Houston College of Optometry is committed to producing competent clinicians who can render appropriate eye care and therapeutic treatment to their patients. In order to achieve this goal, students must successfully complete and pass all of their clinical rotations.

4.1 Academic Sanctions for Clinical Grades

CLINICAL PROBATION: Students who are assigned a grade of *below expected/probation* in any one clinic rotation at the final evaluation will receive an overall grade of *incomplete* for their clinical coursework and will be placed on clinical probation. If a student achieves *expected* performance or better in all of his/her rotations during the following term, then the grade of *incomplete* for the previous term will be changed to *satisfactory*. Nevertheless, a record of the clinical probation will be retained in the student's academic file for the purpose of identifying students who receive more than one term of clinical probation during their enrollment at the College of Optometry (see the paragraph below). A student cannot advance to the next clinical year while on clinical probation.

SUSPENSION: Students placed on clinical probation must demonstrate *satisfactory* performance in all rotations (perform at the level expected for a student at that point in the program) by the end of the next term or the student will receive a grade of *unsatisfactory* for both terms and will be suspended from the college. Any combination of two terms (not necessarily sequential) of *probation* OR *unsatisfactory* grades will result in suspension from the College of Optometry. Any clinical probation earned over the course of the student's career may count toward this suspension, irrespective of whether the student successfully repeated the probated clinic (as described in the paragraph above). Clinical assignments, if any, for students on suspension awaiting appeal will be determined by the Associate Dean for Professional Studies in consultation with the appropriate coursemaster(s) and service director(s).

4.2 Procedures for Clinical Probation, Failure, and Suspension

Optometry II. Students placed on clinical probation or receiving a grade of *unsatisfactory* at the end of the spring Opt II term will enroll in Opt III Summer Clinics, however, they must repeat the Opt II clinical work during the first seven weeks of their Opt III summer term. If successfully completed, the student will then be scheduled in full Opt III clinics during the second seven weeks of the summer term. The student must be available all class days of the summer term to complete this remediation as assigned. Should the same student fail or be placed on probation for the repeated Opt II clinical work (during the first seven weeks), or any subsequent Opt III or IV clinic session, the student will be suspended from the clinical program due to the accumulation of two probations and/or unsatisfactory grades.



Optometry III. Students placed on clinical probation for a summer or fall session will enter the following term on probation. If a student receives an *unsatisfactory* grade in any term of Opt III clinic, the student will automatically be one term behind in their graduation. The student must repeat the failed term's work during the following term. Should the same student fail or be placed on probation for the repeated Opt III session, or any subsequent Opt III or IV clinic session, the student will be suspended from the clinical program due to the accumulation of two probations and/or unsatisfactory grades.

Any student placed on probation or with a grade of *unsatisfactory* in the last term of Opt III clinics must successfully complete another term of ALL Opt III clinics prior to entering Opt IV. That student cannot enroll for Opt IV clinics prior to successful completion of the entire Opt III clinical year. The student will automatically be behind one term in their graduation.

Optometry IV. Students who were previously placed on clinical probation or received a grade of *unsatisfactory* in *any* prior term will not be allowed to begin an externship during the first term of the Opt IV year. The student may appeal this provision to a committee composed of the clinic coursemasters, Executive Director of the UEI, Director of Externships, and the Academic Committee Chair or his/her designated representative from the college Academic Committee. This appeal must be presented in writing to the Associate Dean for Professional Studies before the end of the externship selection process. If a student receives an *unsatisfactory* grade in any term of Opt IV clinic, the student will automatically be one term behind in their graduation.

4.3 Notification of Academic Sanctions due to Clinical Performance

The status of clinical probation and failure will be monitored by the appropriate clinical coursemaster. Within 10 class days of determining academic sanctions (which are typically determined during the 10 class days following the posting of final grades) due to clinical performance, the coursemaster will notify the Associate Dean for Professional Studies regarding any students who have incurred academic sanctions. The Associate Dean for Professional Studies will then notify the student regarding his/her status and place a letter in the student's academic file via the Assistant Dean for Student Affairs concerning the student's status of probation, failure, or suspension. Unsuccessful notification for any reason does not abrogate these sanctions. It is the responsibility of each student to know his/her academic status before attempting to matriculate for the subsequent term.

4.4 Appeal of Academic Sanctions due to Clinical Performance

The student may appeal the suspension by notifying the Academic Committee Chair within 5 class days of notification consistent with the process described in section 3.3 Appeal of Academic Sanctions of this document. Requests for an extension of time to file an appeal may be granted at the discretion of the Academic Committee Chair. Appeals of academic/clinical sanctions are heard by the college Academic Committee, as described in section 9 of this document. A student may further appeal decisions of the Academic Committee to the Dean of the college; however, the basis for appeals of Academic Committee decisions is limited to serious procedural errors in the appeals process that could have affected the outcome, or to instances in which substantial new evidence that was previously unknown to the student became available only after completion of the Academic Committee hearing. Non-disclosure of issues existing at the time of the hearing will not be considered grounds to appeal the Academic Committee's decision.

5. Academic Honesty and Professional Conduct Code

The University of Houston publishes current governing policies on academic honesty in the Undergraduate Catalog. These policies can be obtained online at: <http://catalog.uh.edu/>

In accordance with University policy, the University of Houston, College of Optometry adopts the following Academic Honesty and Professional Conduct Code which is unique to the College of Optometry.

5.1 General Provisions

5.1.1 Rationale The University of Houston, College of Optometry can best function and accomplish its objectives in an atmosphere of professionalism and high ethical standards. It expects and encourages all faculty, staff and students to contribute to such an atmosphere by observing practices that adhere to conduct consistent with accepted standards of ethical, professional, and academic integrity. It is recognized that ethical failures and allegations of academic dishonesty or unprofessional conduct may occur by a few students who do not understand, appreciate, or practice these principles. The following procedures are designed to handle these cases with fairness to all concerned: the accused student, faculty, staff, patients, the College of Optometry, the University of Houston, and the profession of optometry.



5.1.2 Purpose of Procedures The purpose of these procedures is to provide for the orderly administration of the Academic Honesty and Professional Conduct Code consistent with the principles of due process. Reasonable deviations from these procedures will not invalidate a decision or proceeding unless the Dean or Provost determines, upon written appeal from the accusing and/or accused parties, that the deviation might have resulted in prejudice to one or more of the parties involved.

5.1.3 General Jurisdiction Matters relating to academic honesty are within the general jurisdiction of the Senior Vice President for Academic Affairs and Provost. Allegations of scientific misconduct against students engaged in research supported by funding from the University of Houston or other sources will be handled according to the University of Houston Responsible Conduct of Research Policy: <http://www.uh.edu/research/compliance/res-conduct/rcr-policy/>.

5.1.4 College with Jurisdiction Specific jurisdiction in academic honesty matters rests in each school or college of the University of Houston. The school or college with jurisdiction is determined by the course in which dishonesty occurs. If the student involved majors in a college other than that offering the course, the college offering the course has jurisdiction, but the college hearing officer of the student's major college will be informed. If the college with jurisdiction cannot be determined from the relationship between the alleged actions of a student or group of students and a particular course, then the Provost will designate which has jurisdiction.

5.1.5 Questions Regarding Applicability of Policies All questions regarding the applicability of college codes or University of Houston policy or special provisions of either shall be determined finally by the Provost. The purpose of these procedures is to provide for the orderly administration of the Academic Honesty and Professional Conduct Code consistent with the principles of due process of law. Reasonable deviations from these procedures will not invalidate a decision or proceeding unless the Provost determines, upon written appeal from the accusing and/or accused parties, that the deviation will result in prejudice to one or more of the parties involved.

5.1.6 Scope of Actions Taken Against Students Actions taken against students are specific to the college in their effect, unless otherwise specified, but may nonetheless have university-wide application.

5.1.7 Faculty Responsibility Faculty shall have the responsibility of reporting alleged incidents of academic dishonesty or unprofessional conduct through the appropriate Associate Dean (Professional Studies or Graduate Studies) in accordance with guidelines described in section 8.1 Notification Requirements. Instructors, teaching assistants, exam proctors, etc., are responsible for reporting incidents of alleged academic dishonesty or unprofessional conduct to the relevant coursemaster who shall then be responsible for reporting incidents in accordance with section 8.1 Notification Requirements.

5.1.8 Student Responsibility Students shall have the responsibility of reporting incidents of alleged academic dishonesty or unprofessional conduct to the instructor involved, or to the appropriate authority (such as the Associate Dean, clinic director, etc.) if the alleged act is not associated with a specific class.

5.1.9 Application of the Academic Honesty and Professional Conduct Code This policy applies to acts of dishonesty or unprofessional conduct committed by a student while enrolled at the University of Houston, College of Optometry and also applies to those acts committed by enrolled students while on external rotations or in other instances where the student may be seen as a representative of the college or profession.

5.1.10 Retaliation The University of Houston prohibits retaliatory action against persons who report incidents of alleged academic dishonesty or unprofessional conduct under this policy, who are suspected of having reported incidents of alleged academic dishonesty or unprofessional conduct under this policy, who are identified to serve or have served as witnesses in any academic honesty or unprofessional conduct proceedings, or who are identified to serve or have served on the Academic Committee. Any acts of retaliation will be referred to the Office of Optometry Relations or to the Office of the Dean of Students for the University of Houston (<http://www.uh.edu/dos/advocacy-support/student-advocacy/index.php>).

5.2 Preventative Practices

Instructors can help students comply with the academic honesty and professional conduct policy by minimizing temptation to act dishonestly or unprofessionally. Instructors should consider the following measures:

- Maintaining adequate security precautions in the preparation and handling of tests;

- Structuring the type and sequence of examination questions so as to discourage dishonesty;

- Providing ample room for proper spacing of students during examinations, when possible;

- Monitoring examinations, especially in large classes and in classes where not all students are known to the instructor or his/her assistant(s);



Making clear to their students the rules concerning the use of electronic devices;

Making clear to their students, in writing, what constitutes academic dishonesty, particularly in those classes where group activities (laboratory exercises, generation of field reports, etc.) or on-line course activities are part of the instructional process;

Requiring students to show a picture ID and sign major assignments and exams;

Helping raise consciousness of the issue of academic honesty by asking students to sign an honor pledge in the first week of class and to write a short pledge in their own hand on their major assignments;

Familiarizing students with the *Optometric Oath* and its implications for professional behavior;

Making clear to students the instructor's policy regarding the use of previous examinations, homework assignments or other previous course materials.

6. Categories of Academic Dishonesty and Unprofessional Conduct

6.1 Acts of Academic Dishonesty

Academic dishonesty is to employ a method or technique or to engage in conduct in an academic endeavor that the student knows or should know is not permitted by the University of Houston or the College of Optometry, e.g. lying, cheating or stealing. Examples of Academic Dishonesty include, but are not limited to, the following:

Stealing, as theft of tests or grade books, from faculty offices, computers, electronic servers, or elsewhere; this includes the removal of items posted for use by the students (e.g. physical or electronic media);

Using unauthorized notes, electronic aids, or other unauthorized resources to answer questions during an examination (on-line, written, or practical skills). This includes attempts to reproduce test questions, create study sheets based on explicit knowledge of test questions, or attempts to pass sensitive test material to future students taking the course, etc.;

Having another person take a test in the student's place. Both the student taking the test for another and the student enrolled in the course are at fault;

Signing an attendance sheet, or participating in audience response polling (for attendance points or otherwise) on behalf of another individual;

Plagiarism: representing another person's work as one's own without acknowledging the source;

Changing answers or grades on a test that has been returned to a student in an attempt to claim instructor error;

Giving or receiving unauthorized aid during an examination, such as trading examinations, whispering answers, passing notes, and using electronic devices to transmit or receive information, or seeking information about exam questions from a student who took an exam before others;

Openly cheating in an examination, such as copying from another's paper;

Misrepresentation: using another's work or results as one's own, whether with or without the permission of the owner;

Creation of fictitious data, results, or information, i.e. falsified laboratory results, purchased term papers, etc.;

Mutilating or stealing library materials; mis-shelving materials with the intent to reduce accessibility to other students; deleting or intentionally removing student resources meant for shared benefit, e.g. course files stored on a public server or website;

Failing to report to the instructor or departmental hearing officer an incident which the student should recognize as a violation of the academic honesty policy;



Misrepresenting academic records or achievements as they pertain to course prerequisites or co-requisites for the purpose of enrolling or remaining in a course for which one is not eligible;

Possessing on one's person during an examination, quiz or any in-class assignment an electronic device that allows communication with another person, access to unauthorized material, access to the internet, or the ability to capture an image, unless such possession is expressly permitted by the instructor; and

Any other conduct that a reasonable person in the same or similar circumstances would recognize as dishonest or improper in an academic setting.

6.2 Acts of Unprofessional Conduct

Unprofessional Conduct means engaging in conduct on or off University grounds that the student knows or should know is in conflict with the core principles of the profession of optometry as stated or implied by the Optometric Oath, or conduct that reflects negatively on the University, College of Optometry or profession. Examples of unprofessional conduct include, but are not limited to the following:

Disregard for the rights and dignity of patients, faculty, staff, or fellow students;

Placing personal gain above patient care;

Disregard for patient confidentiality and privacy;

Intentional withholding of information or services that could benefit a patient;

Unwillingness to take personal responsibility for developing one's knowledge, skills, and abilities;

Misrepresentation of one's self (or others), skills, professional standing, reputation, or credentials;

Misappropriation of college resources for personal gain or benefit;

Conduct that is selfish, unfriendly, unreliable, or exhibits unwillingness to serve the community and one's patients;

Conduct that creates a hostile learning or workplace environment;

Falsification of clinical records, including patient records or financial information, or moving forward data from past patient records that has not been verified during the current patient exam;

Use of social media that results or could result in individual or group harm (physical or emotional), e.g. damage to an individual's personal or public reputation;

Harassment resulting in personal or public humiliation of others;

Communications to faculty, staff, fellow students, or other University affiliated individuals that could be deemed inappropriate;

Lewd, lascivious, or criminal behavior;

Any other conduct that a reasonable person in the same or similar circumstances would recognize as unprofessional.

7. Academic Sanctions

7.1 Possible Sanctions

The sanctions for confirmed violations of this policy shall be commensurate with the nature of the offense and with the record of the student regarding any previous infractions. Sanctions may include, but are not limited to: a lowered grade, failure on the examination or assignment in question, failure in the course, probation, suspension, expulsion from the college or the University of Houston, immediate removal from a clinical site, or a combination of these. Clinical sites partnering with the College of Optometry in the education of students on external rotation may insist



upon the removal of students from their site based on alleged violations of this policy alone. In that instance, the College of Optometry will make reasonable attempts to place the student at an alternative site while any investigation or hearing is pending.

7.2 Time Limit of Sanctions

Any sanction of probation or suspension must have a specified start and end date, unless the sanction is expulsion, in which case the sanction is permanent. Students are not permitted re-enrollment under sanctions of suspension or expulsion for academic dishonesty or acts of unprofessional conduct.

7.3 Sanctions under Appeal

A student within the college who is found to have violated the Academic Honesty Policy and Professional Conduct Code may remain enrolled in the course at issue, as well as enroll in future courses while any appeal permissible under this policy is pending. Any student who is scheduled to graduate while an appeal is pending will not be awarded an official diploma while the appeal is pending. Sanctions will not become final and may not be applied until a final determination of any permissible appeal is made.

7.4 Sanctions and Grading

Students may not avoid a sanction for academic dishonesty by withdrawing from a course. In addition, if a course grade of *W* was assigned prior to the student being found guilty of a violation in the course, the course grade must be changed. As the result of a guilty finding, the student is liable for the penalty determined by the committee, which may include assignment of an F grade.

7.5 Probation, Suspension, and Expulsion

The terms probation, suspension and expulsion, as used herein, refer to these sanctions, only as they are imposed as a result of violations of this Academic Honesty and Professional Conduct Code. All policies and procedures for the imposition and appeal of these sanctions are contained within this policy.

7.6 Record of Sanctions

A record of the final sanction decision reached by the Academic Committee is permanently placed in the student's academic file in accordance with Sections 11.1-11.3.

8. College Academic Dishonesty/Unprofessional Conduct Hearings

8.1 Notification Requirements

When an instructor has reasonable grounds to believe that a student has committed an act of academic dishonesty or unprofessional conduct, the instructor shall provide written notification to the Associate Dean for Professional Studies within 5 class days of discovery. Students who believe they have observed an act of academic dishonesty or unprofessional conduct shall report the incident to the instructor, as soon as possible. Upon discovery, the instructor shall report the incident in writing to the Associate Dean for Professional Studies, within 5 class days. Upon receipt of allegations, the Associate Dean for Professional Studies shall notify the Academic Committee Chair and the accused student of the nature of the alleged violation within 5 class days. Any deviations from the timeline must be supported by written documentation of the circumstances that warrant the delay and communicated to the concerned party (e.g. Associate Dean for Professional Studies or Academic Committee Chair).

8.2 Waiver of Academic Committee Hearing for Minor and First-Time Offenses

Upon notifying the Associate Dean for Professional Studies of the alleged violation, if the instructor believes the actions of the student do not warrant an Academic Committee hearing, the instructor shall have the option of recommending to the Associate Dean for Professional Studies a sanction for the alleged violation of the Academic Honesty and Professional Conduct Code that would, if acceptable to the student, instructor, relevant Department Chair, Associate Dean for Professional Studies and Academic Committee Chair, invoke a waiver of a college Academic Committee hearing.

Such sanctions would normally include reduced or zero credit for a test or assignment, a grade of *F* in a course, or other such agreed-upon sanctions. Sanctions involving probation, suspension or expulsion from the college cannot be invoked in exchange for a waiver of a college Academic Committee hearing. Any offense consistent with these substantial sanctions will automatically result in formal investigation of the incident, as



described in section 8.4 Investigation of Alleged Violations. In cases for which the instructor suggests a sanction so as to waive the college hearing, the accused student shall be notified, in writing, by the Associate Dean for Professional Studies of the nature of the violation and recommended sanction, and be provided the choice of:

Admitting the alleged academic honesty or professional misconduct violation, waiving the formal Academic Committee hearing, and accepting the recommended sanction within 3 class days; or

Proceeding to a formal investigation and potential Academic Committee hearing.

Students will be provided 3 class days to respond regarding this option.

A student is eligible for a waiver only if he/she has no prior waiver and no previous findings of violation of the *Academic Honesty and Professional Conduct Code*. The waiver of a formal Academic Committee hearing must be agreed to by the instructor, the student, the relevant Department Chair, the Associate Dean for Professional Studies, and the Academic Committee Chair. In the event that all parties cannot agree to a waiver or the student failed to respond, the case must move to a formal investigation and potential Academic Committee hearing.

8.3 Consequences of Waiver

Upon electing the waiver of a college Academic Committee hearing, the waiver will be noted in the student's record. A record of waivers will be maintained by the Associate Dean for Professional Studies, the Academic Committee Chair, Office of the Dean, and the Office of the Provost, until graduation. Following graduation, the student can request that documentation of the waiver be removed by contacting the Associate Dean for Professional Studies. An agreement to settle an academic honesty infraction via a waiver of the formal Academic Committee hearing will not result in any record being kept that is reflected on the student's transcript except for any negotiated grade or similar notation that would be reflected in the transcript.

8.4 Investigation of Alleged Violations

The Associate Dean for Professional Studies shall be responsible for investigating all charges of alleged academic dishonesty or unprofessional conduct brought against a student that are either not eligible for or not resolved with a waiver. In the event that the Associate Dean has a conflict of interest with the student's case, the Dean of the College will appoint an alternate administrator to conduct the investigation.

The Associate Dean for Professional Studies will be permitted sufficient time to fully investigate allegations of academic dishonesty or unprofessional conduct. Investigation and discovery lasting more than 10 class days will require written updates from the Associate Dean for Professional Studies to the Dean, the Academic Committee Chair, the relevant Department Chair, and the Assistant Dean for Student Affairs (who shall then relay updates to the student(s) involved) every 10 class days. The investigation must be incident-specific. Within 5 class days of completing the investigation, the Associate Dean for Professional Studies will notify the Dean, the Academic Committee Chair, the Assistant Dean for Student Affairs, and the relevant Department Chair concerning the findings of the investigation. If there is not sufficient evidence to support the allegation of academic dishonesty or unprofessional conduct, the student will be notified by the Associate Dean for Professional Studies within 5 class days that the allegations have been dismissed. If there is evidence to support the allegation of academic dishonesty or unprofessional conduct, the student will be notified of the charges by the Associate Dean for Professional Studies within 5 class days and a formal Academic Committee hearing will be scheduled. It is the prerogative and, in some cases, the obligation of the Associate Dean for Professional Studies, when investigating charges of unprofessional behavior, to refer the case to other relevant University departments (e.g. Dean of Students, Title IX Office) for resolution. When this course of action is taken in lieu of a college academic hearing, the appropriate parties will be informed that the matter will be pursued outside of the college. While the matter is pending before an external department, the college will not be responsible for communicating to the involved parties about the matter, including any determinations made by the external department.

8.5 Scheduled Hearings

If waiver is not selected or is not an option, to schedule an Academic Committee hearing, the Academic Committee Chair shall notify the instructor, the relevant Department Chair, the accused student, and the accusing party, if other than the instructor, of the nature of the alleged violation and the time and date of the hearing. The hearing shall proceed in accordance with Section 9 College Academic Committee Hearing Procedures. Should any of the parties fail to appear at the hearing, without good cause, the Academic Committee may render a decision in their absence.

8.6 Group Violations of the Academic Honesty and Professional Conduct Code

At the discretion of the Academic Committee, in instances where two or more students are alleged to be involved in the same infraction of the Academic Honesty and Professional Conduct Code, the case against the whole group will be addressed at a single hearing. The facts common to all cases will be presented with all students allegedly involved in attendance. Each student shall be allowed to present his/her statement to the



Academic Committee separately. If requested by the presenting student, such statements shall be presented outside the hearing of the other students.

8.7 Conflict of Interest

When the Academic Committee Chair or members of the Academic Committee are themselves party to an Academic Honesty or Professional Conduct Code case, they shall in no way participate in the committee's deliberation or determination of any sanction in that case. Such responsibilities shall pass to other members of the Academic Committee not directly involved in the case. The Dean shall appoint temporary members to the committee, if needed, to maintain a total of 5 voting faculty and 2 voting student members.

8.8 Retention of Records Relating to Academic Honesty and Professional Conduct

The Associate Dean for Professional Studies shall serve as the college's repository of records of students found in violation of the Academic Honesty and Professional Conduct Code. Records will also be retained in the Office of Optometry Relations and in the historical records of the Academic Committee.

9. College Academic Committee Hearing Procedures

9.1 College Hearing

If the Associate Dean for Professional Studies recommends a formal Academic Committee hearing for academic dishonesty or unprofessional conduct (Section 8.4 Investigation of Alleged Violations), the Academic Committee Chair will set a time, date and place for the hearing, within 10 class days of notification of the need for a hearing. The hearing itself need not occur within these 10 class days.

The college hearing is a de novo hearing in which the committee must consider all the evidence on all the issues presented as though no previous action has been taken. All communication between the student involved and the Academic Committee shall be in written form, and the student is expressly advised against communication with any member of the college Academic Committee other than the Chair prior to the committee hearing.

The same policies apply for committee hearings of appeals of automatic academic/clinical sanctions, or grade disputes, except where described below. Within 10 class days of receipt of a written request by the student for appeal of automatic academic sanctions, or receipt of notification by the Associate Dean for Professional Studies of the need to conduct a hearing related to a grade dispute, the Committee Chair will set a time, date and place for the hearing. The hearing itself need not occur within these 10 class days.

9.2 Hearing Body

The college Academic Committee shall serve as the hearing body, and shall hear allegations of academic dishonesty and unprofessional conduct and determine any appropriate academic sanctions.

For appeals of automatic academic/clinical sanctions, the college Academic Committee shall serve as the hearing body to determine whether an appeal shall be granted and what reduction in sanctions, if any, will be applied.

For hearings related to grade disputes, the college Academic Committee shall serve as the hearing body to determine an appropriate resolution.

9.3 Hearing Procedures

The hearing will take place when scheduled by the Academic Committee Chair. If a delay is requested by any individual participating in the hearing, it must be approved by the Academic Committee Chair. Only documented, extenuating circumstances will be considered in the request for a delay of a hearing. The committee may adopt any other reasonable procedures necessary, including order of proceedings, to ensure a fair hearing.

9.4 Student Counsel and Resources

The Assistant Dean for Student Affairs, or a similarly appropriate staff member appointed by the Assistant Dean for Student Affairs, shall serve as advisor and resource for the students involved in Academic Committee hearings and will be in attendance at the hearing, but shall not have a vote or be present during deliberations. The Assistant Dean for Students Affairs is included among the individuals notified of both allegations of academic dishonesty or unprofessional conduct (Section 8.4 Investigation of Alleged Violations) and automatic sanctions of academic/clinical probation or



suspension (Section 3.2 Automatic Sanctions, Section 4.3 Notification of Academic Sanctions due to Clinical Performance), and will thus be aware of students who may require assistance for academic hearings. However, the responsibility to request the assistance of the Assistant Dean for Student Affairs rests with the student. Once a student contacts the Assistant Dean for Student Affairs regarding the hearing process, the advisor will provide the student with the names of the standing committee members so that the student will have an opportunity to express concerns regarding any conflicts with the members. The student must notify the Assistant Dean for Student Affairs of any conflicts prior to the scheduling of the academic hearing. If the Assistant Dean for Student Affairs agrees that a conflict exists, he/she will notify the Academic Chair and the Dean, so that a replacement can be appointed. In addition, the advisor will assist the student with the appeal document and preparation for their hearing. While the role of the Assistant Dean for Student Affairs is not to advocate to the committee on behalf of the student, he/she does serve as a resource to familiarize the student with the hearing process so that the student is able to present their case in a comprehensive manner. Assistance provided by the Assistant Dean for Student Affairs may include such things as proof reading required statements, suggesting supporting documents to obtain for the committee, and providing examples of information the committee may query during the hearing. If a student has an issue relevant to the case that is of a personal or potentially embarrassing nature such that they are reluctant to discuss it in front of the committee, they should alert the Assistant Dean for Student Affairs who will then make recommendations to the student regarding a more general presentation of the information.

9.5 Right of Review and Representation

Both the student and the instructor, or the Associate Dean for Professional Studies (or similarly appropriate representative) in cases where the instructor is absent, shall have an opportunity to present their full cases during a hearing of Academic Misconduct/Unprofessional Conduct. This may include the introduction of documents and/or physical evidence as well as written or oral statements from individuals who have direct knowledge of the circumstances. If either party intends to have individuals appear at the hearing to provide oral statements, the Academic Committee Chair **must** be notified in writing *of the names of the witnesses and subject of their testimony* at least **3 class days before the hearing**. The Academic Committee Chair may also request that the parties provide any information and documents the Academic Committee believes may be relevant. Each party shall be required to submit a copy to the Academic Committee Chair of any document they deem relevant to the proceeding at least 3 class days before the hearing to permit all parties time for review (see Section 9.7 Opportunity to Review Information). If legal counsel (i.e. an attorney) will advise either party, the hearing cannot be held with such counsel in attendance unless a representative from University of Houston legal counsel is also present. The Academic Committee Chair must be notified in writing at least 3 class days before the hearing of the name of any legal counsel who will attend the hearing. Legal counsel shall not participate directly in the hearing, but may be present to observe the process, or to advise the party he/she represents.

If physical evidence or witness testimony is presented in a hearing, and if either party needs additional time to review the evidence and/or consider the witness testimony, either party may request a reasonable postponement of the hearing. Decisions on postponement of the hearing will be made at the discretion of the Academic Committee Chair, who will then set appropriate deadlines for completion of the appeal process, with the intent to conduct the hearing in a timely and fair fashion.

Similar procedures will be followed in student appeals of automatic academic/clinical sanctions or grade disputes; however, in cases of appeal of automatic academic/clinical sanctions, only the student, the Academic Committee, and the Assistant Dean for Student Affairs or designee will be in attendance at the hearing. For appeals of automatic academic/clinical sanctions, any statements relevant to the appeal from outside parties should be submitted prior to the hearing in written form, within the deadline set by the Committee Chair, as no additional witnesses will be permitted to attend the hearing. In preparation of the Academic Hearing, the Academic Committee Chair may also gather information for use in the hearing from relevant instructors regarding the appealing student's past exam and/or assignment scores, as well as any documentation maintained by the Associate Dean for Professional Studies regarding attempted interventions or instructor recommendations previously communicated to the student throughout the program and maintained in the student's file.

9.6 Audio Recording

The hearing shall be audio-recorded. Upon request, the parties involved may obtain a copy of the recording, at their own expense, from the Academic Committee Chair.

9.7 Opportunity to Review Information

For cases of academic misconduct/unprofessional conduct, or cases of grade disputes (when relevant), at least three class days prior to the hearing, all parties shall notify the Academic Committee Chair in writing of the names of their witnesses, if any, and the subject of their testimonies. At that time, the parties will also submit a copy of the documents they intend to present during the hearing and the names of any legal counsel (i.e. an attorney) who will attend the hearing to advise that party. The Academic Committee Chair will make available to the parties the information and documents referenced in this section prior to the hearing, unless exceptional circumstances preclude the release of information, such as where



providing the information may be prohibited by applicable law. Both parties shall have an opportunity to examine the documents and witness information pertaining to the alleged violations prior to the hearing, but the responsibility to request review of such documents rests with each individual party. The method of delivery of documents for review will be at the discretion of the Academic Committee Chair dependent upon the sensitive nature of the contents. The Academic Committee Chair may elect to limit the review of documents to paper copies that are retained by an appropriate college administrator, such as the Assistant Dean for Student Affairs. All parties shall be afforded the opportunity to present statements, pertinent documentation and witnesses and have an opportunity to address the content of the documents pertaining to the alleged violations during the hearing.

While witnesses are not permitted to attend hearings in the case of a student appeal of automatic academic/clinical sanctions, supporting documentation is permitted and shall be submitted to the Academic Committee Chair by the deadline set by the Academic Committee Chair and communicated to the student at the time of notification of the hearing date. The student will be notified prior to the hearing regarding the academic records obtained by the Academic Chair to be included in the hearing documents; however, given that these documents are limited to grades and communications that the student already has access to, the procedures outlined above regarding prior review of materials are not relevant in cases of appeals of automatic academic/clinical sanctions.

9.8 Hearing Structure

The hearing shall be held in two phases. The first phase is the expository phase during which all concerned parties are present for the committee to gather information regarding events that transpired. This is followed by a deliberation phase attended only by the Academic Committee members. During the deliberation phase of a hearing for academic dishonesty/professional misconduct, the committee will first deliberate and vote as to whether a preponderance of the evidence indicates that a violation occurred. Following this vote, if the committee deems a violation did occur, the committee will then deliberate and vote to apply a sanction. In the case of a student appeal of automatic academic/clinical sanctions, the deliberation phase will be used for the purpose of determining whether there exists sufficient evidence to overturn or mitigate the academic/clinical sanction. In the case of grade disputes or appeals of requests for a leave of absence or extension of the educational program, the deliberation phase will be used for the purpose of determining an appropriate resolution.

9.9 Expository Phase of the Hearing

In cases of academic dishonesty/unprofessional conduct, all parties shall have the right to advice of legal counsel (i.e. an attorney) of choice. When counsel is engaged, he or she may attend the hearing but shall not directly participate in the hearing or enter into discussion with parties other than the client. The case presented to the committee must be made by the accusing individual and the accused student. The instructor, Associate Dean for Professional Studies who investigated the charge(s), or other individuals who reported the alleged misconduct shall present the relevant information, including written or oral statements by witnesses (when applicable). The accused student shall then present his/her statement and relevant information, including statements by witnesses. Neither party shall ask questions of or solicit answers directly from the other party or its witnesses. Where it appears that there are matters of disputed fact, the Academic Committee Chair shall request the committee to ask appropriate questions of either or both parties and/or their respective witnesses so as to clarify the points in dispute.

As the investigator, the Associate Dean for Professional Studies can present details of previous findings of acts of dishonesty or misconduct that are contained in the student's permanent records at the University of Houston College of Optometry. Records of such past findings can be used: 1) at the student's hearing on new charges to demonstrate that the student is capable of dishonesty; and/or 2) for consideration by the Academic Committee in determining its final recommendations. Information regarding previous allegations of dishonesty or misconduct, i.e. findings that were not established, must neither be solicited nor admitted as evidence at any hearing of the Academic Committee. Given that students are aware of and should have copies of documentation resulting from past findings of acts of dishonesty or misconduct, this information will not automatically be provided to the student in advance of an academic hearing as part of Section 9.7 Opportunity to Review Information. However, students may make requests to the Assistant Dean for Student Affairs if they wish to review their education record. The student should present all information he/she feels is pertinent to the case during this phase of the hearing. Failure to present information that was known to the student at the time of the hearing, but was electively withheld, is not a justifiable means to later request an appeal of the committee's decision to the Dean (Section 9.13 Right to Appeal).

In cases of a student appeal of automatic academic/clinical sanctions, the expository phase shall consist of the student stating their justification for request of an appeal, followed by questions from the committee to gather information about the events surrounding the poor academic/clinical performance (e.g. classroom attendance, study habits, personal approach to clinic encounters, extenuating disruptive circumstances, etc.) and steps taken (e.g. tutoring, meetings with faculty, efforts to minimize the impact of extenuating circumstances, etc.), or proposed steps the student believes will result in improved academic/clinical performance, should a sanction be reduced or set aside. The student should present all information he/she feels is pertinent to the case during this phase of the hearing. Failure to present information that was known to the student at the time of the



hearing, but was electively withheld, is not a justifiable means to later request an appeal of the committee's decision to the Dean (Section 9.13 Right to Appeal).

In cases of grade disputes or appeals of requests for a leave of absence or extension of the educational program, the student must first present their case to the committee, followed by questions from the committee to gather information about the events surrounding the case. The faculty member who assigned the grade in question, or the Associate Dean who originally denied the request for leave of absence or extension of the educational program has the right to attend the hearing to be available to answer questions directed by the committee.

9.10 Deliberation and Decisions

At the conclusion of the expository phase of the hearing, the Academic Committee shall meet in a closed session to deliberate and render a decision based on the information presented. A student is found in violation of the *Academic Honesty and Professional Conduct Code* by an absolute super majority (i.e. 5/7 or greater) vote of the committee. Determinations of sanctions for violations of the *Academic Honesty and Professional Conduct Code* require agreement by an absolute simple majority (i.e. 4/7 or greater). Regarding student appeals of automatic academic/clinical sanctions (Section 3.4 Appeal of Academic Sanctions), sanctions may be overturned or reduced by an absolute simple majority vote of the committee (i.e. 4/7 or greater). Resolutions of grade disputes or appeals of requests for a leave of absence or extension of the educational program will be determined by an absolute simple majority vote of the committee (i.e. 4/7 or greater).

9.11 Confidentiality of Proceedings

All of the information contained in the student's written appeal and any supporting documents, as well as oral statements and exchanges made during the hearing and subsequent deliberation phase are considered to be privileged communications. As such, all of the participants in the hearing process must treat the information that is divulged as confidential, and that information is not to be shared with any parties outside the proceedings except as otherwise permitted under University or UHCO policy, or as required by law. Clearly, the committee's decision and any associated sanctions must be communicated to those individuals in the college who will be involved in implementing the decision and sanctions. In addition, as the information that emerged in the hearing will be germane during any subsequent appeal, it is appropriate for hearing participants to communicate relevant aspects of information to the appropriate officials as part of the appellate process.

9.12 Notification of Decision

The college Academic Committee shall render a decision within 3 class days after the hearing, and the Academic Committee Chair will forward copies of the decision to the student, instructor, relevant Department Chair, Associate Dean for Professional Studies, Assistant Dean for Student Affairs, and Dean of the college within 5 class days of the Academic Committee's decision. Whenever possible, the written decision will be delivered in person to the student during a meeting of the student, the Academic Committee Chair, and the Associate Dean for Professional Studies.

9.13 Right to Appeal

Appeals of Cases Involving Academic Dishonesty or Unprofessional Conduct. In cases of academic dishonesty or unprofessional conduct, both the accused student and the individual bringing charges against the student have equal opportunity to file an appeal of the decision of the Academic Committee to the Dean of the college. An appeal to the Dean shall be based solely on: (i) serious procedural errors in the appeals process that could have affected the outcome; (ii) instances in which substantial new evidence that was previously unknown to the student became available after the Academic Committee hearing is completed; (iii) to question the severity of a sanction assigned by the committee; and/or (iv) if other procedural irregularities in the process interfered with the rights of any of the parties. Non-disclosure of issues existing at the time of the hearing will not be considered grounds to appeal the Academic Committee's decision (Section 9.9 Expository Phase of the Hearing). Within 5 class days of notification of the committee's decision, either party may file an appeal for review with the Dean. If the Dean does not receive a written appeal within 5 class days of the decision, the action determined by the committee shall be implemented.

Appeals involving Academic or Clinical Sanctions. A student who previously appealed academic or clinical sanctions to the Academic Committee may appeal the decision of the Academic Committee to the Dean of the college within 5 class days of receipt of the committee's decision, but the appeal may only be based on serious procedural errors in the appeals process that could have affected the outcome, or in instances in which substantial new evidence that was previously unknown to the student became available after the Academic Committee hearing is completed. Non-disclosure of issues existing at the time of the hearing will not be considered grounds to appeal the Academic Committee's decision (Section 9.9 Expository Phase of the Hearing). Appeals questioning the severity of a sanction are not permitted in cases of academic or clinical sanctions given that the sanctions themselves are automatically triggered and were not



originally assigned by the committee. If the Dean does not receive a written appeal within 5 class days of the decision, the action determined by the committee shall be implemented.

The Academic Committee hearing is the final level of appeal for cases of grade disputes.

Appeals of Requests for a Leave of Absence or Extension of the Educational Program. A student who was denied their request for a leave of absence or extension of the educational program may appeal in writing to the Dean within 5 days of notification of the committee's decision. An appeal to the Dean shall be based solely on: (i) instances in which substantial new evidence that was previously unknown to the student became available; and/or (ii) if procedural irregularities in the process interfered with the rights of any of the parties. Non-disclosure of issues existing at the time of the hearing will not be considered grounds to appeal the Academic Committee's decision. If the Dean does not receive a written appeal within 5 class days of the decision, the decision of the committee will stand.

9.14 Appeal of the Academic Committee's Decision

In the request for any appeal to the Dean, the appealing party shall specifically describe, in writing, why the appeal is appropriate and the specific issues, procedural errors, new information, or sanctions to be reviewed. The Dean shall review the appeal within 15 class days of receipt which may include gathering information from relevant parties involved in the original hearing process. If the Dean chooses to meet with the appealing party, the meeting shall also include the Academic Committee Chair or his/her designated representative from the College Academic Committee. The presence of the Academic Committee Chair at the meeting is to provide committee representation who can disclose information regarding the events that transpired during both the expository and deliberative phases of the academic hearing at the request of the Dean.

Upon completion of review of the appeal, the Dean may approve the decisions of the College Academic Committee and see that the resultant outcome is enforced, or the Dean may send the case back to the Academic Committee for further review. Within 3 class days of completion of the Dean's review, the Dean will communicate in writing to the student, relevant instructor, relevant Department Chair, Associate Dean for Professional Studies, and Academic Committee Chair whether the committee's original decision is upheld, or whether the case has been sent back to the Academic Committee for further review.

If the Dean recommends further review by the Academic Committee, the committee shall review the case within 15 class days of receipt of the Dean's request. The committee review may be completed by review of the written appeal materials alone, or the committee may request an additional academic hearing with the student to provide an opportunity for in-person questioning related to the appeal materials. The necessity to hold an additional academic hearing will be determined by the committee in its sole discretion. If an additional academic hearing is requested, the deadline for review will be extended to 30 class days to permit scheduling of the hearing. The hearing will be conducted following the same procedures as the original academic hearing (Section 9 College Academic Committee Hearing Procedures). If the student fails to appear for the newly requested hearing, the committee will render their decision based upon the written appeal materials. The committee's final decision, which may change or stand as originally determined, will be forwarded in writing to the Dean, the Associate Dean for Professional Studies, and the Assistant Dean for Student Affairs within 3 class days of completion of review. At this time the Dean will make a final determination in the case and notify the student, relevant instructor, relevant Department Chair, Associate Dean for Professional Studies, Assistant Dean for Student Affairs, and Academic Committee Chair in writing within 3 class days of receipt of the Academic Committee's final determination.

In cases of academic or clinical sanctions, as well as cases of requests for leaves of absence or extension of the educational program, the Dean's determination stands as the final level of appeal. In cases of academic dishonesty or professional misconduct, in the event of a procedural discrepancy affecting the outcome, the student or faculty may further appeal the decision to the level of the Provost in accordance with Section 10 Senior Vice President for Academic Affairs and Provost Appeal of Academic Dishonesty/Professional Misconduct Cases.

10. Senior Vice President for Academic Affairs and Provost Appeal of Academic Dishonesty/Unprofessional Conduct Cases

10.1 Appeal of the College's Decision

Within 5 class days of the college Dean's decision, either party may file an appeal for review with the Provost or an officer designated by the Provost. The appeal shall be in writing and shall specifically address the procedural issues to be reviewed.

10.2 Senior Vice President for Academic Affairs and Provost Procedural Review



The Provost shall review the appeal within 15 class days of the receipt of the appeal. If either party has requested an appearance or is requested to appear by the Provost, then both parties must be informed. Because a peer group heard the case, the intent of the Provost's review is neither to modify the sanction nor to substitute the judgment of the Provost for that of the peer panel that heard the case, or hear new or additional facts on the case. The intent of this review is to ensure that the college hearing and judgment were not arbitrary, capricious or discriminatory, did not violate the due process of the accused, and did not violate the concepts of a fair hearing for both parties. The Provost shall notify all parties of the decision within 3 class days of the completion of the review.

10.3 Actions That the Senior Vice President for Academic Affairs and Provost May Take

The Provost may conclude that one or more of the basic concepts involved in a fair hearing at the college level were violated and return the case to the college for another hearing with a different panel in accordance with the University Policy on Academic Dishonesty and resubmission for Provost procedural review; or

If, in a rare case, the Provost feels that another hearing in the same college would not result in a fair hearing, the Provost may send the case to another college with the disciplinary expertise to hold a fair hearing, for a new hearing there in accordance with the University Policy on Academic Dishonesty and resubmission for Provost procedural review; or

If, in a rare case, the Provost independently feels that the sanction assessed in the college hearing is not commensurate with the violation, then the Provost may send the case back to the college as described above; or

The Provost may approve the actions and conclusions of the college academic honesty panel and see that the judgment is enforced. The Provost's procedural review is the final institutional step in matters of academic integrity and unprofessional conduct.

11. Records Pertaining to Academic Dishonesty/Unprofessional Conduct Cases

11.1 Records of Academic Honesty Proceedings

Records of proceedings under this Policy are considered a student's education records in accordance with the University of Houston's Student Records: Family Educational Rights and Privacy Act Policy. The college will maintain records relating to college proceedings under this policy, including waivers.

11.2 Provost's Office Records

Along with the College, the Office of the Provost shall maintain a record of those students found in violation of the policy at any level, including those students who have elected a waiver of the college hearing (see section 8.2 Waiver of Academic Committee Hearing).

11.3 Notations on a Student's Transcript

A sanction of probation, suspension or expulsion under this policy will be expressly noted as such on the student's transcript, unless specified to the contrary as part of the sanction. When the specified period of time for a sanction of probation or suspension has elapsed, the student may petition the college placing the notation of academic honesty violation to request that the Office of the Registrar remove the notation from the transcript. It is the student's responsibility to initiate any petition to remove the notation from the transcript. Notations of expulsion because of academic dishonesty or unprofessional conduct are a permanent part of the student's transcript.

Appendix 1

Student Responsibilities in Academic Committee Procedures

The committee acts upon the fundamental assumption that the students it deals with are mature, responsible adults, who are, in fact, fit candidates to become a health-care professional. In this context, a significant proportion of the responsibility for the determination of a student's status in academic matters and professional conduct rest with the individual student. The following guidelines are not exhaustive, but are instead intended to set the tone of student participation in these proceedings.



The college administration will make all reasonable efforts to notify a student who is placed on probation or suspended for academic reasons. However, the student must recognize that academic probation and suspension are automatic administrative actions taken only in clearly defined circumstances. They are effective regardless of whether the student actually receives notification or not. Because GPA is easy to compute, the student can readily determine what his/her academic status is at a particular time. If the student's calculations generate any doubt about standing, the student should consult the Assistant Dean for Student Affairs who serves as the designated student advocate within the office of optometry relations.

In the event that a student is suspended, the Academic Committee will take no action except in the event of an appeal. All contact with the Committee must be initiated by the student through the Academic Committee Chair.

The student should ensure that his/her *current* University email and correct mailing address are on file with the Office of Optometry Relations.

If a student wishes to appeal the administrative actions of probation or suspension, or any other academic action seen as unfair or in error, the student may appeal, in writing, to the Academic Committee Chair within 5 class days of notification of the action. The student's letter of appeal must list all the particulars of the case that he/she wishes to bring to bear upon this request. For this reason, the student is strongly encouraged to consult with the Assistant Dean for Student Affairs in preparing a letter of appeal to include all particulars of the case, as well as any relevant supporting documentation available. In addition to the information presented by the student, the committee may evaluate the actions taken by the student (Section 1.1 Academic Grading Policies and Student Responsibilities) or lack thereof prior to earning failing grades.

If a student wishes to appeal a course grade he/she should first consult the course instructor. If the student's concern cannot be resolved satisfactorily, the student should then consult the Associate Dean for Professional Studies to request an appeal before the Academic Committee.

Students are specifically cautioned not to harass, coerce, or threaten members of the Academic Committee concerning pending actions or to encourage other students to lobby on their behalf. Any student involved in such actions may be charged with unprofessional conduct.

A student who is on probation or facing suspension may not use this information to influence an instructor to issue a higher grade or to change a grade. Therefore, any student who is on probation or facing suspension must make grade change requests through the Academic Committee Chair as detailed in Section 2.3 Duties of the Academic Committee. If a student approaches an instructor seeking a grade change which would have the effect of removing the student from suspension or probation, and tries to coerce the instructor by implying that the instructor is somehow responsible for the student's suspension, the student may also be charged with unprofessional conduct.

If the Academic Committee votes to permit a suspended student to continue in the program, it is the student's duty to initiate remedial steps to eliminate any deficiencies. This may involve meeting with the Associate Dean for Professional Studies, any instructors involved, and enrolling in the appropriate courses. The student should not assume, however, that the schedules of other students will be rearranged to fit his/her schedule.

The student should meet with the Associate Dean for Professional Studies to determine his/her schedule. This schedule will ensure that there is no overlap of courses or clinics and to confirm that the schedule is in compliance with the conditions set by the Academic Committee. It is not uncommon that students whose suspensions are set aside must complete significant remediation plans which may include repeating previously passed curriculum with higher academic requirements for continuation in the program. The Associate Dean for Professional Studies will monitor the student's progress. If a student is placed on a remedial/alterred/reduced schedule, there are often financial aid implications. Therefore, the student should also consult with the designated financial aid officer to discuss any potential implications of the remedial/alterred/reduced schedule.

Appendix 2

Suggested Faculty Guidelines for Academic Dishonesty or Unprofessional Conduct

In addition to the formal policy which requires the approval of the Provost, the Academic Committee has been asked by several members of the faculty to advise them about what to do *at the time that a student is suspected of academic dishonesty* in order to facilitate subsequent hearings and possible disciplinary actions. This is a difficult thing to do, and the best that the Academic Committee can achieve is to identify the sorts of things that



make its job at a hearing easier. This implies that as the membership of the Academic Committee changes, the emphasis on particular issues addressed by these guidelines may also change. In any case, the following short list contains suggestions that are not binding.

Academic Dishonesty

Unless the suspected incident of academic dishonesty is blatant, one should probably allow the student to complete the examination. Stopping the exam pre-supposes guilt and would create difficulties should the committee find that there was not a violation.

As soon as possible, write down *exactly* what you observed and ask any other witnesses to do likewise. Write what you observed, not what you concluded. Sign such statements and include the date and time they were written. No matter how vividly an incident leaps to your attention at the time, it has been the committee's experience that accurate reporting some 8-10 or more days later is often befuddled. Use of photographs or video recordings can be helpful.

Identify as many witnesses as you can; ask another faculty member to observe discreetly if you can persuade someone to do so.

Identify all students in the immediate vicinity of the ones who were involved in the incident. While students often hesitate to turn in a fellow student for academic dishonesty, when called as witnesses, they are typically highly cooperative and astute.

Confiscate anything that you suspect the student was using with which to cheat. You may have trouble doing this unless you specifically inform students, **in advance**, that they should bring *nothing* to the examination room except pencils, pens and blank paper. If a student refuses to yield something to you, don't force or threaten him/her, but make sure his/her refusal is witnessed and documented.

Do not negotiate. Report the matter to the Academic Committee Chair at once and refuse to deal directly with the student again until the hearing.

Unprofessional Conduct

Similar procedures for documentation and reporting should be followed for suspected incidents of unprofessional conduct.

Appendix 3

Procedures for Grade Changes

Grade change requests initiated by a student should begin with the course instructor. If necessary, consultation with the appropriate Department Chair, and finally the Associate Dean for Professional Studies and the Academic Committee Chair shall be initiated by the student.

After consulting with the student, if the faculty member elects to change the grade it should be done electronically through the online university grade system.

The only acceptable reason for changing one student's grade in isolation from the rest of the class should be to correct an arithmetical or clerical error made in calculating the grade in the first place.

If a professor chooses to yield to an argument from one student that individual test questions are invalid, unfair, ambiguous or otherwise unacceptable, he must present these arguments to the entire class and grant exceptions to all concerned. Rationale: To do otherwise is manifestly unfair.

Grades must be posted in the online university grade system according to the College's academic calendar. These deadlines will commonly, but not necessarily, coincide with the University academic calendar. Therefore, students and instructors are responsible for verifying and complying with the appropriate deadlines.

Any grade changes resulting from a student initiated grade change request must be accomplished within 90 days after the grades are assigned. All official grade changes occurring after grades have been posted to the University system require the approval of the Associate Dean for Professional Studies.

A student who is on probation or facing suspension may not use this information to influence an instructor to issue a higher grade or to change a grade. Therefore, any student who is on probation or facing suspension must make grade change requests through the Academic Committee Chair as detailed in Section 2.3 Duties of the Academic Committee.



For students who have made prior arrangements to complete coursework over a longer time course (i.e. Clerkship, approved medical leave, etc.), a grade of incomplete (*I*) will be assigned while the coursework is completed. A grade of *I* must be changed by fulfillment within one year of the date awarded, or it will be changed automatically to an *F* or *U* (in *S* and *U* graded courses). An *I* must not be changed to a grade of *W* but only to a letter grade. Upon changing to a letter grade, any subsequent student initiated grade change requests must be accomplished within 90 days.

If an instructor provides an opportunity for one or more students to improve a course grade, the same opportunity must be offered to all students enrolled in the course.

Dates in the University of Houston approved Academic Calendar shall be used for determining the last days for withdrawal from and dropping courses with and without grades. The Office of Optometry Relations must notify the Academic Committee Chair and Associate Dean for Professional Studies immediately when a student who is on probation drops or withdraws from a course. If any student is found to be erroneously enrolled in a course or section, they will be notified of the error by the Office of Optometry Relations and/or the Assistant Dean for Professional Studies. The student is expected to remedy the issue by the date set out by the University. If a student fails to respond or make the necessary changes, they may be dropped from a course by the College Registrar.



Scholarships and Financial Aid: College of Optometry

Graduate Student Fellowships

For graduate (MS or PhD) students, the College offers students fellowships to help defray the cost of their graduate education. The Graduate Tuition Fellowship covers the cost of in-state tuition for qualified PhD students. Exceptional PhD applicants to our programs are also eligible for a Presidential fellowship for the first two-years of their graduate study or a Houston Endowment Fellowship for three to five years of graduate study.

Graduate Student Assistants

Graduate student (MS or PhD) assistants and teaching fellows are graduate students in good standing who are enrolled full-time and hold an appointment that requires fulfilling such duties as classroom and/or laboratory instruction, clinical instruction, grading papers and exams, or research. There are four graduate student appointment categories, encompassing the position of Teaching Fellow, Teaching Assistant, Instructional Assistant and Research Assistant.

Graduate assistants and teaching fellows will normally be limited to a 50 percent appointment, which usually entails service for no more than an average of 20 hours per week, including time spent in preparation, in the classroom and laboratory, in reading papers and examinations, and in any combination of these or other activities as assigned. An increase in percent appointment requires approval of the College Dean and the Dean of the Graduate School. Teaching Fellows (graduate students teaching a course for credit) must have completed a minimum of 18 semester hours in graduate credit in their teaching field, must be in good standing and must be making satisfactory progress toward the degree. The Teaching Fellow may be listed as the instructor of record.

International and non-resident graduate student assistants are granted a non-resident tuition waiver, which allows them to pay only in-state tuition.



Faculty: College of Optometry

Faculty Emeriti

Harold E. Bedell. Professor Emeritus of Optometry and Physiological Optics. Ph.D., University of Florida.

Ronald S. Harwerth. Professor Emeritus of Optometry and Physiological Optics. O.D., University of Houston; Ph.D., University of Texas Health Science Center at Houston.

Randall Jose. Professor Emeritus of Optometry. O.D., University of California, Berkeley.

Penelope Kegel-Flom. Professor Emeritus of Optometry. Ph.D., University of California, Berkeley.

Paul L. Pease. Professor Emeritus of Optometry. O.D., Pennsylvania College of Optometry; Ph.D., University of California, Berkeley.

Jerald S. Strickland. Professor Emeritus of Optometry. O.D., Indiana University; Ph.D., Indiana University.

Faculty

Heather A. Anderson. Associate Professor of Optometry and Physiological Optics. O.D., Ph.D., University of Houston.

Raymond Applegate. Professor of Optometry and Physiological Optics and Borish Chair of Optometry. O.D. Indiana University; Ph.D., University of California at Berkeley.

Julia Benoit. Research Assistant Professor of Physiological Optics. Ph.D., University of Texas Health Science Center at Houston.

Jan P. G. Bergmanson. Brien Holden Professor of Optometry and Physiological Optics. O.D., Pennsylvania College of Optometry; Ph.D., Sc.D., The City University, London, England.

David A. Berntsen. Golden-Golden Associate Professor of Optometry and Physiological Optics. O.D., University of Houston; Residency in Cornea and Contact Lens, M.S., Ph.D., The Ohio State University.

Rudolph Black. Clinical Associate Professor of Optometry. O.D., University of Houston.

Alan R. Burns. McDavid-Vision Source Professor of Optometry and Physiological Optics. Ph.D., University of British Columbia.

Carolyn Carman. Clinical Professor of Optometry. O.D., Southern College of Optometry.

Louvenia Carter-Dawson. Senior Research Professor of Physiological Optics. Ph.D., Harvard Medical School, Division of Biomedical Science.

Moriah Chandler. Clinical Assistant Professor of Optometry. O.D., The Ohio State University.

Han Cheng. Clinical Professor of Optometry and Physiological Optics. Ph.D., O.D., University of Houston.

Yuzo M. Chino. Benedict-McFadden Professor of Optometry and Physiological Optics. Ph.D., Syracuse University.

Daniel R. Coates. Assistant Professor of Optometry and Physiological Optics. Ph.D., University of California, Berkeley.

Vivien J. Coulson-Thomas. Assistant Professor of Optometry and Physiological Optics. Ph.D., Federal University of São Paulo, Brazil.

Debra Currie. Clinical Professor of Optometry. O.D., University of Waterloo; M.S., University of Houston.

Vallabh E. Das. Chair of Basic Sciences. Benedict-Pitts Professor of Optometry and Physiological Optics. Ph.D., Case Western Reserve University.



Jennifer L. Deakins. Clinical Assistant Professor of Optometry. O.D., University of Houston; Residency in Ocular Disease at Cedar Springs Eye Clinic in Dallas, Texas.

Joe Deloach. Clinical Professor of Optometry. O.D., University of Houston.

Karen D. Fern. Associate Professor of Optometry and Physiological Optics. O.D., Pacific University; Residency in Pediatric Optometry, University of Houston.

Laura J. Frishman. Associate Dean for Graduate Studies and Research and John and Rebecca Moores Professor. Professor of Optometry and Physiological Optics. Ph.D., University of Pittsburgh.

Janet Garza. Clinical Assistant Professor. O.D., University of Houston.

Gavin Gerondale. Clinical Assistant Professor of Optometry. O.D., Northeast Oklahoma State University.

Amber Gaume Giannoni. Clinical Professor of Optometry. O.D., Fellowship in Cornea and Contact Lens Research, University of Houston.

Marcus Gonzales. Clinical Assistant Professor of Optometry. O.D., University of Houston.

Anita Ticak Gostivic. Clinical Associate Professor. O.D., M.S., The Ohio State University.

Samuel Hanlon. Research Associate Professor. Physiological Optics. O.D., Southern College of Optometry; M.S., California State University at Fullerton; Ph.D., University of Houston.

Wendy Harrison. Associate Professor. O.D., Indiana University; Ph.D. University of California, Berkeley.

Ralph J. Herring. Assistant Dean for Professional Studies, Clinical Associate Professor of Optometry. O.D., University of Houston; Residency in Family Practice Optometry, University of Alabama at Birmingham.

Nicole Hooper. Clinical Assistant Professor of Optometry. O.D., Southern California College of Optometry.

Li-Fang Hung. Research Scientist. B. Med., Chung-Shan Medical and Dental College Taiwan. O.D., Ph.D., University of Houston.

Casey Johnston. Clinical Assistant Professor of Optometry. O.D., University of Houston.

Kassandra Johnston. Clinical Assistant Professor of Optometry. O.D., Residency in Pediatric Optometry, University of Houston.

Matthew Kauffman. Clinical Assistant Professor of Optometry. O.D., University of Houston.

Lucy Kehinde. Clinical Assistant Professor of Optometry. Ph.D., O.D., University of Alabama.

Andrew Kemp. Clinical Assistant Professor of Optometry. O.D., University of Houston; Residency in Ocular Disease at the Cedar Springs Eye Clinic.

Tonya G. Ketcham. Clinical Assistant Professor of Optometry. O.D., Indiana University School of Optometry; Ph.D., Indiana University Medical School.

Julianne Knowles. Clinical Associate Professor of Optometry. O.D., Ferris State University.

Zanna Kruoch. Clinical Assistant Professor of Optometry. O.D., University of Houston.

Kimberly Lambrechts. Associate Dean for Professional Studies, Clinical Professor of Optometry. R.N., Pace University; O.D., The State University of New York College of Optometry; Residency in Hospital-Based Optometry, Northpost V.A. Medical Center, New York.

Karen L. Lee. Clinical Assistant Professor. O.D., Indiana University; Cornea and Contact Lens Residency, Southern California College of Optometry.

Anna-Kaye Logan. Clinical Assistant Professor of Optometry. O.D., Nova Southeastern University. Residency in Cornea and Contact Lens, University of Houston.

Ruth E. Manny. Charles R. Stewart Professor of Optometry and Physiological Optics. O.D., Ph.D., University of Houston.



Danica Marrelli. Assistant Dean for Clinical Education, Clinical Professor of Optometry. O.D., University of Houston; Residency in Hospital-Based Optometry, Ft. Howard/Baltimore V.A. Medical Center.

Jason Marsack. Assistant Professor of Optometry and Physiological Optics. Ph.D., University of Houston; M.S., Biomedical Engineering, University of Texas at Austin.

Muriel Martinez. Clinical Assistant Professor of Optometry. O.D., University of Houston; Residency in Pediatric Optometry, University of Houston.

Rebekah Montes. Clinical Assistant Professor of Optometry. O.D., University of Houston; Residency in Community Based Family Practice, University of Houston.

Susana Moreno. Clinical Director, Hope Eye Clinic, Clinical Assistant Professor of Optometry. O.D., University of Houston; Teaching Fellowship, University of Houston.

Swati Modi. Clinical Associate Professor of Optometry. O.D., University of Houston; Residency in Low Vision Rehabilitation, University of Houston.

Lisa A. Ostrin. Assistant Professor of Optometry and Physiological Optics. Ph.D., Physiological Optics and Vision Sciences; O.D., University of Houston.

Deborah C. Otteson. Associate Professor of Optometry and Physiological Optics. Ph.D., University of Michigan.

Lloyd Pate. Clinical Associate Professor of Optometry. O.D., University of Houston.

Nimesh B. Patel. Associate Professor of Optometry and Physiological Optics. Ph.D., University of Houston; O.D., Southern College of Optometry.

David M. Perrigin. Associate Professor of Optometry. O.D., University of Houston.

Judith Perrigin. Professor of Optometry. O.D., University of Houston.

Marcus G. Piccolo. Associate Dean for Clinical Education and Associate Dean for Professional Advancement. O.D., Pennsylvania College of Optometry.

Jason Porter. Associate Professor of Optometry and Physiological Optics. Ph.D., University of Rochester.

Guoting Qin. Research Assistant Professor of Physiological Optics. Ph.D., University of Houston.

Sam Quintero. Adjunct Associate Professor of Optometry. O.D., University of Houston.

Vijay Krishna Raghunathan. Assistant Professor of Optometry and Physiological Optics. Ph.D., University of Strathclyde, Glasgow, United Kingdom.

Rachel Redfern. Associate Professor of Optometry and Physiological Optics. O.D., Ph.D., University of Houston.

Kathryn Richdale. Associate Professor of Optometry and Physiological Optics. O.D., Ph.D., The Ohio State University.

Eric R. Ritchey. Assistant Professor of Optometry and Physiological Optics. O.D., Ph.D., The Ohio State University.

Krystal Schulle. Clinical Assistant Professor of Optometry. O.D., University of Houston.

Padhmalatha Segu. Clinical Professor of Optometry and Director of Optometry Services at Good Neighbor Healthcare Center. O.D., University of Houston; Residency in Hospital-Based Optometry, American Lake V.A. Medical Center.

Lanny Shulman. Clinical Associate Professor of Optometry. Ph.D., O.D., University of Houston.

Earl L. Smith, III. Greeman-Petty Professor of Vision Development. O.D., Ph.D., University of Houston.

Scott B. Stevenson. Associate Professor of Optometry and Physiological Optics. Ph.D., Brown University.

Ashley Wallace-Tucker. Visiting Assistant Professor of Optometry. O.D., University of Houston.

Michael D. Twa. Dean and Professor of Optometry and Physiological Optics. O.D., UC Berkeley; Ph.D, The Ohio State University.

James Walters. Associate Professor of Optometry and Physiological Optics. Ph.D., Michigan State University; O.D., New England College of Optometry.



Janice Wensveen. Clinical Professor of Optometry. O.D., University of Waterloo; Ph.D., University of Houston College of Optometry.

Maria Walker. Lecturer. M.S., O.D., The New England College of Optometry; Residency in Cornea and Contact Lens, Pacific University.

Joe L. Wheat. Clinical Associate Professor of Optometry. O.D., Ph.D., University of Houston.

Mona Younes. Clinical Assistant Professor of Optometry. M.B.Ch.B. in Medicine, University of Alexandria, Egypt; O.D., M.S., University of Houston.

Faculty Research

Heather A. Anderson. Associate Professor. O.D., Ph.D., University of Houston. Objective measurements of accommodation in children and factors limiting quality in individuals with Down Syndrome.

Raymond Applegate. Professor and Borish Chair of Optometry. O.D., Indiana University; Ph.D., University of California at Berkeley. Visual optics, ocular aberrations, cataract, refractive surgery, early disease detection.

Julia Benoit. Research Assistant Professor of Physiological Optics. Ph.D., University of Texas Health Science Center at Houston. Statistical methodology for longitudinal studies.

Jan P. G. Bergmanson. Brien Holden Professor. Ph.D., Sc.D., City University (London); O.D., Pennsylvania College of Optometry. Anatomy and pathology of cornea, corneal response to contact lenses, ultrastructural analysis of laser effects on ocular tissue.

David A. Berntsen. Golden-Golden Professor, Associate Professor of Optometry and Physiological Optics. O.D., University of Houston; Residency in Cornea and Contact Lens, M.S., Ph.D., The Ohio State University. Myopia, contact lens, aberrations of the eye.

Alan R. Burns. McDavid-Vision Source Professor. Ph.D., University of British Columbia. Inflammation of the cornea, cornea wound healing; leucocyte biology.

Louvenia Carter-Dawson. Senior Research Professor. Ph.D., Harvard Medical School, Division of Biomedical Science. Retinal cell biology, confocal microscopy of retina and optic nerve, retinal ganglion cell injury and death in glaucoma.

Han Cheng. Clinical Professor. O.D., Ph.D., University of Houston. Noninvasive functional and structural evaluation of the visual pathways under normal and pathological conditions.

Yuzo M. Chino. Benedict-McFadden Professor. Ph.D., Syracuse. Neural plasticity; effects of abnormal visual experience on retinogeniculostriate pathways.

Daniel R. Coates. Assistant Professor of Optometry and Physiological Optics. Ph.D., University of California, Berkeley. Spatial vision, color vision, reading, and statistical and psychophysical methods.

Vivien J. Coulson-Thomas. Assistant Professor of Optometry and Physiological Optics. Ph.D., Federal University of São Paulo, Brazil. Study of glycosaminoglycans and proteoglycans in the field of: cornea, cancer, wound healing, stem cells, inflammation, development, spinal cord injury and nerve regeneration.

Vallabh E. Das. Benedict-Pitts Professor. Ph.D., Case Western Reserve University. Development of visual and oculomotor function; Response properties of neural oculomotor circuits in strabismus.

Karen D. Fern. Associate Professor. O.D., Pacific University. Vision development, assessing visual functions in preschool children, preschool vision screening.

Laura J. Frishman. John and Rebecca Moores Professor. M.S., Ph.D., University of Pittsburgh. Retinal physiology, retinal origins and cellular mechanisms of the electroretinogram (ERG).

Samuel Hanlon. Research Associate Professor. O.D., Southern College of Optometry; M.S., California State University at Fullerton; Ph.D., University of Houston. Corneal inflammation, nerve regeneration and wound healing; developing animal models for studying meibomian gland dysfunction and early signs of ocular inflammation related to contact lens wear.



Wendy Harrison. Associate Professor. O.D., Indiana University; Ph.D., University of California, Berkeley. Structural and functional changes in the eye in patients with diabetes.

Ruth E. Manny. Charles R. Stewart Professor. O.D., Ph.D., University of Houston. Development of normal and abnormal vision in human infants; preschool vision screening.

Jason D. Marsack. Assistant Professor. Ph.D., University of Houston; M.S., Biomedical Engineering, University of Texas at Austin. Visual optics, ocular aberrations and optical corrections, wavefront guided contact lens development.

Swati Modi. Clinical Assistant Professor of Optometry. O.D., University of Houston; Residency in Low Vision Rehabilitation, University of Houston. Low vision research.

Lisa A. Ostrin. Assistant Professor. O.D., University of Houston; Ph.D. Structural and functional ocular changes in myopia, susceptibility for other ocular disorders, such as glaucoma, in myopic eyes.

Deborah C. Otteson. Associate Professor. Ph.D., University of Michigan. Genetic, cellular and molecular perspectives on morphogenesis, neurogenesis and regeneration of the retina in vertebrates. Molecular regulation of cell-specific gene expression in the retina.

Nimesh B. Patel. Associate Professor. Ph.D., University of Houston; O.D., Southern College of Optometry. Methodologies for structural analysis that account for non-neuronal tissue and ocular magnification, structural risk factors for glaucoma progression, and the relationship between ganglion cell layer/inner plexiform layer thickness and visual function.

Judy Perrigin. Professor. O.D., University of Houston. Contact lenses primary eye care; medical laboratory analysis; ocular microbiology's epidemiology of refractive errors.

Jason Porter. Associate Professor. Ph.D., University of Rochester. High-resolution retinal imaging with adaptive optics, scanning laser ophthalmoscopy, mechanics of retinal disease.

Guoting Qin. Research Assistant Professor. Ph.D., University of Houston. Ocular surface pathology, drug delivery, antimicrobial peptides, applications of surface chemistry.

Vijay Krishna Raghunathan. Assistant Professor. Ph.D., University of Strathclyde, Glasgow, United Kingdom. Mechanobiology of normal and diseased ocular tissues, novel strategies for tissue engineering/regenerative medicine of ocular tissues.

Rachel L. Redfern. Associate Professor. O.D., Ph.D., University of Houston. Toll-like receptors in ocular surface pathology, ocular allergy, ocular surface inflammation, dry eye disease.

Kathryn Richdale. Associate Professor. O.D., Ph.D., The Ohio State University. Contact lenses, presbyopia, accommodation, anterior segment effects of diabetes and obesity.

Eric R. Ritchey. Assistant Professor. O.D., Ph.D., The Ohio State University. Myopia development and contact lenses.

Krystal Schulle. Clinical Assistant Professor. O.D., University of Houston. Myopia, contact lenses, and myopia progression.

Earl L. Smith III. Greeman-Petty Professor. O.D., Ph.D., University of Houston. Amblyopia; binocular vision; psychophysical and neurophysiological effects of abnormal visual experience; myopia.

Scott B. Stevenson. Associate Professor. Ph.D., Brown University. Vergence eye movements and binocular coordination; stereoscopic depth perception; modeling of binocular image matching processes.

Michael D. Twa. Professor. O.D., UC Berkeley; Ph.D., The Ohio State University. Optical OCT elastography, corneal and other soft tissue biomechanics, structure-function relationships in keratoconus, glaucoma and other diseases.

Janice Wensveen. Clinical Professor. O.D., University of Waterloo; Ph.D., University of Houston. Stereopsis in normal and abnormal binocular vision; clinical accommodative/vergence anomalies; risk factors for myopia.

Joe L. Wheat. Clinical Associate Professor. O.D., Ph.D., University of Houston. Structure-function relations in glaucoma and other ocular diseases.



College of Pharmacy

The College of Pharmacy, established in 1947, prepares students to enter into the practice of pharmacy and to function as professionals and informed citizens in a changing healthcare system and to assume important roles as drug information specialists and primary care providers.

Programs

Master

Pharmacy Leadership and Administration, MS
zPharmacy Leadership and Administration, MS

Doctoral

Pharmaceutical Sciences, PhD
Pharmaceutical Sciences, PhD and Pharmaceutical Sciences/Medicinal Chemistry Specialization, PhD
zPharmaceutics, PhD

Dual Degree - Graduate

zPharmaceutics/Pharmacology/Medicinal Chemistry, PharmD/PhD

Professional

Pharmacy, PharmD



About the College of Pharmacy

Office of the Dean

(713) 743-1252

Health 2 Building, 4849 Calhoun, Rm 3046

Office of Research and Graduate Programs

(713) 743-7725

Health 2 Building, 4849 Calhoun, Rm 6007A

Office of Student and Professional Affairs

(713) 743-1239

Health 2 Building, 4849 Calhoun, Rm 3044

Office of Experiential Programs, Professional Program

(832) 842-8337

Health 2 Building, 4849 Calhoun, Rm 3044

Office of Academic Affairs

(713) 743-7347

Health 2 Building, 4849 Calhoun, Rm 3046

Pharmacological and Pharmaceutical Sciences

(Ph.D. Program in Pharmacology/Pharmaceutics)

(713) 743-7757

Health 2 Building, 4849 Calhoun, 5th floor and 7th floor

Pharmacy Practice and Translational Research

MS Pharmacy Administration

(713) 795-8380

Health 2 Building, 4849 Calhoun, 4th floor

Pharmaceutical Health Outcomes and Policy

Health 2 Building, 4849 Calhoun, 4th floor

(713) 743-1730



Dean:
F. Lamar Pritchard, Ph.D.

Executive Vice Dean for Research:

Mustafa Lokhandwala, Ph.D.

Executive Associate Dean:

Andrea Smesny, Pharm.D.

Associate Dean for Academic Affairs:

Elizabeth Coyle, Pharm.D.

Assistant Dean for Graduate Programs:

Brian Knoll, Ph.D.

Assistant Dean for Student and Professional Affairs:

Paige Pitman, Pharm.D.

Assistant Dean for Experiential Programs:

Nancy Ordonez, Pharm.D.

Assistant Dean, Rio Grande Valley:

Ronnie Ozuna, Pharm.D.

Director of Business Operations:

LaSaundra Cotright, M.B.A.

Department of Pharmaceutical and Pharmacological Sciences:

Douglas Eikenburg, Ph.D., Department Chair

Department of Pharmaceutical Health Outcomes and Policy:

Rajendar Aparasu, Ph.D., Department Chair



Department of Pharmacy Practice and Translational Research:

Kevin Garey, Pharm.D., Department Chair

About the Profession of Pharmacy

The College of Pharmacy, established in 1947, prepares students to enter into the practice of pharmacy and to function as professionals and informed citizens in a changing health care system and to assume important roles as drug information specialists and primary care providers.

Upon graduation, the new professional utilizes a foundation of skills in administrative, biological, clinical, and pharmaceutical sciences to take an active role in contemporary pharmacy practice - shaping policies and the future directions of the profession. Career options in pharmacy are virtually unlimited. From community to hospital practice, from home care to nuclear pharmacy, from clinical practice to basic science research in the pharmaceutical industry, pharmacists participate in areas that provide patient care and unravel the mysteries of human health. Employment opportunities are also available in academia.

Pharmacists educate health care professionals, undergraduate and graduate students, and patients in institutions and communities throughout the world. Pharmacists are responsible for supervising the drug distribution process, selecting appropriate drug therapies, determining drug dosages and routes of administration, and monitoring therapeutic outcomes. Working with other health care providers-physicians, nurses, veterinarians, and dentists-pharmacists complement the health care system by providing pharmaceutical care.

About Pharmacological and Pharmaceutical Sciences

In addition to training pharmacy professionals, the College of Pharmacy trains students for research careers as in Pharmacologic & Pharmaceutical Sciences. Through its Doctor of Philosophy programs, students are trained as future scientists that will contribute to the understanding of disease states and the development of new therapeutic interventions through basic science research. Graduates of these programs have opportunities in careers including (but not limited to) academic research and teaching, research and development in the pharmaceutical industry, and employment in federal regulatory agencies responsible for the review and approval of new therapeutic agents.

About the PharmD/PhD Program

The PharmD/PhD program is designed for the highly motivated and qualified individuals who are seeking an integrated program in the clinical and basic sciences preparing them for a career in academics or research. By carefully structuring the dual degree program on a year-round basis, it is possible to complete the requirements of both the Doctor of Pharmacy and Doctor of Philosophy degrees in seven years. Only a select few students will be able to meet the rigors and demands of such an academic endeavor. The degree program complements and not supplants the existing PharmD and PhD programs.

The PharmD/PhD program is not a new curriculum per se; but rather a restructured program flexible enough for serving a combined purpose. The restructuring allows a student to complete both degree requirements in a shorter duration of time as opposed to entering each degree program (PharmD, followed by PhD) successively. Furthermore, a dual degree program is focused in that it flows in a more clearly defined pathway than the traditional two separate pathways. Due to the additional academic and/or research commitment required of students, the college REQUIRES applicants to have successfully completed the first year (P1) of the PharmD curriculum before being considered for admission into the PharmD/PhD program.

About the PhD Programs in Pharmaceutical Outcomes and Policy (PHOP)

PHOP as a research area encompasses issues dealing with the various topics involved in Pharmaceutical Outcomes Management, Health Outcomes Research, Pharmacy Business Administration, Pharmaceutical and Pharmacy Management, Pharmaceutical Marketing, Consumer Health Behavior, Managed Health Care Issues, Health Policy Development, Pharmaceutical Care, Health Systems Operations, and Information Systems in Health Care.



In PHOP research, these topics are considered in a systematic and scientific manner to conduct inquiry and evaluate drug therapy decisions by measuring and analyzing patient outcomes for the evaluation and improvement of access, effectiveness, and quality of care. The mission of this program is to develop outstanding graduates to assume leadership positions in the field of pharmacy outcomes research for careers in academia, government, and industry-related health care organizations. Graduates of this program will be prepared to become scientists, directors and professors with a philosophy based on excellence in teaching, research and service in the areas of pharmacy administration.

About the MS Program in Pharmacy Leadership and Administration

The MS Program in Pharmacy Leadership and Administration is a post Doctor of Pharmacy graduate degree program taking full advantage of the resources of the world's largest medical center, the 24-month Houston Program in Pharmacy Leadership and Administration offers unique learning, teaching and collaboration opportunities to train the next generation of pharmacy leaders.

The University of Houston College of Pharmacy offers a Master of Science in Pharmacy Leadership and Administration, with PGY1 and PGY2 Health-System Pharmacy Administration (HSPA) residency programs from seven leading Texas Medical Center institutions.

Texas Medical Center institutions with HSPA residencies participating in the Houston Program: Baylor St. Luke's Medical Center, Harris Health System, Houston Methodist Hospital, Memorial Hermann Health System, Michael E. DeBakey Veterans Affairs Medical Center, Texas Children's Hospital, and The University of Texas MD Anderson Cancer Center.

About the PharmD/MBA Program

The College of Pharmacy and the C.T. Bauer College of Business at the University of Houston offer a joint degree program that enables students to prepare for careers in which the understanding of both business and pharmacy is critical. This program provides students with the opportunity to complete the degree requirements of a Doctorate of Pharmacy and a Master of Business Administration in a shorter period of time than if the degrees were pursued independently.

About the Spanish Certificate Program

The Certificate in Spanish for the Professions in the Global World is designed for students who anticipate careers in which they will need to interact with Hispanic communities in the U.S. or abroad and who wish to continue the study of Spanish language and culture for specific professional purposes: business, social work, medical, journalism and mass communications, education, hotel and restaurant management or law. The profession-specific course for this option for the certificate includes experiential learning through fieldwork and/or public service. Students preparing for their professional lives often are not aware of the usefulness of knowledge of the Spanish language and Hispanic cultures across the professions within the United States. This Certificate raises student awareness so that they might pursue Spanish for a specific profession before they are active professionals. Through this Certificate, students derive their own answers to common questions such as: Why is there a language requirement at this university? What can I do with my Spanish when I've finished the language requirement?

About the College

Students at the College of Pharmacy have at their disposal virtually every resource and opportunity they need to acquire a first-class education in pharmacy. In the college's new facility the students have state of the art classrooms, pharmacy practice labs including a mock pharmacy and sterile compounding room. In these state of the art facilities, students learn techniques in the patient care process by role-playing situations they would experience as pharmacists. For study and research needs, students can take advantage of the health sciences library on campus or the world renowned Texas Medical Center Library. The students have the opportunity to train with physicians, medical students and members of our clinical faculty.

Graduate students in Pharmacology/Pharmaceutics have available to them the research laboratories of the College of Pharmacy and can interact with faculty and students in related disciplines such as biology/biochemistry, chemistry, vision sciences, chemical and biomedical engineering. At the Texas Medical Center, our graduate students have the opportunity to take classes and participate in collaborative research projects with faculty at



the M.D. Anderson Cancer Center, Baylor College of Medicine, the Methodist Hospital, and the University of Texas Health Science Center-Houston. Current training areas include cardiovascular/renal and neuro-pharmacology, signal transduction and cellular signaling mechanisms, novel drug delivery systems, structural biology, drug absorption and kinetics, and novel dosage forms.

Accreditation

The College of Pharmacy is accredited by the Accreditation Council for Pharmacy Education and holds membership in the American Association of Colleges of Pharmacy.



Tuition and Fees: College of Pharmacy

The University of Houston is a state-assisted institution. Tuition for the 2017-2018 school year is \$602 per semester hour for Texas residents and \$1117 per semester hour for non-residents. The course load for the first two semesters of pharmacy school is 32 semester hours. In addition to tuition, about \$1600.00 in fees is also required each semester for full-time students.

For information on tuition and fees for the MS Program in Pharmacy Leadership and Administration, contact the College of Pharmacy Graduate Programs Office.

For information on tuition and fees for the PhD Program in Pharmacology/Pharmaceutics, contact the College of Pharmacy Graduate Programs Office.

Tuition and fees are set by the Texas Legislature and the University of Houston System Board of Regents and are subject to change without notice. Tuition and fee payment can be paid in full or in three installments with cash, check, money order or credit card (MasterCard, Visa, or Discover Card).



Academic Policies: College of Pharmacy

Student Recovery Program

The Student Recovery Program is provided to inform students of the College of Pharmacy's desire to promote responsible use of alcohol by students. This policy will be discussed in detail during the first professional year. The UH College of Pharmacy recognizes the need to establish procedures to encourage students who may experience impairments that are due to inappropriate chemical use, and/or physical, and mental issues. The College encourages students to seek and obtain the needed treatment in order to complete their professional education and become productive members of society. Alcoholism and drug dependency affect society in general and is especially prevalent in the health care professions. The College recognizes that drug dependency and alcoholism have the potential to affect society and require treatment. The College desires to assist impaired students and their immediate families, as well as students adversely affected by other chemically dependent individuals. The College advocates the referral of impaired students to the Assistant Dean for Student and Professional Affairs for initial assessment and to the Professional Recovery Network of the Texas Pharmacy Association for initial evaluation and possible treatment. With this in mind, the UH College of Pharmacy establishes a Student Pharmacist Recovery Network in association with the Texas Pharmacy Association Professional Recovery Program (TPA-PRN).

Postgraduate Licensure

Students graduating with the Doctor of Pharmacy degree are eligible to sit for the Multi-State Pharmacy Jurisprudence Examination (MPJE) and North American Pharmacist Licensure Examination (NAPLEX) examination.

Texas State Board of Pharmacy Registration Internship Requirement

Under the Texas State Board of Pharmacy Rules and Regulations a student is required to enroll as an intern trainee upon entry into the professional pharmacy degree program and then as a student - pharmacy intern prior to performing student internship duties and only after successfully completing the first year and 30 credit hours of work towards a professional degree in pharmacy. The agreement for registration requires a student to reveal personal history (i.e. conviction of a felony or any misdemeanor other than a minor traffic violation and finger printing). A Social Security number is mandatory and required to be issued an intern card. For more information, contact:

Texas State Board of Pharmacy
William P. Hobby Building, Tower 3, Suite 600
333 Guadalupe Street
Austin, Texas 78701-3942
512-305-8000

Academic Standing

Requirements for PharmD Progression

GRADES

The grade point average in professional pharmacy courses is used as a basis for determining progression, probation, and suspension in the college (see #1 below on requirements for progression guidelines and the probation and suspension guidelines).

For any professional courses repeated at the university, both grades will be used in the computation of the grade point average. Grades earned on courses transferred from another college or university will not be used in the computation of the grade point average. Only course credit will be accepted in transfer from another college or university.



ACADEMIC STANDING REQUIREMENTS FOR PROGRESSION

Students must satisfactorily complete all required courses during the first three professional years with a 2.00 minimum grade point average to progress to the final professional year. At the end of each semester, the Admissions and Progression Committee will review the academic records of all students with a cumulative grade point average below 2.00, or with one or more grades below a C, or with one or more grades of U (unsatisfactory) in required courses.

Professional coursework attempted during summer sessions I, II, III and/or IV counts as a semester.

A grade of C or better must be earned in all pharmacy courses and pharmacy practice experiences to apply toward progression or graduation.

For P1 and P2's the Pharmacy Curriculum Outcomes Assessment (PCOA) examination is formative and meant to prepare them for the summative PCOA in their P3 year. Students who do not meet the minimum competency of the PCOA in years 1 and 2 will be required to work with the Director of Assessment to develop an individualized remediation plan in identified areas of weakness that will be signed by the student and put in the student's file.

Students in their 3rd year of the curriculum will be required to meet the minimum competency of the PCOA in the spring of their P3 year in order to progress to their advanced pharmacy practice experiences (APPEs). Students not meeting the minimum competency on the PCOA will have to retake the PCOA until successful. In addition, they will meet with the Associate Dean for Academic Affairs to set up a remediation plan. Retaking the PCOA may result in a delay in graduation.

Students must have prior permission to register for less than a full load as published in the university catalog. In addition, a student wishing to drop a course or courses during the semester may do so in accordance with college policy. Students will also need permission from the Assistant Dean for Student & Professional Affairs and approval of the Associate Dean for Academic Affairs.

The college will not grant credit for any course taken without the proper prerequisites.

Students will not be permitted to register for any course in the professional program more than two times. The student who fails a course twice or whose grade fails to meet minimum grade requirements, as described in rule 1 of this section or as specified by the Admissions and Progression Committee, is ineligible to continue in the professional program.

Students must satisfactorily complete all required second-year courses with a grade of S or C or better, excluding electives, to be eligible for Introductory Community Pharmacy, PHAR 5493.

Criminal Background Checks and Drug Screenings: All students admitted into the University of Houston College of Pharmacy Doctor of Pharmacy program are required to participate in pharmacy practice experiences for graduation. Many hospitals and other health care organizations operating under the Joint Commission of Accreditation of Healthcare Organizations are requiring criminal background checks and/or drug screenings for all individuals who have direct contact with patients, including pharmacy students placed in early/introductory pharmacy practice experience (IPPE) and/or advanced clinical pharmacy practice experience (APPE) assignments at these sites. As a result of these requirements, a student with disqualifying criminal conviction(s) and/or drug screening results may be prevented from undertaking clinical APPEs that are required to complete the pharmacy program at the University of Houston. Students who cannot pass the background check and/or drug screening tests will not be admitted and/or unable to complete the required curriculum (pharmacy practice experiences) for graduation, and will therefore be withdrawn from the Doctor of Pharmacy program by the University of Houston College of Pharmacy.

All students must complete the professional coursework for the Doctor of Pharmacy program within a period of six years from the time of admission, including remediation, withdrawals, and progression problems. The Associate Dean for Academic Affairs will withdraw the student from the professional program when appropriate. Exceptions to this policy will be considered by the Dean of the college on a case-by-case basis.

The University of Houston College of Pharmacy (UHCOP) requires all pharmacy students admitted to the Doctor of Pharmacy Program to carry out and maintain health insurance coverage while enrolled in the program. The UHCOP does not endorse any specific carrier and students can either purchase health insurance through the University of Houston or provide proof of a comparable insurance through an outside provider. Students must maintain health insurance coverage by a policy that meets or exceeds the coverage provided by the student health insurance endorsed by the University of Houston. The university health insurance program offers students coverage through specific providers. For more information on the schedule of benefits associated with the policy, visit www.uh.edu/healthcenter/insurance/#domestic-students

Students must submit a copy of the front and back of their insurance card to the E*Value prior to the first day of each semester. Students who do not submit proof of health insurance coverage by the deadline will not be allowed to register and/or attend classes and ultimately may be prevented from undertaking early/introductory pharmacy practice experiences (IPPEs) and/or advanced clinical pharmacy practice experiences (APPEs) that are required for completion of the Doctor of Pharmacy degree.

Criminal Background Check Policy



Rationale

All students admitted into the University of Houston College of Pharmacy Doctor of Pharmacy program are required to participate in pharmacy practice experiences for graduation. Many hospitals and other health care organizations operating under the Joint Commission of Accreditation of Healthcare Organizations are requiring criminal background checks and/or drug screenings for all individuals who have direct contact with patients, including pharmacy students placed in early/introductory pharmacy practice experience (IPPE) and/or advanced clinical pharmacy practice experience (APPE) assignments at these sites. As a result of these requirements, a student with disqualifying criminal conviction(s) and/or drug screening results may be prevented from undertaking clinical rotations that are required to complete the pharmacy program at the University of Houston.

Criminal Background Check Policy

All applicants accepted to the College of Pharmacy (hereinafter referred to as "College of Pharmacy" or "College") must satisfactorily complete (submit to and pay for) a criminal background check from a vendor approved by the College of Pharmacy. Adverse information that is found in a criminal history background check may result in the withdrawal of the applicant's offer of admission or dismissal from the program.

Generally, applicants will receive notice of this policy at the time of acceptance into the professional program. An accepted applicant is responsible for contacting the approved vendor and complying with the vendor's and/or hospital/health care facility's instructions concerning completing a criminal background check within fourteen (14) calendar days of receiving the notice of this policy. Failure to request a criminal background check in a timely manner and by the timeline specified in this policy is grounds for withdrawal of the offer of admission.

After acceptance the applicant shall provide written self-disclosure to the Associate Dean for Academic Affairs of any new criminal history record information no later than five (5) business days following the charge of any crime. Failure to disclose information that is subsequently found on a background check may result in withdrawal of the offer of admission from the College or dismissal from the program.

Criminal Background Check

The criminal background check will include a review of the student's or accepted applicant's criminal history for at least the seven (7) years prior to the date the student applies for admission into the program. The following criteria for suitability will be considered:

Social Security Number validation, Criminal history search, including Misdemeanors or felony convictions, or deferred adjudications
Pending criminal charges/convictions, National Sexual Offender Registry, Office of the Inspector General (OIG) List of Excluded
Individuals/Entities, General Services Administration (GSA) List of Parties Excluded from Federal Programs, Employee Misconduct Registry,
U.S. Treasury, Office of Foreign Assets (OFAC), and List of Specially Designated Nationals (SDN) search, Nationwide Healthcare Fraud and
Abuse scan, Applicable State Exclusion list, Nationwide Record Indicator and Nationwide Federal Search

Currently Enrolled Students

Currently enrolled students in the College of Pharmacy professional program must annually (and at other times as requested in writing by a hospital or health care organization) satisfactorily complete (submit to and pay for) a criminal background check from an approved vendor prior to participating in IPPE and/or APPE assignments at these sites. Students must contact the designated vendor and comply with its instructions in authorizing and obtaining a background check within the prescribed timeframe. Students successfully completing the first year and progressing to the second year and students successfully completing the second year and progressing to the third year must request and satisfactorily complete an additional criminal background check review no earlier than July 1st, and no later than August 1st, prior to beginning the Fall semester of the second and third year. Students successfully completing the third year and progressing to the fourth year must request another criminal background check review no earlier than April 1st, and no later than May 1st during the Spring semester of their third year. An additional background check may be required if there is a break in enrollment in the professional program. A break in enrollment is defined as non-attendance of one long-term semester (Fall or Spring) or more and will be verified by the Associate Dean for Academic Affairs.



Some criminal offenses preclude students from participating in on-site professional experiences. In addition, some professional licensure boards include specific offenses that constitute those crimes for which licensure is prohibited. Thus students in these situations are subject to the statutory or regulatory requirements independently imposed by law, or as required by affiliating entities.

If an affiliated practice facility requires detailed criminal background check information regarding an individual student assigned to an IPPE or APPE at the facility as a condition for placement, the College will notify the student of such a requirement when notified by the facility. Results of the background check(s) may be submitted directly to the hospital/health care facility or to the College by the vendor. Upon receipt of criminal history information by the College, the College will pass on the results to the requesting hospitals or health care organizations. The hospital or health care organization will be responsible for determining whether an enrolled student is eligible to participate in the clinical practice experience assignment at the site, and will notify the student and the College of its decision. Students whose criminal background is determined as unacceptable by a hospital/health care organization may be unable to complete the curriculum (pharmacy practice experiences) required for graduation by the College of Pharmacy.

Failure to request a criminal background check in a timely manner may delay the student's matriculation into the second, third, and/or fourth year and delay the start of his/her IPPEs and/or APPEs. A student may not be allowed to start a specific IPPE/APPE late due to a delay in criminal background check information being received by the site.

Students enrolled in the College of Pharmacy shall self-disclose to the Associate Dean for Academic Affairs any new criminal history record information as outlined in the criminal background check criteria no later than five (5) business days following the charge of any crime. Failure to disclose information that is subsequently found on a background check may result in dismissal from the College. Criminal activity that occurs while a student is in attendance at the College may result in disciplinary action, including dismissal, and will be addressed according to the College of Pharmacy Code of Professional and Ethical Conduct.

Rights

Accepted applicants and currently enrolled students have the right to review the results of the criminal background check performed by the designated vendor and to request that the designated vendor verify that the background information provided is correct. Prior to making a final determination that may adversely affect the applicant or student, the Associate Dean for Academic Affairs will notify the student or applicant, in writing, of his/her right to review and correct inaccurate information in the report, the process for contacting the designated vendor to challenge the accuracy of the report and the affect an adverse criminal history report may have on his/her continued enrollment in the pharmacy program.

If an adverse criminal history is returned on an applicant or student, the Admissions and Progression Committee will review the report and may request that the applicant or student submit additional information related to the finding (such as court documents and police records), at the applicant's expense. The applicant or student shall be given a reasonable time, generally not less than five (5) business days, to provide documentation establishing that the report is inaccurate, that a reported felony conviction is a lesser violation under the laws of the charging jurisdiction, that a disposition was the subject of a subsequent expungement or sealing order by a competent court, or that the report is otherwise unreliable. The Committee will review all information available to it to determine whether the offer of admission should be withdrawn from the accepted applicant or if dismissal from the program is warranted.

Applicants who are denied enrollment or students who are dismissed from the program may appeal the decision of the Admissions and Progression Committee to the Dean of College of Pharmacy within 15 business days of the date the student received notice of his/her dismissal from the program. The decision of the Dean of the College of Pharmacy will be final and may not be appealed.

If the background check uncovers a question which can be cleared by the applicant or student, matriculation can be deferred up to one year while the matter is being resolved. However, a student may be granted permission to re-enroll in (IPPE/APPE) after the background check has been cleared if space is available and any applicable tuition and fees are paid.

Drug Screening Policy

The University of Houston College of Pharmacy will not require students to participate in a drug screen. However, the College will inform students that they may be asked by the facility to submit and comply with a drug screen before participating in clinical experiences at certain facilities. If an affiliated practice facility requires drug screening of an individual student assigned to rotate there as a condition for placement in that facility, the College will notify the student of such a requirement in advance. The student will be responsible for contacting an approved vendor, paying for expenses for the drug screen, and insuring that the results of the drug screen are forwarded directly to the facility.



Any students with questions concerning impairment issues while in the professional program should review The University of Houston College of Pharmacy's Student Pharmacist Recovery Program (UHSPRN) in the College of Pharmacy Student Handbook.

Confidentiality of Records

Background check reports and all records pertaining to the results of these processes are considered confidential with restricted access. The results and collateral information are considered educational records and are subject to the Family Educational Rights and Privacy Act.

Access to records and reports outside of the Associate Dean for Academic Affairs and any employee designated as backup must be approved by the Dean of the College of Pharmacy or his designee, prior to granting access. Requests for criminal history and drug screening information must be made in writing on a form approved by the Office of General Counsel. Information contained in the reports/records will not be shared with facilities participating in the clinical IPPEs & APPEs unless a legitimate need is demonstrated and approved by the Dean or his designee.

Recordkeeping

Any background check reports that are retained by the College of Pharmacy shall be placed in a secure location determined by the Associate Dean for Academic and Students Affairs. These records shall be maintained for the duration of the student's enrollment or until the applicant is removed from the accepted student list or as provided by the UH records retention policy, whichever is the greater length of time. The reports and records shall be physically destroyed thereafter.

Falsification of Information

Falsification of information will result in immediate removal of an applicant from the accepted applicant pool or an enrolled student from the degree program.

Immunization Requirements

Students must present proof of adequate immunization against bacterial meningitis, rubeola (common measles), rubella (German measles), mumps, chicken pox (varicella) and tetanus. The Hepatitis B immunization series must be initiated prior to the Fall semester and completed by January. The influenza vaccine must be kept current annually. A negative TB skin test or chest clearance must be documented no sooner than three months prior to beginning the Fall semester and during the Spring semester of the first, second and third years of pharmacy school. Texas State law mandates that all newly admitted and readmitted students under the age of 22 and all returning students under the age of 22 who have been out for one Fall or Spring semester must provide a certificate signed by a health care provider or an official immunization record verifying that they have been vaccinated against bacterial meningitis or have received a booster during the five years prior to registration. Students who are required to comply with this new law will not be eligible to register for the Fall classes until the necessary proof of immunization or an approved exemption form has been received. Students who need the vaccination must receive it at least 10 days prior to the first class day to be eligible to enroll for the semester. See: <http://www.uh.edu/academics/courses-enrollment/policies/immunization/>.

Probation and Suspension

The following guidelines apply to students in the professional program.

Academic Probation

Doctor of Pharmacy students are placed on academic probation at the close of the semester if they earn any of the following:

- Less than 2.00 semester grade point average;
- A grade of D or F or U in any professional courses;
- Less than 2.00 cumulative grade point average

These students may be required to repeat a course or courses specified by the Admissions and Progression Committee prior to progression into the next professional semester, or the student may be suspended at that time (according to the suspension rules). Students who are placed on probation must submit to the Admissions and Progression Committee a written plan detailing what steps they plan to take to improve their academic situation



before they will be permitted to continue in the program. If the student earns a grade of D or F or U after repeating the designated course or courses, the student may be suspended from the pharmacy program. If after repeating the designated courses the student's cumulative grade point average in required courses is below 2.00, the student may be suspended from the pharmacy program. A student normally will not be allowed to repeat courses in which they have made a grade of C or better. A student on probation is not permitted to hold office in a college organization, serve on a college committee, or receive funds for college-supported travel.

Academic Suspension

Doctor of Pharmacy students are considered ineligible to progress in the professional program and placed on academic suspension under any of the following conditions:

- Receipt of a grade of D or F or U in any course in a semester while on academic probation;
- Receipt of less than 2.00 semester grade point average while on academic probation;
- Receipt of less than 2.00 semester grade point average for more than one semester whether consecutive or non-consecutive semester;
- Placement on academic probation more than once;
- Receipt of a grade of D or F or U after repeating a course; or
- Receipt of 1.00 semester grade point average (all digits significant) or less.

All such cases of academic probation and academic suspension will be reviewed carefully by the College's Admissions and Progression Committee. Students may petition the Admissions and Progression Committee in writing if they do not agree with committee decision. The Committee will then review the facts again and issue a second decision. Then and only then can a student appeal to the dean of the college.

The college dean may place on probation, or suspend any deficient student. Similarly, the college dean may remove from academic probation or suspension any student whose academic progress warrants such action. Any student placed on suspension must apply to the Admissions and Progression Committee for re-admission to the college. Suspension lasts for a period of at least one long semester (i.e., Fall or Spring). A student may be denied re-admission to the college but may petition another college or department for re-admission to the University.

Withdrawals

Should a student decide to leave the program for personal or medical reasons, an appointment should be made with the College's Assistant Dean for Student and Professional Affairs to address options and review College and University policies and requirements.

UHCOP WITHDRAWAL POLICY

Leaves of Absence

Leaves of absence are not allowed by the College of Pharmacy. The College of Pharmacy will accept requests for medical and administrative withdrawals.

General Withdrawal

Should a student wish to drop a course or courses, an appointment should be made with the College's Assistant Dean for Student and Professional Affairs and the Associate Dean for Academic Affairs to address options and review the College's and the University of Houston's policy and requirements.

The College does not adhere to the University's drop policy. The professional student cannot drop courses during the semester as advised in the University drop policy. The professional student is expected to be in full time status as published in the College's student handbook. A student on reduced load for the semester must have prior permission to register for less than a full load as published in the College's student handbook.

The College does not adhere to drop dates as noted in the University calendar. The professional student course schedule is such that the time of request and reason for withdrawal will be reviewed by the Admissions and Progression Committee and addressed on an individual basis.



In addition to following the procedure for withdrawals, students must return all library books and laboratory equipment and other college property to have their University of Houston record clear in every respect.

Financial Withdrawal

Students who make payment on their account with checks which are returned to the University for insufficient funds or who fail to pay by designated deadlines may be withdrawn from the University without refund. Students who are financially withdrawn after the last day to drop or withdraw without a grade will receive, "W" or "F" grades only for the semester.

Non-payment of fees may result in courses being dropped. The student will not be allowed to attend classes and this will result in delay in graduation. Students with two or more returned checks must make payment on their account by cash, cashier's check, money order, or credit card. No checks - personal or otherwise - will be accepted.

University Withdrawal

In addition to suspension for academic or disciplinary causes, students may be withdrawn by the University for medical or financial reasons.

MEDICAL AND ADMINISTRATIVE WITHDRAWAL POLICY FOR THE PROFESSIONAL STUDENT

Medical Withdrawal

A student may request withdrawals from all courses in which the student is enrolled in cases where the student experiences a medical situation that impedes academic progress.

Administrative Withdrawal

A student may request withdrawals from all courses in which the student is enrolled in cases when the student experiences an extenuating personal or family situation, beyond the control of the student, which impedes academic progress.

The student will meet with the Assistant Dean for Student and Professional Affairs and Associate Dean for Academic Affairs

The student (or their appointed representatives if they are unable to act for themselves) who seeks to withdraw for medical or administrative reasons from all courses for which they are registered shall request such withdrawals in written form to the Admissions and Progression Committee. The student shall submit all appropriate documentation including a statement from a licensed physician or licensed psychologist, and other appropriate individuals with their written requests.

The Committee shall

- review each request and its accompanying documentation,
- decide whether to make inquiries and seek recommendations from appropriate sources of information,
- decide whether to approve or deny the request,
- inform both the student and the instructors of record of the decision in writing.

Students who are approved to receive medical or administrative withdrawals shall receive an 'I' or a 'W', in each course for which they were registered.

The student who receives a medical or administrative withdrawal understands there is no guarantee of readmission into the program and must submit a written request for readmission to the Admissions and Progression Committee. The student shall submit a written request, including a statement from their licensed physician or licensed psychologist, or other appropriate individuals to the Admissions and Progression Committee justifying their readiness to resume studies.

The Admissions and Progression committee shall

- review each request to resume study in the College,
- decide whether to make inquiries and seek recommendations as appropriate,
- decide whether to approve or deny the request,
- inform both the student and others, as appropriate, of the decision in writing.



Under extenuating circumstances, this policy may be applied retroactively. The deadline for submitting medical or administrative requests will be 90 days after the last day of the requested semester.



Professional Organizations: College of Pharmacy

The College of Pharmacy offers opportunities for participation in activities outside the formal classroom. The faculty encourages participation in student professional organizations, but reserves the right to advise students upon the extent of participation when their scholastic performance is deficient. The college recognizes the following professional organizations:

Pharmacy Council: This organization is comprised of an elected representative and alternate from each pharmacy student organization and from each class, who then elect a president, vice president and secretary. The council coordinates pharmacy student organizational activities and acts as a liaison with the administration and faculty of the college. Activities include hosting the annual school picnic, organizing Texas Pharmacy Week, and holding a canned goods drive at Thanksgiving.

Academy of Students Pharmacists (APhA-ASP): The APhA Academy of Student Pharmacists is the student section of the American Pharmacists Association (APhA), representing over 18,000 student pharmacists at all colleges of pharmacy in the United States and Puerto Rico. Student pharmacists and pre-pharmacy students enrolled at any ACPE-accredited pharmacy school or college are eligible for membership in APhAASP. The organization's mission is to be the collective voice of student pharmacists, and to prepare student pharmacists to be professionals who provide and promote pharmaceutical care. Founded in 1852, APhA is the first established and largest professional association of pharmacists in the U.S. APhA-ASP sponsors three main projects in which students from chapters across the U.S. go into their communities and provide direct patient care and education on topics, such as immunization, diabetes, and heartburn awareness. The UH Chapter of APhA-ASP offers a great outlet for students who wish to become directly involved in promoting the pharmacy profession. There is an annual membership fee.

Christian Pharmacist Fellowship International (CPFI): CPFI is a worldwide, interdenominational ministry of individuals working in all areas of pharmaceutical service and practice. The mission of CPFI is to help pharmacy professionals grow spiritually and to promote fellowship among pharmacists. There is an annual membership fee.

Mexican-American Pharmacy Students Association (MAPSA): The purpose of MAPSA is to promote unity among pharmacy students with common interest, values, and backgrounds. Members participate in a variety of activities including peer tutoring and counseling, fundraising for MAPSA projects, and educational programs regarding contemporary issues affecting the practice of pharmacy and healthcare systems. MAPSA serves to promote the academic excellence and public relations of the College of Pharmacy.

Student National Community Pharmacists Association (NCPA): NCPA is a national organization that represents the interests of independent and private practice pharmacists. This representation includes specialties within pharmacy, such as home health, veterinary, disease-state management and many others. Scholarships and loans are available to student members. The membership fee includes a monthly journal, quarterly student newsletters, and NIPCO module discounts.

Student Industrial Pharmacy Society (SIPS): SIPS is designed for students interested in possible careers in the pharmaceutical industry. The mission of SIPS is to provide a growth environment for pharmacy students to explore opportunities, prepare for challenges, and be groomed for successful careers in the pharmaceutical industry. Some of the activities available to SIPS members include research projects, professional presentations, workshops, guest speakers and on-site visits to pharmaceutical companies. In addition, members will also gain valuable exposure to successful pharmaceutical companies. There is an annual membership fee. Meetings are held twice a month.

Student National Pharmaceutical Association (SNPhA): SNPhA was founded in 1972 as an affiliate of the National Pharmaceutical Association (NPhA). SNPhA is an educational and service association of students who are concerned about pharmacy issues, professional development, and the lack of minority representation in pharmacy and other health-related professions. Members reach out to the community by working with high school students and sharing with them the art of compounding in pharmacy labs in addition to participating in health awareness activities. Members host an annual reception for alumni and prepharmacy students and participate in the recruiting of minority students to the college during the fall semester. The organization attends regional meetings during the spring and national conventions during the summer. There is an annual membership fee.

Student Society of Health-System Pharmacists (SSHP): SSHP focuses on the interests of hospital and allied health professionals. It is affiliated with GCSHP (Gulf Coast), TSHP (Texas), and ASHP (American). The society hosts bimonthly meetings with guest speakers from many different areas of the profession such as ambulatory care, consulting, hospital, and many more. In addition, SSHP supports the CE and organizational meetings of GCSHP. SSHP is involved in Poison Prevention Week and hosts an annual social event known as the mentoring social as well as an annual event called the career forum. The society also supports the national clinical skills competition and holds a school competition each September. The membership fee includes a subscription to the bimonthly American Journal of Health-System Pharmacists, TSHP monthly newsletter, ASHP newsletter, GCSAHP newsletter, and first-hand access to residency information. Scholarships also are available.



Vietnamese American Pharmacy Student Society (VAPSS): The mission of VAPAT-VAPSS is to encourage all Vietnamese-American pharmacy students to participate and become well-informed in all aspects of the pharmacy profession.

Fraternities

Kappa Epsilon (KE): KE is a co-ed professional pharmacy fraternity, whose mission is to empower its members to achieve personal and professional fulfillment. The fraternity was founded in 1921 and the UH chapter, Upsilon, was formed in 1953. KE supports breast cancer awareness through various events such as Awareness Week, and the Susan G. Komen Fun Run. KE also serves the community through activities at the Ronald McDonald House and Texas Children's Hospital. Active members meet twice monthly and plan at least one activity per month. There is a relaxed pledge period. First year membership fee, which includes a pin and subscription to the Bond magazine.

Kappa Psi (KY): Kappa Psi is a co-ed pharmaceutical fraternity. It is the world's oldest and largest pharmaceutical fraternity, founded in 1879. The Delta Delta chapter at UH was chartered in 1963. The goals of the fraternity are to develop fellowship, industry, and sobriety and to foster high ideals, scholarship, and pharmaceutical research. Members are instilled with a strong sense of brotherhood and help each other out with both studies and fun. Past activities include helping with Habitat for Humanity, Star of Hope, and the Children 's Museum. Social activities include Regional and National conventions, a Spring Formal, Senior Banquet, pool-side BBQs, and more. Pledging is a 10-week process and has a membership fee per semester. This includes your initiation fees, T- shirt, and a subscription to the MASK magazine. Pledge meetings are held weekly, and Active meetings are held bi-monthly.

Phi Delta Chi (PDC): Phi Delta Chi was chartered in 1883. UH obtained its charter in 1953. The PDC Alpha Tau Chapter at UH is a co-ed fraternity of professional men and women who are striving for success as future pharmacists by becoming involved in national, state, and local activities. PDC offers its members a strong brotherhood of friendship and support as well as instilling values of leadership and community involvement. In addition to professional and academic support, PDC also organizes social events on weekends to help relieve the stress and pressures of pharmacy school. It takes one semester to pledge and meetings are held once a week for about an hour. There is an annual membership fee, which includes a subscription to Communicator magazine, pledge shirt and pin.

Honor Societies

Phi Lambda Sigma (PLS): The Upsilon Chapter of Phi Lambda Sigma at the University of Houston was chartered in 1988. The purpose of Phi Lambda Sigma is to promote the development of leadership qualities in pharmacy, especially amongst pharmacy students. Since membership crosses fraternal and organizational lines, the Society does not compete with other pharmacy organizations. Rather, Phi Lambda Sigma recognizes and promotes leadership. At the Upsilon Chapter, we strive to improve the quality of our leaders in pharmacy school so that they may acquire the skills needed to be an effective pharmacist and an active future leader in the profession of pharmacy. Eligible students for membership must submit an application demonstrating their dedication, service, and leadership in the profession of pharmacy. There is a one-time initiation fee and an annual membership fee.

Rho Chi: The Rho Chi Society is the honorary organization for the profession of pharmacy. The Beta Omicron chapter of UH was established in 1956. Membership is by invitation and is based on high academic achievement in the professional curriculum. Eligible members are invited to join after their fourth semester. Additional members may be added in the sixth and eighth semesters. Up to 20 percent of each graduating class may be invited to join. Members sponsor an initiation banquet for new members as well as the Teaching Excellence Award to recognize and honor outstanding pharmacy instructors. Society members also help recruit academic merit scholars. There is a one-time initiation fee.

Student-Run Clinic

HOMES: Houston Outreach Medicine, Education, and Social Services (H.O.M.E.S.) is a multiinstitutional, multi-discipline student-run free clinic program for Houston's homeless. HOMES is an innovative and exciting new program in which the major higher educational institutions of Houston collaborate with community organizations to provide quality, accessible health care and social services to the homeless, as well as provide a unique learning experience for students from a variety of different disciplines. More than 200 students from Baylor College of Medicine, The University of Texas Health Science Center at Houston, as well as from the UH College of Pharmacy work together. HOMES is also an integral part of the groundbreaking community organization - Healthcare for the Homeless-Houston, a unique, strategic alliance of healthcare providers and community-based agencies dedicated to improving the health of Houston-area homeless people.



Graduates and Alumni in Pharmacy Administration (GPA)

Mission

GPA is an organization of the Students and Alumni of the Department of Pharmacy Practice and Translational Research at University of Houston, College of Pharmacy. Our aim is to bring together the students and alumni of the pharmacy administration graduate program in order to engage in various academic, research, professional, and extra-curricular activities and projects.

When it founded: 2001

Membership fees:

\$35 for new members

\$20 for past/already existing members

ISPOR - UH Student Chapter

Mission Statement:

The University of Houston International Society for Pharmacoeconomics and Outcomes Research Student Chapter (UH-ISPOR) is dedicated to

provide an environment where students can share knowledge in Pharmacoeconomics and health outcome research.

represent students need and wants in regard to pharmacoeconomics and health outcome research.

promote interest and awareness about pharmacoeconomics and health outcome research to various disciplines across University of Houston

increase student's knowledge about pharmacoeconomics and health outcome from a global prospective.

Act as a resource for new students interested in pharmacoeconomics and health outcome research

Provide an opportunity for student chapter members to become familiar with the ISPOR as well as have representation in its affairs.

When it founded: 2002

***Members of the GPA automatically become members of ISPOR-UH Student Chapter**



College of Pharmacy

The College of Pharmacy, established in 1947, prepares students to enter into the practice of pharmacy and to function as professionals and informed citizens in a changing healthcare system and to assume important roles as drug information specialists and primary care providers.

Master of Science

Pharmacy Leadership and Administration, MS

College of Pharmacy > Pharmacy Leadership and Administration, MS

Taking full advantage of the resources of the world's largest medical center, Texas Medical Center, the 24-month Houston Program with MS in Pharmacy Leadership and Administration offers unique learning, teaching and collaboration opportunities to train the next generation of pharmacy leaders.

The University of Houston College of Pharmacy offers a Master of Science in Pharmacy Leadership and Administration, with PGY1 and PGY2 Health-System Pharmacy Administration (HSPA) residency programs from seven leading Texas Medical Center institutions.

Texas Medical Center institutions with HSPA residencies participating in the Houston Program:

- Baylor St. Luke's Medical Center
- Harris Health System
- Houston Methodist Hospital
- Memorial Hermann Health System
- Michael E. DeBakey Veterans Affairs Medical Center
- Texas Children's Hospital
- The University of Texas-MD Anderson Cancer Center

For more information, please visit the Pharmacy Leadership and Administration website.

Admission Requirements

Applicants must have a PharmD and a license to practice pharmacy in the U.S. Applicants apply for PGY1/PGY2 residency via the PhORCAS application and enroll in ASHP Residency Matching process, then apply to the MS Pharmacy Leadership and Administration degree program at the University of Houston College of Pharmacy. For all applicants, and especially for applicants from outside of the Houston area, we provide a coordinated interview schedule in order to optimize candidates' time and learn more about the Houston Program, the Texas Medical Center, and the city of Houston. Letters of recommendation, transcripts, CV, and personal statement are required, but not the Graduate Record Examination.

See the application website for all of the details.

Degree Requirements

Credit hours required for this degree: 36.0

The MS program is offered by the Department of Pharmacy Practice and Translational Research (PPTR). The curriculum focuses on Pharmacy Leadership and Administration in Health-System Pharmacies. The student must complete a minimum of 36 credit hours (Cr Hr) for the MS degree including a major thesis/project. In accordance with the University of Houston guidelines, the department may approve a maximum of 9 Cr Hr of transfer credits from another institution.

Required Coursework



13 Credit Hours

- PHLA 6100 - Leadership Seminar **Credit Hours: 1** (Taken 4 times)
- PHLA 6321 - Intro to Hospital and Health System Pharmacy Management **Credit Hours: 3.0**
- PHCA 6320 - Medication Safety and Quality Improvement **Credit Hours: 3.0**
- PHCA 7199 - Master Thesis **Credit Hours: 1** (Taken 3 times)

Prescribes Electives

20 Credit Hours

- ACCT 6331 - Financial Accounting **Credit Hours: 3.0**
- PHCA 6198 - Special Problems **Credit Hours: 1.0** (Taken 2 times)
 - Topics:**
 - Leadership Concepts I
 - Leadership Transitions
- PHCA 6298 - Special Problems **Credit Hours: 2.0** (Taken 3 times)
 - Topics:**
 - Outcomes Research
 - EBM
 - Leadership Concepts II
- PHCA 7306 - Pharmaceutical Health Outcomes and Quality **Credit Hours: 3**
- PHCA 7308 - Biostatistics and Experimental Design **Credit Hours: 3.0**
- PHLA 6313 - Pharmacy Workforce Competency **Credit Hours: 3.0**

Open Elective

3 Credit Hours

Elective can be selected from any available options for the student.

Suggested Degree Plan

Fall I

- PHCA 6298 - Special Problems **Credit Hours: 2.0**
 - Topic:** Outcomes Research
- PHCA 7308 - Biostatistics and Experimental Design **Credit Hours: 3.0**
- PHLA 6100 - Leadership Seminar **Credit Hours: 1**
- ACCT 6331 - Financial Accounting **Credit Hours: 3.0**
- PHLA 6321 - Intro to Hospital and Health System Pharmacy Management **Credit Hours: 3.0**

Spring I

- PHCA 6198 - Special Problems **Credit Hours: 1.0**
 - Topic:** Leadership Concepts I
- PHCA 6298 - Special Problems **Credit Hours: 2.0**
 - Topic:** EBM
- PHCA 7199 - Master Thesis **Credit Hours: 1**
- PHLA 6100 - Leadership Seminar **Credit Hours: 1**
- PHCA 6306



Summer I

PHCA 6320 - Medication Safety and Quality Improvement **Credit Hours: 3.0**

Fall II

PHLA 6100 - Leadership Seminar **Credit Hours: 1**

PHCA 6298 - Special Problems **Credit Hours: 2.0**

Topic: Leadership Concepts II

PHCA 7199 - Master Thesis **Credit Hours: 1**

Elective **Credit Hours: 3.0**

Spring II

PHLA 6100 - Leadership Seminar **Credit Hours: 1**

PHLA 6313 - Pharmacy Workforce Competency **Credit Hours: 3.0**

PHCA 7199 - Master Thesis **Credit Hours: 1**

PHCA 6198 - Special Problems **Credit Hours: 1.0**

Topic: Leadership Transitions

Academic Policies

University of Houston Academic Policies

Academic Policies: College of Pharmacy

Department/Program Academic Policies

Every graduate student must maintain a 'B' average or 3.00 GPA throughout the MS program curriculum. Failure to do so will automatically place the student on probation for the following semester. Once on probation, the student has one semester (Fall or Spring) to improve their grades. If the student is not able to improve their performance and if their GPA is still below 3.00 the student may have to withdraw from the program. Students who have their GPA below 3.00, but have shown dramatic improvement in course grades, may petition for an extension to the MS Program Advisory Committee.

Graduate students are allowed only 2 'C' grades throughout the MS program. Students will be automatically put on probation upon receipt of their second 'C' grade and will be withdrawn from the program upon receipt of their third 'C' grade.

In addition, the student will be automatically put on probation if they receive a grade below a 'C' in any one course. Individuals who receive a grade below 'C' have one semester to improve their grades. Students who are on probation and who show dramatic improvement in course grades may petition for an extension to the MS Program Advisory Committee.

Additionally, students receiving a grade below 'C' in any core course is required to repeat the course during its next offering. In addition, a student with a D, F, or I as the most recent grade in a graduate level course for a degree plan will not be eligible for graduation.

Master of Science in Pharmacy Leadership and Administration: Graduate Student Policies and Procedures Handbook

Doctor of Philosophy

Pharmaceutical Sciences, PhD

The Pharmaceutical Sciences doctoral degree program at the University of Houston College of Pharmacy offers a learning and research environment that combines the collaborative opportunities of the Texas Medical Center's world-class healthcare and scientific community with the academic resources and award-winning faculty at Houston's only Carnegie Institute-designated Tier One public research university.



Pharmaceutical Sciences research emphases in the pharmaceuticals area include drug formulation and delivery; drug absorption, metabolism, elimination, and toxicity; and pharmacokinetics and pharmacodynamics of anti-cancer, anti-AIDS and anti-microbial drugs.

For more information, please visit the Pharmacological & Pharmaceutical Sciences webpage: <https://uh.edu/pharmacy/about-us/academic-depts/pps/>.

Admission Requirements

Applicants to the Pharmaceutical Health Outcomes and Policy PhD program must have either completed or expect to complete a BS degree in a similar area with an overall GPA of 3.0 on a 4-point scale. Applicants with a pharmacy background and/or advanced training will be given preference, and prospective students with health care-related backgrounds and/or experience are encouraged to apply. A GRE score is required to apply for the PhD program, and will be considered holistically with the student's other credentials. International applicants have additional documentation and/or test score submission requirements, which can be viewed on the International Graduate Students page.

For more information, please visit the Admissions for PhD Programs webpage: <http://www.uh.edu/pharmacy/prospective-students/graduate-programs/phd-graduate-admissions/>.

Degree Requirements

Credit hours required for this degree: 75.0

Pharmaceutical Health Outcomes and Policy (PHOP) Concentration

Pharmaceutical Health Outcomes and Policy consists of pharmaceutical practice and policy research, a multidisciplinary field that examines cost, access, and quality of pharmaceutical care from clinical, socio-behavioral, economic, organizational and technological perspectives. Traditional and innovative areas of pharmaceutical health outcomes research include pharmacoepidemiology, pharmacoconomics, comparative effectiveness research, patient-centered outcomes research, and translational research.

Required Didactic Courses

PHCA 7305 - Social and Behavioral Determinants and Theory in Pharmaceutical Health Outcomes **Credit Hours: 3**

PHCA 7306 - Pharmaceutical Health Outcomes and Quality **Credit Hours: 3**

PHCA 7320 - Intro to Health Care Systems and Policy **Credit Hours: 3**

PHCA 7307 - Epidemiologic Methods and Research Design **Credit Hours: 3**

PHCA 7316 - Pharmacoepidemiology **Credit Hours: 3.0**

PHCA 7330 - Advanced Pharmacoconomics **Credit Hours: 3**

PHCA 7340 - Data Analytics for PHOP **Credit Hours: 3**

PHCA 7308 - Biostatistics and Experimental Design **Credit Hours: 3.0**

PHCA 7301 - Advanced Regression Analysis Methods **Credit Hours: 3.0**

Seminars

PHCA 6180 - Seminar in Pharmaceutical Health Outcomes and Policy **Credit Hours: 1.0**

PHCA 6181 - Seminar in Pharmaceutical Health Outcomes and Policy **Credit Hours: 1.0**

PHCA 7180 - Seminar in Pharmaceutical Health Outcomes and Policy **Credit Hours: 1.0**

PHCA 7181 - Seminar Pharm Administration **Credit Hours: 1.0**

PHCA 8180 - Advanced Seminar in Pharmaceutical Health Outcomes and Policy **Credit Hours: 1.0**

PHCA 8181 - Advanced Seminar in Pharmaceutical Health Outcomes and Policy **Credit Hours: 1.0**

Doctoral Research



Total Credit Hours: 23.0

- PHCA 8198 - Doctoral Dissertation Research Credit Hours: 1
- PHCA 8298 - Doctoral Dissertation Research Credit Hours: 2
- PHCA 8398 - Doctoral Dissertation Research Credit Hours: 3
- PHCA 8698 - Doctoral Dissertation Research Credit Hours: 6

Doctoral Dissertation

- PHCA 8199 - Doctoral Dissertation Defense Credit Hours: 1

Electives

Electives Credit Hours: 18.0

Pharmaceutics Concentration

Pharmaceutics emphasizes the development of novel drug delivery methods, drug absorption, metabolism and formulations. Early course work provides a solid foundation in pharmaceutics, pharmacokinetics, physical pharmacy, dosage formulation and delivery systems. Areas of research interest include oral dosage formulations, transdermal and liposomal drug delivery, therapeutic DNA delivery, absorption and metabolism, and pharmacokinetics. Students in the Pharmaceutics concentration develop research programs in the areas of drug delivery systems, drug stability, dosage forms and pharmacokinetics.

Required Didactic Courses

- PCEU 6341 - Advanced Pharmacokinetics Credit Hours: 3.0
- PCEU 6198 - Special Problems Credit Hours: 1.0
- PHCA 7308 - Biostatistics and Experimental Design Credit Hours: 3.0
- PCEU 6342 - Advanced Pharmaceutics I Credit Hours: 3.0
- BIOL 6120 - Responsible Conduct of Biological Research Credit Hours: 1.0
- PCEU 6345 - Advanced Pharmaceutics II Credit Hours: 3.0
- PCEU 7355 - Regulatory Affairs Credit Hours: 3.0
- PCOL 7370 - Scientific Writing Credit Hours: 3.0
- PCEU 7340 - Advanced Drug Delivery Credit Hours: 3.0

Seminars

- PCEU 6180 - Pharmaceutics Seminar Credit Hours: 1.0
- PCEU 6181 - Pharmaceutics Seminar Credit Hours: 1.0
- PCEU 7180 - Pharmaceutics Seminar Credit Hours: 1.0
- PCEU 7181 - Pharmaceutics Seminar Credit Hours: 1.0

Pharmaceutics Literary Review

- PCEU 6142 - Pharmaceutic Literature Review Credit Hours: 1.0
- PCEU 7142 - Pharmaceutic Literature Review Credit Hours: 1.0

Special Problems

Total Credit Hours: 20.0



PCEU 6198 - Special Problems Credit Hours: 1.0
PCEU 6298 - Special Problems Credit Hours: 2.0
PCEU 6398 - Special Problems Credit Hours: 3.0
PCEU 6498 - Special Problems Credit Hours: 4.0
PCEU 6698 - Special Problems Credit Hours: 6.0

Doctoral Research

Total Credit Hours: 15.0

PCEU 8198 - Doctoral Research Credit Hours: 1.0
PCEU 8298 - Doctoral Research Credit Hours: 2.0
PCEU 8398 - Doctoral Research Credit Hours: 3.0
PCEU 8498 - Doctoral Research Credit Hours: 4.0
PCEU 8698 - Doctoral Research Credit Hours: 6.0
PCEU 8998 - Doctoral Research Credit Hours: 9.0

Doctoral Dissertation

PCEU 8399 - Doctoral Dissertation Credit Hours: 3

Electives

Electives Credit Hours: 6.0

Pharmacology Concentration

Pharmacology emphasizes molecular and cellular aspects of pharmacological research to understand function at the cellular, organ and whole-body level. Areas of research emphasis in the department include cardiovascular/renal pharmacology, cellular signaling and transport, traditional medicine and natural products, cancer biology, skeletal muscle development and neuropharmacology. Students in the Pharmacology concentration may develop research programs in the areas of renal, autonomic, central nervous system, cardiovascular pharmacology, signal transduction, cellular physiology of exercise and aging, protein biochemistry or medicinal chemistry of natural products.

Required Didactic Courses

PCOL 6370 - Advanced Pharmacology I Credit Hours: 3.0
PCOL 6371 - Advanced Pharmacology II Credit Hours: 3.0
PCOL 7370 - Scientific Writing Credit Hours: 3.0
PCOL 6462 - Cardiovasc. Renal Pharmacology Credit Hours: 4.0
PCOL 7362 - Neuropharmacology Credit Hours: 3.0
PCOL 7350 - Cellular Pharmacology I Credit Hours: 3.0
BIOL 6120 - Responsible Conduct of Biological Research Credit Hours: 1.0
PHCA 7308 - Biostatistics and Experimental Design Credit Hours: 3.0
PCOL 7333 - Molecular Pharmacology Credit Hours: 3.0

Seminars

PCOL 6180 - Pharmacology Seminar Credit Hours: 1.0
PCOL 6181 - Pharmacology Seminar Credit Hours: 1.0
PCOL 7180 - Pharmacology Seminar Credit Hours: 1.0
PCOL 7181 - Pharmacology Seminar Credit Hours: 1.0



Pharmacological Literary Review

PCOL 6141 - Pharmacological Liter. Review Credit Hours: 1.0

PCOL 6142 - Pharmacological Liter. Review Credit Hours: 1.0

PCOL 7141 - Pharmacological Liter. Review Credit Hours: 1.0

PCOL 7142 - Pharmacological Lit Review Credit Hours: 1.0

Special Problems

Total Credit Hours: 20.0

PCOL 6198 - Special Problems Credit Hours: 1.0

PCOL 6298 - Special Problems Credit Hours: 2.0

PCOL 6398 - Special Problems Credit Hours: 3.0

PCOL 6498 - Special Problems Credit Hours: 4.0

Doctoral Research

Total Credit Hours: 15.0

PCOL 8198 - Doctoral Research Credit Hours: 1.0

PCOL 8298 - Doctoral Research Credit Hours: 2.0

PCOL 8398 - Doctoral Research Credit Hours: 3.0

PCOL 8498 - Doctoral Research Credit Hours: 4.0

PCOL 8698 - Doctoral Research Credit Hours: 6.0

PCOL 8998 - Doctoral Research Credit Hours: 9.0

Doctoral Dissertation

Total Credit Hours: 3.0

PCOL 8199 - Dissertation Credit Hours: 1

PCOL 8399 - Doctoral Dissertation Credit Hours: 3

Electives

Total Credit Hours: 3.0

Academic Policies

University of Houston Academic Policies

Academic Policies: College of Pharmacy

Department/Program Academic Policies

PhD Programs Student Handbook

Graduate Student Policies and Procedures Handbook

A minimum cumulative grade point average of at least 3.00 (A=4.00) must be maintained in all graduate level courses required for the PhD degree in order to obtain an advanced degree from the College of Pharmacy. Graduate-level courses are defined as all courses required for the PhD degree as defined either by the department and/or dissertation committee. Graduate students are allowed only two 'C' grades throughout the PhD program.



Students will be automatically put on probation upon receipt of their second 'C' grade and will be withdrawn from the program upon receipt of their third 'C' grade. Additionally, students receiving a grade below 'C' in any core course are required to repeat the course during its next offering. A student with a D, F, or I as the most recent grade in a graduate level course for a degree plan will not be eligible for graduation.

Pharmaceutical Sciences, PhD and Pharmaceutical Sciences/Medicinal Chemistry Specialization, PhD

Pharmaceutical Sciences is the study of the mechanisms of action of drugs and their effects on normal and disease states. It is a science based upon integrating chemistry, biochemistry, cell and molecular biology and physiology. Students in the Pharmaceutical Sciences program may develop research projects in the areas of renal physiology, autonomic and central nervous systems, cardiovascular pharmacology, signal transduction, cellular physiology of exercise and aging, or protein biochemistry. Graduates pursue careers in academia, government, and the pharmaceutical industry.

Students may also study for a concentration in Medicinal Chemistry in the areas of:

- virtual drug screening and design;
- high throughput screening and drug syntheses;
- characterization of drug targets and developing of novel therapeutic interventions; or
- therapeutic natural product screening and identification.

For more information, please visit the Pharmaceutical Science, Pharmaceutical Science/Medicinal Chemistry and Pharmaceutics program website: <http://www.uh.edu/pharmacy/prospective-students/graduate-programs/pharmacology-and-pharmaceutics/>.

Admission Requirements

Applicants must have at least a Bachelor's degree in pharmacy, biology, biochemistry, chemistry or related discipline from either an accredited academic or professional institution comparable to the Bachelor of Science degree awarded at the University of Houston. For the Pharmaceutical Sciences program, previous undergraduate courses in physiology and biochemistry are required. Applicants must submit satisfactory scores on the general aptitude portion (verbal, quantitative and analytical writing) of the Graduate Record Examination (GRE) and have a minimum 3.0 (A = 4.0) grade point average on all work attempted, graduate and undergraduate, beginning with the term in which the student took the first of the 60 most recently earned term hours. GRE scores are evaluated as one criterion in the total graduate application, along with GPA, research experience and three letters of recommendation. In person or online interviews will be done with selected applicants. A test for English proficiency (TOEFL or IELTS) is required for international applicants, according to the University Houston requirements.

For more information, please visit the Admissions for PhD Programs webpage: <http://www.uh.edu/pharmacy/prospective-students/graduate-programs/phd-graduate-admissions/>.

Degree Requirements

Credit hours required for this degree: 75.0

The student must complete a minimum of 75 credit hours for the PhD degree, including 38 credit hours of research and a minimum of 37 credit hours of graduate or doctoral degree courses approved by the departmental faculty. Before achieving full doctoral degree candidacy, the student must progress through a two-step qualifying process. The student must:

- take a written examination that addresses the student's knowledge in the area of his/her dissertation research, and
- prepare a proposal defining his/her dissertation project, and conduct an oral defense of it.

Each student must write a dissertation and successfully defend it orally before the dissertation committee and the departmental faculty. This oral defense examination emphasizes the student's dissertation but also covers general knowledge in the field of specialty.

Required Didactic Courses, Pharmaceutical Sciences

PCOL 6370 - Advanced Pharmacology I Credit Hours: 3.0



PCOL 6371 - Advanced Pharmacology II Credit Hours: 3.0
PCOL 7370 - Scientific Writing Credit Hours: 3.0
PCOL 6462 - Cardiovasc. Renal Pharmacology Credit Hours: 4.0
PCOL 7362 - Neuropharmacology Credit Hours: 3.0
PCOL 7350 - Cellular Pharmacology I Credit Hours: 3.0
PCOL 6180 - Pharmacology Seminar Credit Hours: 1.0
PCOL 6181 - Pharmacology Seminar Credit Hours: 1.0
PCOL 7180 - Pharmacology Seminar Credit Hours: 1.0
PCOL 7181 - Pharmacology Seminar Credit Hours: 1.0
PCOL 6141 - Pharmacological Liter. Review Credit Hours: 1.0
PCOL 6142 - Pharmacological Liter. Review Credit Hours: 1.0
PCOL 7141 - Pharmacological Liter. Review Credit Hours: 1.0
PCOL 7142 - Pharmacological Lit Review Credit Hours: 1.0
PCOL 7333 - Molecular Pharmacology Credit Hours: 3.0
PHCA 7308 - Biostatistics and Experimental Design Credit Hours: 3.0
Electives Credit Hours: 3.0

Required Didactic Courses, Pharmaceutical Sciences with Medicinal Chemistry Specialization

PCEU 6341 - Advanced Pharmacokinetics Credit Hours: 3.0
PCEU 6198 - Special Problems Credit Hours: 1.0
PCOL 7370 - Scientific Writing Credit Hours: 3.0
PCOL 7350 - Cellular Pharmacology I Credit Hours: 3.0
PCOL 6180 - Pharmacology Seminar Credit Hours: 1.0
PCOL 6181 - Pharmacology Seminar Credit Hours: 1.0
PCOL 7180 - Pharmacology Seminar Credit Hours: 1.0
PCOL 7181 - Pharmacology Seminar Credit Hours: 1.0
PCOL 6141 - Pharmacological Liter. Review Credit Hours: 1.0
PCOL 6142 - Pharmacological Liter. Review Credit Hours: 1.0
PCOL 7141 - Pharmacological Liter. Review Credit Hours: 1.0
PCOL 7142 - Pharmacological Lit Review Credit Hours: 1.0
PCOL 7333 - Molecular Pharmacology Credit Hours: 3.0
PHCA 7308 - Biostatistics and Experimental Design Credit Hours: 3.0
PCOL 6340 - Medicinal Chemistry 2 Credit Hours: 3.0
PCOL 7360 - Current Topics in Medicinal Chemistry Credit Hours: 3.0
PCOL 6345 - Drug Design and Discovery Credit Hours: 3.0
Electives Credit Hours: 3.0

Elective Courses

Below are listed courses that are often taken as electives, however there are numerous others available at the University of Houston and at Texas Medical Center Institutions.

PCEU 7340 - Advanced Drug Delivery Credit Hours: 3.0
PCEU 7355 - Regulatory Affairs Credit Hours: 3.0
PCEU 6341 - Advanced Pharmacokinetics Credit Hours: 3.0
PCEU 6342 - Advanced Pharmaceutics I Credit Hours: 3.0
PCEU 6345 - Advanced Pharmaceutics II Credit Hours: 3.0

Academic Policies

University of Houston Academic Policies



Department/Program Academic Policies

PhD Programs Student Handbook

GRADUATE STUDENT HANDBOOK DOCTORAL DEGREE PROGRAMS: ACADEMIC POLICIES AND PROCEDURES

A minimum cumulative grade point average of at least 3.00 (A=4.00) must be maintained in all graduate level courses required for the PhD degree in order to obtain an advanced degree from the College of Pharmacy. Graduate-level courses are defined as all courses required for the PhD degree as defined either by the department and/or dissertation committee. Graduate students are allowed only two 'C' grades throughout the PhD program. Students will be automatically put on probation upon receipt of their second 'C' grade and will be withdrawn from the program upon receipt of their third 'C' grade. Additionally, students receiving a grade below 'C' in any core course are required to repeat the course during its next offering. A student with a D, F, or I as the most recent grade in a graduate level course for a degree plan will not be eligible for graduation.

Doctor of Pharmacy

Pharmacy, PharmD

Today's pharmacists don't simply count pills - they're actively involved in the creation, evaluation and delivery of complex pharmaceuticals and therapeutics that enhance patient health.

UH College of Pharmacy's Doctorate of Pharmacy (PharmD) program is a four-year professional program that prepares individuals for a variety of areas within the pharmacy profession.

In collaboration with its fellow Texas Medical Center institutions and elsewhere, the college offers a range of clinical research opportunities and practice experiences (APPEs) in oncology, infectious disease, pediatrics, women's health, critical care, neurology, nuclear pharmacy and veterinary pharmacy.

UH PharmD students also can pursue a variety of unique in-state and out-of-state experiential opportunities, including the FDA, CDC, Indian Health Service in Alaska and New Mexico.

Our alumni are successful business owners, executives in highly ranked health systems and corporate operations, and leaders in professional organizations at the national, state and local level.

Our full-time and adjunct faculty include nationally recognized teachers and clinicians, published authors in high-impact journals, holders of U.S. and international patents, and basic and translational researchers supported by grants from such prestigious entities as the National Institutes of Health.

Our student body includes several national and regional officers of professional organizations, as well as individual and chapter award winners in national organizations and pharmacy fraternities.

The college also offers the combined PharmD/PhD in Pharmacology or Pharmaceutics and PharmD/MBA degree programs; post-graduate fellowship and residency programs in such areas as academia, infectious diseases pharmacotherapy, HIV pharmacogenetics/ambulatory care and community pharmacy; and the Pharmacy Leadership and Administration concurrent two-year MS/PGY1-PGY2 program in collaboration with seven fellow Texas Medical Center institutions.

To view detailed information about our admission requirements, go to our PharmCAS schoolpage.

To download/view PharmD program flier and course of study, please click here.

To download/view ACPE PharmD Program Quality Indicators, please click here.

The University of Houston College of Pharmacy's Doctor of Pharmacy program is accredited by the Accreditation Council for Pharmacy Education, 20 North Clark Street, Suite 2500, Chicago, IL 60602-5109, 312/664-3575; FAX 312/664-4652.

For more information, please visit <http://www.uh.edu/pharmacy/prospective-students/pharmd/>.



Admission Requirements

All prospective PharmD program applicants are encouraged to review the PharmD Prerequisites (.pdf).

High School Student
Undergraduate Transfer Student

For thorough information about our admission requirements, go to our PharmCAS schoolpage. The PharmCAS schoolpages are helpful to easily compare our admission requirements against those of other PharmD programs.

There are four basic admission requirements for the PharmD program:

Complete the required PharmD prerequisite courses

All PharmD prerequisite courses are necessary for admission to the College of Pharmacy. The UHCOP Admissions Committee will look at an applicant's overall prerequisite GPA, which includes all of the courses on the list. Applicants must receive no less than a "C" (2.0) in all prerequisite courses in order to be considered for admittance.

In addition, the math and science courses from our prerequisite list are averaged, and this number becomes the student's math and science GPA. Both the prerequisite GPA and math/science GPA are extremely important for the student's application. Students should plan their course schedule such that they complete the math and science prerequisites no later than the spring semester prior to entry into the program. No math and science courses may be taken the summer prior to beginning the PharmD curriculum. The Admissions Committee must have the math/science GPA to consider for admittance. Non-math/science courses may be taken that summer, however.

Although most students take between 2-3 years to complete the prerequisite courses, the math and science prerequisites must have been taken with the last five years for a student to be competitive in this area.

Other information concerning prerequisites:

Grades of repeated courses are averaged;

Although there is no minimum prerequisite GPA, it is preferred that applicants have a 2.50 or higher in their prerequisite and math/science prerequisite GPAs.

The average prerequisite GPA for the 2018 entering pharmacy class was 3.51.

The average math/science prerequisite GPA for the 2018 entering pharmacy class was 3.41.

Take the PCAT exam

The Pharmacy College Admissions Test (PCAT) is a required exam for admission to UH College of Pharmacy. Students should take the PCAT during September of the year before they want to start pharmacy school or earlier and have PCAT send their scores directly to PharmCAS.

For the 2019 application cycle, the **February 2019 PCAT** will be the most recent PCAT scores that will be accepted by the UH College of Pharmacy.

There is no minimum PCAT score, although a composite score of 50% or better is preferred. In addition, it is recommended that students score in the 60% or above range in the science subtests of the PCAT (i.e. Biological Processes, Chemical Processes, Quantitative Reasoning). The average composite PCAT score for the 2018 entering PharmD class was 75%.

Obtain three letters of reference

The college requires that students submit 3 letters of reference with their application to PharmCAS:

It is recommended that letters come from the following sources:

licensed pharmacist practicing or having practiced in the U.S.
college professor
employer
supervisor
teaching assistant
pre-health advisor
faculty advisor



Letters of reference from the following source may be conditionally accepted:

health care professional

Letters of reference from family or friends are NOT accepted.

We require that the reference fill out the letter of reference forms through PharmCAS. The person may submit an attached letter if he/she chooses.

Participate in community service

Volunteer/community service is required for all applicants to the program.

Degree Requirements

Credit hours required for degree: 212.0

Degree Plan

Note: The following degree plan applies to students entering the Professional Pharmacy Program (PharmD) between Fall 2015 and Fall 2017.

The curriculum for the Doctor of Pharmacy degree includes a minimum of 212 credit hours of college work, 140 credit hours of which must be pharmacy courses or the equivalent. Students with course credit for non-pharmacy courses or pharmacy courses from another college/school of pharmacy similar to those courses in the professional program may be petitioned for equivalency credit. The degree plan for the PharmD program is shown below under the Pharmacy Course of Study.

Electives

Students must complete six hours (a minimum of three elective courses) in pharmacy elective courses. Three of the six pharmacy elective hours may be satisfied by completion of a Selected Topics course (PHAR 5198, 5298, 5398). Any student may participate in a Selected Topics course if he/she is in good academic standing in the College and have approval of a faculty member who will supervise his/her work. Approval is gained through completion of the General Petition form.

To participate in a Selected Topics course, the student must submit a proposal of the work that will be undertaken in this course to the faculty member at the start of the course and must submit a report at the end of the course indicating their accomplishments in the course. Copies of these reports will be placed in the student's academic files.

Credit Hours

Pharmacy students are required to comply with all changes in the curriculum made subsequent to the year in which they matriculated. Deletions and additions of courses will be of approximately equal credit, so that no student will have an overall appreciable increase of total credits required for graduation.

Hours in Residence

The college requires at least three years in residence in the professional program at the college of pharmacy for graduation. Students transferring from another school or college of pharmacy are required to complete at least 25% of the semester hours of pharmacy and related work in residence at the University of Houston.

For more Information



PharmD Curriculum for Classes Entering Prior to Fall 2017

First Year

Fall Term

14.0 Credit Hours

- PHAR 4150 - Pharmacy Skills I Credit Hours: 1.0
- PHAR 4172 - Pharmacy Calculations Credit Hours: 1.0
- PHAR 4270 - Pharmacy Practice I Credit Hours: 2.0
- PHAR 4320 - Physiology I Credit Hours: 3.0
- PHAR 4330 - Pharmaceutics I Credit Hours: 3.0
- PHAR 4400 - Cellular Life Sciences I Credit Hours: 4.0

Spring Term

17.0 Credit Hours

- PHAR 4134 - Medicinal Functional Group Analysis Credit Hours: 1.0
- PHAR 4251 - Pharmacy Skills Program II Credit Hours: 2.0
- PHAR 4260 - Pharmacy Management I Credit Hours: 2.0
- PHAR 4271 - Pharmacy Practice II Credit Hours: 2.0
- PHAR 4301 - Cellular Life Sciences II Credit Hours: 3.0
- PHAR 4331 - Pharmaceutics II Credit Hours: 3.0
- PHAR 4421 - Organ Systems Life Sciences II Credit Hours: 4.0

Second Year

Fall Term

14.0 Credit Hours

- PHAR 5254 - Intro Pharmacy Practice Experience I and Professional Development Credit Hours: 2.0
- PHAR 5261 - Pharmacy Management II Credit Hours: 2.0
- PHAR 5302 - Medicinal Chemistry I Credit Hours: 3.0
- PHAR 5332 - Pharmacokinetics Credit Hours: 3.0
- PHAR 5402 - Pharmacology I Credit Hours: 4.0

Spring Term

14.0 Credit Hours

- PHAR 5155 - Pharmacy Skills Program IV Credit Hours: 1.0
- PHAR 5203 - Medicinal Chemistry II Credit Hours: 2.0
- PHAR 5222 - Toxicology Credit Hours: 2.0
- PHAR 5280 - Therapeutics I Credit Hours: 2.0
- PHAR 5373 - Pharmacy Practice IV Credit Hours: 3.0
- PHAR 5403 - Pharmacology II Credit Hours: 4.0



Summer Term - Required Electives (minimum of 3)

10.0 Credit Hours

Student selects from list of approved elective pharmacy courses. **Credit Hours: 6.0**

PHAR 5493 - Introductory Community Pharmacy Credit Hours: 4.0

Third Year

Fall Term

13.0 Credit Hours

PHAR 5256 - Pharmacy Skills Program V Credit Hours: 2.0

PHAR 5274 - Pharmacy Practice V Credit Hours: 2.0

PHAR 5480 - Physical Assessment/Anatomy Credit Hours: 4.0

PHAR 5581 - Therapeutics II Credit Hours: 5.0

Spring Term

15.0 Credit Hours

PHAR 5257 - IPPE II and Professional Development Credit Hours: 2.0

PHAR 5275 - Pharmacy Practice VI Credit Hours: 2.0

PHAR 5362 - Pharmacy Management III Credit Hours: 3.0

PHAR 5374 - Pharmacy Law & Ethics Credit Hours: 3.0

PHAR 5582 - Therapeutics III Credit Hours: 5.0

Summer Term

12.0 Credit Hours - Advanced Pharmacy Practice Experience

PHAR 5692 - Advanced Hospital Pharmacy Credit Hours: 6.0

PHAR 5693 - Advanced Community Pharmacy Credit Hours: 6.0

Fourth Year

Fall Term

18.0 or 19.0 Credit Hours - Advanced Pharmacy Practice Experience

PHAR 5690 - Internal Medicine Credit Hours: 6.0

PHAR 56XX - Advanced Pharmacy Practice Experience IV Credit Hours: 6.0

PHAR 56XX - Advanced Pharmacy Practice Experience V Credit Hours: 6.0

PHAR 5181 - Clinical Seminar Credit Hours: 1.0 (taken only one semester)

Seminar offered in Fall and Spring semesters. Students are required to complete one semester.

Spring Term

12.0 or 13.0 Credit Hours - Advanced Pharmacy Practice Experience

PHAR 56XX - Advanced Pharmacy Practice Experience VI Credit Hours: 6.0



PHAR 56XX - Advanced Pharmacy Practice Experience VII **Credit Hours: 6.0**

PHAR 5181 - Clinical Seminar **Credit Hours: 1.0** (taken only one semester)

Seminar offered in Fall and Spring semesters. Students are required to complete one semester.

Curriculum for Classes Entering in Fall 2018 and Later

First Year

Fall Term

15.0 Credit Hours

- PHAR 4150 - Pharmacy Skills I **Credit Hours: 1.0**
- PHAR 4260 - Pharmacy Management I **Credit Hours: 2.0**
- PHAR 4270 - Pharmacy Practice I **Credit Hours: 2.0**
- PHAR 4300 - Biochemistry I **Credit Hours: 3.0**
- PHAR 4320 - Physiology I **Credit Hours: 3.0**
- PHAR 4330 - Pharmaceutics I **Credit Hours: 3.0**

Spring Term

17.0 Credit Hours

- PHAR 4160 - Fundamentals of Community Pharmacy Practice **Credit Hours: 1.0**
- PHAR 4200 - Immunology I **Credit Hours: 2.0**
- PHAR 4221 - Physiology II **Credit Hours: 2.0**
- PHAR 4251 - Pharmacy Skills Program II **Credit Hours: 2.0**
- PHAR 4265 - Patient Assessment **Credit Hours: 2.0**
- PHAR 4275 - Foundations in Medicinal Chemistry, Microbiology and Receptor Action **Credit Hours: 2.0**
- PHAR 4331 - Pharmaceutics II **Credit Hours: 3.0**
- PHAR 4340 - Non-Prescription Pharmacotherapy & Self Care **Credit Hours: 3.0**

Summer Term

6.0 Credit Hours

- PHAR 5493 - Introductory Community Pharmacy **Credit Hours: 4.0**
- PHAR 4280 - Medication/Patient Safety and Informatics **Credit Hours: 2.0**

Second Year

Fall Term

15.0 Credit Hours

- PHAR 5195 - Pharmacy Skills Program III **Credit Hours: 1.0**
- PHAR 5158 - Module Related Skills Lab I **Credit Hours: 1.0**
- PHAR 5111 - Leadership and Interprofessional Competence **Credit Hours: 1.0**
- PHAR 5224 - Integrated Renal Module **Credit Hours: 2.0**
- PHAR 5225 - Integrated Gastrointestinal Module **Credit Hours: 2.0**
- PHAR 5226 - Integrated Respiratory Module **Credit Hours: 2.0**



PHAR 5325 - Literature Evaluation/Research Design/Statistics/Epidemiology Credit Hours: 3.0
PHAR 5332 - Pharmacokinetics Credit Hours: 3.0

Spring Term

15.0 Credit Hours

PHAR 5261 - Pharmacy Management II Credit Hours: 2.0
PHAR 5228 - Integrated Men's and Women's Health Module Credit Hours: 2.0
PHAR 5259 - Module Related Skills Lab II Credit Hours: 2.0
PHAR 5327 - Integrated Endocrine Module Credit Hours: 3.0
PHAR 5329 - Integrated Cardiovascular I Module Credit Hours: 3.0
PHAR 5330 - Integrated Cardiovascular II Module Credit Hours: 3.0

Summer Term

6.0 Credit Hours

PHAR 52XX - Elective Credit Hours: 2.0
PHAR 5457 - Institutional Introductory Pharmacy Practice Experience Credit Hours: 4.0

Third Year

Fall Term

16.0 Credit Hours

PHAR 5237 - Integrated Module-Imm/rheum/derm Credit Hours: 2.0
PHAR 5263 - Module-related skills lab III Credit Hours: 2.0
PHAR 5338 - Integrated Module-ID I Credit Hours: 3.0
PHAR 5339 - Integrated Module-ID II Credit Hours: 3.0
PHAR 5340 - Integrated Module-Heme/Onc Credit Hours: 3.0
PHAR 5362 - Pharmacy Management III Credit Hours: 3.0

Spring Term

15.0 Credit Hours

PHAR 5161 - Module-related skills lab IV Credit Hours: 1.0
PHAR 5276 - Law 2 Credit Hours: 2.0
PHAR 5243 - Complex Problems Credit Hours: 2.0
PHAR 52XX - Elective Credit Hours: 2.0
PHAR 52XX - Elective Credit Hours: 2.0
PHAR 5341 - Integrated Module-Neuro Credit Hours: 3.0
PHAR 5342 - Integrated Module-Psych Credit Hours: 3.0

Summer Term

12.0 Credit Hours

PHAR 5692 - Advanced Hospital Pharmacy Credit Hours: 6.0
PHAR 5693 - Advanced Community Pharmacy Credit Hours: 6.0



Fourth Year

Fall Term

18.0 Credit Hours

PHAR 5690 - Internal Medicine Credit Hours: 6.0

PHAR 56XX - Advanced Pharmacy Practice Experience IV **Credit Hours: 6.0**

PHAR 56XX - Advanced Pharmacy Practice Experience V **Credit Hours: 6.0**

Spring Term

12.0 Credit Hours - Advanced Pharmacy Practice Experience

PHAR 56XX - Advanced Pharmacy Practice Experience VI **Credit Hours: 6.0**

PHAR 56XX - Advanced Pharmacy Practice Experience VII **Credit Hours: 6.0**



Faculty: College of Pharmacy

Faculty Emeriti
Pharmacological and Pharmaceutical Sciences
Department of Pharmacy Practice and Translational Research
Pharmaceutical Health Outcomes & Policies



Faculty Emeriti

Kenneth L. Euler. Professor Emeritus of Medicinal Chemistry and Pharmacognosy. B.S., M.S., University of Pittsburgh; Ph.D., University of Washington.

Thomas L. Lemke. Professor Emeritus and Director of Assessment and Professor of Medicinal Chemistry. Registered Pharmacist. B.S., University of Wisconsin at Madison; Ph.D., University of Kansas.

Alfred J. Weinheimer. Professor Emeritus of Medicinal Chemistry and Pharmacognosy. B.S., M.S., Canisius College; Ph.D., Duke University.

Julie Szilagyi. Professor Emeritus. Ph.D., Ohio State University.



Pharmacological & Pharmaceutical Sciences

Karim Alkadhi. Professor of Pharmacology. B.S., University of Baghdad; M.S., University of Connecticut; Ph.D., State University of New York at Buffalo.

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Richard A. Bond. Professor of Pharmacology. B.A., St. Thomas of Villanova; B.S., Ph.D., University of Houston.

Robert M. Bryan. Adjunct Professor of Pharmacology. B.S., M.S., University of Alabama; Ph.D., University of British Columbia.

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Greg Cuny. Associate Professor of Medicinal Chemistry. B.S., Grove City College; Ph.D., MIT.

Joydip Das. Professor of Medicinal Chemistry and Pharmacology. B.S., Presidency College; M.S., University of Burdwan; Ph.D., Indian Institute of Technology.

Mariella DeBiasi. Adjunct Professor of Pharmacology. Ph.D., Università degli Studi Padova.

Peter Doris. Adjunct Professor of Pharmacology. Ph.D., University of California.

Joseph Eichberg. Professor of Biology & Biochemistry (Joint).

Jason Eriksen. Associate Professor of Pharmacology. B.S., Wake Forest University; Ph.D., Loyola University.

David Farquhar. Adjunct Professor of Medicinal Chemistry and Pharmacognosy. B.S., Ph.D., Edinburgh University.

Donald Fox. Professor of Pharmacology (Joint, Optometry). Ph.D., University of Cincinnati.

Scott A. Gilbertson. Professor of Medicinal Chemistry (Joint, Chemistry). B.S., University of Wisconsin-La Crosse; Ph.D., University of Chicago.

Healthier Giles. Adjunct Associate Professor of Pharmacology. Ph.D., University of London.

Romi Ghose. Associate Professor of Pharmaceutics. B.S., M.S., University of Calcutta; Ph.D., University of Notre Dame.

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Bin Guo. Associate Professor of Pharmaceutics. B.S., University of Science and Technology of China; Ph.D., SUNY Buffalo.

Jan-Åke Gustafsson. Robert A. Welch Professor of Pharmacology (Joint, Center for Nuclear Receptors). Ph.D., Karolinska Institute.

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Bradley McConnell. Associate Professor of Pharmacology. B.S., Pennsylvania State University; Ph.D., Case Western Reserve University.

Chandra Mohan. Hugh Roy and Lillie Cranz Cullen Endowed Professor (Joint, Biomedical Engineering). Ph.D., Tufts University.

Ashraf Mozayani. Adjunct Associate Professor of Pharmacology and Toxicology. Ph.D., University of Alberta.

Sarfraz K. Niazi. Adjunct Professor of Pharmaceutics. M.S., Washington State University; Ph.D., University of Illinois.

Gopalakrishna Pilla. Adjunct Professor of Pharmaceutics. Ph.D., University of British Columbia.

Ke-He Ruan. Professor of Medicinal Chemistry and Pharmacology. M.D., Fujian Medical College; Ph.D., Medical College of Miyazaki.

Erik Rytting. Adjunct Assistant Professor of Pharmaceutics. Ph.D., University of Kansas.

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Alexander Statsyuk. Assistant Professor of Medicinal Chemistry. Diploma, Lomonosov Moscow State University; Ph.D., University of Chicago.

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Wei Wang. Research Associate Professor of Pharmacology. B.M. with Honor, Changzhi Medical College, China, Ph.D., Fudan University School of Pharmacy, China.

Louis Williams. Associate Professor of Medicinal Chemistry. Registered Pharmacist. B.S., M.S., Ph.D., University of Pittsburgh.

Peisheng Xu. Associate Professor of Pharmaceutics. B.S., Nanchang University; Ph.D., University of Wyoming.

Sai-Ching Jim Yeung. Adjunct Professor of Pharmaceutics. Ph.D., University of Houston.

Ruiwen Zhang. Robert L. Boblitt Endowed Professor of Drug Discovery. M.D., Ph.D., Shanghai Medical University.

Yang Zhang. Associate Professor of Pharmacology. B.S., Peking University; Ph.D., Medical College of Wisconsin.



Department of Pharmacy Practice and Translational Research

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Elizabeth Coyle. Clinical Professor of Pharmacy and Associate Dean for Academic Affairs. Pharm.D., University of Nebraska.

Austin De La Cruz. Clinical Assistant Professor. Pharm.D., Texas Tech University.

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Divya Varkey. Clinical Associate Professor. M.S., Ohio State University; Pharm.D., Purdue University.

Alexa Vyain. Clinical Assistant Professor. Pharm.D., Nova Southeastern University.



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Matthew Wanat. Clinical Assistant Professor of Pharmacy. Pharm.D., Northeastern Bouvé College of Health Sciences.



Pharmaceutical Health Outcomes & Policies

Rajender Aparasu. Professor of Pharmaceutical Health Outcomes and Policy and Chair. B.Pharm., Kakatiya University; M.Pharm., Jadavpur University; Ph.D. in Pharmacy Administration, University of Louisiana at Monroe.

Susan M. Abughosh. Associate Professor of Pharmaceutical Health Outcomes and Policy. B.S. Pharmacy, University of Jordan College of Pharmacy; Ph.D., University of Rhode Island College of Pharmacy.

Hua Chen. Associate Professor of Pharmaceutical Health Outcomes and Policy. M.D., M.S., Hunan Medical University; Ph.D., University of Georgia College of Pharmacy.

E. James Essien. Professor of Pharmaceutical Health Outcomes and Policy; Director, Institute of Community Health. M.D., University of Calabar College of Medicine; M.P.H., Dr.P.H., University of Texas School of Public Health.

Michael L. Johnson. Associate Professor of Pharmaceutical Health Outcomes and Policy. B.A., University of Texas at Austin; M.S., Ph.D., University of Texas School of Public Health.

F. Lamar Pritchard. Dean, University of Houston College of Pharmacy; Professor of Pharmaceutical Health Outcomes and Policy. B.S., Ph.D., University of Georgia, College of Pharmacy.

Sujit S. Sangiry. Professor of Pharmaceutical Health Outcomes and Policy. B.Pharm., Principal K. M. Kundnani College of Pharmacy, University of Bombay; M.S., Ph.D., Idaho State University College of Pharmacy.

J. Douglas Thornton. Assistant Professor of Pharmaceutical Health Outcomes and Policy. Pharm.D., Ph.D., West Virginia University School of Pharmacy.



Public Affairs

Hobby School of Public Affairs

McElhinney Hall
3623 Cullen Blvd Room 306
Houston, Texas 77204-5021
(713) 743-3970

Executive Director: Dr. Jim Granato

Director of Graduates Studies: Dr. Alan Witt

www.uh.edu/hobby

The foundation of the Hobby School of Public Affairs is built upon interdisciplinary expertise and community visibility. The Hobby School offers a Master of Public Policy (MPP) degree as well as a joint MPP/MSW (Master of Social Work). The Hobby School's research component is found within the Center for Public Policy, including programs and initiatives such as

the Survey Research Institute,
the Concept Visualization Lab,
the EITM Summer Institute, and
the Civitas Project.

Public service and community engagement are also a vital component of the Hobby School as evidenced through Hobby Fellows, Leland Fellows, the Civic Houston Internship Program, the nationally-accredited Certified Public Manager program, the Civic Engagement Boot Camp, and various public events such as conferences, luncheons and volunteer projects.

Programs

Master

Public Policy, MPP

Graduate Certificate

Public Policy and Public Administration, Certificate

Public Policy, Certificate

Public Policy-Data Analytics, Certificate

Public Policy-Energy Policy, Certificate

Public Policy-Health Care Policy, Certificate



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Master of Public Policy

Public Policy, MPP

The Master of Public Policy prepares students to complete advanced analysis in public, private, and nonprofit sectors with an emphasis on developing higher-level quantitative and ethical decision-making skills to solve complex policy issues and problems.

Admission Requirements

Admissions decisions for the MPP program will be made on the totality of the student's application. However, it is expected that the typical well-qualified student will have an undergraduate GPA above 3.0 with scores above 152 on the verbal, 150 on the quantitative, and 4.0 on the analytical writing sections of the GRE.

Applicants must show through either their quantitative GRE score or their performance in previous coursework that they possess the ability to handle the quantitative elements of the curriculum. Students must have an undergraduate degree, although no particular major is required. Applicants to the MPP program are not required to have any professional experience, although such experience enhances their application.

Application Information

For full information on application processing, required documents, and admissions deadlines, please visit the MPP Admissions page.

MPP Curriculum and Degree Requirements

Credit hours required for this degree: 39.0



The MPP degree requires a total of 39 credit hours of coursework, which includes an internship within the public, private, or nonprofit sector. The program is designed to be completed in two years, but program length will vary depending on full-time or part-time enrollment. In order to accommodate working students, required classes are offered in the evenings, Monday through Thursday from 5:30 p.m. to 8:30 p.m. Specialization elective courses may be offered on different days/times and also online. Academic advising and career placement services will be coordinated by a dedicated Hobby School of Public Affairs staff member.

The MPP degree curriculum is interdisciplinary with a quantitative emphasis, incorporating political science, economics, computer science, business, and statistics. Other possible disciplines, depending on a student's concentration, include sociology, psychology, and education. The MPP program shares some core courses with the Master of Public Administration program in the areas of administrative theory, policy analysis, and public finance.

Required Courses (10 courses required: 30 credit hours)

- POLC 6311 - Leadership and Professional Development Credit Hours: 3.0
- POLC 6312 - Public Finance Credit Hours: 3.00
- POLC 6313 - Policy Analysis I: Microeconomics Credit Hours: 3.00
- POLC 6314 - Policy Research Methods I: Introduction to Statistics Credit Hours: 3.00
- POLC 6315 - Policy Research Methods II: Multivariate Analysis Credit Hours: 3.00
- POLC 6316 - Policy Research Methods III: Advanced Quantitative Modeling Credit Hours: 3.00
- POLC 6317 - Public Policy Capstone Credit Hours: 3.00
- POLC 6320 - Policy Analysis II: Political Analysis Credit Hours: 3.0
- POLC 6330 - Philosophy and Public Policy I Credit Hours: 3.00
- POLC 6331 - Philosophy and Public Policy II Credit Hours: 3.00

Specialization Electives (2 courses required: 6 credit hours)

The specialization and elective courses are selected by the student and must be approved by the department. Some examples of specializations include Education Policy, Energy Policy, Environmental Policy, Health Policy, Quantitative Methods, and Public Relations.

Internship (1 course required: 3 credit hours)

Internships must be approved in advance by the department.

- POLC 6391 - Public Policy Internship Credit Hours: 3.00

Global Energy, Development and Sustainability Certificate Option

MPP students can simultaneously earn a Graduate Certificate in Global Energy, Development, and Sustainability (GEDS) along with the MPP. The GEDS graduate certificate offers students a unique, multi-disciplinary curriculum focused teaching critical and timely theory, practice, and skill sets in global oil and gas history, economics, environmental impacts and policy, legal frameworks, community engagement, social justice, corporate social responsibility, human resource management, and risk analysis.

Required Coursework (39 credit hours)

- POLC 6311 - Leadership and Professional Development Credit Hours: 3.0
- POLC 6312 - Public Finance Credit Hours: 3.00
- POLC 6313 - Policy Analysis I: Microeconomics Credit Hours: 3.00
- POLC 6314 - Policy Research Methods I: Introduction to Statistics Credit Hours: 3.00
- POLC 6315 - Policy Research Methods II: Multivariate Analysis Credit Hours: 3.00
- POLC 6320 - Policy Analysis II: Political Analysis Credit Hours: 3.0
- POLC 6330 - Philosophy and Public Policy I Credit Hours: 3.00



POLC 6331 - Philosophy and Public Policy II Credit Hours: 3.00

POLC 6391 - Public Policy Internship Credit Hours: 3.00

GEDS 6310 - Promoting Sustainable Oil and Gas Projects: Legal and Social Frameworks Credit Hours: 3

GEDS 6330 - Promoting Sustainable Oil & Gas Projects: Local Content, Communities, & Corporate Social Responsibility Credit Hours: 3

3

GEDS 6397 - Selected Topics in Global Energy, Development, Sustainability Credit Hours: 3

Accelerated Pathway Programs

The Hobby School currently offers accelerated pathway programs with the Honors College (BA in Liberal Studies/MPP and BS in Liberal Studies/MPP), Department of Philosophy (BA in Philosophy/MPP), and Department of Psychology (BA in Psychology/MPP and BS in Psychology/MPP).

Accelerated pathway dual degree programs provide academically outstanding students an accelerated pathway to complete an undergraduate and a master's degree in a reduced period of time. Accelerated pathway dual degree programs provide senior students permission to take a specified number of master's level courses as electives toward completion of their bachelor's degree. The students then apply to the MPP program, and if accepted, the previously completed graduate coursework during the senior year is counted as transfer credit toward the completion of the master's degree.

Accelerated Pathway Program Course List

Courses taken during the final undergraduate year (12.0 credit hours):

POLC 6313 - Policy Analysis I: Microeconomics Credit Hours: 3.00

POLC 6314 - Policy Research Methods I: Introduction to Statistics Credit Hours: 3.00

POLC 6315 - Policy Research Methods II: Multivariate Analysis Credit Hours: 3.00

POLC 6330 - Philosophy and Public Policy I Credit Hours: 3.00

Dual Degrees

The Hobby School currently has dual degrees with the Department of Economics (Master of Arts in Applied Economics/MPP), Graduate College of Social Work (Master of Social Work/MPP), and the UH Law Center (Juris Doctorate/MPP).

Dual degree programs allow students to earn two graduate-level degrees in less time than it would take to complete them sequentially. **Students interested in this option must be admitted separately to each of the programs and admission to one has no official bearing on admission to the other.**

For more detailed information concerning these dual degree programs, please visit the Dual Degree Programs page.

Graduate Certificate

Public Policy and Public Administration, Certificate

The Hobby School of Public Affairs and the Master of Public Administration Program offers a joint graduate certificate in public policy. The Graduate Certificate in Public Policy and Public Administration is meant to provide an overview of both public policy and public administration.

Graduate certificates are an excellent way for students to earn additional academic credentials and relevant training in a shorter period of time compared to a full master's degree. These graduate certificates require four approved courses that can also be counted towards either the Master of Public Policy or Master of Public Administration degree if students later apply and join one of these programs.

For more information, please visit the MPA Graduate Certificates (<http://www.uh.edu/class/mpa/graduate-certificate/>) page.

Admission Requirements



The Spring 2020 priority deadline is October 15, 2019, and the application deadline is December 1, 2019. The Fall 2020 priority deadline is March 1, 2020, and the application deadline is June 15, 2020.

Applicants that submit an application prior to the priority deadlines will receive priority consideration for Hobby School and MPA scholarships.

The application process for the graduate certificates is similar to the MPP and MPA and completed entirely online via ApplyWeb (<https://www.applyweb.com/uhouston/index.ftl>).

Applicants must complete a UH Graduate School application and provide official transcripts of all college-level coursework with a bachelor's degree from an accredited institution, current resume, and a statement of purpose.

The GRE, letters of recommendation, and application fee are not required when applying for admission to the graduate certificates.

Certificate Requirements

Credit hours required for this certificate: 12.0

The coursework required for the Graduate Certificate in Public Policy and Public Administration includes:

Required Courses

POLC 6314 - Policy Research Methods I: Introduction to Statistics Credit Hours: 3.00

PUBL 6350 - Public Management Credit Hours: 3.0

Course Electives

Two of the following courses:

POLC 6311 - Leadership and Professional Development Credit Hours: 3.0

POLC 6312 - Public Finance Credit Hours: 3.00

POLC 6313 - Policy Analysis I: Microeconomics Credit Hours: 3.00

POLC 6315 - Policy Research Methods II: Multivariate Analysis Credit Hours: 3.00

POLC 6330 - Philosophy and Public Policy I Credit Hours: 3.00

POLC 6331 - Philosophy and Public Policy II Credit Hours: 3.00

PUBL 6310 - Administrative Theory Credit Hours: 3.0

PUBL 6311 - Public Administration and Policy Implementation Credit Hours: 3.0

PUBL 6342 - Budgeting For Public Agencies Credit Hours: 3.0

PUBL 6415 - Decision Science for Public Affairs Credit Hours: 4.0

Academic Policies

University of Houston Academic Policies

In addition to the specific courses that are listed, students can petition the MPA program to include other courses. These will be considered on a case-by-case basis, and will require the consent of the Director of MPA Program and the applicable department where the course is offered.

The graduate certificate will only be awarded to students with a 3.0 or higher GPA for classes taken towards completion of the program.

Students that complete the graduate certificate can also apply to the MPA program. If accepted into the MPA program, these courses will then be counted towards the MPA.

Public Policy, Certificate



The Hobby School of Public Affairs offers several graduate certificates in public policy, including a generalist Graduate Certificate in Public Policy. The Graduate Certificate in Public Policy is meant to provide an overview of public policy, and unlike the other graduate certificates, it doesn't focus on a specific policy area.

Graduate certificates are an excellent way for students to earn additional academic credentials and relevant training in a shorter period of time compared to a full master's degree. These graduate certificates require four approved courses that can also be counted towards the Master of Public Policy degree if students later apply and join this program.

For more information, please visit the Hobby School's Graduate Certificates (<http://www.uh.edu/hobby/mpp/certificates>) page.

Admission Requirements

The Spring 2020 priority deadline is October 15, 2019, and the application deadline is December 1, 2019. The Fall 2010 priority deadline is March 1, 2020, and the application deadline is June 15, 2020.

Applicants that submit an application prior to the priority deadlines will receive priority consideration for Hobby School scholarships.

The application process for the graduate certificates is similar to the MPP and completed entirely online via ApplyWeb (<https://www.applyweb.com/uhouston/index.ftl>).

Applicants must complete a UH Graduate School application and provide official transcripts of all college-level coursework with a bachelor's degree from an accredited institution, current resume, and a statement of purpose.

The GRE, letters of recommendation, and application fee are not required when applying for admission to the graduate certificates.

Certificate Requirements

Credit hours required for this certificate: 12.0

The coursework required for the Graduate Certificate in Public Policy includes:

Core Course

POLC 6314 - Policy Research Methods I: Introduction to Statistics Credit Hours: 3.00

Course Electives

Three of the following courses:

POLC 6311 - Leadership and Professional Development Credit Hours: 3.0

POLC 6312 - Public Finance Credit Hours: 3.00

POLC 6313 - Policy Analysis I: Microeconomics Credit Hours: 3.00

POLC 6315 - Policy Research Methods II: Multivariate Analysis Credit Hours: 3.00

POLC 6316 - Policy Research Methods III: Advanced Quantitative Modeling Credit Hours: 3.00

POLC 6320 - Policy Analysis II: Political Analysis Credit Hours: 3.0

POLC 6330 - Philosophy and Public Policy I Credit Hours: 3.00

POLC 6331 - Philosophy and Public Policy II Credit Hours: 3.00

Academic Policies

University of Houston Academic Policies



In addition to the specific courses that are listed, students can petition the Hobby School to include other courses. These will be considered on a case-by-case basis, and will require the consent of the Hobby School Director of Graduate Studies and the applicable department where the course is offered.

The graduate certificate will only be awarded to students with a 3.0 or higher GPA for classes taken towards completion of the program.

Students that complete the graduate certificate can also apply to the MPP program. If accepted into the MPP program, these courses will then be counted towards the MPP.

Public Policy-Energy Policy, Certificate

The Hobby School of Public Affairs offers several graduate certificates in public policy, including a Graduate Certificate in Public Policy-Energy Policy. The Graduate Certificate in Public Policy-Energy Policy is meant to provide an overview of public policy and a specific focus on energy-related policy.

Graduate certificates are an excellent way for students to earn additional academic credentials and relevant training in a shorter period of time compared to a full master's degree. These graduate certificates require four approved courses that can also be counted towards the Master of Public Policy degree if students later apply and join this program.

For more information, please visit the Hobby School's Graduate Certificates (<http://www.uh.edu/hobby/mpp/certificates>) page.

Admission Requirements

The Spring 2020 priority deadline is October 15, 2019, and the application deadline is December 1, 2019. The Fall 2010 priority deadline is March 1, 2020, and the application deadline is June 15, 2020.

Applicants that submit an application prior to the priority deadlines will receive priority consideration for Hobby School scholarships.

The application process for the graduate certificates is similar to the MPP and completed entirely online via ApplyWeb (<https://www.applyweb.com/uhouston/index.ftl>).

Applicants must complete a UH Graduate School application and provide official transcripts of all college-level coursework with a bachelor's degree from an accredited institution, current resume, and a statement of purpose.

The GRE, letters of recommendation, and application fee are not required when applying for admission to the graduate certificates.

Certificate Requirements

Credit hours required for this certificate: 12.0

The coursework required for the Graduate Certificate in Public Policy-Energy Policy include:

Required Courses

Core Course

POLC 6314 - Policy Research Methods I: Introduction to Statistics Credit Hours: 3.00

POLC Course Electives

And one of the following POLC courses:

POLC 6311 - Leadership and Professional Development Credit Hours: 3.0



POLC 6312 - Public Finance Credit Hours: 3.00
POLC 6313 - Policy Analysis I: Microeconomics Credit Hours: 3.00
POLC 6315 - Policy Research Methods II: Multivariate Analysis Credit Hours: 3.00
POLC 6316 - Policy Research Methods III: Advanced Quantitative Modeling Credit Hours: 3.00
POLC 6320 - Policy Analysis II: Political Analysis Credit Hours: 3.0
POLC 6330 - Philosophy and Public Policy I Credit Hours: 3.00
POLC 6331 - Philosophy and Public Policy II Credit Hours: 3.00

Energy-Related Course Electives

Besides the two required POLC courses, the options for energy-related courses include:

ECON 6345 - Energy Economics Credit Hours: 3.0
FINA 7352 - Energy Derivatives Credit Hours: 3.0
FINA 7371 - Energy Value Chain Credit Hours: 3.0
FINA 7372 - Upstream Economics Credit Hours: 3.0
FINA 7373 - Petrochemical and Refining Economics Credit Hours: 3.0
FINA 7376 - Energy Trading Credit Hours: 3.0
LAW 5211 - Energy and the Environment Credit Hours: 2.0
LAW 5355 - Oil and Gas Credit Hours: 3.0
PETR 6336 - Petroleum Energy Markets Credit Hours: 3.0

Academic Policies

University of Houston Academic Policies

In addition to the specific courses that are listed, students can petition the Hobby School to include other courses. These will be considered on a case-by-case basis, and will require the consent of the Hobby School Director of Graduate Studies and the applicable department where the course is offered.

The graduate certificate will only be awarded to students with a 3.0 or higher GPA for classes taken towards completion of the program.

Students that complete the graduate certificate can also apply to the MPP program. If accepted into the MPP program, these courses will then be counted towards the MPP.

Public Policy-Health Care Policy, Certificate

The Hobby School of Public Affairs offers several graduate certificates in public policy, including a Graduate Certificate in Public Policy-Health Care Policy. The Graduate Certificate in Public Policy-Health Care Policy is meant to provide an overview of public policy and a specific focus on healthcare-related policy.

Graduate certificates are an excellent way for students to earn additional academic credentials and relevant training in a shorter period of time compared to a full master's degree. These graduate certificates require four approved courses that can also be counted towards the Master of Public Policy degree if students later apply and join this program.

For more information, please visit the Hobby School's Graduate Certificates (<http://www.uh.edu/hobby/mpp/certificates>) page.

Admission Requirements

The Spring 2020 priority deadline is October 15, 2019, and the application deadline is December 1, 2019. The Fall 2010 priority deadline is March 1, 2020, and the application deadline is June 15, 2020.

Applicants that submit an application prior to the priority deadlines will receive priority consideration for Hobby School scholarships.



The application process for the graduate certificates is similar to the MPP and completed entirely online via ApplyWeb (<https://www.applyweb.com/uhouston/index.ftl>).

Applicants must complete a UH Graduate School application and provide official transcripts of all college-level coursework with a bachelor's degree from an accredited institution, current resume, and a statement of purpose.

The GRE, letters of recommendation, and application fee are not required when applying for admission to the graduate certificates.

Certificate Requirements

Credit hours required for this certificate: 12.0

The coursework required for the Graduate Certificate in Public Policy-Health Care Policy includes:

Required Courses

Core Course

POLC 6314 - Policy Research Methods I: Introduction to Statistics Credit Hours: 3.00

POLC Course Electives

And one of the following POLC courses:

POLC 6311 - Leadership and Professional Development Credit Hours: 3.0

POLC 6312 - Public Finance Credit Hours: 3.00

POLC 6313 - Policy Analysis I: Microeconomics Credit Hours: 3.00

POLC 6315 - Policy Research Methods II: Multivariate Analysis Credit Hours: 3.00

POLC 6316 - Policy Research Methods III: Advanced Quantitative Modeling Credit Hours: 3.00

POLC 6320 - Policy Analysis II: Political Analysis Credit Hours: 3.0

POLC 6330 - Philosophy and Public Policy I Credit Hours: 3.00

POLC 6331 - Philosophy and Public Policy II Credit Hours: 3.00

Health Care-Related Course Electives

Besides the two required POLC courses, the options for health care-related courses include:

BIOE 6343 - Global Healthcare Credit Hours: 3.0

COMM 6335 - Health Comm. Theory & Research Credit Hours: 3.0

CUIN 7391 - Curriculum Development for Health Sciences Education Credit Hours: 3.0

ECON 6340 - Health Economics Credit Hours: 3.0

POLS 6315 - Health Care Policy Credit Hours: 3.0

PUBL 6347 - Seminar in Health Care Policy Credit Hours: 3.0

SOCW 7309 - Contemporary Issues in Mental Health Credit Hours: 3.0

Academic Policies

University of Houston Academic Policies

In addition to the specific courses that are listed, students can petition the Hobby School to include other courses. These will be considered on a case-by-case basis, and will require the consent of the Hobby School Director of Graduate Studies and the applicable department where the course is offered.



The graduate certificate will only be awarded to students with a 3.0 or higher GPA for classes taken towards completion of the program.

Students that complete the graduate certificate can also apply to the MPP program. If accepted into the MPP program, these courses will then be counted towards the MPP.



Social Work

The University of Houston Graduate College of Social Work (GCSW) prepares diverse leaders in practice and research to address complex challenges and achieve sustainable social, racial, economic, and political justice, locally and globally, through exceptional education, innovative research, and meaningful community engagement.

Programs

Master

Social Work, MSW

Doctoral

Social Work, PhD



About the Graduate College of Social Work

Office of the Dean

Dean

Alan Dettlaff

(713) 743-8085

212 Social Work Building

Associate Deans

Nicole Bromfield, Associate Dean for Academic Affairs

201 Social Work Building, 713-743-3247

Sarah Narendorf, Associate Dean for Research

313 Social Work Building, 713-743-8672

Susan Robbins, Associate Dean for Doctoral Education

311 Social Work Building,

713-743-8103

GCSW Office of Admissions

(713) 743-8075

110HA Social Work Building

Houston, Texas 77204-4013

gcswinfo@uh.edu

General Information

(713) 743-8075

[College Web site](#)

About the College

The University of Houston Graduate College of Social Work (GCSW), established by the Texas Legislature in 1967, provides master's and doctorate level education for the practice of professional social work. The social work profession has as its primary goal the enhancement of social functioning of all persons as individuals, family members, community participants, and members of society.

Social work practice is concerned with promoting the well-being of all persons, ameliorating the harmful effects of unhealthy social environments, and striving to achieve social and economic justice. The social worker needs maturity, knowledge, and skill to provide direct services or to develop programs that encourage maximum development of human potential. Thus, the purposes of graduate social work education are to encourage a broad-based perspective and value system, to provide knowledge for understanding and positively influencing human behavior and social systems, and to develop advanced skills for professional practice.



Mission Statement

The University of Houston Graduate College of Social Work (GCSW) prepares diverse leaders in practice and research to address complex challenges and achieve sustainable social, racial, economic, and political justice, locally and globally, through exceptional education, innovative research, and meaningful community engagement.

Our vision is to achieve social, racial, economic, and political justice, local to global.

Accreditation

The Master of Social Work (MSW) program of the Graduate College of Social Work is fully accredited by the Council on Social Work Education (CSWE).

The MSW Degree

Students have a choice of three enrollment models: Face to Face, Hybrid, or Online. The face to face program is full-time while hybrid and online are part-time programs. All enrollment models have a choice of areas of specialized practice: Clinical Practice or Macro Practice. Optional focus areas are also available in Health and Behavioral Health, Political Social Work, Social Work Practice with Latinos, and Individualized for face to face students. Hybrid and Online students have the option to pursue Health and Behavioral Health. The focus areas do not require additional hours. All enrollment models require 900 total clock hours of field practicum.

The MSW program at UH consists of 63 credit hours for full program and 38 credit hours for advanced standing. UH is unique in that it offers a 16-credit hour foundation. This intensive portion of the curriculum is organized around content on the foundation of professional social work, human behavior, policy, practice and research. A foundation field practicum (200 clock hours) is also required. Students must satisfactorily complete all 16 credit hours before enrolling in any advanced courses.

The Advanced Standing face to face program is a one year, full-time program (38 credit hours). Students begin in fall and complete course work and field the following two terms. Advanced standing is also available in the hybrid and online enrollment models. In hybrid and online, advanced standing is a part-time program and takes 2.5 to 3 years to complete. Two courses (500 clock hours) of field practicum are required for advanced standing students.

The PhD Degree

The GCSW also offers the PhD in Social Work. Set in an urban, multicultural environment, the purpose of the GCSW doctoral program is to develop social work researchers, scholars, teachers, and leaders who can facilitate change through rigorous and contextualized analysis of social problems and social work interventions in a manner respectful of the experiences of all affected. Graduates will advance the knowledge base of the profession, promote a scientific basis for social work practice at all levels of intervention, and actively promote global social and economic justice.

Dual Degree Programs

Several collaborative degree programs are available that enrich the options and opportunities available to our students. Since admission to two programs is required, interested persons are encouraged to begin the application process early.

MSW/PhD

Applicants without a master's degree in social work (or with a master's degree in another field) may pursue a program of study that leads to both the MSW and the PhD degrees. Admission to the dual MSW-PhD is very limited. Applicants must submit separate applications and fees to both programs.



MSW/MBA

The Graduate College of Social Work and the C.T. Bauer College of Business offer a concurrent degree program that enables students to prepare for careers in which knowledge and skills in both social work and business administration are critical. Students in this dual degree program complete the degree requirements for the MBA and the MSW in the Graduate College of Social Work in a shorter time period than if the degrees were pursued separately.

Applicants must be admitted separately to each of the programs and admission to one has no official bearing upon admission to the other. Upon acceptance, enrollment in both the MSW program in the Graduate College of Social Work and the MBA program in the C.T. College of Business should occur within a period of one calendar year.

MSW/MPH

The Graduate College of Social Work and the University of Texas School of Public Health offer a concurrent degree program that enables students to prepare for careers in which knowledge and skills in both social work and public health are critical. This concurrent program provides students with the opportunity to complete degree requirements for the MSW and the MPH in a shorter time period than if the degrees were pursued separately.

Applicants must be admitted separately to each of the schools and admission to one has no official bearing upon admission to the other. Upon acceptance, enrollment in both the MSW program in the University of Houston Graduate College of Social Work and the MPH program in the University of Texas School of Public Health should occur within a period of one calendar year.

MSW/JD

The Graduate College of Social Work and the Law Center at the University of Houston offer a concurrent degree program that prepares students for professional practice in arenas where law and social work intersect and complement each other. Examples include public services, health and mental health care systems, services to children and families, and the political arena. This program enables students to finish both degrees in a shorter time than if they were pursued separately.

Applicants must be admitted separately to each of the degree programs and admission to one has no official bearing on admission to the other. Applicants need to plan ahead so that their LSAT and GRE scores are submitted to meet application deadlines.

MSW/MPP

University of Houston's Graduate College of Social Work and the Hobby School of Public Affairs offer a concurrent degree program that prepares students for professional practice in social welfare policy arenas. This concurrent degree program enables students to pair the quantitative and ethics-oriented approach to policy analysis offered by the MPP program with the substantive policy and practical training in health and human service related domains offered by the MSW program.

Students must apply and be admitted separately by each program. All students must apply to the second program no later than the end of their first year in the first program. It will take approximately three years of full-time study to complete the coursework for both degrees.

Sample degree plans can be found on the GCSW website. Both programs require an internship component. The internship requirement for both programs can be met through completion of the required field practicum hours through the GCSW. Students pursuing this concurrent degree are eligible to apply to participate in the Graduate College of Social Work's Austin Legislative Internship Program.

Student Organizations

The GCSW Student Association seeks to promote unity among students of the Graduate College of Social Work. In addition to the SA, other student organizations offer opportunities for active involvement in the life of the school and the community. Student organizations include the National



Association of Black Social Workers, the Hispanic Student Association, Social Welfare Action Alliance, Alliance, TIKKUN OLAM (Jewish Student Organization), the Association of Asian American, Social Workers, the National Association of Christian Social Workers, AGES (Association of Gerontology Students), the Clinical Leadership Society, and the Women's Forum Child Welfare Education Project (CWEP) Student & Alumni Organization, MACRO Student Organization, Policy Insiders, Students for the Advancement of International Social Work, Support and Self-Care Group.



GCSW Objectives: Graduate College of Social Work

Program Objectives

The broad objective of the M.S.W. program is to prepare students for responsible, professional social work practice. The program is expected to:

- Provide a sound base of knowledge and skills for professional practice.
- Socialize students to the social work profession, including its Code of Ethics and values.
- Convey an understanding of the impact of racism, sexism, ageism, heterosexism, ethnocentrism, and classism on individuals, groups, social policies, and institutions.
- Contribute to the social work profession through knowledge-building and research activities aimed toward improving social work practice, policies, and programs.

Student Objectives

During the course of their M.S.W. graduate education, students are expected to:

- Develop a broad perception of their roles and functions as social work professionals, including an understanding of, commitment to, and involvement in resolution of social problems through institutional changes and preventive measures.
- Acquire theoretical and applied knowledge of systems (individual, group, family, organizational, community, and societal) for use in carrying out professional roles and functions.
- Develop skills that reflect competence for social work practice in a multiethnic society.
- Attain knowledge of scientific inquiry and research methods as used to advance professional knowledge and practice.
- Develop mature and sensitive attitudes toward self and others that result in becoming disciplined social work practitioners.
- Identify with the profession of social work, its historical tradition, its values and ethics, and its commitment to social justice.
- Accept responsibility for continued learning relative to new knowledge and skills throughout one's career.



Academic Policies: Graduate College of Social Work

Academic and Professional Behavior Policies

MSW Student Standards Policy

The faculty of the GCSW is responsible for creating a teaching-learning environment that fosters student growth and professional development. The Standards Policy includes criteria used to evaluate each student in six general areas: professional readiness, professional commitment, scholastic performance, attendance and punctuality, professional behavior, and ethical conduct. Evaluation is ongoing, from admissions to program entry, program entry to candidacy, and candidacy to graduation. Students are expected to demonstrate continuous progress in the acquisition of knowledge, skills, attitudes, judgment, and behaviors to assume the responsibilities of a competent professional social worker. When students confirm their admission to the GCSW, they are provided a copy of the Standards Policy, and they are required to sign a statement indicating that they have read the policy, and agree to be bound by the provisions therein.

MSW STUDENT STANDARDS POLICY

Enrollment Status

Applicants request admission into either face to face, hybrid, or online enrollment status. Face to face is a full-time program that is completed in 2 years. Hybrid and online programs are part-time and take three years to complete.

Most students are admitted into the specific enrollment status to which they have applied; however, the GCSW reserves the right to limit the number of students admitted in each enrollment model in a given year. Students who wish to change their status prior to their initial enrollment may have to postpone starting the program for a full year if all slots are full. Once enrolled officially (i.e., tuition and fees are paid), students may change their status only with the recommendation of the academic advisor and approval from the Assistant Dean of Student Affairs.

Final Course Letter Grade

Grade Scale	
Grade	Percent
A	96 - 100% of the points
A-	92 - 95.9%
B+	88 - 91.9%
B	84 - 87.9%
B-	80 - 83.9%
C+	76 - 79.9%
C	72 - 75.9%



Grade Scale	
C-	68 - 71.9%
D	64 - 67.9%
F	Below 64%

Academic Probation and Suspension

A student whose grade point average (GPA) falls below 3.0 (B) will be placed on academic probation, and will be allowed to continue his/her enrollment only with the written recommendation of the academic advisor and approval from the dean. Permission to continue will be granted only if there is reasonable likelihood that the grade point average will improve in the subsequent semester. Removal from academic probation is granted when the grade point average is raised to B (3.0 or above). Students have 12 credit hours to bring their GPA to a 3.0.

Three "C" Rule

Effective January 2017, a graduate student who receives a grade of C+ or lower and/or a grade of U in 3 graduate courses attempted at this institution, whether or not in repeated courses, is ineligible for any graduate degree at this institution and will not be permitted to re-enroll for graduate study.

Incomplete Grades

The grade of I (Incomplete) is a conditional and temporary grade given when students are passing a course but, for reasons beyond their control, have not completed a relatively small part of all requirements. Students are responsible for informing the instructor immediately of the reasons for not submitting an assignment on time or not taking an examination as scheduled. The grade of I must be changed by fulfilling the course requirements by the deadline set by the instructor, but no more than one year from the date awarded, or, in conformance with university policy, it will be changed automatically to F or U (in S-U graded courses).

Continuous Enrollment

Students are expected to maintain continuous enrollment throughout their course of study. A temporary, time-limited leave of absence may be granted for compelling reasons with the recommendation of the advisor. However, students who fail to maintain continuous enrollment without initiating an official leave of absence will be considered as having withdrawn from the M.S.W. program. In such cases, students may be required to reapply for admission.

Time Limitation

As an explicit accreditation policy of the Council on Social Work Education, all requirements for the M.S.W. degree must be completed no more than four years from the date of the student's first enrollment at the GCSW.

Academic Honesty

All members of, and participants in, the academic life of the university are governed by the University of Houston Academic Honesty Policy. Copies of this policy are distributed to all students during their first semester, but are also available from the dean's office and the advising office.

Academic Honesty



Disciplinary Action and Termination

The nature of social work dictates that practitioners use sound professional judgment. The college reserves the right to terminate enrollment of any student at any time for what the college faculty and administration may believe to be good and sufficient reason(s), such as cheating, plagiarism, misuse of university property, or unprofessional conduct. Explicit policies are found in the GCSW Student Standards Policy, as well in the UH Graduate and Professional Studies Bulletin (online).

Grievance Policy and Procedures

Students have the right to appeal any action they feel is unfair or in error. The Graduate College of Social Work Policy for Student Grievance is available in the GCSW Student Handbook. It is the responsibility of all students to become familiar with the various policies and regulations of the university and the GCSW and to meet the conditions they impose.

Student Grievance Policy - http://www.uh.edu/socialwork/_docs/policies/StudentGrievancePolicy.pdf

Grievance Cover Sheet - http://www.uh.edu/socialwork/_docs/policies/GrievanceCoverSheet.pdf

Notice of Intent to File a Grievance - http://www.uh.edu/socialwork/_docs/policies/GrievanceIntentFile09.pdf

PDF Files Require Adobe Reader



Student Organizations: Graduate College of Social Work

The Graduate College of Social Work Student Association (GCSWSA) actively promotes professional and social activities among students. Membership is open to all current GCSW students. The association relies on membership dues to fund the association's annual projects, including a graduation party each May. Additionally, the association serves as a link to the school's administration and faculty.

Students are also encouraged to participate in the University of Houston Chapter of the National Association of Black Social Workers, Clinical Leadership Society (CLS), Students for the Advancement of International Social Work (SAISW), Women's Forum, the Hispanic Student Association, Alliance, TIKKUN OLAM (Jewish Student Association), Association of Asian American Social Workers, Association of Christian Social Workers, AGES (Association of Gerontology Students), and the local chapter of the Social Welfare Action Alliance, a national organization of progressive social workers.

All GCSW students are eligible for membership in the National Association of Social Workers (NASW); reduced membership rates are available for students. NASW is the primary professional organization for social workers and has state chapters throughout the country. The Houston Branch of NASW is the largest in the state. When the GCSWSA holds elections for its officers, a student representative to the local branch of NASW is also elected to represent our students.

Honor Societies

Phi Kappa Phi

Phi Kappa Phi is a national honorary society which recognizes superior scholarship in all academic disciplines. Membership in Phi Kappa Phi is by invitation and requires nomination and approval by a chapter. A GCSW student may be nominated for membership if she or he:

- Has achieved an outstanding academic record as an undergraduate;
- Is currently seeking a graduate degree at the University of Houston Graduate College of Social Work;
- Has been enrolled at UH as a graduate student on a full-time basis for at least one academic year or on a part-time basis for the equivalent of at least one academic year (completion of 24 semester credit hours or more); and
- Is ranked scholastically in the top 10 percent of the students enrolled currently in the GCSW program.

Phi Alpha

Phi Alpha Honor Society is a national honor society for social work students. The purposes of Phi Alpha Honor Society are to provide a closer bond among students of social work and promote humanitarian goals and ideals. Phi Alpha fosters high standards of education for social workers and invites into membership those who have attained excellence in scholarship and achievement in social work.

Alumni Association (GCSWAA)

Graduates of the school are invited to become active members of the GCSW Alumni Association, which is affiliated with the university's larger Alumni Organization. The GCSWAA, governed by elected officers and a board of directors, participates actively in the school's fundraising efforts, and sponsors various programs for current GCSW students.



Graduate College of Social Work

The University of Houston Graduate College of Social Work (GCSW) prepares diverse leaders in practice and research to address complex challenges and achieve sustainable social, racial, economic, and political justice, locally and globally, through exceptional education, innovative research, and meaningful community engagement.

Master of Social Work

Social Work, MSW

Social work practice is concerned with promoting the well-being of all persons, ameliorating the harmful effects of unhealthy social environments, and striving to achieve social and economic justice. The social worker needs maturity, knowledge, and skill to provide direct services or to develop programs that encourage maximum development of human potential. Thus, the purposes of graduate social work education are to encourage a broad based perspective and value system, to provide knowledge for understanding and positively influencing human behavior and social systems, and to develop advanced skills for professional practice.

Our goal is to prepare students for responsible, professional practice. The program:

- Provides a sound base of knowledge and skills for professional practice.

- Socializes students to the social work profession, including its Code of Ethics and values.

- Conveys an understanding of the impact of racism, sexism, ageism, heterosexism, ethnocentrism, and classism on individuals, groups, social policies, and institutions.

- Contributes to the social work profession through knowledge building and research activities aimed toward improving social work practice, policies, and programs.

We offer two program options:

- Full Program (63 SCH)

- Advanced Standing (38 SCH for students with a BSW)

There are three enrollment model options for the MSW program:

- Face to Face

- Hybrid

- Online

For more information, please see: <http://www.uh.edu/socialwork>.

Admission Requirements

To be considered for unconditional admission to the MSW Program, applicants must:

Hold a bachelor's degree from an accredited college or university. The undergraduate education must reflect a sound liberal arts foundation, including courses in the humanities, as well as in the social, behavioral, and biological sciences. You must submit official academic transcripts showing the date the degree was awarded.

Have achieved a grade point average of 3.0 or better (4.0 scale) for the last 60 hours of academic course work. We will calculate your GPA based on your transcripts.

Recommendations are required from persons who can address your ability and potential for graduate education and professional social work practice (i.e., former professors, employment supervisors, professional colleagues). If you graduated from college within the last 5 years, one recommendation from a professor or instructor is required. If you are applying for Advanced Standing, one of your three recommendations must be from your faculty advisor or chairperson of your BSW Program. **For all applicants:** if more than one of the three recommendations is personal, the file will be considered incomplete and will not be reviewed. At least two references should be academic or professional.



Submit a personal narrative statement that describes your interest in social work and your commitment to social and economic justice. Specific instructions for the narrative statement are provided on the MSW Application Checklist page.

Persons who hold a nonimmigrant type visa have additional application requirements. Please refer to the University of Houston's information for International Applicants (<http://www.uh.edu/graduate-school/international-students/>).

A nonrefundable \$60.00 application fee, payable by check or money order must accompany your application. Any application received after the published deadline is a late application; a non-refundable additional late fee of \$50.00 will be charged.

An additional fee of \$75.00 is charged for international applicants.

Note: Proficiency in English. Any student, prior to admission or during their course of study, may be required to demonstrate English proficiency through submission of a satisfactory score on a test designated by the associate dean of the college. Students whose written or spoken English skills appear to be marginal (i.e., they may impede academic success and/or reflect communication problems as a social work practitioner) may be required to seek instruction outside the college.

To see more information on the university's English language requirement, visit <http://www.uh.edu/graduate-school/admissions/international-students/english-proficiency/>.

Degree Requirements

Credit hours required for this degree: 63.0

The MSW program at the University of Houston consists of 63 credit hours in either face to face, hybrid, or online enrollment models. Advanced Standing is available to students who hold a BSW from an accredited university. Advanced Standing is a 38 credit hour program available in face to face, hybrid, and online enrollment models.

Our program is unique in that it offers a 16-hour foundation, which serves as the prerequisite for all following coursework.

The intensive foundation curriculum is organized around content on the foundation of professional social work, including coursework in practice, policy, research, and human behavior in the social environment and foundation field practicum (200 clock hours).

Students must satisfactorily complete 16 credit hours of foundation before enrolling in any advanced courses.

In the GCSW advanced curriculum, we offer two areas of specialized practice:

Clinical (face-to-face, hybrid, and online)

Macro Practice (face-to-face, hybrid, and online)

We also offer four optional areas of focus:

Health and Behavioral Health (program formats: face-to-face, hybrid, and online)

Political Social Work (program format: face-to-face)

Social Work Practice with Latinos (program format: face-to-face)

Individualized (program format: face-to-face)

Course Requirements:

The 63-credit MSW curriculum is built upon the following foundational areas:

Foundation & Generalist Curriculum (19 credit hours)

Required Coursework, all students (8 credit hours)

Concentration Coursework (Macro or Clinical Practice) (24 credit hours)

Elective Course work (12 credit hours)

Foundation and Generalist Curriculum (19 credit hours):

This foundation curriculum can be waived for students who received a Bachelor of Social Work degree and who receive an Advanced Standing Waiver.

SOCW 7397 - Selected Topics in Social Work Credit Hours: 3.00

Topic(s):



Policy in the Social Environment **AND**

Human Diversity & Development

SOCW 7325 - Assessment in Social Work Practice Credit Hours: 3.0

SOCW 6305 - Research & Knowledge Building for Social Work Practice Credit Hours: 3.0

SOCW 6293 - Field Practicum I - Foundation Credit Hours: 2

SOCW 6294 - Field Practicum II Credit Hours: 2

SOCW 6306 - Social Work Practice Skills Credit Hours: 3.0

Required Courses (8 credit hours):

SOCW 6201 - Foundations of the Social Work Profession Credit Hours: 2.0

SOCW 7367 - Advanced Social Policy Analysis Credit Hours: 3.0

SOCW 7301 - Confronting Oppression and Injustice Credit Hours: 3.0

Concentration (24 credit hours):

Students must choose either Clinical Practice or Macro Practice as a field of specialized practice:

Clinical Practice Concentration

Clinical Practice Required Courses (21 credit hours):

SOCW 7324 - Clinical Applications of DSM in Social Work Credit Hours: 3.0

SOCW 7318 - Cognitive Behavioral Interventions: Motivational Interviewing and Cognitive-Behavioral Theory Credit Hours: 3

SOCW 7384 - Field Practicum III - Clinical Practice Credit Hours: 3

SOCW 7385 - Field Practicum IV- Clinical Practice Credit Hours: 3

SOCW 7304 - Brief Targeted Interventions: Brief Dynamic & Solution Focused Credit Hours: 3

SOCW 7305 - Evaluation of SW Practice Credit Hours: 3.0

Clinical Practice Elective (3 credit hours, choose one):

SOCW 7356 - Groups in Clinical Settings Credit Hours: 3.0

SOCW 7340 - Clinical Practice with Child Credit Hours: 3.0

SOCW 7361 - Clinical Social Work Practice with Elders Credit Hours: 3.0

Clinical Practice Macro Crossover Elective (3 credit hours, choose one):

SOCW 6354 - Managing Human Services Orgs Credit Hours: 3.0

SOCW 7320 - Empowerment Credit Hours: 3.0

SOCW 7323 - Organizational Behavior & Change Credit Hours: 3.0

SOCW 7330 - Fiscal Management & Budgeting Credit Hours: 3.0

SOCW 7339 - Professional Grant Writing for Social Work Credit Hours: 3.0

SOCW 7372 - Global Social Justice Credit Hours: 3

Macro Practice Concentration:

Macro Practice Required Courses (24 credit hours):

SOCW 7334 - Dynamics of Leadership in Social Work Credit Hours: 3.0

SOCW 7319 - Administrative Practice in Social Work Credit Hours: 3.0



SOCW 7335 - Strategies for Community Development Credit Hours: 3.0
SOCW 7329 - Social Policy Advocacy Credit Hours: 3.0
SOCW 7388 - Field Practicum III- Macro Practice Credit Hours: 3
SOCW 7389 - Field Practicum IV- Macro Practice Credit Hours: 3
SOCW 7397 - Selected Topics in Social Work Credit Hours: 3.00

Topic(s):

Program Planning & Evaluation

Clinical Practice Crossover Elective (3 credit hours, choose one):

SOCW 7321 - Multi-Cultural Practice Credit Hours: 3.0
SOCW 7340 - Clinical Practice with Child Credit Hours: 3.0
SOCW 7347 - Social Work Practice & Interventions in Schools Credit Hours: 3.0
SOCW 7374 - Mediation for Social Workers Credit Hours: 3.0
SOCW 7361 - Clinical Social Work Practice with Elders Credit Hours: 3.0
SOCW 7308 - Self-Examination of Life Foundations Credit Hours: 3.0

Academic Policies

University of Houston Academic Policies
Academic Policies: Graduate College of Social Work
MSW Student Standards & Policies

Doctor of Philosophy

Social Work, PhD

Graduate College of Social Work > Social Work, PhD

Graduates of the University of Houston's Graduate College of Social Work (GCSW) impact the community as they address the innumerable complex challenges currently facing our nation. The GCSW's vision of achieving social, racial, economic, and political justice, local to global informs the curriculum providing a solid framework to develop social workers who are staunch advocates who urge and instruct multiple institutions - from grassroots organizations to powerful corporations - to achieve social justice and support vulnerable populations. They lay and continue to reinforce the foundations of service, self-worth and the undeniable value of positive human relationships.

For more information please see <http://www.uh.edu/socialwork>.

PhD Admission Requirements

Early application is strongly encouraged as the number of new students admitted each year is limited, and the admissions process is competitive. Applications must be accompanied by the non-refundable application fee. Incomplete applications, including those without the required fee, will not be reviewed.

To be considered for admission to the Ph.D. Program applicants must:

Hold a master's degree in social work (M.S.W.) from a CSWE-accredited program. Official transcripts, showing degrees awarded and date(s) conferred, from all colleges and universities previously attended are required, OR Hold a master's degree in a related social science discipline from an accredited program. The Doctoral Admissions Committee will evaluate whether M.S.W. foundation prerequisite courses will be required.



Have achieved a grade point average of 3.5 or better (A=4.0) in all previous undergraduate and graduate work. Applicants who do not meet the minimum 3.5 GPA requirement but who demonstrate excellence in other areas of the application may be considered. We will calculate your GPA based on your transcripts.

Submit Graduate Record Exam (GRE) scores. You must have official test scores sent directly to the university. Test scores should not be more than five years old. The University of Houston's institutional code for the GRE is 6870. For information about the GRE, call the Educational Testing Service at 1-800-537-3160 or check the UH Learning and Assessment Services Web site: <http://ussc.uh.edu>

Submit a minimum of three, but not more than five, letters of recommendation from persons who are familiar with your potential for doctoral education. At least two letters must be from academics (i.e., former tenure-track professors, graduate advisor, etc).

Submit a current vita and a written narrative statement that describes your academic and employment histories, and your interest in the Ph.D. program. Identify the faculty you wish to work with in order to develop your research interest.

Submit samples of publications, papers, or other materials reflecting your academic and research excellence. An admissions interview (in-person or by phone) may be requested at the discretion of the Doctoral Committee.

International applicants have additional documentation requirements, including submission of possible test scores to demonstrate English language proficiency. To learn more visit <http://www.uh.edu/graduate-school/admissions/international-students/>

Note: Proficiency in English. Students whose written or spoken English skills appear to be marginal (i.e., they may impede academic success and/or reflect communication problems) may be required to seek instruction outside the college.

Degree Requirements

A **minimum of 53.0 Credit Hours** are required for the Ph.D. and must be in adherence with the grade policy.

The credit hours consist of 44.0 Credit Hours in coursework and 9.0 Credit Hours in dissertation research.

Milestones

There are a series of milestone students must successfully accomplish in order to progress through the program:

Pass the Integrative Examination after first 20 hours of sequenced coursework.

Complete a Summer Research Internship upon the completion of remaining coursework.

Defend the dissertation proposal to the student's dissertation committee via written manuscript and oral presentation.

Conduct the dissertation research.

Defend the final dissertation to the student's dissertation committee via written manuscript and oral presentation.

The curriculum is oriented towards evidence-based social work (EBSW) and research on the translation of evidence-based interventions and policies in real world social work and social welfare settings. Students are trained to generate and use valid research evidence to inform the decisions social workers make at all levels of practice and policy. By training our students in EBSW, we increase the capacity of our profession to build interdisciplinary partnerships in both research and practice.

Coursework includes three EBSW research methods courses, statistics and data management courses, theory, social welfare policy analysis, teaching in higher education, grant writing, substantive electives, and a Research Internship designed to allow for the application of translational research skills in a real world social work/social welfare setting.

Time-to-degree

The time it takes to obtain the Ph.D. will generally vary according to your previous preparation, your progress in the program, and the nature of your dissertation research.

All dissertations must be completed within five (5) years of passing the oral comprehensive examination or students will be required to retake the oral comprehensive examination.

Students must complete the dissertation within 10 years of the date of first enrollment in the doctoral program.

It is recommended that students successfully complete the dissertation proposal defense no later than the fifth (5th) term following the oral comprehensive examination.

This then allows for five terms to complete the entire dissertation before the five-year deadline regarding the oral comprehensive examination.

Required Courses

44.0 Credit Hours (minimum)



SOCW 8311 - Research Methods I: Introduction to Research on Evidence-Based Social Work Credit Hours: 3.0
SOCW 8322 - Research Methods II: Applied Quantitative Research on Evidence-Based Social Work Credit Hours: 3.0
SOCW 8323 - Research Methods III: Qualitative Research for Evidence-Based Social Work Credit Hours: 3.0
SOCW 8424 - Statistics and Data Analysis I Credit Hours: 4.0
SOCW 8325 - Applied Multivariate Statistics Credit Hours: 3.0
SOCW 8327 - Grant Writing Credit Hours: 3.0
SOCW 8333 - Social Science Theories Credit Hours: 3.0
SOCW 8334 - Social Policy Analysis Credit Hours: 3.0
SOCW 8335 - Teaching in Higher Education Credit Hours: 3.0
SOCW 8336 - Research Internship I Credit Hours: 3.0
SOCW 8397 - Selected Topics in Social Work Credit Hours: 3.00
Topic: Integrative Doctoral Seminar
Additional Electives **6.0 Credit Hours (minimum)**

Dissertation Research

9.0 Credit Hours

SOCW 8399 - Dissertation Credit Hours: 3.0
SOCW 8699 - Dissertation Credit Hours: 6.0
SOCW 8999 - Dissertation Credit Hours: 9

Academic Policies

University Academic Policies
Academic Policies: Graduate College of Social Work



Graduate Faculty: Graduate College of Social Work

Faculty Emeriti

W. Andrew Achenbaum. Professor of History and Social Work. B.A., Amherst; M.A., University of Pennsylvania; Ph.D., University of Michigan. Research interests: Gerontology; history of aging; social welfare history.

Dale Alexander. Professor Emeritus of Social Work. B.S., M.S.W., Florida State University; Ph.D., The Ohio State University. Research interests: Social work and physician clinical education; occupational mental health; substance abuse; primary care mental health.

Steven Lozano Applewhite. Associate Professor of Social Work. B.A., University of Texas at Austin; M.S.W., Ph.D., University of Michigan. Research interests: Hispanic and minority aging; ethnographic research; aging and social policy; multicultural social work; qualitative evaluation; community planning and organization; curriculum development; minority recruitment and retention.

Florence Clemenger (deceased). Professor Emerita of Social Work; Academy of Certified Social Workers and Registered Social Worker. B.A., University of Cincinnati; M.S.W., University of California, Berkeley; D.S.W., University of Southern California.

Gerson David (deceased). Professor Emeritus of Social Work; Academy of Certified Social Workers and Licensed Master Social Worker. B.Com., Madras University, India; M.A., University of Chicago; Ph.D., University of Pittsburgh. Research interests: Policy research studies; income maintenance and poverty; crime and delinquency; health and services to the elderly; international social welfare education; peace and development studies.

Maxine Weinman Epstein. Professor Emerita of Social Work. Academy of Certified Social Workers and Licensed Clinical Social Worker. B.A., Queens College; M.S.W., University of Oklahoma; Dr.P.H., University of Texas School of Public Health, Houston. Research interests: Child abuse; primary prevention and treatment; maternal and child health; curriculum development; community health; AIDS education; cultural issues in treatment.

Karen A. Holmes. Professor Emerita. Licensed Clinical Social Worker. B.A., Midwestern University; M.S.W., University of Texas at Arlington; Ph.D., University of Texas at Austin. Research interests: Violence issues; feminist practice; crisis intervention; spirituality and social work.

Daniel E. Jennings. Professor Emeritus of Social Work. Academy of Certified Social Workers, Certified Social Worker, and Advanced Clinical Practitioner. B.A., St. Michael's College; M.S.W., Boston College; D.S.W., Catholic University of America.

Jean Kantambu Latting. Professor Emerita. A.B., Rutgers, the State University of New Jersey; M.S., Columbia University; Dr.P.H., University of North Carolina at Chapel Hill. Research interests: Organizational development and change; quality management; organizational behavior; diversity in the workplace.

Mary R. Lewis (deceased). Professor Emerita. Licensed Clinical Social Worker. B.A., Wesleyan College; M.A., University of Alabama; M.S.W., University of Denver; Ph.D., Bryn Mawr College. Research interests: Social policy research; juvenile offenders; child and family welfare; children with disabilities; international social welfare; mental health; social security and income support policies; social research.

George W. Magner (deceased). Professor of Social Work and Senior Vice President Emeritus. Academy of Certified Social Workers. B.A., New Mexico Highlands University; M.A., University of Connecticut; Ph.D., University of Chicago.

Paul R. Raffoul. Professor Emeritus of Social Work and Interim Dean of Graduate College of Social Work. Academy of Certified Social Workers. A.B., Clark University; M.S.W., Florida State University; Ph.D., Washington University. Research interests: Drug and alcohol use and misuse among selected populations; evaluation research; clinical research; technological applications for social work practice.

Ellen S. Stevens-Roseman. Professor Emerita. B.S., Florida State University; M.S.W., University of North Carolina at Chapel Hill; D.S.W., Columbia University. Research interests: Gerontology; volunteerism; well elderly; family relationships; practice research.

Alexander G. Zaphiris (deceased). Professor Emeritus of Social Work. Academy of Certified Social Workers. M.S.W., Wayne State University; J.D., Athens University, Greece; Ed.D., University of Northern Colorado.



Faculty

Chiara Acquati. Assistant Professor of Social Work. PhD, Kent School of Social Work, 2016, MSW, Social Work, Boston college, 2011, MS, Clinical Psychology, Università Cattolica del Sacro Cuore, 2007, BA Psychological Sciences and Techniques, Università Cattolica del Sacro Cuore, 2005. Research Interests: Oncology, Dyadic Coping, Couple-based Interventions.

Samira Ali. Assistant Professor of Social Work. PhD, Social Welfare, University of Pennsylvania School of Social Policy, 2013; MSW, Social Work, Columbia University, 2006; BA, Psychology and Law & Society, Purdue University, 2004. Research Interests: HIV risk and prevention; Structural determinants of health; Family-based interventions; Global social work; Methods: Mixed methods, community-based participatory research.

Donna Amtsberg. Clinical Assistant Professor of Social Work. B.S., M.S.W., University of Houston. Research interests: Clinical social work practice; macro social work practice; trauma-focused cognitive behavioral therapy; family violence; crisis intervention; adult violent death fatality review; Equine-assisted psychotherapy; play therapy.

Juan Barthelemy. Assistant Professor of Social Work, Ph.D., Social Work, University of Tennessee (2005), M.S.W, Mental Health Administration, Washington University (1999) M.A.E, School Psychology, University of Northern Iowa (1995) B.A., Psychology, Southern University at New Orleans (1993) Research interests: Adolescent aggression; Juvenile delinquency; Gang intervention; Community engagement; disaster relief.

Sharon Borja. Assistant Professor of Social Work. Ph.D. Social Welfare; University of Washington. M.S.W.; San Francisco State University; Research interests: intergenerational adversity and resilience; racial/ethnic disparities in parent and child wellbeing; prevention of child maltreatment; intersectionality; culturally grounded social work interventions; and practice based research.

Donte Boyd. Assistant Professor. MSW, Washington University in Saint Louis. PhD, University of California, Los Angeles. Research interests: Health disparities and HIV among the Black male youth and young adult population.

Reiko Boyd. Assistant Professor of Social Work. PhD, School of Social Welfare, University of California, Berkeley 2015; MSW, School of Social Welfare, University of California, Los Angeles 2006. Research Interests: Racial/ethnic disparities in children's service systems; Structural inequality and opportunity in African American communities; Infant/adolescent health and well-being; Youth emancipating from foster care; Social determinants of health.

Nicole Bromfield. Associate Professor of Social Work and Associate Dean for Academic Affairs. PhD, Public Policy, Virginia Commonwealth University. MSW, West Virginia University. Research Interests: Human Trafficking, Global Surrogacy.

Aabha Brown. Clinical Assistant Professor of Social Work. MSW, University of Houston Graduate College of Social Work, May 2003; BA, Psychology, Minor in Biological Sciences, University of Texas at Austin, August 1998.

C. Brené Brown. Research Professor of Social Work. Licensed Master Social Worker. B.S.W., University of Texas at Austin; M.S.W., Ph.D., University of Houston. Research interests: Political social work; contextualized practice; women's issues; qualitative research (grounded theory), and chaos theory and complexity.

Jodi Berger Cardoso. Associate Professor of Social Work. B.S., Portland State University; M.S.W., Columbia University; Ph.D., University of Texas at Austin. Research interests: Cultural stressors in Latino immigrants and their children; health disparities; addiction; obesity; mental health issues in the Latino community.

Monit Cheung. Professor of Social Work. Mary R. Lewis Endowed Professor in Children & Youth. Diploma in Sociology, Hong Kong Baptist College; M.A. (Public Administration), M.S.W., Ph.D., The Ohio State University. Research interests: Child abuse and neglect; needs assessments for the elderly; international and comparative practice; ethnicity and minority issues; refugee and immigrant problems; program evaluation and grant writing; expressive arts and play therapy; family therapy and parenting techniques.

Alan Dettlaff. Dean and Maconda Brown O' Connor Endowed Dean's Chair. 2004 PhD University of Texas at Arlington Arlington, TX Social Work; 1999 MSSW University of Texas at Arlington Arlington, TX Social Work; 1995 BSW Texas Christian University Fort Worth, TX Social Work. Research Interests: Racial disparities in the child welfare system, understanding and addressing the unique needs of Latino immigrant children and families in child welfare systems, improving outcomes for LGBTQ youth in child welfare and affiliated service systems.



Robin Gearing. Professor of Social Work. PhD, University of Toronto, 2006; MSW, Wilfrid Laurier University, 1997; BA, University of Toronto, 1991. Research Interests: Improving outcomes for adolescents and emerging adults with serious mental illnesses and their families, client engagement and adherence to evidence-based psychosocial and pharmacological treatments, patterns of service delivery, service utilization, and treatment adherence, strategies for addressing barriers and enhancing promoters to mental health treatment and services, and interventions to maintain clients in treatment and improve outcomes and recovery.

Shelley Gonzales. Clinical Assistant Professor of Social Work, Assistant Director of Field Education. LCSW, Graduate College of Social Work, University of Houston, 2006; BS Marriage, Family, Human Development & Psychology, Brigham Young University, 2004. Research Interests: experiential education, adolescent criminal recidivism, social work practice and field education.

Sheara A. Williams Jennings. Associate Professor of Social Work. Academy of Certified Social Workers. B.S.W., Southern University; M.S.W., Louisiana State University; Ph.D., University of North Carolina. Research interests: social intervention child behavioral and mental health; the academic achievement gap; social, emotional, and behavioral school readiness.

Charles H. Lea III. Assistant Professor. MSW, University of Michigan, Ann Arbor, MI. Ph.D.- University of California, Los Angeles. Research interests: The risk and resilience processes of young Black men and boys who are at-risk or involved with the juvenile justice system, and the mechanisms within educational, correctional, and community-based settings that are protective and promotes healthy development and positive outcomes.

Patrick Leung. Professor of Social Work. Gerson & Sabina David College Endowed Professor for Global Aging. Diploma in Social Work, Hong Kong Baptist College; B.S.S.W., M.A. (Public Administration), M.S.W., Ph.D., The Ohio State University. Research interests: Computer-based training in child protection services; evaluation research; child welfare; refugee and immigrant issues; cultural competency.

Ginger Lucas. Clinical Assistant Professor of Social Work. MSW, University of Texas in Austin, 1998; BS, Psychology, Texas A&M University, 1996. Research Interests: Best Practices in Online Education Issues related to Public Health including Teen Pregnancy, STD Prevention, HIV awareness, Domestic Violence and Sexual Assault

Christina Miyawaki. Assistant Professor of Social Work. San Francisco State University (Master of Arts in Gerontology); University of California, Berkeley (Master of Social Welfare, Gerontology Focus); University of Washington (Doctor of Philosophy in Social Welfare). Research Interest: Health disparities among older adults of color; health and acculturation, with a focus on immigrant caregivers of older adults; association of race and ethnicity with older adults' health; health promotion and healthy aging

Sarah Narendorf. Associate Professor of Social Work and Associate Dean for Research. PhD, Philosophy in Social Work, Washington University, St. Louis, MO, 2012; MSW, Graduate College of Social Work, University of Houston, Houston, TX, 1998; BA, Rice University, Houston, TX, 1994. Research Interests: Homeless youth and young adults, Adolescent and young adult mental health, Youth aging out of public systems of care, Experience of psychotropic medication treatment, Racial disparities in service use.

Jamie Parker. Clinical Assistant Professor of Social Work, Director of Field Education. MSW, Graduate College of Social Work, University of Houston, 2006; BS, Psychology, University of Houston, 2001. Research Interests: Field Education.

Suzanne Pritzker. Associate Professor of Social Work. B.A., University of Virginia; M.Ed., University of Virginia; M.S.W., Virginia Commonwealth University; Ph.D., Washington University in St. Louis. Research interests: Youth civic engagement (especially among poor and minority adolescents); service-learning: positive youth development; political advocacy; social welfare policy.

Susan P. Robbins. Professor of Social Work and Associate Dean for Doctoral Education. Licensed Social Worker, and Diplomate in Clinical Social Work. B.A., Hamline University; M.S.W., University of Minnesota; D.S.W., Tulane University. Research interests: Juvenile delinquency; drug abuse; labeling in mental health/psychiatry; recovered memories of childhood sexual abuse; satanic ritual abuse; cults; American Indians; mediation.

Allen Rubin. Professor of Social Work. Jean Kantambu Latting College Professorship of Leadership and Social Change. B.S., Pennsylvania State University; M.S.W., Ph.D., University of Pittsburgh. Research interests: Bridging the gap between research and practice by assessing conditions under which interventions are found to be effective in research studies, and how they are and are not effective when adapted and implemented in real world practice settings.

McClain Sampson. Associate Professor of Social Work. B.A., University of Colorado, Boulder; M.S.S.W., University of Tennessee at Knoxville; Ph.D. in Social Work, University of Texas at Austin. Research interests: Health issues that affect pregnant and postpartum women such as depression, stress and obesity; health promotion; racial/ethnic disparities of maternal stress; the use of Motivational Interviewing in substance abuse settings; and health care provider's comfort with delivery of palliative care.



Isabel Torres. Associate Professor of Social Work. B.A., University of Texas at Austin; M.P.H. in Health Services Organization, University of Texas at Austin; Dr.P.H. in international and Family Health, University of Texas at Austin. Research interests: Cancer Health Disparities; Palliative and Supportive Care; Geriatric Health; International Health; Medical Mistrust; Informed Decision Making; HPV Vaccine Uptake and Acceptance.

Luis R. Torres. Associate Professor, Humana Endowed Chair in the Social Determinants of Health and Director of the Center for Drug and Social Policy Research. B.A., University of Puerto Rico, Mayaguez; M.A., Ph.D., Fordham University. Research interests: Role of immigration and acculturation in the development of co-occurring (mental health, substance abuse, and medical) disorders; impact of culture on psychiatric diagnosis; cultural competency.

Quenette Walton. Assistant Professor of Social Work, PhD, Social Work, University of Illinois at Chicago (2016), MA, Social Service Administration, University of Chicago (2004), BA, Psychology, University of Michigan-Ann Arbor (1999) Research interests: Mental health and mental health disparities among Black women across the life course, SES as a social determinant of mental health, the Black middle class, black women's wellness and well-being, life course, race, class, and gender, qualitative research.

Jody Williams. Distinguished Visiting Professor, Sam and Cele Keeper Endowed Professor in Peace and Social Justice. Nobel Laureate for Peace (1997). B.A., University of Vermont; M.A., John Hopkins University; M.A., School of International Training. Research interests: International relations; peace and human rights issues.





About the College of Technology

General Information

The College of Technology has provided and applications-based undergraduate education covering a broad spectrum of disciplines for over 75 years and continues these academic pursuits at the graduate level of study.

The master's degrees offered by the College of Technology provide graduates with an advanced education that is directed toward career opportunities on two distinct paths. One path studies the application of state-of-the-art technology to the needs of business and industry. The other path prepares organizational and development personnel for careers in business and industry.

The Department of Construction Management (CM) offers the following master's degrees: Master of Science (M.S.) in Construction Management, Master of Science (M.S.) in Supply Chain and Logistics Technology, and Master of Science (M.S.) in Technology Project Management.

The Engineering Technology Department (ET), offers a Master of Science (M.S.) in Engineering Technology with specializations in Biotechnology, Computational Health Informatics, Mechanical Engineering Technology, and Network Communications and an Accelerated B.S./M.S. Degree Program in Biotechnology.

The Information and Logistics Technology Department (ILT) offers a Master of Science (M.S.) in Information Systems Security and an Accelerated B.S./M.S. Degree Program in Computer Information Systems/Information Systems Security.

The Department of Human Development and Consumer Sciences (HDCS) offers the following graduate programs: Master of Science (M.S.) in Foresight, Master of Science (M.S.) in Global Retailing, Master of Science (M.S.) in Human Resource Development, Executive Master of Science in Human Resource Development, Graduate Certificate in Strategic Foresight, and Accelerated B.S./M.S. Degree Programs In Retailing and Consumer Sciences/Global Retailing and Human Resource Development.

Office of the Dean

4730 Calhoun Road, #300
Houston, Texas 77204-4021
(713) 743-4050

Department of Construction Management

4734 Calhoun Road, #111
Houston, Texas 77204-4021
(713) 743-4712

Department of Engineering Technology

4730 Calhoun Road, # 304
Houston, Texas 77204-4021
(713) 743-5652

Department of Human Development and Consumer Sciences

4235 Cullen Blvd., #110
Houston, Texas 77204-4021
(713) 743-0581

Department of Information and Logistics Technology

4730 Calhoun Road, #312
Houston, Texas 77204-4021
(713) 743-4794

Dean:

Tony Ambler, Ph.D., University of Manchester, United Kingdom

Associate Dean for Academic Affairs:

Heidar Malki, Ph.D., University of Wisconsin-Milwaukee



Associate Dean for Research and Graduate Studies:

George Zouridakis, Ph.D., University of Houston

Director for Assessment and Accreditation:

Huda Sarraj, Ph.D., Texas Tech University

Director of Student Affairs:

Jadeep Chadha, Ed.M., Columbia University

Director of Business Operations:

David McMullan, M.B.A., University of Phoenix

Director of Development:

Margarita Perez Frinsco, B.A., University of Saint Thomas

Director of College IT Support:

Tom Jones, M.S., University of Houston

Program Director Graduate and Professional Studies Recruitment:

John Smith, II, M.S., Springfield College

Graduate Program Advisors:

Donnella Dillon, B.S., Indiana University

Dawn Wolf-Taylor, M.S., Texas Tech University



Admission Requirements: College of Technology

College of Technology Admission Policy

All College of Technology master program's admission policy is aligned with the policy of the graduate school and the University of Houston as a whole. Minimum requirements for admission include the following:

Applicants must have earned a bachelor's degree from an institution accredited by one of the six regional accrediting associations with a 3.0 or higher cumulative GPA.

Foreign institutions not accredited by U.S. accrediting agencies must be recognized by the Ministry of Education or another appropriate agency of the country in which the institution is located.

Submission of official GRE (all programs), GMAT (FSC, GR, HRD, TPM, SCLT, and Cybersecurity), or MAT (FSC, GR, and HRD) scores with minimum scores of 300 on the GRE, 550 on the GMAT, and 400 on the MAT.

Note: the GRE/GMAT/MAT requirement is waived for University of Houston/Main graduates with a 3.3 GPA or higher who graduated three years or less before application to graduate school and for HRD master's applicants with a 3.0 GPA or higher.

For those whose bachelor's degree is from a non-English speaking country, submission of official IELTS (minimum score for admission is a 6.5 overall) or TOEFL (minimum score for admission is a 79 overall) scores are also required.

For more information about the University of Houston admission policy, click here: [General Admission Policy](#).

Required Items for Admission to Graduate School

Submit an online application through the Graduate School.

Application Fee: The application fee for all applicants to graduate programs in the College of Technology is \$75. International applicants must also pay an additional \$75 International Application processing fee for a total of \$150.

One Official Transcript reflecting your bachelor's degree (must be sent to the Graduate School in a sealed envelope from your college or university)

One Official Transcript of any coursework since your bachelor's degree (must be sent to the Graduate School in a sealed envelope from your college or university).

Three Letters of Recommendation.

Personal/Goal Statement. A personal/goal statement is a one-two page essay describing your, previous academic accomplishments, current employment, and professional intentions. You should identify aspects of your previous experience that indicate promise in your selected goal. You may also wish to discuss special circumstances, unique experiences, etc.

Resume.

Appropriate Exam Scores. Submit official exam scores completed within the last 5 years or less to the Graduate School. See the College of Technology Graduate Admissions page for further exam information.

English Language Proficiency Requirement

All graduate applicants, regardless of citizenship status, must demonstrate proficiency in English to obtain admission to the university. To fulfill this requirement, applicants must satisfy one of the following criteria:

Bachelor's degree earned from a regionally accredited U.S. institution or at an institution at which English is the medium of instruction in the following countries listed at this link:

TOEFL (Test of English as a Foreign Language) www.toefl.org

The minimum TOEFL score required is 79 for the internet-based test.

The minimum TOEFL score for the paper-based exam is 550. TOEFL scores must be received directly from Educational Testing Service (ETS). The University of Houston's ETS Institutional Code is 6870.

IELTS (International English Language Testing Service) www.ielts.org



The minimum IELTS score required is an overall score of a 6.5. The testing agency should mail the official results directly to the University of Houston Graduate School at the following address:

*University of Houston
Graduate Admissions
4302 University Dr., Rm. 102
Houston, TX 77204-2012*

Admission will depend on grade point average (GPA), applicable test scores, and other provided information.

Pre-Graduate Students

Pre-Graduate (Pre-Grad) is a non-degree seeking option available through the Graduate School application process that allows qualifying domestic students to enroll in up to 12 graduate level credits prior to graduate admission. Students in this non-degree seeking status are not guaranteed admission to the graduate program and do not qualify for financial aid or scholarships.

Pre-Grad minimum requirements include a bachelor's degree from an accredited institution and a 2.75 or higher overall GPA. Additional academic background may be required to enroll in some courses.

Pre-Grad students should apply to the graduate program and must fulfill all requirements for admission no later than the end of their first term if they wish to become degree seeking.

Certificate Students

Certificate students are admitted through the Graduate School application process for the purpose of seeking a certificate as non-degree seeking. Students in this non-degree seeking status are not guaranteed admission to the graduate program and do not qualify for financial aid or scholarships.

Certificate minimum admission requirements include a bachelor's degree from an accredited institution and a 2.75 or higher cumulative overall GPA. Additional academic background may be required to enroll in some certificates.

Applicable Course Credit

Any course(s) taken prior to admission to the program, whether on-campus or off-campus, cannot be applied to more than one degree program.

Only students who have been admitted to a graduate program, an accelerated BS/MS program, or the Pre-Grad program will be permitted to enroll in graduate courses in the College of Technology. Exceptions require the Dean's approval.

Accelerated BS/MS Plans

Accelerated BS/MS degree plans are open to qualified undergraduate College of Technology majors in the following areas of study:

- Biotechnology
- Computer Information Systems/Cybersecurity
- Human Resource Development
- Retailing and Consumer Science/Global Retailing

These accelerated plans are designed for undergraduate students who plan to continue their education at the graduate level immediately upon or shortly after completion of a bachelor's degree. Students that are accepted into an accelerated plan can take up to six graduate credit hours that are applied to both the bachelors' degree and master's degrees in the applicable program. Students can pursue either the thesis, project, or course-only master's degree option. The bachelor's degree will be conferred upon completion of the undergraduate curriculum requirements with prescribed graduate courses substituted for undergraduate courses. The graduate degree will be awarded based on existing requirements for the graduate degree in the semester that the student applies and is admitted to the graduate program. Admission to the graduate program is not guaranteed and



must be gained through the Graduate School admission process. Application for the accelerated plans is recommended for undergraduates during their junior year and is completed through inquiry with the undergraduate advisor of each program offering the accelerated option.



Graduate Policies: College of Technology

Academic Policy and Designations

All College of Technology master's program academic policy is aligned with the policy of the Graduate School and University of Houston as a whole. The complete policy can be found at these links:

- General Academic Regulations and Requirements
- Auditing Courses
- Continuous Enrollment
- Course Load Policy and Reduced Course Load (RCL)
- Dropping Courses
- Time Limitations
- Grading Policies
- Grievance Policy
- Term Withdrawal
- Transfer Credit



Graduate Student Funding

Scholarships

Students are encouraged to apply for scholarships and can refer to the college website for a list of current scholarships and deadlines. Requirements and deadlines for scholarships vary by scholarship.

Assistantships

Graduate student assistants are graduate students in good standing enrolled full-time who hold a graduate student appointment requiring the performance of such duties as classroom instruction, academic advising, reading papers and examinations, supervision, or research responsibilities. There are five graduate student appointment categories at University of Houston, including the positions of teaching fellow (TF), teaching assistant (TA), instructional assistant (IA), research assistant (RA), and graduate assistant (GA).



College of Technology Programs

Department of Construction Management

Chair:

Lingguang Song, Ph.D.

Program Coordinators:

Lu Gao, Ph.D., Construction Management (CM)

Liang-Chieh (Victor) Cheng, Ph.D., Supply Chain and Logistics Technology (SCLT)

Ron Hopkins, Ph.D., Technology Project Management (TPM)

Professors:

Neil Eldin, Ph.D. and Gary Richardson, Ph.D.

Associate Professors:

Liang-Chieh (Victor) Cheng, Ph.D.; Ronald Hopkins, Ph.D.; Jamison (Jami) Kovach, Ph.D.; Ahmed Senouci, Ph.D.; Lingguang Song, Ph.D.; and Junko Sugawara, Ph.D.

Department Overview

The Department of Construction Management offers undergraduate and graduate degrees in Construction Management and Supply Chain and Logistics Technology, and a graduate degree in Technology Project Management. Strong industry partnerships offer unmatched opportunities for students to get real-world experience and make connections that often lead to great career opportunities.

Master of Science

Construction Management, MS

The Construction Management Master's degree program provides the knowledge and skills essential for successful leadership positions in the construction industry. The curriculum focuses on both fundamental knowledge and advanced topics. Fundamental courses include estimating, scheduling, contracting, and project management and advanced courses include risk analysis, decision making, computer applications, green construction, quality management, leadership, modeling and optimization, and building information modeling. The program attracts students and working professionals with a diverse background in engineering, construction, and architecture. Our graduates are prepared to work in the construction industry and in academia.

Often referred to as the jobs of the future, science, technology, engineering, and mathematics (STEM) jobs are among the highest paying and in-demand jobs today. This program supports such jobs and is STEM designated, which recognizes its rigor and provides the added benefit of an extended optional practical training (OPT) time period of an additional 24 months to international students.

For more information, click here: www.uh.edu/technology/departments/cm/graduate/cm/.



Admission Requirements

Preferred backgrounds include construction management, engineering, architecture, design, urban planning, business management and real estate. For more information on applying to this program and for additional admission requirements, click here: <http://www.uh.edu/graduate-school/admissions/how-to-apply/>.

Degree Requirements

Credit hours required for this degree: 30.0

The Construction Management master's degree requires 30 credit hours, or 10 three-credit courses.

Core Courses (6.0 Credit Hours, choose two courses)

TECH 6360 - Exp Design & Data Analysis Credit Hours: 3.0

TEPM 6301 - Project Management Principles Credit Hours: 3.0

CNST 6307 - Statistical and Optimization Methods in Construction Management Credit Hours: 3.0

CNST 6308 - Data Analysis in Construction Management Credit Hours: 3.0

Approved Electives (18.0 Credit Hours, choose six courses - Thesis/Project Track; 24.0 Credit Hours, choose eight courses - Course Only Track)

CNST 6310 - Construction Contract Administration Credit Hours: 3.0

CNST 6320 - Cost Analysis and Bidding Credit Hours: 3.0

CNST 6330 - Project Planning & Management Credit Hours: 3.0

CNST 6335 - Introduction to the Oil and Gas Industry Credit Hours: 3.0

CNST 6340 - Best Practices in Construction Credit Hours: 3.0

CNST 6350 - Decision Making and Risk Management Credit Hours: 3.0

CNST 6360 - Computer Applications in Construction Management Credit Hours: 3.0

CNST 6370 - Quality Management & Six Sigma in Const Management Credit Hours: 3.0

CNST 6375 - Building Information Modeling Applications for Construction Management Credit Hours: 3.0

CNST 6380 - Leed & Green Construction Principles in Const Management Credit Hours: 3.0

CNST 6390 - Leadership for Construction Managers Credit Hours: 3.0

Project or Thesis (6.0 Credit Hours)

CNST 6396 - Master's Project Credit Hours: 3.0 (2 semesters)

Academic Policies

University of Houston Academic Policies

Graduate Policies: College of Technology

Supply Chain and Logistics Technology, MS

The Master of Science in Supply Chain and Logistics Technology (SCLT) is designed for the professional who seeks advanced preparation in logistics, inventory management, transportation, sales, and procurement. Required courses focus on the development of project management skills that are designed to prepare graduates for responsible leadership roles in technology and information-based workplaces. Course topics in the SCLT area of emphasis include logistics and transportation strategies, supply chain operations measurement and evaluation, global logistics and transportation,



and procurement strategies. Students also complete six additional hours of elective coursework relevant to the area of emphasis and the research requirements.

Science, technology, engineering, and mathematics (STEM) jobs are extremely sought after, and this program supports STEM designated jobs in fields related to SCLT with its own STEM designation. This designation recognizes the rigor of the program and provides the added benefit of an extended optional practical training (OPT) time period of an additional 24 months to international students.

For more information, click here: <http://www.uh.edu/technology/departments/cm/graduate/sclt/>.

Admission Requirements

An undergraduate or graduate degree in a STEM discipline from an accredited university or college is required for unconditional admission to the Supply Chain & Logistics Technology graduate program. The applicant's undergraduate education must reflect a firm foundation in a STEM discipline, the equivalent of 24 hours within one STEM major or 18 advanced hours within one STEM minor. Students who do not meet the necessary requirements will be requested to complete prerequisites before entering the program. For more information on applying to this program and for additional admission requirements, visit: Admission Requirements: College of Technology.

Degree Requirements

Credit hours required for this degree: 30.0

The Supply Chain Logistics Technology master's degree requires 30 credit hours, or 10 three-credit courses.

Core Courses (12.0 Credit Hours)

SCLT 6314 - Measurement and Evaluation of Supply Chain Operations Credit Hours: 3.0

SCLT 6316 - Global Supply Chain Logistics Credit Hours: 3.0

SCLT 6318 - Supply Chain Strategies Credit Hours: 3.0

SCLT 6320 - Procurement Strategies Credit Hours: 3.0

Required TEPM Specialized Courses (6.0 Credit Hours)

TEPM 6301 - Project Management Principles Credit Hours: 3.0

TEPM 6304 - Quality Improvement in Project Management Credit Hours: 3

Required TEPM Electives (Course Only Track) (6.0 Credit Hours)

TEPM 6302 - Leadership and Team Building Credit Hours: 3.0

TEPM 6303 - Risk Assessment in Project Management Credit Hours: 3.0

Approved Electives (6.0 Credit Hours - Project Track; 6.0 Credit Hours - Course Only Track)

Advisor Approved Elective Credit Hours: 3.0

Research Courses (6.0 Credit Hours)

TEPM 6391 - Project Management Seminar Credit Hours: 3.0

TEPM 6395 - Integration Project Credit Hours: 3.0

SCLT 6399 - Master's Thesis Credit Hours: 3 (2 semesters)



Academic Policies

University of Houston Academic Policies
Graduate Policies: College of Technology

Technology Project Management, MS

The degree plan for a Master of Science (MS) in Technology Project Management is designed specifically to prepare individuals with undergraduate degrees in a wide range of disciplines for responsible leadership roles in technology-based and professional workplaces.

The core courses provide in-depth preparation in project management skills. The ability to plan and manage technology projects of all kinds is an increasingly important skill for those working in a variety of industries.

Students who graduate with a master's in Technology Project Management are prepared to fill vital management and supervisory roles in a wide range of industries. Career options will vary depending on the chosen area of emphasis.

Students in the program have reported that they have been able to apply the skills they learn across wide variety of occupations including: Project Manager, Team Lead, Analyst, Process Engineer, Quality Manager, Information Services Manager, Logistics Manager, Finance Manager, Senior Sourcing Specialist, Engagement Manager, Operations Management and Business Development Manager.

These occupations are spread across such diverse industries such as banking/finance, manufacturing and production, merchandising and retail, K-16 education, engineering, architecture, hospital and health services, government, military, telecommunications, non-profits, legal services, public utilities, information technology consulting, energy/oil and gas, construction, and software development.

The STEM designation of this degree recognizes the rigor of the program and provides the added benefit of an extended optional practical training (OPT) time period of an additional 24 months for international students.

For more information, click here: www.uh.edu/technology/departments/cm/graduate/tpm/.

Admission Requirements

The Technology Project Management program is designed specifically for individuals with undergraduate degrees in a wide range of disciplines. For more information on applying to this program and for additional admission requirements, click here: <http://www.uh.edu/graduate-school/admissions/how-to-apply/>.

Degree Requirements

Credit hours required for this degree: 30.0

The Technology Project Management master's degree requires 30 credit hours, or 10 three-credit courses.

Course Requirements (24.0 Credit Hours)

- TEPM 6301 - Project Management Principles Credit Hours: 3.0
- TEPM 6302 - Leadership and Team Building Credit Hours: 3.0
- TEPM 6303 - Risk Assessment in Project Management Credit Hours: 3.0
- TEPM 6304 - Quality Improvement in Project Management Credit Hours: 3
- TEPM 6305 - Project Manager Tools Credit Hours: 3.0
- TEPM 6306 - Project Management Office Credit Hours: 3.0
- TEPM 6307 - Advanced Project Management Credit Hours: 3.0
- TEPM 6308 - Project Procurement Practices Credit Hours: 3.0



Research Courses (6.0 Credit Hours)

Students are also required to conduct the below research courses, which cannot be taken concurrently.

TEPM 6391 - Project Management Seminar **Credit Hours: 3.0**

TEPM 6395 - Integration Project **Credit Hours: 3.0**

Academic Policies

University of Houston Academic Policies

Graduate Policies: College of Technology

Department of Engineering Technology

Chair: Wajiha Shireen, Ph.D.

Assistant Chair: Mequanint Moges, Ph.D.

Program Coordinators:

Sivakumar Ganapathy, Ph.D., Biotechnology specialization (BTEC)

George Zouridakis, Ph.D., Computational Health Informatics

Kamran Alba, Ph.D., Mechanical Engineering Technology specialization (MET)

Deniz Gurkan, Ph.D., Network Communications specialization (NECO)

Professors: Tony Amber, Ph.D.; Heidar Malki, Ph.D.; Hassan Moghaddam, Ph.D.; Wajiha Shireen, Ph.D.; Geroge Zouridakis, Ph.D.

Associate Professors: Farrokh Attarzadeh, Ph.D.; Farouk Attia, Ph.D.; Driss Benhaddou, Ph.D.; Anima Bose, Ph.D.; Deniz Gurkan, Ph.D.; Rupa Iyer, Ph.D.; Fatima Merchant, Ph.D.; Mequanint Moges, Ph.D.; Francisco Robles Hernandez, Ph.D.; Xiaojing Yuan, Ph.D.; and Weihang Zhu, Ph.D.

Assistant Professors: Kamran Alba, Ph.D.; Venkatesh Balan, Ph.D.; Burak Basaran, Ph.D.; Medhat El Nahas, Ph.D.; Zeng Fan, Ph.D.; Albert Flavier; Sivakumar Ganapathy, Ph.D.; Ricardo Lent, Ph.D.; and Luca Pollonini, Ph.D.

Department Overview

The Department of Engineering Technology offers undergraduate and graduate degrees in Engineering Technology. In the master's program offerings, students can choose from specializations in Biotechnology (BTEC), Computational Health Informatics (CHI), Mechanical Engineering Technology (MET), and Network Communications (NECO). The Engineering Technology master's degree examines current issues in technology, project management and experimental design and data analysis.

Master of Science

Engineering Technology, MS

The Master of Science in Engineering Technology (ET) is a STEM-qualifying degree that offers specializations in Biotechnology (BTEC), Mechanical Engineering Technology (MET), Computational Health Informatics (CHI), and Network Communications (NECO). The Engineering Technology master's degree examines current issues in technology, project management, and experimental design and data analysis.

The **Biotechnology** specialization emphasizes bioprocessing, protein engineering, computational biology, and federal regulations, and is designed to prepare individuals to conduct or supervise research and development in biotechnology or medical fields. This is a highly inter-and multi-disciplinary degree with the flexibility to allow students to tailor the coursework to meet their individual career goals.



The **Computational Health Informatics** specialization is a highly interdisciplinary degree that prepares the next generation of engineers for a career in the technological transformation of healthcare. This specialization places specific emphasis on mobile computing, medical imaging and instrumentation, wearable sensors, multimodal data mining, and information security as applied to healthcare delivery. Driven by a strong market demand, the program is designed to provide students with a solid background in analytical methodologies, computational tools, devices, physiological modeling and simulation, and biomedical devices relevant to healthcare applications for detecting diseases, assisting with treatment, and monitoring efficacy of therapeutic interventions.

The **Network Communication** specialization builds upon ETAC and ABET-accredited bachelor's degree programs in computer science, electronic, or electrical engineering technology, and related fields and provides an advanced knowledge of computer networks with a diverse set of courses in networking fundamentals, security, network management, protocols, programming, and algorithms. Furthermore, application areas such as optical networking, sensor networks, smart grid, mobile computing, and wireless networks are also available. Advanced applied research opportunities provide an enriching academic experience. Additionally, the program encourages practical experiences through industry partnerships. Our graduates fill vital engineering management and supervisory roles in every industry where networking technologies are essential, including energy, chemical, healthcare, telecommunications and aerospace.

The **Mechanical Engineering Technology** specialization builds upon ABET- accredited mechanical bachelor's degrees and related fields, providing students with highly developed expertise in the design and analysis of mechanical systems. This specialization provides an integrated multi-disciplinary program designed to prepare individuals with practical and theoretical skills in technology that focus on applied mechanical engineering. This relationship facilitates the translation of research findings to meet current industry needs. With state-of-the-art teaching and research laboratories, the MET specialization offers courses and cutting-edge research experiences in several applied areas including instrumentation and measurement, biomedical systems, advanced materials design, manufacturing, systems integration, oil and gas applications, and energy.

For more information, click here: www.uh.edu/technology/departments/et/.

Admission Requirements

For more information on applying to this program and for additional admission requirements, click here: <http://www.uh.edu/graduate-school/admissions/how-to-apply/>.

Degree Requirements

Biotechnology Specialization Course Requirements

Credit hours required for this degree: 30.0

The Engineering Technology master's degree with specialization in Biotechnology requires 30 credit hours, or 10 three-credit courses.

Core Courses (6.0 Credit Hours)

ELET 6360 - Experimental Design & Data Analysis **Credit Hours: 3.0**

TEPM 6301 - Project Management Principles **Credit Hours: 3.0**

Emphasis Area (18.0 Credit Hours, choose six courses - Thesis Track; 21.0 Credit Hours, choose seven courses - Project Track; 24.0 Credit Hours, choose eight courses - Course Only Track)

BTEC 6100 - Seminar in Biotechnology **Credit Hours: 1**

BTEC 6101 - Biotechnology Techniques Metho **Credit Hours: 1**

BTEC 6300 - Standards in Biotechnology **Credit Hours: 3.0**

BTEC 6302 - Introduction to Regulatory Affairs **Credit Hours: 3**

BTEC 6303 - Protein Engineering Technology **Credit Hours: 3**

BTEC 6304 - Computational Methods in BTEC **Credit Hours: 3**



BTEC 6401 - Bioprocessing in Biotechnology Credit Hours: 4
BTEC 6397 - Selected Topics in BTEC Credit Hours: 3

Research Credits Thesis Track (6.0 Credit Hours)

BTEC 6399 - Thesis Credit Hours: 3 (2 semesters)

Research Credits Project Track (3.0 Credit Hours)

BTEC 6396 - Masters Project in BTEC Credit Hours: 3
Additional BTEC Course Credit Hours: 3.0

Course Only Track (6.0 Credit Hours)

Accelerated B.S./M.S. Degree Program in Biotechnology

The Accelerated B.S./M.S. degree program is open to qualified undergraduate Technology majors in Biotechnology with a specialization in either Bioprocessing or Bioinformatics who plan to continue their education at the graduate level upon completion of the B.S. degree. Students that are accepted into the accelerated program can take up to six (6) graduate credit hours that are applied to both the Biotechnology bachelor's degree and the Engineering Technology master's degree with a specialization in Biotechnology.

Students can pursue the thesis, project, or course only track to complete their graduate degree. The B.S. degree will be conferred upon completion of the undergraduate curriculum requirements with appropriate graduate courses substituted for undergraduate courses. The graduate degree will be awarded based on existing requirements for the graduate degree in the semester that the student applies and is admitted to the graduate program and must be completed within five years of completion of the first graduate-level course. Admission into the graduate program is not guaranteed based on admission to the B.S./M.S. degree program.

Computational Health Informatics Specialization Course Requirements

Credit hours required for this degree: 30.0

The Engineering Technology master's degree with a specialization in Computational Health Informatics requires 30 credit hours, or 10 three-credit courses.

Core Courses (6.0 Credit Hours)

ELET 6305 - Analytical Methods in Engineering Technology Credit Hours: 3.0
TEPM 6301 - Project Management Principles Credit Hours: 3.0

Prescribed Electives (Choose 12.0 Credit Hours Minimum)

ELET 6331 - Fundamentals of Medical Imaging Credit Hours: 3.0
ELET 6332 - Physiological Systems Modeling and Simulation Credit Hours: 3.0
2 Advisor Approved Electives Credit Hours: 6.0

Free Electives (Choose 6.0 Credit Hours - Thesis Track; 9.0 Credit Hours - Project Track; 12.0 Credit Hours - Course Only Track)

ELET 6300 - Computer Network Programming Credit Hours: 3.0
ELET 6305 - Analytical Methods in Engineering Technology Credit Hours: 3.0



ELET 6308 - Mobile Computing Credit Hours: 3.0
ELET 6325 - Practicum in Engineering Technology Credit Hours: 3.0
BTEC 6304 - Computational Methods in BTEC Credit Hours: 3
FORE 6311 - Introduction to Foresight Credit Hours: 3.0
CIS 6321 - Introduction to Information System Security Credit Hours: 3.0
CIS 6322 - Secure Enterprise Computing Credit Hours: 3.0
MIS 7373 - Business Applications of Database Management Systems I Credit Hours: 3
MIS 7376 - Systems Analysis and Design Credit Hours: 3.0
ENTR 7390 - Technology Entrepreneurship Credit Hours: 3.0

Research (6.0 Credit Hours - Thesis Track; 3.0 Credit Hours - Project Track)

ELET 6399 - Master's Thesis Credit Hours: 3 (2 semesters)
ELET 6396 - Master's Project Credit Hours: 3.0

Mechanical Engineering Technology Specialization Course Requirements

Credit hours required for this degree: 30.0

The Engineering Technology master's degree with a specialization in Mechanical Engineering Technology requires 30 credit hours, or 10 three-credit courses.

Core Courses (3.0 Credit Hours)

MECT 6305 - Analytical Method in Engineering Technology Credit Hours: 3.0

Prescribed Electives (Choose 21.0 Credit Hours)

MECT 6322 - Computer Aided Engineering I Credit Hours: 3.0
MECT 6340 - Materials Selection and Management Credit Hours: 3.0
MECT 6397 - Selected Topics Credit Hours: 3

Topic(s):

Fundamentals and Applications of Fuel Cells
Advanced Fluid Mechanics
Applied Heat Transfer
Materials Selection for Energy Sources
Energy Systems Economics
Applications in Stress Analytics
Rheology of Energy Related Fluids

Outside Electives (Credit Hours: 6.0)

Two (2) outside electives from approved list or additional two (2) MECT courses from above list

Research Credits Thesis Track (6.0 Credit Hours)

MECT 6399 - Thesis Credit Hours: 3 (2 semesters)

Research Credits Project Track (6.0 Credit Hours)



MECT 6396 - Master's Project Credit Hours: 3.0

MECT 6398 - Special Problems in Mechanical Engineering Technology Credit Hours: 3.0

The above courses cannot be taken consecutively.

Network Communications Specialization Course Requirements

Credit hours required for this degree: 30.0

The Engineering Technology degree with a specialization in Network Communication requires 30 credit hours, or 10 three-credit courses.

Core Courses (6.0 Credit Hours)

ELET 6318 - Analysis of Data Networks Credit Hours: 3.0

TEPM 6301 - Project Management Principles Credit Hours: 3.0

Prescribed Electives (Choose 12.0 Credit Hours Minimum)

ELET 6100 - Seminar in Engineering Technology Credit Hours: 1.0

ELET 6300 - Computer Network Programming Credit Hours: 3.0

ELET 6302 - Advanced Wireless Networks Credit Hours: 3.0

ELET 6303 - Applied Neural Networks Credit Hours: 3.0

ELET 6312 - Network Management Credit Hours: 3.0

ELET 6313 - Network Security Credit Hours: 3.0

ELET 6316 - Network Routing Algorithms and Protocols Credit Hours: 3.0

ELET 6317 - Optical Networks Credit Hours: 3.0

ELET 6325 - Practicum in Engineering Technology Credit Hours: 3.0

ELET 6398 - Spec Probs in Microcomp. System Credit Hours: 3.0

Free Electives (6.0 Credit Hours - Thesis Track; 9.0 Credit Hours - Project Track; 12.0 Credit Hours - Course Only Track)

Two (2) outside electives from approved list of additional two (2) ELET courses from above list.

Research Credits Thesis Track (6.0 Credit Hours)

ELET 6399 - Master's Thesis Credit Hours: 3 (2 semesters)

Research Credits Project Track (3.0 Credit Hours)

ELET 6396 - Master's Project Credit Hours: 3.0

Academic Policies

University of Houston Academic Policies

Graduate Policies: College of Technology

Bachelor of Science/Master of Science



Biotechnology, Accelerated BS/MS

The Accelerated BS/MS degree program is open to qualified undergraduate Technology majors in Biotechnology with specializations in either Bioprocessing or Bioinformatics wishing to continue their education at the graduate level immediately upon completion of the BS degree. Students that are accepted in the accelerated program take up to eleven graduate credit hours that are applied to both the bachelors' degree and master's degree in Biotechnology. Students may pursue either the thesis or non-thesis master's degree options. The BS degree will be conferred upon completion of the undergraduate curriculum requirements with appropriate graduate courses substituted for undergraduate courses. The graduate degree shall be awarded based on existing requirements for the graduate degree in the semester the student applies and is admitted to the graduate program. Admission is not guaranteed. Application for the accredited program is recommended for undergraduates during their junior year. Application and completion requirements are available from the Engineering Technology department in room 304 of the Technology Building.

Department of Human Development and Consumer Sciences

Chair: Dr. Marcella Norwood

Master of Science

Foresight, MS

The Master of Science in Foresight is an interdisciplinary program that prepares students to become professional futurists or to bring a futures perspective to their current careers. This program uses a wide range of theoretical and practical models to examine the sources, patterns, and causes of change in order to map probable, plausible, and preferable futures.

The unique and rigorous curriculum prepares graduates to enter an emerging professional field that enables businesses, government, non-profits, and other organizations to anticipate and prepare for the future. The degree draws from other academic disciplines including Business, Government and Education. Courses include Futures Research, World Futures, Systems Thinking, Strategic Planning, and Social Change.

For more information, click here: <http://www.uh.edu/technology/departments/hdcs/graduate/fore/index>.

Admission Requirements

For more information on applying to this program and for additional admission requirements, click here: <http://www.uh.edu/graduate-school/admissions/>.

Degree Requirements

Credit hours required for this degree: 30.0

The Foresight master's degree requires 30 credit hours, or 10 three-credit courses.

Required Courses (21.0 Credit Hours)

- FORE 6311 - Introduction to Foresight Credit Hours: 3.0
- FORE 6319 - Proseminar in Foresight Credit Hours: 3.0
- FORE 6331 - Social Change Credit Hours: 3.0
- FORE 6333 - Systems Thinking Credit Hours: 3.0
- FORE 6351 - Futures Research Credit Hours: 3.0
- FORE 6371 - World Futures Credit Hours: 3.0



Domain Courses (6.0 Credit Hours)

Two (2) Advisor-approved Electives Credit Hours: 3.0

Project, Internship, or Thesis (3.0 Credit Hours)

FORE 6395 - Master's Project in Foresight Credit Hours: 3.0

FORE 6396 - Internship Credit Hours: 3.0

FORE 6399 - Master's Thesis Credit Hours: 3.0

Academic Policies

University of Houston Academic Policies

Graduate Policies: College of Technology

Global Retailing, MS

Technology is bringing radical changes to retailing. The Master of Science (MS) in Global Retailing offers unmatched opportunities to learn new strategies and gain deeper insight into the worldwide dynamics and impact of multi-cultural consumer behavior, data analytics, profitability, financial models, channel strategies, E-Commerce, and management models.

This program goes beyond teaching theory to practical applications. Executives in residence and UH faculty provide a stimulating experience in which students explore cross-cultural trends in retail management, including international product sourcing and distribution, applied retail market research and evaluation, and international trade regulations.

The program uniquely prepares innovative, agile retail marketers to successfully propel their careers and emerge as leaders of businesses throughout the global marketplace.

For more information, [click here](#).

Admission Requirements

For more information on applying to this program and additional admission requirements, [click here](#).

Degree Requirements

Credit hours required for this degree: 30.0

The Global Retailing master's degree requires 30 credit hours, or 10 three-credit courses.

Course Requirements for a Master of Science in Global Retailing

Core Courses (18.0 Credit Hours)

GRET 6332 - Consumer Issues and Applications for Global Retailing Credit Hours: 3.0

GRET 6333 - Retail Management and Cross-Cultural Perspectives Credit Hours: 3.0

GRET 6334 - Global E-Tailing Systems Credit Hours: 3.0



GRET 6335 - Regional Retail Markets Credit Hours: 3.0
GRET 6336 - Global Retail Analysis of World Regions Credit Hours: 3.0
HDCS 6300 - Quantitative and Statistical Methods in HDCS Credit Hours: 3.0
OR
TECH 6360 - Exp Design & Data Analysis Credit Hours: 3.0

Required Specialization Electives (6.0 Credit Hours)

Two (2) Advisor-approved Electives Credit Hours: 3.0

Thesis Track (6.0 Credit Hours)

GRET 6399 - Master's Thesis in Global Retailing Credit Hours: 3 (2 semesters)

Course Only Track (6.0 Credit Hours)

Two (2) Advisor-approved Electives Credit Hours: 3.0

Accelerated B.S./M.S. Degree Program in Retailing and Consumer Sciences/Global Retailing

The accelerated B.S./M.S. degree plan is open to qualified undergraduate College of Technology majors in Retailing and Consumer Sciences (RCS) who plan to continue their education at the graduate level upon completion of the B.S. degree. Students that are accepted into the accelerated program can take up to six (6) graduate credit hours that are applied to both the RCS bachelor's degree and to a future master's in Global Retailing.

The B.S. degree will be conferred upon completion of the undergraduate curriculum requirements with appropriate graduate courses substituted for undergraduate courses. The graduate degree will be awarded based on existing requirements for the graduate degree in the semester that the student applies and is admitted to the graduate program and must be completed within five years of completion of the first graduate-level course. Admission into the graduate program is not guaranteed based on admission to the B.S./M.S. degree program.

Academic Policies

University of Houston Academic Policies
Graduate Policies: College of Technology

Human Resource Development, MS

The Master of Science (MS) degree in Human Resource Development (HRD) is designed for the professional who seeks to lead and execute talent development, talent management, and performance strategies in diverse organizations. With a strong emphasis on data and value, students evaluate assumptions, clarify problems or opportunities, design and execute interventions (i.e. learning strategy, on boarding, process improvement, e-learning, performance evaluations etc.). Students evaluate the impact and value of these strategies through the lenses of change, learning, and performance.

Five challenges organizations face today:

- Embedding learning in the flow of work
- Addressing learning through the performance lens
- Identifying the value and impact of talent related strategies
- Building capability for competitiveness and sustainability
- Executing strategies as "change"



The HRD master's degree addresses these concerns and more by partnering with companies to create situated learning experiences that unearth the application of theories, and concepts. Through these partnerships, students better understand related concepts, transfer learning, gain work experiences, and build networks. The program strives to retain a timely and meaningful link between academic learning and the work that HRD professionals do within their organizations.

For more information, [click here](#).

Admission Requirements

For more information on how to apply to this program and for additional admission requirements, [click here](#).

Degree Requirements

Credit hours required for this degree: 30.0

The Human Resource Development master's degree requires 30 credit hours, or 10 three-credit courses.

Core Courses (24.0 credit hours)

HDCS 6300 - Quantitative and Statistical Methods in HDCS Credit Hours: 3.0

HRD 6301 - Leadership Development in HRD Credit Hours: 3.0

HRD 6302 - Design & Management E-Learning Credit Hours: 3.0

HRD 6303 - Assessment & Evaluation in Hrd Credit Hours: 3.0

HRD 6304 - Research in Human Resource Dev Credit Hours: 3.0

HRD 6305 - Organizational Learning Credit Hours: 3.0

HRD 6350 - Foundatn in Human Resource Dev Credit Hours: 3.0

HRD 6352 - Inst Design for Training Envir Credit Hours: 3.0

HRD 6353 - Methods of Adult Learning Credit Hours: 3.0

Thesis Track (6.0 Credit Hours)

Course Only Track (6.0 Credit Hours)

Two (2) courses from the approved list or by consent via petition from the graduate faculty advisor prior to enrollment.

Human Resource Development Executive Program (M.S.)

The Executive Master of Science in Human Resource Development is a unique, experiential program that develops participants to lead strategy execution by leveraging learning and change from a global perspective. The program enables graduates to leverage learning and change theory, frameworks, tools and techniques that facilitate strategy execution. An integral component of curriculum is immediate workplace application.

Students are required to complete action research projects that relate to change and learning in a work setting. The action research projects start during the first semester and extend throughout the program, resulting in a capstone presentation in the final semester.

Accelerated B.S./M.S. Degree Plan in Human Resource Development

The accelerated B.S./M.S. degree plan is open to qualified undergraduate College of Technology majors in Human Resource Development (HRD) who plan to continue their education at the graduate level upon completion of the B.S. degree. Students that are accepted into the accelerated program can take up to six (6) graduate credit hours that are applied to both the HRD bachelor's degree and to a future master's in HRD.



The B.S. degree will be conferred upon completion of the undergraduate curriculum requirements with appropriate graduate courses substituted for undergraduate courses. The graduate degree will be awarded based on existing requirements for the graduate degree in the term that the student applied and is admitted to the graduate program and must be completed within five years of completion of the first graduate-level course. Admission into the graduate program is not guaranteed based on admission to the B.S./M.S. degree plan.

Academic Policies

University of Houston Academic Policies
College Academic Policies

Graduate Certificate

Strategic Foresight Certificate

Advisor: Dr. Andy Hines

The Certificate in Strategic Foresight, offered by the Foresight Program in the Department of Human Development and Consumer Sciences, is an interdisciplinary certificate that provides professional development for those interested in scanning, trend analysis, forecasting, and planning. The unique curriculum emphasizes future planning, creativity, and innovation and it applies theoretical and practical models for understanding change and to map plausible future scenarios and develop plans to prepare for them.

Core Courses (12.0 Credit Hours)

FORE 6311 - Introduction to Foresight Credit Hours: 3.0
FORE 6333 - Systems Thinking Credit Hours: 3.0
FORE 6351 - Futures Research Credit Hours: 3.0
FORE 6371 - World Futures Credit Hours: 3.0

Department of Information and Logistics Technology

Chair: Enrique Barbieri, Ph.D.

Program Coordinator: William Arthur Conklin, Ph.D.

Associate Professor: William Arthur Conklin, Ph.D.

Assistant Professors: Chris Bronk, Ph.D., Denise Kinsey, Ph.D., and Yunpeng (Jack) Zhang, Ph.D.

Department Overview

The department of Information and Logistic Technology offers undergraduate and graduate degrees that prepare individuals for leadership roles in technology and information-based workplaces.

Master of Science

Cybersecurity, MS



The Master of Science (MS) degree in Cybersecurity is a hands-on program that prepares students for responsible leadership roles in technology and information-based workplaces. Designed for working professionals, the program connects theory and experiential learning to equip technology professionals with the skills required to assess the security needs of information systems and to lead and manage the implementation and maintenance of the recommended security solutions.

This program focuses on the development of key management skills within a project management framework. In collaboration with the Center for Information Security Research and Education, students are given the opportunity to engage in state-of-the-art applied research. The Cybersecurity master's is recognized as a National Security Agency/Department of Homeland Security Center of Academic Excellence in Information Assurance Education.

Admission Requirements

For more information on applying to this program and for the additional admission requirements, [click here](#).

Students may be required to complete prerequisite courses.

Degree Requirements

Credit hours required for this degree: 30.0

The Cybersecurity master's degree requires 30 credit hours, or 10 three-credit courses.

Core Courses (21.0 Credit Hours)

- CIS 6321 - Introduction to Information System Security Credit Hours: 3.0
- CIS 6322 - Secure Enterprise Computing Credit Hours: 3.0
- CIS 6323 - Cryptography & Information Systems Security Credit Hours: 3.0
- CIS 6324 - Information Sys Sec Risk Credit Hours: 3.0
- CIS 6325 - Network Security Credit Hours: 3.0
- CIS 6326 - Critical Thinking in Information Security Credit Hours: 3
- TEPM 6301 - Project Management Principles Credit Hours: 3.0

Prescribed Electives (Thesis or Project Track, 6.0 Credit Hours; Course Only Track, 9.0 Credit Hours)

Advisor-approved Electives **Credit Hours: 3.0**

Project or Thesis (3.0 Credit Hours)

- CIS 6399 - Master's Thesis Credit Hours: 3
- CIS 6396 - Internship in Information Security Credit Hours: 3.0

Bachelor of Science/Master of Science

Computer Information Systems/Cybersecurity, Accelerated BS/MS

The Accelerated BS/MS plan in Computer Information Systems (CIS)/Cybersecurity is open to qualified undergraduate CIS Technology major with a specialization in Information Security who plan to continue their education at the graduate level upon completion of the BS degree. Students who



are accepted into the accelerated program can take up to six (6) graduate credit hours that are applied to both CIS bachelor's and to a future Cybersecurity master's degree.

Students can pursue either the thesis, project, or course-only master's degree options. The B.S. degree will be conferred upon completion of the undergraduate curriculum requirements with appropriate graduate courses substituted for undergraduate courses. The graduate degree shall be awarded based on existing requirements for the graduate degree in the semester that the student applies and is admitted to the graduate program and must be completed within five years of completion of the first graduate-level course.

Graduate level admission is not guaranteed.

Application for the accredited program is recommended for undergraduates during their junior year.



Graduate Faculty: College of Technology

Ahmed Abdelhadi. Assistant Professor, Engineering Technology.

Kamran Alba. Assistant Professor, Engineering Technology; B.S.M.E., Iran University of Science and Technology; M.E., University of Western Ontario, Canada; Ph.D., University of British Columbia.

Enrique Barbieri. Chair and Professor, Information and Logistics Technology; B.S., M.S., and Ph.D., The Ohio State University.

Farouk G. Attia. Associate Professor, Engineering Technology; B.S.M.E. and M.S.M.E., Cairo University, Egypt; Ph.D., University of Houston.

Venkatesh Balan. Assistant Professor, Engineering Technology; B.Sc. and M.Sc., Madras University, India; Ph.D., Indian Institute of Technology.

Burak Basaran. Assistant Professor, Engineering Technology; B.S., Osmangazi University, Turkey; M.S., Gazi University, Turkey; M.S. and Ph.D., Texas A&M University.

Driss Benhaddou. Associate Professor, Engineering Technology; B.S., University of Abdelmalek Essaadi, Morocco; M.S. and Ph.D., University of Montpellier, France; Ph.D., University of Missouri.

Amina Bose. Associate Professor, Engineering Technology; B.S. and M.S., Rajshahi University; M.S., Georgetown University; Ph.D., Kent State University.

Chris Bronk. Assistant Professor, Cybersecurity; B.S., University of Wisconsin; M.S. and Ph.D., Syracuse University.

Lila Carden. Instructional Assistant Professor, Construction Management; B.B.A. and Ph.D., Texas A&M University; M.B.A., University of Houston.

Wm. Arthur Conklin. Director for the Center for Information Technology Security Research and Education (CISRE), Program Coordinator and Professor, Information and Logistics Technology; B.A., Washington University in St. Louis; M.S.E.E. and E.E., Naval Postgraduate School; M.B.A. and Ph.D., University of Texas at San Antonio.

Zia Din. Assistant Professor, Construction Management; B.E., University of Engineering and Technology, Pakistan; M.S. Hanyang University, South Korea; Ph.D., Arizona State University.

Neil Eldin. Professor, Construction Management; P.E., C.P.C., and B.S., Cairo University, Egypt; M.S., Concordia University; M.S., McGill University, Canada; Ph.D., Oklahoma State University.

Medhat El Nahas. Assistant Professor, Engineering Technology; B.S., and M.S., Cairo University, Egypt; M.M.E., Rice University; Ph.D., University of Houston.

Jerry Evans. Instructional Professor, Information and Logistics Technology; B.A., University of Houston; M.A., University of Houston-Clear Lake; Ph.D., The Union Institute and University.

Shirley Ezell. Associate Professor, Human Development and Consumer Sciences; B.S., Baylor University; M.S. and Ph.D., Texas Women's University.

Zheng Fan. Assistant Professor, Engineering Technology; B.A., Nanjing University of Science and Technology, China; M.S., Shanghai Jiao Tong University, China; Ph.D., Michigan State University.

Albert Flavier. Instructional Assistant Professor, Engineering Technology; B.S., University of the Philippines; M.S., University of South Carolina; Ph.D., University of Georgia.

Lu Gao. Associate Professor, Construction Management; B.E., Tsinghua University, Beijing, China; M.S. and Ph.D., The University of Texas.

Sivakumar Ganapathy. Program Coordinator Biotechnology and Assistant Professor, Engineering Technology.

Carole E. Goodson. Professor, Human Development and Consumer Sciences; B.S., M.Ed., and Ed.D., University of Houston.



Tomika Greer. Assistant Professor, Human Development and Consumer Sciences; B.S., North Carolina State University; M.Ed., Texas Tech University; Ph.D., Texas A&M University.

Deniz Gürkan. Associate Professor, Engineering Technology and Computer Science; B.S. and M.S., Bilkent University, Turkey; Ph.D., University of Southern California.

Andrew Hines. Program Coordinator of Foresight and Assistant Professor, Human Development and Consumer Sciences; B.A., M.S., and Ph.D., Leeds Metropolitan University, United Kingdom.

Ron Hopkins. Program Coordinator and Instructional Associate Professor, Construction Management; B.A., M.S., and Ph.D., University of Mississippi.

Holly M. Hutchins. Chair and Professor, Human Development and Consumer Sciences; B.A., M.A., and Ph.D., University of North Texas.

Rupa Iyer. Professor, Engineering Technology; B.S., St. Xavier's University, Mumbai; M.S., Mumbai University; Ph.D., Michigan State University.

Olivia Johnson. Assistant Professor, Human Development and Consumer Sciences; B.S., Florida A&M University; M.S. and Ph.D., Auburn University.

Denise Kinsey. Assistant Professor, Information and Logistics Technology; B.S., Bowling Green State University; M.B.A, University of Toledo; Ph.D., Northwestern Polytechnical University, China.

Jamison V. Kovach. Professor, Construction Management; B.S.T.E., North Carolina State University; M.S.T.T., Institute of Textile Technology; Ph.D., Clemson University.

Amaury Lendasse. Associate Professor, Information and Logistics Technology; B.S., MS., and Ph.D., Université Catholique de Louvain, Belgium.

Ricardo Lent. Program Coordinator of Network Communication and Associate Professor, Engineering Technology; B.S., Ricardo Palma University; M.S., Universidad Nacional de Ingenieria; M.S. and Ph.D., University of Central Florida.

Peggy Lindner. Assistant Professor, Information and Logistics Technology; B.S. and M.S., Freiberg University of Mining and Technology, Germany; Ph.D., Stuttgart University, Germany.

Heidar A. Malki. Associate Dean and Professor, Engineering Technology; B.S.E.E., M.S.E.E., and Ph.D., University of Wisconsin-Milwaukee.

Fatima Merchant. Program Coordinator of Computational Health Informatics and Associate Professor, Engineering Technology, Electrical and Computer Engineering, Computer Science, and Biomedical Engineering; B.E., University of Bombay; M.S. and Ph.D., The University of Texas at Austin.

Mequanint Moges. Interim Chair and Instructional Professor, Engineering Technology; B.Sc., Addis Ababa University; M.Eng.Sc., University of New South Wales; Ph.D., Stony Brook University.

Marcella L. Norwood. Program Coordinator and Associate Professor, Human Development and Consumer Sciences; B.S. and M.E., San Jose State University; M.E., Colorado State University; Ed.D., Auburn University.

Jamie Ortiz. Associate Professor, Human Development and Consumer Sciences; B.Sc., University of Chile; M.A., Institute of Social Studies, Erasmus University, The Netherlands; Ph.D., Virginia Tech University.

Daiane Polesello. Instructional Assistant Professor, Human Development and Consumer Sciences; B.B.A, Faculdades Decisao Borges de Mendonca, Brazil; Professional M.B.A., Fundacao Getulio Vargas, Brazil; M.B.A, University of Blumenau (FURB), Brazil, and Ph.D., University of Minnesota-Twin Cities.

Luca Pollonini. Assistant Professor, Engineering Technology and Electrical and Computer Engineering; B.S., M.S., and Ph.D., University of Brescia, Italy.

Francisco Robles Hernandez. Associate Professor, Engineering Technology; B.S. and M.S., National Polytechnic Institute, Mexico; Ph.D., University of Windsor, Canada.

Ahmed Senouci. Associate Professor, Construction Management; B.S.C.E., National Polytechnic School of Algiers; M.S. and Ph.D., University of Wisconsin-Madison.



Wajiha Shireen. Professor, Engineering Technology; B.S.E.E., Bangladesh University of Engineering Technology; M.S.E.E. and Ph.D., Texas A&M University.

Lingguang Song. Chair and Professor, Construction Management; B.E. and M.E., Tianjin University, China; Ph.D., University of Alberta, Canada.

Barbara L. Stewart. Professor, Human Development and Consumer Sciences; C.F.C.S., B.A., and Ed.D., Brigham Young University; M.S., Utah State University.

Consuelo Waight. Program Director, Human Resource Development Executive Master's; Program Coordinator, Human Resource Development; Associate Professor, Human Development and Consumer Sciences; B.A., University College of Belize; M.Ed. and Ph.D., University of Illinois at Urbana-Champaign.

Weihang Zhu. Program Coordinator, Mechanical Engineering Technology, and Associate Professor, Engineering Technology; B.S. and M.S., Zhejiang University, China; Ph.D., North Carolina State University.

Xiaojing Yuan. Associate Professor, Engineering Technology; B.S., Hefei University; M.S., University of Science and Technology of China; M.S. and Ph.D., Tulane University.

Xuqing (Jason) Wu. Assistant Professor, Information and Logistics Technology; B.S., University of Science and Technology, Beijing, China; M.Sc., University of Alberta, Canada; Ph.D., University of Houston.

Zhang, Yunpeng (Jack). Assistant Professor, Information and Logistics Technology; B.S., M.Sc., and Ph.D., Northwestern Polytechnical University, China.

George Zouridakis. Associate Dean, Research and Graduate Studies and Professor, Engineering Technology, Electrical and Computer Engineering, and Biomedical Engineering; B.S., University of Rome, Italy; M.S. and Ph.D., University of Houston.



Special Programs and Opportunities

Army Reserve Officers Training Corps (ROTC)

The objective of the Army Reserve Officers Training Corps (ROTC) program is to produce high quality leaders for the United States Army. Upon completion of a degree and the ROTC advanced course, students may be offered a regular or reserve commission in the United States Army, Army Reserve or National Guard. Interested students should contact the Department of Military Science at 743-3875 or write to:

*Department of Military Science
Hofheinz Pavilion
3422 Cullen Boulevard Room 28
Houston, TX 77204-6014
Email: armyrotc@uh.edu*

Cooperative Education

The Cooperative Education Program (CO-OP) is a documented internship which appears on a currently enrolled student's university transcript. CO-OP experience enables students to receive valuable educational training with pay in the student's major field of study either part-time (parallel) or full-time (rotational). Students in certain colleges and programs are eligible to participate in CO-OP after completing a minimum of two semesters within their major field of study, including transfer, graduate and international students on F1-Visas. Students are required to submit work report at the end of each CO-OP semester to document receiving work experience in their major field of study and to receive a grade on the official transcript. The CO-OP program is only available to students in selected colleges and programs. Currently, CO-OP positions are available to students in Engineering, Business, Natural Science and Mathematics, Architecture, Music, Communication, Technology, PharmD, and Law.

For further information, contact:

*University of Houston
Director of Cooperative Education
Engineering Bldg 1
4726 Calhoun Rd, Room 302
Houston, TX 77204-4028
713-743-4230
career.egr.uh.edu/students/coop*

Graduate-Level Inter-institutional Agreement

The University of Houston has a reciprocal arrangement with selected regional universities that enables enrolled, full-time graduate students to take a maximum six hours of graduate-level course work at those participating institutions. Institutions participating in this inter-institutional agreement are Baylor College of Medicine, Rice University, the University of Texas Health Science Center at Houston and the University of Texas Medical Branch. The agreement with these other institutions provides for special admission arrangements, procedures for registration, and posting of final grades. To be eligible to utilize this program, a student must meet the following criteria: they must be enrolled full-time (including the proposed inter-institutional course), the course involved must cover a topic not being offered at the UH main campus, and the course must be required for student's degree plan. Also, students are prohibited from participating in the inter-institutional program during the semester in which they intend to graduate.

Students should initiate this process by completing an inter-institutional course registration form (www.uh.edu/graduate-school/forms) and submitting it to the Office of the University Registrar in the Welcome Center. In all cases, the student bears the responsibility for completing all necessary paperwork, obtaining all required signatures, and delivering documents between the institutions. Failure to complete the full registration



process may invalidate the credit earned at the partner institution. Students will be enrolled in special course numbers at the University of Houston will be billed tuition and fees at this institution. Payment for inter-institutional coursework must be made on time according to the university's fee payment calendar along with all other coursework being taken at UH during that term.

Language and Culture Center

The Language and Culture Center (LCC), housed in the Department of English, is an intensive English program providing noncredit English language instruction to undergraduate and graduate international students who have not yet been admitted to degree programs because they need to improve their reading, writing, grammar, or spoken English skills to compete successfully in the university classroom.

International Graduate Teaching Assistants who score low on the Test of Spoken English (TSE), the Speaking Proficiency English Assessment Kit (SPEAK), or other nationally standardized tests may enroll for LCC 6034: English for International Teaching Assistants and Faculty, a noncredit course on English pronunciation and U.S. academic culture.

LCC courses do not count toward degrees, but do count toward full-time student status for immigration reporting purposes and for calculation of building use and student service fees.

For further information, contact:

*University of Houston
Department of English
Language and Culture Center
116 Roy Cullen Building
Houston, TX 77204-3014
Office: 713-743-3030
Fax: 713-743-3029
E-mail: lcc@uh.edu
Internet: lcc.uh.edu*

Learning Abroad

Learning Abroad (LA) facilitates opportunities for UH students to participate in a variety of academic and non-academic programs abroad. It is located in suite 105 of the Ezekiel W. Cullen Building. Learning Abroad is responsible for designing the policies and procedures for students participating in learning abroad programs and in assisting the colleges, departments, faculty and students in fulfilling academic requirements.

Undergraduate and graduate students interested in learning abroad have a wide variety of resources available. Students are able to enroll in any one of the following programs: Faculty-Led Programs, Reciprocal Educational Exchange Programs, Affiliated Programs, Visiting International Studies Program, Research Collaboratives, Internships, and Experiential Learning, Service Learning Programs.

Learning Abroad advisors and support staff are available at the LA to assist students in finding the right programs, equating foreign coursework to UH courses, evaluation of foreign transcripts, and assuring students' health and safety abroad. LA operates a U.S. Passport Acceptance Facility where U.S. students, faculty and staff can have their passport applications processed. LA staff have been trained as Acceptance Agents who meet all U.S. Department of State requirements for operating a Passport Acceptance Facility.

Contact Information:

*713-743-9167
105 E Cullen Building
Internet: www.uh.edu/learningabroad*

Noncredit Programs and Courses



UH Online & Special Programs provides a broad array of noncredit certificate programs. Focusing on career and professional development, these opportunities are designed to respond to the expressed needs of Houston's business community. For further information about noncredit courses and programs, visit www.outreach.uh.edu.

The **Moore School of Music Preparatory and Continuing Studies Department** offers private music instruction and classes to students of all ages. Professional Development workshops for music educators are offered on a variety of topics through the year. For more information, call 713-743-3398 or visit www.pcs.uh.edu.

Oak Ridge Associated Universities Consortium

The University of Houston is a member of Oak Ridge Associated Universities (ORAU), a consortium of colleges and universities and a management and operating contractor for the U.S. Department of Energy located in Oak Ridge, Tennessee. ORAU works with its member institutions to help their students and faculty gain access to federal research facilities throughout the country; to keep its members informed about opportunities for fellowship, scholarship, and research appointments; and to organize research alliances among its members. Undergraduates, graduates, postgraduates and faculty have access to a multitude of opportunities for study and research. Students can participate in programs covering a wide variety of disciplines including business, earth sciences epidemiology, engineering, physics, pharmacology, ocean sciences, biomedical sciences, nuclear chemistry, and mathematics. For more information about ORAU and its programs, visit www.orau.org.

Online & Special Programs

The University of Houston offers online degree programs for a true education without limits. In addition to online programs, the University of Houston also offers hybrid and short session courses.

Graduate level credit courses offered online from selected degree programs are taught by University of Houston faculty and have the same prerequisites, content, and requirements as on the University of Houston main campus. UH Online & Special Programs coordinates the delivery of courses online. For further information about credit courses offered by UH Online & Special Programs, visit <http://www.uh.edu/online> or call 713-743-3327.

Phi Kappa Phi

Phi Kappa Phi is a national honor society that recognizes superior scholarship in all academic disciplines at the university.

Founded in 1897, Phi Kappa Phi has as its primary objective the recognition and encouragement of superior scholarship. The University of Houston chapter, chartered in November 1949, is the only honor society on campus that is wholly university-wide and includes faculty members, administrators, and undergraduate and graduate students in every division of the university.

Each year Phi Kappa Phi elects to membership a limited number of juniors, seniors, and graduate or professional students who are of good character and have attained outstanding records of academic excellence at the university.

Veterans and Dependents G.I. Bill

Veterans and dependents who wish to claim education benefits should go to **Veterans' Services**, room N202 University Center for information and assistance. Re-certification is necessary each semester for veterans who wish to continue drawing benefits. Enrollment certification cannot be processed until a degree plan/requirement checklist and Advisor Verification of Veteran Enrollment form for the semester certified is in the veteran's file and initial payment for courses is made. Visit www.uh.edu/veterans for further information.

The **Office of the University Registrar** is responsible for submitting certifications for educational benefits to the Veterans Administration under federal guidelines. Requests for enrollment certification including all documentation should be made in room 128 Welcome Center. Requests for certification may be made in 128 Welcome Center during regular office hours, 8:00 a.m.-5:00 p.m., Monday through Friday.



Courses

Accounting

ACCT 7A98 - Research

Credit Hours: 1.5

Lecture Contact Hours: 1.5 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and approval of chair.

Research in accounting and taxation.

May be repeated as appropriate to degree plan.

ACCT 6331 - Financial Accounting

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Introduction to transaction analysis, recording, preparation, and understanding of basic financial statements.

ACCT 7105 - MS/Accountancy Colloquium

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Introduction to the business environment of professional CPAs.

May be repeated when topics vary.

ACCT 7330 - Advanced Accounting

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and ACCT 3368, ACCT 5368 or equivalent.

Selected problems with emphasis on partnerships and business combinations.

ACCT 7337 - Oil & Gas Taxation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

This course examines the fundamental property concepts governing oil and gas taxation. Topics include geological and geophysical costs, intangible drilling costs, equipment costs, dry hole costs, and abandonment.

ACCT 7340 - Financial Statement Analysis

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and ACCT 3368, ACCT 5368, ACCT 6331 or equivalent.

Analysis of financial statements and related disclosures for business decisions such as investing, lending, and valuation.

ACCT 7350 - International Financial Reporting & Analysis

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and completion or concurrent enrollment in ACCT 4330, ACCT 5330, ACCT 7330 or equivalent.



A comparison of International Financial Reporting Standards (IFRS) and U.S. Financial Reporting Standards, analysis of foreign firms' financial statements, multi-national firms, foreign currency translations/transactions, and transfer pricing.

ACCT 7360 - Partnership Taxation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and ACCT 4331, ACCT 5331 or equivalent, and completion or concurrent enrollment in ACCT 4332, ACCT 5332, ACCT 7375 or equivalent.

A comparative study of the tax implication of conducting a business operation as a trust, partnership, or as a Subchapter S corporation. Tax planning considerations are emphasized.

ACCT 7362 - Tax Research

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and ACCT 4331, ACCT 5331 or equivalent, and completion or concurrent enrollment in ACCT 4332, ACCT 5332, ACCT 7375 or equivalent.

Business situations and appropriate alternative plans to minimize taxes, emphasizing the impact of taxes on business decisions.

ACCT 7363 - Contemporary Accounting Topics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and ACCT 4330, ACCT 5330, ACCT 7330 or equivalent.

Evaluation and review of current topics in accounting including SEC financial reporting requirements.

ACCT 7367 - Advanced Internal Auditing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing, approval of department chair, ACCT 4335, ACCT 5335 or equivalent, GENB 7303, and ACCT 4375, ACCT 7365, ACCT 7370, ACCT 7385 or equivalent.

Critical evaluation of internal auditing methods and operational audits.

ACCT 7370 - Advanced Financial Statement Auditing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: ACCT 7370 - Advanced Auditing.

Prerequisite: Graduate standing and ACCT 4335, ACCT 5335 or equivalent.

Current issues in financial statement auditing with an emphasis on the practical application of authoritative auditing standards.

ACCT 7372 - Multijurisdictional Taxation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: ACCT 7372 - International Taxation.

Prerequisite: Graduate standing and ACCT 4331, ACCT 5331 or equivalent. Pre- or co-requisite: ACCT 4332, ACCT 5332, ACCT 7375 or equivalent.

Comparative study of state, local, and international tax systems.

ACCT 7373 - Applied Data Analytics in Accounting I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Bauer graduate standing.

This course introduces data acquisition and description, enabling the student to: (a) begin the understanding of the importance and use of Data



Analytics and (b) develop R and SQL skills - which will build competency in Data Analytics and prepare the student for the study of advanced analytics topics as they apply to the fields of accounting, audit and tax.

ACCT 7374 - Applied Data Analytics in Accounting II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Bauer graduate standing and completion of ACCT 7373.

This course continues the study of Data Analytics with advanced statistical learning theory complemented by application in the Microsoft Azure Machine Learning environment. Projects focus on accounting, audit and tax scenarios. The knowledge acquired in this course will prepare the student to apply advanced analytics methodologies and tools to a wide range of accounting, audit and tax issues.

ACCT 7375 - Corporate Taxation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Follows the life cycle of a corporation and examines the federal tax issues encountered at each stage. The course also provides an introduction to flow-through entities. Emphasis is placed on understanding how taxes relate to business decisions and planning.

ACCT 7378 - Government and Non-Profit Accounting

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and ACCT 3367, ACCT 5367, ACCT 6331 or equivalent.

Accounting for municipalities, health service organizations, hospitals, and other nonprofit entities.

ACCT 7380 - Advanced Corporate Taxation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and ACCT 7375 or its equivalent.

Corporate reorganizations and consolidated corporate tax returns.

ACCT 7382 - Governance, Risk and Compliance

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and ACCT 4335, ACCT 5335 or equivalent.

Study of an organization's hierarchical approach to identifying and managing business risk while complying with applicable regulatory, legal and contractual requirements.

ACCT 7385 - Fraud Examination

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and ACCT 4335, or ACCT 5335 or equivalent.

An examination of fraud, including asset misappropriation, corruption and fraudulent financial statements, the causes and symptoms of fraud, and the implementation of adequate internal controls to deter fraudulent activity.

ACCT 7386 - Oil & Gas Accounting 1

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

This course covers the basic financial accounting and reporting issues related to oil and gas producing activities. Topics covered include recording transactions, financial reporting, the acquisition of mineral interests, and lease agreements.



ACCT 7387 - Oil & Gas Accounting 2

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing and ACCT 7386.

Oil & Gas Accounting 2 builds on knowledge from Oil & Gas Accounting 1. The course covers financial accounting and auditing issues in the upstream, midstream, downstream, and oilfield services. Subject-matter experts and professionals provide in-depth lectures and discussions about current events in the energy sector.

ACCT 7388 - Oil & Gas Accounting 3

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing and ACCT 7386.

Oil & Gas Accounting 3 completes students' knowledge of the Oil and Gas/Energy Industry. Subject-matter experts and professionals provide in-depth lectures and discussions about current events in the energy sector. Topics covered include contracts and agreements, oil and gas taxation, integrated audits, and risks.

ACCT 7396 - Accounting Internship

Credit Hours: 3.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 3 **Prerequisite:** Graduate standing, enrollment for at least one semester in the MS/Accountancy program, and prior written approval of the chair or program director.

Enhancement of concepts and techniques learned in the classroom through work experience directly related to the auditing or accounting profession. (Internship credit is limited to three credit hours and requires employer evaluation.)

ACCT 7397 - Selected Topics in Accounting

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing and approval of chair or program director.

Note: May be repeated when topics vary.

ACCT 7398 - Research

Credit Hours: 3.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 3 **Prerequisite:** Graduate standing and approval of chair.

Research in accounting and taxation.

May be repeated as appropriate to degree plan.

ACCT 8199 - Dissertation

Credit Hours: 1

Lecture Contact Hours: 1 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing and approval of dissertation chair.

N

Additional Fee Y Fee Type Y

ACCT 8331 - Research Paradigms in Accounting

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing and approval of chair. Available only to those enrolled in the Ph.D. program.

A doctoral Seminar with three objectives: to familiarize first year doctoral students with various paradigms in accounting research, providing students with an overview of the state of research in each field of interest to our faculty, and the important research questions being actively pursued in these



fields; to offer our faculty the opportunity to inform the students of their own specific research interests and describe the projects on which they are currently working; and to assist students in the selection of an area in which to undertake a summer research project jointly with a faculty member.

ACCT 8333 - Capital Market Research

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and approval of chair. Available only to those enrolled in the Ph.D. program.

Overview of research literature on financial accounting research, emphasizing an evaluation of the relationship between accounting information and firm valuation from both the theoretical and empirical perspectives.

ACCT 8335 - Predissertation Research

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and approval of chair. Available only to those enrolled in the Ph.D. program.

ACCT 8396 - Research Practicum

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and approval of instructor.

ACCT 8397 - Selected Topics in Accounting

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and approval of chair.
May be repeated for credit when topics vary.

ACCT 8398 - Special Problems

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and approval of chair.

ACCT 8399 - Doctoral Dissertation

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

N

Additional Fee Y Fee Type Y

ACCT 8699 - Doctoral Dissertation

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

N

Additional Fee Y Fee Type Y

ACCT 8999 - Doctoral Dissertation



Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

N

Additional Fee Y Fee Type Y

African American Studies

AAS 6300 - Africana Study Theory & Method

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 *Cross-Listed As:* AAS 6307 - Seminar On Mlk Jr. & Malcolm X

The course explores critical issues in research theory and methods in Africana Studies, including issues in research designs and tools of analysis.

AAS 6307 - Seminar On Mlk Jr. & Malcolm X

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 The course is a critical study and analysis of the major ideas and doctrines that formed the conceptual frameworks of these two men. It engages explorations of cultural pluralism, self-determination, Pan Africanism, satyagraha, nonviolence, civil disobedience, reform, and revolution.

AAS 6308 - Africana Religion & Biography

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 The course examines Africana religion in the United States, interrogating Christian, Islamic, Hebrew, and traditional African forms by means that include biographies and autobiographies of representative and influential figures.

Anthropology

ANTH 6198 - Special Problems

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1

ANTH 6199 - Thesis

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0

ANTH 6298 - Special Problems

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 2

ANTH 6300 - Foundations of Anthropological Theory

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Investigates Anthropological theory that underpins all Anthropology, plus Archaeology, Socioculture, and Biological Anthropology through readings and class presentations.



ANTH 6301 - Language and Culture

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Anthropology.

Examination of language as a key to the world view of people; theoretical and methodological issues will also be discussed.

ANTH 6310 - Anthropological Research Design

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in anthropology or consent of instructor.

Discussion of research, design, statement of problems, literature search and proper methods of implementing anthropological research.

ANTH 6311 - Issues and Debates in Social/Cultural Theory

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ANTH 6300.

Seminar in recent theory in Sociocultural Anthropology, covering post-structural, postmodern, and other new developments.

ANTH 6312 - Proseminar-Physical Ant

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ANTH 2301 or equivalent.

Survey of current research trends in physical anthropology.

ANTH 6313 - Sem Archaeo Mthds/Thry

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ANTH 2303 or equivalent.

Survey of recent trends in methods and theoretical orientations in American archaeology.

ANTH 6315 - Sem-Ethnographic Anlys

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ANTH 6310 and ANTH 6311 or equivalents.

A critical evaluation of major ethnographic works in terms of methodology, logic of argument, empirical evidence, and justification of conclusions.

ANTH 6317 - Anthropology and Gender

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in anthropology or consent of instructor.

Cross-cultural analysis of gender roles from theoretical and ethnographic perspectives.

ANTH 6318 - Sem in Historical Archaeology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in anthropology or consent of instructor.

Survey of methods and theories in historic site archaeology.

ANTH 6319 - African Myth, Cosmology & Symbol



Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 Analysis of several societies from theoretical and ethnographic perspectives.

ANTH 6320 - Seminar in Citizenship and Political Culture

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate Standing in Anthropology.

Interdisciplinary seminar comparatively examines the history and contemporary significance of citizenship in relation to the political economy of culture through a range of empirical case studies and theoretical formulations.

ANTH 6322 - Seminar in Medical Anth

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** graduate standing in anthropology or consent of instructor.

Interrelationship and influence of biology, culture, and nature on disease patterns and the role of adaptation in disease processes.

ANTH 6325 - Computer-Based Data Analysis in Anthropology

Credit Hours: 3.00

Lecture Contact Hours: 3.0 *Lab Contact Hours:* 0.0 **Prerequisite:** Graduate standing in Anthropology or permission of the instructor.

Study of computer-based data analysis for both quantitative and qualitative anthropological research.

ANTH 6330 - Applied Anthropology

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 Overview of the development of theory and methodology in applied anthropology.

ANTH 6332 - Migration/Borders/Citizenship

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing in Anthropology or permission of Instructor.

It is impossible to examine the questions of migration without also paying critical attention to borders and the ways that borders are used to produce meaningful and consequential differences between places (so-called "nations"). By producing such spatial differences, borders also serve to produce social, political, and legal differences between distinct categories of people, such as "migrants", "refugees", "citizens", "tourists", "business travelers", "foreign students", and so forth. As a result, the critical study of migration and citizenship are inseparable from one another, and neither can be properly understood without also examining borders.

ANTH 6337 - Anthropology of the Life Cycle and Aging

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** graduate standing in anthropology.

In cross-cultural and historical perspective, this course explores the meaning of growing "older" in different cultures and societies.

ANTH 6340 - Anthropology and Literature

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** permission of the instructor.

Applying cultural critiques to works of classic literature by reading them as ethnographic texts.

ANTH 6341 - Cultural Ecology



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in anthropology.

Exploration of the relationship of human cultural behavior to the natural environment, with both ethnographic and archaeological samples.

ANTH 6342 - Food and Culture

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in anthropology.

The relationship of food to humans through its biological, social, economic, political, and symbolic roles.

ANTH 6343 - Anthropology of Wine

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in anthropology.

Investigation of the biological, social, economic, political, and symbolic roles that wine has in human cultures since the first use of wine.

ANTH 6351 - Human Osteology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Anthropology.

Detailed study of the human skeleton and its uses in anthropological research.

ANTH 6363 - Race, Racialization, and the Politics of Culture

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Anthropology or permission of instructor.

This course will seek to situate constructions of "cultural" and "biological" difference in the context of social inequality and subordination.

Specifically, it will examine the social processes by which distinctions and differences of "race" are produced, reproduced, and transformed, and will do so in relation to the related concepts of "ethnicity," "culture," and "nation." The dynamics of race and racism in the United States stressed, but other parts of the world will be compared.

N

Additional Fee N Fee Type N

ANTH 6372 - Mayan Archaeology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in anthropology.

Evolution of prehistoric Mayan culture and the archaeological methods used to obtain and interpret the data.

ANTH 6373 - Aztec Archaeology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in anthropology.

The antecedents and the evolution of the Aztecs and the archaeological methods used to obtain and interpret the data.

ANTH 6376 - Texas Archaeology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in anthropology.

Survey of the aboriginal archaeology of Texas, ranging from European Contact to the earliest known groups.



ANTH 6377 - Archaeology of the African Diaspora

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in anthropology.

The development of African American culture in North America and the Caribbean from the late 16th to through early 20th centuries.

ANTH 6380 - Field Methods

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in anthropology or consent of instructor.

Overview of methods for cultural/applied studies.

ANTH 6382 - Archaeology Lab Methods

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Presentation of techniques of classification, taxonomy, functional analysis, processing, and curation of artifacts recovered from archaeological sites.

ANTH 6383 - Applied Archaeology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate Standing in Anthropology.

Methods and legal regulations as they apply to salvage and excavations on public lands.

ANTH 6390 - Archaeological Field Work I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Approval of field work director. May be taken concurrently with ARCH 6325 .

Archaeological field work for M.A. thesis.

ANTH 6391 - Ethnographic Field Work I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** approval of field work director.

Corequisite: May be taken concurrently with ANTH 7391.

Archaeological field work for M.A. thesis.

ANTH 6392 - Research Practicum I

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 Formerly/Same as: ANTH 6392 - Practicum in Applied Anthropology.

Prerequisite: Permission of instructor.

Individual practicum on research problem.

May be repeated for credit.

ANTH 6393 - Internship in Applied Anthropology

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 Formerly/Same as: ANTH 6393 - Practicum in Applied Anthropology.

Prerequisite: Permission of instructor.



Individual internship for applied anthropological project.
May be repeated for credit.

ANTH 6395 - Selected Topics in Ant

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0

ANTH 6398 - Special Problems

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3

ANTH 6399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

ANTH 6692 - Research Practicum

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 6 Formerly/Same as: ANTH 6392 - Practicum in Applied Anthropology.

Prerequisite: Permission of instructor.

Individual practicum on research problem.

May be repeated for credit.

ANTH 6693 - Internship in Applied Anthropology

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 6 **Prerequisite:** Permission of instructor.

Individual internship for applied anthropological project.

May be repeated for credit.

ANTH 7199 - Thesis

Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 N

Additional Fee N Fee Type N

ANTH 7390 - Archaeological Field Work II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

ANTH 7391 - Ethnographic Field Work II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0



ANTH 7399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

Applied Music

MUSA 6140 - Graduate Recital I

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1 **Prerequisite:** Admission to Certificate in Music Performance program.

First required recital performance.

Additional Fee \$2.00 **Fee Type** Applied Music Supplemental Mus

MUSA 6141 - Graduate Recital II

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** MUSA 6140

Second required recital performance.

MUSA 6142 - Graduate Recital III

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** MUSA 6141 .

Third required recital performance.

Additional Fee \$2.00 **Fee Type** Applied Music Supplemental Mus

MUSA 6143 - Graduate Recital IV

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** MUSA 6142 .

Fourth required recital performance.

MUSA 6200 - Applied Voice

Credit Hours: 2.0

Lecture Contact Hours: 1.5 Lab Contact Hours: 0

MUSA 6202 - Applied Composition

Credit Hours: 2.0

Lecture Contact Hours: 1.5 Lab Contact Hours: 0

MUSA 6204 - Conducting

Credit Hours: 2.0

Lecture Contact Hours: 1.5 Lab Contact Hours: 0 **Additional Fee** \$2.00 **Fee Type** Applied Music Supplemental Mus

MUSA 6210 - Applied Piano



Credit Hours: 2.0

Lecture Contact Hours: 1.5 Lab Contact Hours: 0 **Additional Fee** \$2.00 **Fee Type** Applied Music Supplemental Mus

MUSA 6212 - Applied Organ

Credit Hours: 2.0

Lecture Contact Hours: 1.5 Lab Contact Hours: 0

MUSA 6214 - Applied Harpsichord

Credit Hours: 2.0

Lecture Contact Hours: 1.5 Lab Contact Hours: 0

MUSA 6220 - Applied Violin

Credit Hours: 2.0

Lecture Contact Hours: 1.5 Lab Contact Hours: 0

MUSA 6235 - Applied Clarinet

Credit Hours: 2.0

Lecture Contact Hours: 1.5 Lab Contact Hours: 0

MUSA 6260 - Applied Music

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Additional Fee** \$2.00 **Fee Type** Applied Music Supplemental Mus

MUSA 6272 - Jazz Bass

Credit Hours: 2.0

Lecture Contact Hours: 1.5 Lab Contact Hours: 0

MUSA 6278 - Applied Jazz Guitar

Credit Hours: 2.0

Lecture Contact Hours: 1.5 Lab Contact Hours: 0 **Additional Fee** \$2.00 **Fee Type** Applied Music Supplemental Mus

MUSA 6300 - Applied Voice

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

MUSA 6302 - Applied Composition

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

MUSA 6304 - Conducting



Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 Private lessons in conducting. One private lesson and one studio class per week.

MUSA 6310 - Applied Piano

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

MUSA 6312 - Applied Organ

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

MUSA 6314 - Applied Harpsichord

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

MUSA 6320 - Applied Violin

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

MUSA 6322 - Applied Viola

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

Additional Fee \$2.00 **Fee Type** Applied Music Supplemental Mus

MUSA 6324 - Applied Violoncello

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

Additional Fee \$2.00 **Fee Type** Applied Music Supplemental Mus

MUSA 6326 - Applied Double Bass

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

Additional Fee \$2.00 **Fee Type** Applied Music Supplemental Mus

MUSA 6328 - Applied Harp

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

MUSA 6330 - Applied Flute



Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

Additional Fee \$2.00 **Fee Type** Applied Music Supplemental Mus

MUSA 6332 - Applied Oboe

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

MUSA 6334 - Applied Clarinet

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

MUSA 6336 - Applied Basson

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

MUSA 6338 - Applied Saxophone

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

MUSA 6340 - Applied Trumpet

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

Additional Fee \$2.00 **Fee Type** Applied Music Supplemental Mus

MUSA 6342 - Applied French Horn

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

MUSA 6344 - Applied Trombone

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

Additional Fee \$2.00 **Fee Type** Applied Music Supplemental Mus

MUSA 6346 - Applied Tuba

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

MUSA 6348 - Applied Euphonium

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.



MUSA 6350 - Applied Percussion

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

MUSA 6400 - Applied Voice

Credit Hours: 4.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Additional Fee** \$2.00 **Fee Type** Applied Music Supplemental Mus

MUSA 6402 - Applied Composition

Credit Hours: 4.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Additional Fee** \$2.00 **Fee Type** Applied Music Supplemental Mus

MUSA 6404 - Conducting

Credit Hours: 4.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Additional Fee** \$2.00 **Fee Type** Applied Music Supplemental Mus

MUSA 6410 - Applied Piano

Credit Hours: 4.0

Lecture Contact Hours: 2 Lab Contact Hours: 0

MUSA 6412 - Applied Organ

Credit Hours: 4.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Additional Fee** \$2.00 **Fee Type** Applied Music Supplemental Mus

MUSA 6420 - Applied Violin

Credit Hours: 4.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Additional Fee** \$2.00 **Fee Type** Applied Music Supplemental Mus

MUSA 6422 - Applied Viola

Credit Hours: 4.0

Lecture Contact Hours: 2 Lab Contact Hours: 0

MUSA 6424 - Applied Violoncello

Credit Hours: 4.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Additional Fee** \$2.00 **Fee Type** Applied Music Supplemental Mus

MUSA 6426 - Applied Double Bass

Credit Hours: 4.0

Lecture Contact Hours: 2 Lab Contact Hours: 0



MUSA 6430 - Applied Flute

Credit Hours: 4.0

Lecture Contact Hours: 2 Lab Contact Hours: 0

MUSA 6432 - Applied Oboe

Credit Hours: 4.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Additional Fee** \$2.00 **Fee Type** Applied Music Supplemental Mus

MUSA 6434 - Applied Clarinet

Credit Hours: 4.0

Lecture Contact Hours: 2 Lab Contact Hours: 0

MUSA 6436 - Applied Bassoon

Credit Hours: 4.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Additional Fee** \$2.00 **Fee Type** Applied Music Supplemental Mus

MUSA 6440 - Applied Trumpet

Credit Hours: 4.0

Lecture Contact Hours: 2 Lab Contact Hours: 0

MUSA 6442 - Applied French Horn

Credit Hours: 4.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Additional Fee** \$2.00 **Fee Type** Applied Music Supplemental Mus

MUSA 6444 - Applied Trombone

Credit Hours: 4.0

Lecture Contact Hours: 2 Lab Contact Hours: 0

MUSA 6450 - Applied Percussion

Credit Hours: 4.0

Lecture Contact Hours: 2 Lab Contact Hours: 0

MUSA 8220 - Doctoral Applied Music

Credit Hours: 2.0

Lecture Contact Hours: 1.5 Lab Contact Hours: 0 Private lessons in orchestral instruments, piano, organ, harpsichord, voice, or conducting. One private lesson and one studio class per week.

May be repeated for credit.

Additional Fee \$2.00 **Fee Type** Applied Music Supplemental Mus

MUSA 8240 - Doctoral Recital I



Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 2 **Prerequisite:** Doctoral standing in music.

First required doctoral recital.

Additional Fee \$2.00 **Fee Type** Applied Music Supplemental Mus

MUSA 8241 - Doctoral Recital II

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 2 **Prerequisite:** MUSA 8240

Second required doctoral recital.

Additional Fee \$2.00 **Fee Type** Applied Music Supplemental Mus

MUSA 8242 - Doctoral Recital III

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 2 **Prerequisite:** MUSA 8241 .

Third required doctoral recital.

Additional Fee \$2.00 **Fee Type** Applied Music Supplemental Mus

MUSA 8243 - Doctoral Lecture Recital

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 2 **Prerequisite:** Candidacy for the degree.

Required doctoral lecture recital.

Additional Fee \$2.00 **Fee Type** Applied Music Supplemental Mus

MUSA 8244 - Doctoral Recital IV

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 2 **Prerequisite:** MUSA 8242 .

Fourth required doctoral recital in Collaborative Piano concentration.

MUSA 8320 - Doctoral Applied Music

Credit Hours: 3.0

Lecture Contact Hours: (0-3) **Prerequisite:** Doctoral standing in music.

Private lessons in orchestral instruments, piano, organ, harpsichord, voice, or conducting.

Note: One private lesson and one studio class per week.

Additional Fee \$2.00 **Fee Type** Applied Music Supplemental Mus

MUSA 8330 - Doctoral Composition

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

MUSA 8420 - Doctoral Applied Music

Credit Hours: 4.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 Private lessons in orchestral instruments, piano, organ, harpsichord, voice, or conducting. One private lesson and one studio class per week.



May be repeated for credit.

Additional Fee \$2.00 **Fee Type** Applied Music Supplemental Mus

Architecture

ARCH 6A20 - Environmental Technology 1

Credit Hours: 1.5

Lecture Contact Hours: 1.5 *Lab Contact Hours:* 0 **Prerequisite:** Concurrent enrollment in ARCH 6600 and ARCH 6A22.

Fundamentals of environments including active and passive thermal systems, as well as electrical, plumbing, fire safety, and egress.

ARCH 6A21 - Environmental Technology 2

Credit Hours: 1.5

Lecture Contact Hours: 1.5 *Lab Contact Hours:* 0 **Prerequisite:** ARCH 6A20 and concurrent enrollment in ARCH 6601 and ARCH 6A23.

Fundamentals of environmental building systems including daylighting, electrical lighting, room acoustics and noise control.

ARCH 6A22 - Construction Technology I

Credit Hours: 1.5

Lecture Contact Hours: 1.5 *Lab Contact Hours:* 0 **Prerequisite:** Concurrent Enrollment in ARCH 6600 and ARCH 6A20.

Fundamentals of structures including statics, mechanics and strength of materials.

ARCH 6A23 - Construction Technology 2

Credit Hours: 1.5

Lecture Contact Hours: 1.5 *Lab Contact Hours:* 0 **Prerequisite:** ARCH 6A22 and concurrent enrollment in ARCH 6601 and ARCH 6A21.

Fundamentals of structures including wood, steel, concrete, and composite systems. Structural elements.

ARCH 6A48 - Environmental Technology 3

Credit Hours: 1.5

Lecture Contact Hours: 1.5 *Lab Contact Hours:* 0 **Prerequisite:** ARCH 6A21 and concurrent enrollment in ARCH 6603 and ARCH 6A50.

Numerical design of environmental systems in buildings including systems selection, configuration,

ARCH 6A49 - Environmental Technology 4

Credit Hours: 1.5

Lecture Contact Hours: 1.5 *Lab Contact Hours:* 0 **Prerequisite:** ARCH 6A48 and concurrent enrollment in ARCH 6604 and ARCH 6A51.

Digital and analog modeling of technical systems at the level of complete buildings, including structure, energy, thermal systems, daylighting, and electrical lighting, utilizing computer simulation and scale model investigations. Building skins and envelopes.

ARCH 6A50 - Construction Technology 3

Credit Hours: 1.5

Lecture Contact Hours: 1.5 *Lab Contact Hours:* 0 **Prerequisite:** ARCH 6A23 and concurrent enrollment in ARCH 6603 and ARCH 6A48.

Numerical design of structural systems in buildings including systems selection, configuration, guideline sizing ratios, schematic planning, basic sizing calculations, and digital calculation tools at building component design scale.

ARCH 6A51 - Construction Technology 4



Credit Hours: 1.5

Lecture Contact Hours: 1.5 Lab Contact Hours: 0 **Prerequisite:** ARCH 6A50 and concurrent enrollment in ARCH 6604 and ARCH 6A49.
Digital and analog modeling of technical systems at the level of complete buildings, including

ARCH 6198 - Special Problems

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** permission of the instructor.

ARCH 6301 - Visual Studies I

Credit Hours: 3.00

Lecture Contact Hours: 1.0 Lab Contact Hours: 2.0 **Prerequisite:** None.

This course will provide incoming graduate students with the fundamental visual studies skills required for advanced architectural investigation. Students will be taught the fundamentals of parallel and perspective projection through analog hand-drawings and digital techniques. Lectures will ground technique in historical precedent to provide a context for the contemporary application through the assignments. Tutorials will provide in-class demonstrations and an opportunity for students to practice with the tools/techniques.

Additional Fee \$2.00 Fee Type Lab Fee

ARCH 6302 - Visual Studies II

Credit Hours: 3.00

Lecture Contact Hours: 1.0 Lab Contact Hours: 2.0 **Prerequisite:** ARCH 6301 Visual Studies I.

Visual Studies II builds on the fundamental techniques developed in Visual Studies I extending a consideration of architectural representation to convey conceptual, analytical, and experiential information. The course exposes students to contemporary representational techniques through digital drawing, modeling and composition. Lectures will ground technique in historical precedent to provide a context for each project, while tutorials will provide in-class demonstrations and an opportunity for students to practice with the tools/techniques.

ARCH 6303 - Visual Studies III

Credit Hours: 3.0

Lecture Contact Hours: 1 Lab Contact Hours: 2 **Prerequisite:** ARCH 6302 Visual Studies II.

In Visual Studies III, representation is considered not only a tool for visualization, but a generative tool for the development of material details and the fabrication of complex geometries. The course exposes students to complex surface modeling and parametric modeling techniques, while engaging digital fabrication technologies. Students will focus on precision modeling and material tolerance, while developing drawings that both explain and can be used to fabricate full scale details.

ARCH 6304 - Visual Studies IV

Credit Hours: 3.0

Lecture Contact Hours: 1 Lab Contact Hours: 2 **Prerequisite:** ARCH 6303 Visual Studies III.

Visual Studies IV engages in advanced exploration of digital media, with fluid transitions between documentation and speculation in 2D, 3D, static and dynamic media. Students will develop workflows that synthesize their advanced methods modeling, analysis and translation of data through visualized through multiple forms of temporal and composite media. Lectures focus on a diverse body of historic and contemporary visual discourse.

ARCH 6324 - High Rise Structures

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ARCH 6327 or equivalent.

Structural design concepts and systems for tall buildings.



ARCH 6329 - Building Systems Integration

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ARCH 6327 , ARCH 6328 and 6366
Architectural and technical integration of traditional and innovative building systems.

ARCH 6331 - Computer Aided Design in Arch

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.
Introduction to basic computer-aided design concepts, terminology and microcomputer applications.

ARCH 6333 - Adv Computer Modeling in Arch

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ARCH 6330 or 6331 or equivalent.
Advanced techniques in computer-aided modeling and visualization.

ARCH 6335 - Computer Visualizatn for Arch

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ARCH 6333 or equivalent
Advanced techniques in computer-aided modeling and visualization of architectural models, including computer animation.

ARCH 6336 - Digital Presentation in Arch

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Digital Presentation in Arch

ARCH 6338 - Graphic Realization in Design

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ARCH 6331 ; ARCH 6601 or consent of instructor.
Integration of digital and manual graphic tools with verbal presentation to communicate design

ARCH 6340 - Architectural History Survey I

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 3 **Prerequisite:** graduate standing.
Survey of the history of eastern and western architecture and art from Egypt to 1750 with attention to cultural, philosophical and technical forces that influence them.
Additional Fee \$2.00 Fee Type Lab Fee

ARCH 6341 - Architectural History Survey II

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 3 **Prerequisite:** graduate standing
Survey of the history of eastern and western architecture and art from 1750 to the present with attention to cultural, philosophical and technical forces that influence them.



ARCH 6342 - Shape of the City

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ARCH 6340 ; ARCH 6341 or equivalent.

Readings from Henry James, Jane Jacobs, J.B. Jackson, Reyner Banham and others about American cities as topographical , cultural and social phenomena, with analytical writing projects on Houston.

ARCH 6343 - Latin America Architecture

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ARCH 6340 ; ARCH 6341 or equivalent.

Exploration of the development and significance of Latin American architecture. Study of Pre-Hispanic, colonial and modern built environments with an emphasis on mapping the creation and transfer of culture.

ARCH 6347 - Evolution of Architectural Interiors

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ARCH 6340 ; ARCH 6341

the evolution of interior architectural spaces through the contributions of architects, designers, decorators, industrial designers, and editors. the house as a design laboratory and the integrated interior.

ARCH 6351 - Criticism in Architecture

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ARCH 6450 ; 6451

Critical writing based on selected reading in architecture.

ARCH 6352 - Wright, Mies, and Corbusier

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ARCH 6340 ; ARCH 6341 or equivalent.

Search for the struth studying Wright, Mies, and Corbusier from the perspective of historic precedents, as well as observing the effect of their work on architecture.

ARCH 6353 - Postmodern Arch Since 1950

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ARCH 6450 ; 6451

the theory and development of architectural design of the most recent times. Studies in architectural pluralism since 1950.

ARCH 6354 - The Culture of Architecture

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ARCH 6340 ; ARCH 6341

An investigation of how architects learn, think, and work in our own time and times past. Special emphasis is given to the Modern Movement and its critics and to the thought and production of influential architects and theorists including Alberti, Palladio, Ruskin, Viollet-le-Duc, Gaudet, Loos, Le Corbusier and Venturi, and Scott Brown.

ARCH 6355 - Houston Architecture



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ARCH 6340 and 6341
Survey of Houston architecture, past and present

ARCH 6356 - City as Palimpsest: Paris

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ARCH 6340 ; ARCH 6341
Parisian architecture and urban development from the Roman period to present via the metaphor of palimpsest.

ARCH 6357 - Contemporary Theory and Critical Practice

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.
The objective of this seminar is to outline a map of contemporary architectural practice and to develop tools for scrutinizing that map, through formal reading, understanding (and speculating on) popular culture and politics, and building a general grasp of the recent history of architectural thinking.

ARCH 6358 - History of Asian Art and Architecture

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ARCH 6340 and 6341
Architectural history, methodology, art and the cultural forces that shaped the Eastern tradition.

ARCH 6359 - Modern Architecture & Urbanism

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ARCH 6340, 6341 or equivalent.
Study and analysis of works (built and un-built) themes, protagonists, and writings on modern architecture, urbanism, and design after 1945.

ARCH 6360 - Practice of Arch

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Case studies and analysis of issues facing the profession: Ethics, morality, intent, criticism, liability, etc. the intent is to approach office practice through issues rather than through documents; and exploration of present and future mission of the profession.

ARCH 6361 - Integrated Practice: Material Representation and Detailing

Credit Hours: 3.00

Lecture Contact Hours: 1.0 Lab Contact Hours: 2.0 **Prerequisite:** ARCH 6604.
This course will facilitate understanding of various building assembly systems and the limitations of material qualities, joints, and tolerances to aid selection for design proposals. Further we will explore common areas of envelope failure and considerations for conditions within homogeneous assemblages such as openings and other penetrations. Historic and theoretical background will be provided as context to material selection and use.

ARCH 6365 - Architecture of the Middle Ages

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ARCH 6340;ARCH 6341
Western European architecture of the Middle Ages (ca. 300-1500), investigated through the medium of the built environment and through texts that reveal aspects of medieval culture, aesthetics, philosophy, and building techniques.



ARCH 6366 - Materials and Methods

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ARCH 6325 , ARCH 6326

Materials and methods of construction, including construction systems, advanced and emerging technologies, scheduling and budgeting.

ARCH 6367 - Case Studies in Sustainable Architecture

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ARCH 6327 , 6328 and 6366

Green Revolution, sustainability, and ecological restoration. Sustainability measurements including biomimcry, ecological footprint, embodied energy and full cost accounting, Building components sustainability by CSI division. LEED certification overview.

ARCH 6368 - Sustainability Workshop

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate Standing in architecture.

Scenarios in sustainable design including performance rating standards, base case performance, precedents, deisgn targets, development and evaluation of design strategies for sustainable site, water, envelope, lighting, energy and life cycle considerations.

ARCH 6369 - Architecture of the Chapel

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ARCH 6340;ARCH 6341

Architectural history of the chapel building type from its origins to the present, divided into illustrated lectures, short readings, and student presentations and papers on individual buildings.

ARCH 6373 - Urban Environments

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ARCH 6340;ARCH 6341

An examination of the social, economic, cultural, and political development of cities including the diverse needs, values, and social and spatial patterns that characterize different cultures and individuals and the implication of this diversity for the societal roles and responsibilities of architects.

ARCH 6374 - World Cities

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None

Critical exploration of cites of the world from different geographical, chronological and disciplinary persepctive. Development of analytical tools for understanding complex urban phenomena.

ARCH 6375 - Capitalism, Architecture, and the City

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ARCH 6340;ARCH 6341

Exploration o determinants of urban form throughout history.

ARCH 6376 - Urban Determinants



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Economic, political, social and physical factors that become the design determinants of urban environments.

ARCH 6378 - Hist Preservation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ARCH 6450 and ARCH 6451, or equivalent or permission of the instructor. theory, methods of research, and practice of the preservation of historic buildings and resources.

ARCH 6380 - Architecture Plus Film

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Concurrent enrollment in ARCH 6603
Exploration of the cross-fertilization between architecture and film. Investigation of the nature of filmic and virtual space versus physical space.

ARCH 6393 - Master's Project Preparation

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** ARCH 6604 or Level III admission
Preparation of Master's Project proposal, project program, and associated research.

ARCH 6397 - Sel Tpcs-Arc/Urbn Desgn

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 Topics vary.
May be repeated for credit with permission of the Director of Graduate Studies.

ARCH 6398 - Special Problems

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

ARCH 6600 - Architecture Design Studio I

Credit Hours: 6.0

Lecture Contact Hours: 4 Lab Contact Hours: 6 **Prerequisite:** Graduate Architecture standing and concurrent enrollment in 6320
Introduction to architecture and basic design concepts through a series of projects that develop individual cognitive design tools and skills.
Introduction to analog and digital forms of representation.
Additional Fee \$2.00 Fee Type Lab Fee

ARCH 6601 - Architecture Design Studio II

Credit Hours: 6.0

Lecture Contact Hours: 4 Lab Contact Hours: 6 **Prerequisite:** ARCH 6600 and concurrent enrollment in ARCH 6321
Further development of cognitive design tools and skills. Expanding use of analog and digital tools. Introduction to organizational structures with problems of growth, change, aggregation and metamorphosis at various scales.

ARCH 6602 - Arch Design/Build Workshop



Credit Hours: 6.0

Lecture Contact Hours: 4 Lab Contact Hours: 6 **Prerequisite:** ARCH 6601
Design and construction of a site specific climate-influenced building project.

ARCH 6603 - Architecture Design Studio III

Credit Hours: 6.0

Lecture Contact Hours: 4 Lab Contact Hours: 6 **Prerequisite:** Concurrent enrollment in ARCH 6348 . Credit for ARCH 6602or acceptance into Level II
Design projects exploring the roles of content, construction and context in architecture. Expanding on different approaches to architectural solutions through application of rotational instruction.

Additional Fee \$2.00 Fee Type Lab Fee

ARCH 6604 - Architecture Design Studio IV

Credit Hours: 6.0

Lecture Contact Hours: 4 Lab Contact Hours: 6 **Prerequisite:** ARCH 6603 and concurrent enrollment in ARCH 6349
Design projects comprehensively exploring critical issues of architecture within an urban context. Integration and continuous feed-back on project with information from ARCH 6349 Technology 4.

ARCH 7600 - Architecture Design Studio V

Credit Hours: 6.0

Lecture Contact Hours: 4 Lab Contact Hours: 6 **Prerequisite:** ARCH 6604or acceptance into Level III.
Design studio in which actual or hypothetical projects with interdisciplinary bases are undertaken with faculty as project coordinators. Alternatively, students may choose to pursue independent design studies. the selection of a topic for independent study must be approved by the Level III Coordinator.

Additional Fee \$2.00 Fee Type Lab Fee

ARCH 7601 - Architecture Design Studio VI

Credit Hours: 6.0

Lecture Contact Hours: 4 Lab Contact Hours: 6 **Prerequisite:** ARCH 6604or acceptance into Level III. Continuation of a project undertaken in ARCH 7600, or another advanced design topic approved by the Level III Coordinator.

Continuation of a project undertaken in ARCH 7600, or another advanced design topic approved by the Level III Coordinator.

Additional Fee \$2.00 Fee Type Lab Fee

ARCH 7603 - Master's Project

Credit Hours: 6.0

Lecture Contact Hours: 4 Lab Contact Hours: 6 **Prerequisite:** ARCH 6604or Level III admission.
Independent final project directed toward adding to the general body of knowledge in architecture. Requires approval of the Director of Graduate Studies.

May be repeated for credit.

Art

ART 6198 - Independent Graduate Study

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0



ART 6199 - Thesis

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0

ART 6298 - Independent Graduate Study

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

ART 6300 - Drawing Studio

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 6

ART 6301 - Life Drawing Studio

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 6

ART 6305 - Painting Studio

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 6

ART 6308 - Graduate Critique

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 6 **Prerequisite:** graduate standing in art or consent of instructor.

Critique and discussion in open forum.

May be repeated for credit.

ART 6310 - Printmaking Studio

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 6

ART 6321 - Drawing for Design

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 6

ART 6330 - Graphic Design Studio

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 6 Formerly/Same as: ART 6330 - Graphic Communications Studio.

ART 6350 - Ceramics Studio



Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 6

ART 6360 - Sculpture Studio

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 6

ART 6370 - Photography Studio

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 6

ART 6371 - Video Studio

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 6

ART 6372 - Computer Imaging Studio

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 6

ART 6380 - Seminar

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in art or consent of instructor. Readings, discussions, and critical writing on issues in art with emphasis on individual concerns. May be repeated for credit.

ART 6381 - Writing Seminar

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** graduate standing in art or consent of instructor. Seminar on issues related to writing about art.

ART 6382 - Intermedia Seminar

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in art or consent of instructor. An examination of new strategies of artistic production within the context of recent technological, scientific, cultural and political developments. May be repeated for credit.

ART 6383 - Intermedia Studio

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 6 **Prerequisite:** graduate standing in art or consent of instructor. Interdisciplinary arts laboratory that fuses emergent media, computer science, performance, music and digital art with emphasis on research, practice and theory. May be repeated for credit.



ART 6385 - Interdisciplinary Practice and Emerging Forms Studio

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 6 Formerly/Same as: ART 6385 - Interdisciplinary Studio.

Prerequisite: Graduate standing in art or consent of instructor.

Project and concept-based studio research in areas that operate between and beyond traditional disciplines, with an emphasis on developing critical thinking and contextual skills.

May be repeated for credit.

ART 6386 - Professional Practices

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Art or consent of the instructor.

Business practices, grant applications, and residency and exhibition opportunities for the working artist including strategies for Curriculum Vitae, proposal and portfolio presentation.

ART 6394 - Sel Tops in Contemporary Art

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in art or consent of instructor.

Will be identified by a specific title each time it is offered.

May be repeated for credit when topics vary.

ART 6395 - Selected Topics in Design

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 6 **Prerequisite:** graduate standing in art or consent of instructor.

Will be identified by a specific title each time it is offered.

May be repeated for credit when topics vary.

ART 6396 - Selected Topics in Fine Arts Media

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 6

ART 6397 - Selected Topics in Studio Arts

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 6

ART 6398 - Independent Graduate Study

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

ART 6399 - Masters Thesis

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0



ART 7310 - Printmaking Studio

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3

ART 7330 - Graphic Design Studio

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 6 Formerly/Same as: ART 7330 - Graphic Communications Studio.

ART 7360 - Sculpture Studio

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 6

ART 7398 - Independent Study

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 6 **Prerequisite:** graduate standing in art and consent of instructor and the graduate advisor.

Supervised independent study in studio art and design.

May be repeated for a maximum of nine semester hours.

Art Education

ARED 6345 - Art in Elem & Secondary School

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 3 **Prerequisite:** Admission to Professional Development Sequence.

Field-based course that introduces curriculum planning and organization, instructional methods, and management strategies for teaching art in the elementary and secondary schools.

Additional Fee \$2.00 **Fee Type** Lab Fee

ARED 6365 - Integrative Art Teaching

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 3 Methods of integrating art criticism, art history, aesthetics, studio art, museum practices, and contemporary issues into K-12 art curricula.

ARED 7305 - History of Art Education

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Art education as a social instrument is studied in the context of general culture.

ARED 7315 - Philosophy of Art Education

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Exploration of philosophy of art education. Aesthetics is studied in terms of its application to contemporary issues in art education.

ARED 7352 - Issues&Trends in Art Ed



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Examination and analysis of selected current issues, trends, and problems in art education.

Art History

ARTH 6301 - Critical Theory

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in art or consent of the instructor.

Survey of the major concepts and methods employed in the analysis of art practice.

ARTH 6302 - Contemporary Art Criticism

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in art or consent of the instructor.

Reading, writing and analysis of contemporary art criticism.

ARTH 6303 - After Theory

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in art or art history, or consent of instructor.

Exploration of discourses that can inform contemporary artistic practice from political critique to literature, music, and film.

ARTH 6304 - Virtual Curating

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in art or art history, or consent of instructor.

Working in collaboration, students develop a concept for a large-scale exhibition.

May be repeated for credit.

ARTH 6310 - Greek Art

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in art or art history, or consent of instructor.

The art and architecture of Ancient Greece and the Aegean World.

ARTH 6311 - Roman Art

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in art or consent of the instructor.

The art and architecture of Rome through the Republic and Empire periods.

ARTH 6312 - Ancient Near Eastern Art

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in art or art history, or consent of instructor

Art and architecture of Mesopotamia from its beginnings to the Persian Period.

ARTH 6313 - Medieval Illuminated Manuscripts



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in art or art history, or consent of instructor
Medieval illuminated manuscripts with emphasis on book types and their audiences.

ARTH 6314 - Medieval Arts, Artist, Patrons

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 European Arts in the Middle Ages: professional lives of artists, art-making and art patronage.

ARTH 6315 - Italian Gothic Art and Patronage

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Art or consent of the instructor.
Italian art of the 13th and 14th centuries and the role of the art patron.

ARTH 6320 - Readings in 20th and 21st Century Photography

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in art or art history, or consent of the instructor.
Study of the practice and theory of twentieth and twenty-first century photography.

ARTH 6321 - Northern Renaissance Art

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 German and Netherlandish art of the fifteenth and sixteenth centuries.

ARTH 6322 - 17th Century Dutch Art

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in art or consent of the instructor.
The rich artistic production of Holland's "Golden Age of art," including history, painting, genre, portraiture, landscape and still life. Rembrandt, Vermeer and many other artists.

ARTH 6323 - Seminar on Rembrandt

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in art or consent of the instructor.
The work and legacy of the most important artist in the 17th Century Holland, Rembrandt van Rijn, through readings, class discussion and research.

ARTH 6324 - Landscape in Western Tradition

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in art or consent of the instructor.
Landscape as a subject in European and American art from Antiquity to the present.

ARTH 6325 - 18th Century European Art

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in art or art history, or consent of instructor.
Painting, sculpture, architecture, decorative and graphic arts of the 1700's in relation to important social and ideological developments of the period.



ARTH 6326 - European Romanticism

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in art or art history, or consent of instructor.
French, Spanish, British and German Romanticism with special attention on the political context including the rise of the Napoleonic Empire, the conservation Restorations after its fall and resistance to both.

ARTH 6327 - Visual Culture of French Revolution

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in art and art history, or consent of instructor.
Visual culture of the period of the French Revolution (1789-1799) including popular and ephemeral phenomena and traditional art forms, and their social and political aims.

ARTH 6328 - Late 19th Century Art & Culture

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in art or art history, or consent of instructor.
Late 19th Century European art from the vantage point of the collaborations of writers, artists, musicians and critics.

ARTH 6330 - Impressionism

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in art or art history, or consent of instructor.
Themes from everyday life painted by the Impressionists and the various factors that affected their art and their perception of the world around them.

ARTH 6331 - Contemporary Painting

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in art or consent of the instructor.
Painting since 1945 with an emphasis on the past two decades.

ARTH 6332 - 20th Century Design

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in art or art history, or consent of instructor.
History, development and key innovators of design of the 20th Century, and assessment of the era's burgeoning culture of design.

ARTH 6333 - Issues in Contemporary Design

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in art or art history, or consent of instructor.
Issues facing design in the 21st Century, including issues of sustainability and environmental design, exposure in museums and galleries, global design and national identity, impact of technology and conceptual design.

ARTH 6334 - History of Graphic Design

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in art or art history, or consent of the instructor.



History of Graphic Design will survey the development of graphic design within the historical context of the late nineteenth century through contemporary developments in this field.

ARTH 6340 - Pre-Columbian Art

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in art or consent of the instructor.
Art and architecture of the Aztec, Maya and their predecessors.

ARTH 6341 - Human Body in Non-Western Art

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in art or art history, or consent of the instructor.
Representation of the human body in the artistic traditions of Africa, Oceania and the Pre-Columbian Americas.

ARTH 6373 - Readings in 19th Century Photography

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in art or art history, or consent of the instructor.
Study of the practice and theory of the 19th Century Photography.

ARTH 6374 - Readings in 20th Century Photography

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in art or art history, or consent of the instructor.
Study of the practice and theory of the 20th Century Photographers.

ARTH 6380 - Museums and the Problem of Display

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in art or art history, or consent of instructor.
Development of the culture of display and the impact of art institutions, curators and exhibitions on our understanding of artworks and their history.

ARTH 6394 - Sel Top in Art History

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0

ARTH 6395 - Selected Topics in Critical Theory and Criticism

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in art or consent of the instructor.
Selected topics in theory and criticism from modernism to the present.
May be repeated for credit when topics vary.

ARTH 6399 - Master's Thesis

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in art history, and 18 hours of graduate level art history.



ARTH 7310 - Italian Gothic Images and Society

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in art history, or consent of instructor.

Explores the relationship between images and visual and social cultures in 14th Century Italy. Topics vary.

May be repeated for credit with consent of instructor

ARTH 7320 - Dutch Art in Houston

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in art history, or consent of instructor.

Explores Dutch art in public and private collections in the Houston area.

ARTH 7321 - Problems in Dutch Genre Paintings

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in art history, or consent of instructor.

Examines themes and interpretive problems in Dutch genre painting. Topics vary.

May be repeated for credit with consent of instructor.

ARTH 7330 - Issues in Avant-Garde & Kitsch

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in art history, or consent of instructor.

Explores tension between high art and mass culture from the 1940's to the present, especially in the context of museum exhibitions, advertising, marketing and art criticism. Topics vary.

May be repeated for credit with consent of instructor.

ARTH 7331 - Text and Image

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in art history, or consent of instructor.

Examines the interaction of text and image in visual culture, including its use by avant-garde artists, advertisers, curators and art historians.

ARTH 7340 - Non-Western Objects & Histories

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in art history, or consent of instructor.

Intensive study with readings and discussions of a major theme or issue in the study of non-Western art, focusing on local collections. Topics vary.

May be repeated for credit with consent of instructor.

ARTH 7341 - Ancient Traditions of Veracruz

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in art history, or consent of instructor.

Examines the tradition of stone sculpture in Classic Veracruz, Mexico (c. A.D. 100-1000) with focus on sculptural form, object function and historiography.



ARTH 7380 - Graduate Art History Methods I

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 Formerly/Same as: ARTH 7380 - Methodologies of Art History.

Prerequisite: Graduate standing in art history.

Historiography and current methods of Art History.

Note: Required for all first-year Art History graduate students.

ARTH 7381 - Graduate Art History Methods II

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing in Art History.

Historiography and current methods of individual sub-fields. Specific cultures and periods vary depending on instructor.

Note: Required for all second-year Art History graduate students.

ARTH 7392 - Exhibition Preparation and Design

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** graduate standing in art history, or consent of instructor.

Selection of works and design of an actual or virtual exhibit of artifacts and/or student works.

ARTH 7393 - Art History Internship

Credit Hours: 3.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 3 **Prerequisite:** graduate standing in art history, 9 semester hours in graduate art history and coordinator approval.

Internship at museum, arts institution or organization under supervision of relevant arts professional.

May be repeated for credit with approval of art history area coordinator

ARTH 7394 - Selected Topics in Art History

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** graduate standing in art or consent of instructor.

Will be identified by a specific title each time it is offered.

May be repeated for credit when topics vary.

ARTH 7395 - Selected Topics in Contemporary Theory and Practice

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** graduate standing in art or consent of the instructor.

Selected topics in theory and criticism, with an emphasis on the issues that inform and/or influence contemporary analysis and production.

May be repeated for credit when topics vary.

ARTH 7398 - Independent Graduate Study in Art History

Credit Hours: 3.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 0 May be repeated for credit.

ARTH 7399 - Master's Thesis



Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing in art history and ARTH 6399.

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Additional Fee Y Fee Type Y

Arts Leadership

ARLD 6198 - Special Problems in Arts Leadership

Credit Hours: 1.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 0 **Prerequisite:** None.

Independent study in Arts Leadership.

May be repeated for credit.

ARLD 6298 - Special Problems in Arts Leadership

Credit Hours: 2.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 0 **Prerequisite:** None.

Independent study in Arts Leadership.

May be repeated for credit.

ARLD 6300 - Fundamentals & Strategic Planning for the Arts

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** None.

Introduction to strategic planning for leaders of arts organizations.

ARLD 6310 - Fundraising for the Arts

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** None.

Introduction to fundraising strategies for leaders of arts organizations.

ARLD 6315 - Public Relations & Marketing in the Arts

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** None.

Introduction to public relations and marketing for leaders of arts organizations.

ARLD 6320 - Financial Management for Arts

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** None.

Investigates fundamental concepts of financial theory and applies to the management of Arts Organizations; concepts include financial statement analysis, profit planning, sources and forms of financing, budgeting and business valuation.

ARLD 6325 - Career Development for the Individual Artist

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Consent of instructor.



This course will guide students through the process of cultivating a personal artistic brand and developing an individualized business model created for long-term viability. We will also investigate various methods of translating artistic worth into product pricing, brand messaging for authenticity and building in brand consistency across platforms. Course will also explore working with presenters, agents and managers, and what to individual artists should be mindful of as they develop their work and their careers.

N

Additional Fee N Fee Type N

ARLD 6330 - Arts and Technology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Explores intersections of art and technology across interdisciplinary practices; examines technologically-mediated art and new media and research through readings, viewings, projects, critiques, and guest presentations.

ARLD 6335 - Leading Change in the Arts

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor.

Effectively leading change within the arts field requires a keen understanding of what it means to truly influence both people and outcomes, and how to best assert one's own unique leadership stance for the biggest positive impact. This course will examine various leadership and change approaches, explore each student's unique leadership stance, and bring those concepts to bear on the particular challenges and changes facing today's visual and performing arts industry, artists and institutions.

N

Additional Fee N Fee Type N

ARLD 6340 - Law and the Arts

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Overview of legal issues in the arts subjects including copyright, fair use and appropriation of images/sounds; examines moral rights of artists, freedom of speech, privacy cultural and intellectual property.

ARLD 6350 - Cultural Commerce: Business Models for Arts Entrepreneurship

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Examines financial models of successful cultural-based businesses and provides access to business owners; topics include running arts-based businesses, business models for varied arts ventures, pros and cons of entrepreneurship.

ARLD 6360 - Arts & Community Engagement

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Connecting the arts with community need, focusing on issues of common concern including arts education, activism, public art, and community development.

ARLD 6370 - Introduction to Museum and Gallery Management

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor.

This course provides an overview of nonprofit museums and for-profit galleries and the people who create, govern, and operate them. Students will



learn about the different types of exhibition spaces and their structures. Students will explore the theory and practice of museum and gallery management as well as the current and emerging trends in the field.

N

Additional Fee N Fee Type N

ARLD 6380 - Introduction to Arts in Health

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor.

This course will serve as an introduction to the emerging field of Arts in Health in America. This experiential course will be held in part at Houston Methodist Hospital and consist of lectures by established professionals in the field, tours to programs in session, and hands on activities. In completion of this course students will demonstrate a broad understanding of how the arts are used to improve health and well-being in America in; the healthcare environment, the patient experience, clinical services, caring for caregivers, health sciences education and community health and well-being.

N

Additional Fee N Fee Type N

ARLD 6391 - Internship in Arts Organization

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** None.

Internship in an arts organization.

May be repeated for credit.

ARLD 6395 - Selected Topics in Arts Leadership

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Selected topics in the theory and practice of arts leadership.

May be repeated when topics vary.

ARLD 6398 - Special Problems in Arts Leadership

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** None.

Independent study in Arts Leadership.

May be repeated for credit.

ARLD 6691 - Internship in Arts Organization

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** None.

Internship in an arts organization for two-course credit.

May be repeated for credit.

Athletic Training Program

ATP 6101 - Anatomical Basis of Athletic Injury Lab

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1 Formerly/Same as: PEP 6160 - Prevention and Care of Athletic Injuries Lab



Prerequisite: Admission to the Masters of Athletic Training program.

Corequisite: ATP 6301 - Anatomical Basis of Athletic Injury

Laboratory to accompany ATP 6301; application of theories, skills, and practice.

ATP 6102 - Emergency Management & Prevention of Injury Lab

Credit Hours: 1.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 1 **Prerequisite:** Admission to Master of Athletic Training program.

Corequisite: ATP 6302 - Emergency Management & Prevention of Injury.

Laboratory to accompany ATP 6302; application of theories, skills, and practice.

ATP 6112 - Therapeutic Intervention 1 Lab

Credit Hours: 1

Lecture Contact Hours: 0 *Lab Contact Hours:* 3 **Prerequisite:** Formal acceptance for progression into the Master's Degree in Athletic Training.

Investigate and analyze indications, contraindications and biophysics of agents that aid in the healing of athletic injuries and the reduction of pain utilizing appropriate therapeutic modalities, basic therapeutic exercises and rehabilitative.

N

Additional Fee N **Fee Type** N

ATP 6113 - Lower Extremity Evaluation Lab

Credit Hours: 1.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 1 Formerly/Same as: PEP 6164 - Evaluation of Lower Extremity Lab.

Prerequisite: Admission to the Masters of Athletic Training program.

Corequisite: ATP 6313 - Lower Extremity Evaluation.

Laboratory to accompany ATP 6313; application of theories, skills, and practice.

ATP 6123 - Upper Extremity Evaluation Lab

Credit Hours: 1.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 1 Formerly/Same as: PEP 6161 - Evaluation of Upper Extremity Lab.

Prerequisite: Admission to the Masters of Athletic Training program.

Corequisite: ATP 6323 - Upper Extremity Evaluation.

Laboratory to accompany ATP 6323; application of theories, skills, and practice.

ATP 6191 - Clinical Experience I

Credit Hours: 1

Lecture Contact Hours: 0 *Lab Contact Hours:* 1 **Prerequisite:** Admission to Master of Athletic Training program.

Integration of educational competencies and clinical proficiencies with classroom instruction and supervised field based experience. Integration of educational competencies and clinical proficiencies with classroom instruction and supervised field-based experience.

N

Additional Fee N **Fee Type** N

ATP 6192 - Clinical Experience II

Credit Hours: 1

Lecture Contact Hours: 0 *Lab Contact Hours:* 1 **Prerequisite:** Admission to Master of Athletic Training program.

Integration of educational competencies and clinical proficiencies with classroom instruction and supervised field based experience.



N

Additional Fee N Fee Type N

ATP 6293 - Clinical Experience III

Credit Hours: 2

Lecture Contact Hours: 0 Lab Contact Hours: 2 Formerly/Same as: ATP 6193.

Prerequisite: Admission to Master of Athletic Training program.

Integration of educational competencies and clinical proficiencies with classroom instruction and supervised field based experience.

N

Additional Fee N Fee Type N

ATP 6301 - Anatomy

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to Master of Athletic Training program.

Athletic Training Students will study the gross and functional anatomical and physiological principles of athletic injury with practical application to motor performance.

N

Additional Fee N Fee Type N

ATP 6302 - Emergency Care

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to Master of Athletic Training program.

To provide the Athletic Training Student with the knowledge necessary to help sustain life, reduce pain, and minimize the consequences of sudden injury or illnesses.

N

Additional Fee N Fee Type N

ATP 6303 - Gen Med/Pharm 1 - Systems and Evaluation

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Formal acceptance for progression into the Master's Degree in Athletic Training.

Focuses in the identification and treatment of medical conditions of the nervous, urinary, endocrine, reproductive, respiratory, gastrointestinal, cardiovascular, integumentary systems. Emphasis placed on the role the Athletic Trainer has in the prevention, evaluation, diagnosis, treatment and rehabilitation of associated conditions as directed by a supervising physician.

N

Additional Fee N Fee Type N

ATP 6311 - Research in Athletic Training

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Formal acceptance for progression into the Master's Degree in Athletic Training.

Athletic Training Students develop the skills necessary to critically review and use evidence in the field of Athletic Training. This course will introduce research topics and the data collection and application of statistical methods used in Athletic Training and related research.

N

Additional Fee N Fee Type N

ATP 6312 - Therapeutic Intervention 1



Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Formal acceptance for progression into the Master's Degree in Athletic Training. Investigate and analyze indications, contraindications and biophysics of agents that aid in the healing of athletic injuries and the reduction of pain utilizing appropriate therapeutic modalities, basic therapeutic exercises and rehabilitative techniques.

N

Additional Fee N Fee Type N

ATP 6313 - Lower Extremity Evaluation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PEP 6364 - Evaluation of Lower Extremity.

Prerequisite: Admission to the Masters of Athletic Training program.

Corequisite: ATP 6113 - Lower Extremity Evaluation Lab.

A systematic examination of the fundamental principles and concepts of athletic training as it relates to the prevention, evaluation, diagnosis, treatment and rehabilitation of lower extremity injuries.

ATP 6321 - Athletic Training Administration

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PEP 7360 - Organization and Health Care Administration.

Prerequisite: Admission to the Masters of Athletic Training program.

Competencies needed to plan, coordinate and supervise administrative components of an athletic training organization including those pertaining to health care, financial, personnel and facilities management, and public relations.

ATP 6322 - Pharmacology in Athletic Training

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to the Master of Athletic Training program.

Knowledge, skills and values required of an Athletic Trainer (AT) on pharmacological applications, including indications, contraindications, precautions, interactions, documentation and governing regulations relevant to the treatment of injury and illness in athletic training.

ATP 6323 - Upper Extremity Evaluation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PEP 6361 - Evaluation of Upper Extremity.

Prerequisite: Admission to the Masters of Athletic Training program.

Corequisite: ATP 6123 - Upper Extremity Evaluation Lab.

A systematic examination of the fundamental principles and concepts of athletic training as it relates to the prevention, evaluation, diagnosis, treatment and rehabilitation of upper extremity injuries.

ATP 6324 - Healthcare Administration

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Formal acceptance for progression into the Master's Degree in Athletic Training.

A course designed to provide the athletic training student with competencies needed to plan, coordinate and supervise administrative components of a healthcare organization including financial, personnel, facilities management, and public relations.

N

Additional Fee N Fee Type N

ATP 7101 - Head, Neck & Spine Evaluation Lab



Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1 **Prerequisite:** Admission to Master of Athletic Training program.

Corequisite: ATP 7301 - Head, Neck & Spine Evaluation.

Laboratory to accompany ATP 7301; application of theories, skills, and practice.

ATP 7112 - Therapeutic Intervention 2 Lab

Credit Hours: 1

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** Formal acceptance for progression into the Master's Degree in Athletic Training.

A continuation of the investigation and analyzing the indications, contraindications and biophysics of agents that aid in the healing of athletic injuries and the reduction of pain utilizing appropriate therapeutic modalities, basic therapeutic exercises and rehabilitative techniques.

N

Additional Fee N Fee Type N

ATP 7113 - Rehabilitation of Sports Injuries Lab

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1 **Prerequisite:** Admission to Master of Athletic Training program.

Corequisite: ATP 7313 - Rehabilitation of Sports Injuries.

Laboratory to accompany ATP 7313; application of theories, skills, and practice.

ATP 7194 - Clinical Experience IV

Credit Hours: 1

Lecture Contact Hours: 0 Lab Contact Hours: 1 **Prerequisite:** Admission to Master of Athletic Training program. ATP 6193.

Integration of educational competencies and clinical proficiencies with classroom instruction and supervised field based experience.

N

Additional Fee N Fee Type N

ATP 7195 - Clinical Experience 5

Credit Hours: 1

Lecture Contact Hours: 0 Lab Contact Hours: 1 **Prerequisite:** Formal acceptance for progression into the Master's Degree in Athletic Training. ATP 6193.

Integration of educational competencies and clinical proficiencies with classroom instruction and supervised field based experience.

N

Additional Fee N Fee Type N

ATP 7196 - Clinical Experience VI

Credit Hours: 1

Lecture Contact Hours: 0 Lab Contact Hours: 1 **Prerequisite:** Formal acceptance for progression into the Master's Degree in Athletic Training. ATP 6193.

Integration of educational competencies and clinical proficiencies with classroom instruction and supervised field based experience.

N

Additional Fee N Fee Type N

ATP 7297 - Case Study Prep & Submission

Credit Hours: 2

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Formal acceptance for progression into the Master's Degree in Athletic Training.



Directed guidance toward drafting and submitting for publication or presentation one formal case study.

Y

Additional Fee N Fee Type N

ATP 7301 - Head, Neck & Spine Evaluation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to Master of Athletic Training program.

Corequisite: ATP 7101 - Head, Neck & Spine Evaluation Lab.

A systematic examination of the fundamental principles and concepts of athletic training as it related to the prevention, evaluation, diagnosis, treatment and rehabilitation of the head, neck, and spine.

ATP 7302 - Gen Med/Pharm 2 - Pathophysiology

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Formal acceptance for progression into the Master's Degree in Athletic Training.

Focuses in the identification and treatment of medical conditions of the nervous, urinary, endocrine, reproductive, respiratory, gastrointestinal, cardiovascular, integumentary systems. Emphasis placed on the role the Athletic Trainer has in the prevention, evaluation, diagnosis, treatment and rehabilitation of associated conditions as directed by a supervising physician.

N

Additional Fee N Fee Type N

ATP 7311 - Human Performance

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Formal acceptance for progression into the Master's Degree in Athletic Training.

Instruction in basic physiological adaptations to strength and speed development, exercise prescription and testing, and facility design and safety.

N

Additional Fee N Fee Type N

ATP 7312 - Therapeutic Intervention 2

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Formal acceptance for progression into the Master's Degree in Athletic Training.

A continuation of the investigation and analyzing the indications, contraindications and biophysics of agents that aid in the healing of athletic injuries and the reduction of pain utilizing appropriate therapeutic modalities, basic therapeutic exercises and rehabilitative techniques.

N

Additional Fee N Fee Type N

ATP 7313 - Rehabilitation of Sports Injuries

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to Master of Athletic Training program.

Corequisite: ATP 7113 - Rehabilitation of Sports Injuries Lab.

Principles of rehabilitation of sports injuries, including range of motion, pain control, balance, proprioception, strengthening, and endurance. Therapeutic goals and objectives, exercise gradation and evaluating rehabilitation process will be stressed.

ATP 7321 - Behavioral Health in Athletic Training

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to Master of Athletic Training program.



Examines the knowledge, skills, that the athletic trainer must possess to recognize and intervene, and when appropriate, refer to a recognized professional; the socio-cultural, mental, emotional, and physical behaviors of athletes and others involved in physical activity.

N

Additional Fee N Fee Type N

ATP 7322 - Seminar in Athletic Training

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PEP 7364 - Professional Development and Responsibility.

Prerequisite: Admission to the Masters of Athletic Training program.

A Capstone course designed for research discussion of critical questions and contemporary issues and problems in athletic training/sports medicine.

Athletic Training students will prepare for the Board of Certification Exam.

Biochemical and Biophysical Sciences

BCHS 6113 - Graduate Biochemistry Seminar

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0

BCHS 6198 - Special Problems

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

BCHS 6199 - Masters Thesis

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

BCHS 6201 - Methods in Molecular Biology

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** BCBS 3305 and BIOL 4320 or BCBS 4306 or equivalents or consent of instructor.

Current methods and techniques in molecular biology. Bacterial host strains, expression systems, mutagenesis, DNA library construction and screening, DNA mapping and sequencing and polymerase chain reaction methods.

BCHS 6202 - Chemical Biology

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor.

This is an interdisciplinary course covering fundamental chemical principles and their applications in studies of biomolecules, methods and working principles of biomolecular assays, and the design of these experiments.

BCHS 6206 - Molec Modeling Biol Macromols

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 2 **Prerequisite:** BCBS 3304 and CHEM 4370 or 4373 or equivalents or consent of the instructor.

Advanced computer-based molecular modeling methods, with emphasis on their practical aspects and limitations. Individual research projects using UNIX-based Silicon Graphics computers.



BCHS 6208 - Biochemistry of Organelles

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** BCCHS 3305 or equivalent and consent of instructor.

Organization of mitochondrial and chloroplast membranes. Biochemical and biophysical aspects of electron transfer in photosynthetic organelles. Molecular organization of genes and proteins involved in biochemical energy transduction.

BCCHS 6209 - Protein Biosynthesis

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** BCCHS 3304.

Aspects of protein synthesis including ribosome structure, ribosomal RNA structure and function, translation inhibitors, identification of tRNAs, and involvement of tRNA in coding/decoding.

BCCHS 6226 - Enzyme Catalysis and Kinetics

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** BCCHS 3305 or equivalent and graduate standing or consent of instructor.

Principles of enzymatic catalysis. Methods and principles of enzyme kinetic analysis.

BCCHS 6227 - Membranes/Signal Transduction

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** BCCHS 3305 or equivalent and graduate standing or consent of instructor.

Membrane biochemistry: metabolism, properties, and structures of membrane lipids; biochemistry of membrane proteins; structure and composition; physical techniques for study; lateral and transverse asymmetry; electrophysiological properties; permeability and partitioning; pores, channels, and transporters; signal transduction.

BCCHS 6228 - Advanced Nucleic Acids

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** BCCHS 4306 and graduate standing or consent of instructor.

Nucleic acid structure, function, and interactions with proteins.

BCCHS 6229 - Protein Structure and Function

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** BCCHS 3305 or equivalent and graduate standing or consent of instructor.

Protein structure/function relationships as exemplified in current structural biology literature.

BCCHS 6230 - Grad Biochem Lab Rotation I

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 6 **Prerequisite:** BCCHS 3305 and BCCHS 3201 or consent of instructor.

Instruction in contemporary concepts and research methodology in several areas of biochemistry.

BCCHS 6231 - Grad Biochem Lab Rotation II

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 6 **Prerequisite:** BCCHS 6230.

Instruction in contemporary concepts and research methodology in several areas of biochemistry.



BCHS 6234 - Chemical Biology

Credit Hours: 2.0

Lecture Contact Hours: 2 *Lab Contact Hours:* 0 **Prerequisite:** BCHS 3305 and graduate standing or consent of instructor
The use of chemical principles to address biological questions.

BCHS 6235 - Cancer Biochemistry

Credit Hours: 2.00

Lecture Contact Hours: 2.0 *Lab Contact Hours:* 0.0 **Prerequisite:** Graduate standing.

This class focuses on comprehending basic and up-to-date knowledge pertaining to fundamental biochemical alterations, especially metabolic alterations, in cancer cells.

BCHS 6236 - Genomics and Proteomics

Credit Hours: 2.0

Lecture Contact Hours: 2 *Lab Contact Hours:* 0 **Prerequisite:** BCHS 3305 or equivalent and graduate standing or consent of instructor
Methods and technologies in genome and proteome research.

BCHS 6237 - Pharmacology and Drug Design

Credit Hours: 2.0

Lecture Contact Hours: 2 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing.

This course will focus on basic principles of pharmacology and current approaches to drug discovery and design.

BCHS 6238 - Gene Regulation

Credit Hours: 2.0

Lecture Contact Hours: 2 *Lab Contact Hours:* 0 **Prerequisite:** Graduate Standing.
Advanced topics in gene regulation.

BCHS 6297 - Selected Topics in Biochemistry & Biophysics Science

Credit Hours: 2

Lecture Contact Hours: 2 *Lab Contact Hours:* 0 **Prerequisite:** Consent of instructor.

Y

Note: May be repeated for credit when topics vary.

Additional Fee Y **Fee Type** Y

BCHS 6298 - Special Problems

Credit Hours: 2.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 0

BCHS 6299 - Masters Thesis

Credit Hours: 2.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 0

BCHS 6324 - Bioinformatics



Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Computer-assisted analysis of molecular data including data retrieval, database usage, sequence alignment, gene identification, phylogenetics, genomics, and proteomics. Individually designed research projects uses bioinformatic methods.

BCHS 6361 - Clinical Biochemistry

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** BCHS 3304 or consent of instructor.

Etiology, diagnosis, and treatment of metabolic disorders.

BCHS 6397 - Sel Top-Biochm&Bphs Sci

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

BCHS 6398 - Special Problems

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

BCHS 6399 - Masters Thesis

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

BCHS 6498 - Special Problems

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

BCHS 6598 - Special Problems

Credit Hours: 5.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

BCHS 6698 - Special Problems

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Must be a graduate student.

Independent research under the direction of a faculty advisor.

BCHS 6798 - Special Problems

Credit Hours: 7

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Must be a graduate student.

Independent Study

BCHS 6898 - Special Problems



Credit Hours: 8

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Must be a graduate student.

Independent Study

BCHS 6998 - Special Problems

Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Must be a graduate student.

Independent Study

BCHS 7198 - Master Research

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Biochemistry.

Independent research under the direction of a faculty advisor.

BCHS 7298 - Master Research

Credit Hours: 2

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Biochemistry.

Independent research towards a Master's degree.

BCHS 7398 - Master Research

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Biochemistry.

Independent research under the direction of a faculty advisor.

BCHS 7399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

BCHS 7498 - Master Research

Credit Hours: 4

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Biochemistry.

Independent research under the direction of a faculty advisor.

BCHS 7598 - Master Research

Credit Hours: 5.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Biochemistry.

Independent research under the direction of a faculty advisor.

BCHS 7698 - Master Research



Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Biochemistry.
Independent research under the direction of a faculty advisor.

BCHS 7699 - Masters Thesis

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

BCHS 7798 - Master Research

Credit Hours: 7

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Biochemistry.
Independent research under the direction of a faculty advisor.

BCHS 7898 - Master Research

Credit Hours: 8

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Biochemistry.
Independent research under the direction of a faculty advisor.

BCHS 7998 - Master Research

Credit Hours: 9.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Biochemistry.
Independent research under the direction of a faculty advisor.

BCHS 8198 - Doctoral Research

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

BCHS 8199 - Doctoral Dissertation

Credit Hours: 1

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

BCHS 8298 - Doctoral Research

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

BCHS 8299 - Doctoral Dissertation

Credit Hours: 2

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

BCHS 8398 - Doctoral Research



Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

BCHS 8399 - Doctoral Dissertation

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

BCHS 8498 - Doctoral Research

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

BCHS 8598 - Doctoral Research

Credit Hours: 5.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

BCHS 8698 - Doctoral Research

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

BCHS 8699 - Doctoral Dissertation

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

BCHS 8798 - Doctoral Research

Credit Hours: 7

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Biochemistry.
Independent research under the direction of a faculty advisor.

BCHS 8898 - Doctoral Research

Credit Hours: 8

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Biochemistry.
Independent research under the direction of a faculty advisor.

BCHS 8998 - Doctoral Research

Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Biochemistry.
Independent research under the direction of a faculty advisor.

BCHS 8999 - Doctoral Dissertation



Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

Bio-engineering

BIOE 6111 - Graduate Bioengineering Seminar

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 Formerly/Same as: BIOE 6121 Graduate Bioengr Seminar

Prerequisite: graduate standing.

Weekly seminars

BIOE 6198 - Research

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** Approval of advisor.

BIOE 6298 - Research

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Approval of advisor.

BIOE 6300 - Mathematical Methods in Biomedical Engineering

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Specific focus of the class will be on methods used in the bionanosciences, neuroengineering, and biomedical imaging. Upon completion of the course students should have a working understanding of how to use and apply general mathematical principles they may encounter in various biomedical engineering courses.

BIOE 6301 - Statistical Methods in Biomedical Engineering

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or approval of instructor.

Foundation of statistical literacy with regard to basic methods of descriptive statistics, parameter estimation, and hypothesis testing. Additional emphasis will be placed on the use of computers for statistical analysis and modeling.

BIOE 6303 - Biomaterials

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Design & application of materials in hard and soft tissue replacement as well as other applications such as drug delivery systems and tissue engineering.

BIOE 6305 - Brain Machine Interfacing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.



Principles of neuroscience, machine learning, statistics and probability theory, electrical systems, and chemistry as related to brain-machine interfacing.

BIOE 6306 - Advanced Artificial Neural Networks

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Principles of Brain Machine Interfacing and associated mathematical modeling, neurophysiology and programing.

BIOE 6307 - Cell Biology for BME

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Cell biological concepts such as cell structure, DNA replication, RNA transcription, translation of proteins, cell membrane and methods to study each.

BIOE 6309 - Neural Interfaces

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Principles of neural interfaces and neural prosthetic devices including neural recording, stimulation, and regeneration.

BIOE 6310 - Drug Design and Delivery

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Understanding the fundamentals of drug delivery, including physiology, pharmacokinetics/pharmacodynamics, drug diffusion and permeation, control release, distribution and biomaterials used in drug fabrications.

BIOE 6311 - Advances in Vision Research

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Understanding the anatomy and development of the eye, molecular signaling, neural pathways, eye diseases, and explore emerging technologies used to correct the visual system.

BIOE 6319 - Mass Transport Phenomena in Biological Systems

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** BIOE 3340.

Comprehensively covers the diffusion of gases, electrolytes and non-electrolytes in biomedical engineering applications.

N

Additional Fee N Fee Type N

BIOE 6340 - Quantitative Systems Biology & Disease

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Foundational background in quantitative systems biology, with a focus on biochemical systems relevant to the study of host-pathogen interactions and infectious disease.

BIOE 6341 - Advanced Biofluid Dynamics



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Mathematical modeling of fluid flow and mass transport in biological context, with applications in human physiology, membrane transport, computational methods and simulation, with readings from research literature.

BIOE 6342 - Biomedical Signal Processing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Principles of digital signal processing and application of the state of the art methods to the analysis of biomedical signals such as ECG, EMG, and EEG and neural decoding.

BIOE 6343 - Global Healthcare

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Global healthcare systems, advances and applications in information technologies in biomedicine, development of new drugs, technology regulation, and ethical issues using novel technologies.

BIOE 6344 - Advanced in Regenerative Medicine & Stem Cell Engineering

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Principles as applied to tissue and organ fabrication, including cell sourcing, biomaterial synthesis, tissue fabrication technology, bioreactor design and vascularization.

BIOE 6345 - Biomedical Informatics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Provides insights into the theoretical foundations and current applications of bioinformatics and functional genomics. Contents include algorithms and design of algorithms necessary to organize, store, retrieve and analyze data.

BIOE 6346 - Advanced Medical Imaging

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Principles of image formation, reconstruction and processing in medical imaging.

BIOE 6347 - Introduction to Optical Sensing and Biophotonics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Optical imaging techniques for detection of structures and functions of biological tissues, basic physics and engineering of each imaging technique with an emphasis on coherence-domain imaging.

BIOE 6348 - Advanced Bioelectromagnetic Imaging

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Biomedical modeling and imaging. Principles and methods related to functional bioelectromagnetic imaging and MRI.



BIOE 6349 - Biomedical Microdevices

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate Standing or consent of instructor.

Discuss the design and fabrication of biomedical microdevices for clinical diagnostics. Emphasize the development of low-cost, portable devices for point-of-care diagnostics in remote, rural areas, developing world and other resource-limited settings.

BIOE 6350 - Genomic and Proteomic Engineering

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate Standing or consent of instructor.

The concepts, principles and instrumentation of emerging technologies in genomics and proteomics will be introduced. The potential development and applications of these technologies in disease diagnostics, drug targets and therapy will be discussed. Students are expected to design experiments using genomic and proteomic engineering approaches.

BIOE 6351 - Diseases and Biomarkers

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate Standing or consent of instructor.

Surveys different diseases that are common in society, focusing on etiology, disease manifestations, and management. The goal of the student is to actively research how various biomarkers (which could be DNA, RNA, protein or metabolites) can be used to predict or track various diseases. The emphasis is not only on disease monitoring but also technology applications that are relevant for biomarker identification.

BIOE 6397 - Selected Topics

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 Y

Additional Fee Y Fee Type Y

BIOE 6398 - Research

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** approval of advisor.

BIOE 6399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

BIOE 6498 - Research

Credit Hours: 4.0

Lecture Contact Hours: 4 Lab Contact Hours: 0 **Prerequisite:** Approval of advisor.

BIOE 6598 - Research

Credit Hours: 5.0

Lecture Contact Hours: 5 Lab Contact Hours: 0 **Prerequisite:** Approval of advisor.



BIOE 7399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

BIOE 8198 - Doctoral Research

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** Approval of advisor.

BIOE 8298 - Doctoral Research

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Approval of advisor.

BIOE 8398 - Doctoral Research

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Approval of advisor.

BIOE 8399 - Doctoral Dissertation

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

N

Additional Fee Y Fee Type Y

BIOE 8498 - Doctoral Research

Credit Hours: 4.0

Lecture Contact Hours: 4 Lab Contact Hours: 0 **Prerequisite:** Approval of advisor.

BIOE 8598 - Doctoral Research

Credit Hours: 5.0

Lecture Contact Hours: 5 Lab Contact Hours: 0 **Prerequisite:** Approval of advisor.

BIOE 8699 - Doctoral Dissertation

Credit Hours: 6

Lecture Contact Hours: 6 Lab Contact Hours: 0 **Prerequisite:** None.

N

Additional Fee Y Fee Type Y

BIOE 8999 - Doctoral Dissertation

Credit Hours: 9

Lecture Contact Hours: 9 Lab Contact Hours: 0 **Prerequisite:** None.



N

Additional Fee Y Fee Type Y

Biology

BIOL 6110 - Biology Seminar

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or approval of chair.
Current research topics in modern biology presented by top scientists from around the state and country.

BIOL 6120 - Responsible Conduct of Biological Research

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** None
Topics include data management, collaboration, conflicts of interest, key federal policies, mentor-trainee relationships, authorship and publication, research misconduct, and social impacts of scientific research, as mandated by NIH guidelines.

BIOL 6197 - Selected Topics in Biology

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0

BIOL 6198 - Special Problems

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

BIOL 6199 - Masters Thesis

Credit Hours: 1

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

BIOL 6203 - Advanced Animal Behavior

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** graduate standing or consent of instructor.
Mechanisms and evolution of animal behavior.

BIOL 6204 - Advanced Ecology & Evolution I

Credit Hours: 2.00

Lecture Contact Hours: 2.0 Lab Contact Hours: 0.0 **Prerequisite:** Graduate standing.
Advanced topics in Ecology and Evolutionary Biology.

BIOL 6205 - Advanced Ecology & Evolution II



Credit Hours: 2.00

Lecture Contact Hours: 2.0 Lab Contact Hours: 0.0 **Prerequisite:** Graduate standing.

Advanced topics in Ecology and Evolutionary Biology.

BIOL 6206 - Biological Networks

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor.

This course explores different ways of using networks to represent and analyse biological systems. Topics include: network theory, gene networks, social networks, and ecological networks.

BIOL 6222 - Optical Methods in Cell Biology

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** graduate standing or consent of instructor.

Theoretical bases, technical considerations, applications, and limitations of optical approaches to the study cellular systems. Includes confocal and laser-scanning microscopy, ratiometric calcium imaging, and fluorescence-assisted cell sorting.

BIOL 6223 - Animal Models of Human Disease

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor.

Principles and application of animal models to study pathogenesis of human disease and to develop therapeutics with emphasis on cancer.

BIOL 6224 - Programming for Biologists

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor.

Introduction to computer programming for students interested in bioinformatics. Topics include working from the UNIX command-line

BIOL 6226 - Principles of Molecular Pharmacology & Drug Discovery

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor.

This course will offer an introduction into the basic principles of pharmacology and specifically the principles and common

BIOL 6230 - Advanced Cell Biology I

Credit Hours: 2.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: BIOL 6307.

Prerequisite: Undergraduate genetics, biochemistry, and cell biology.

Core course for Molecular and Cell Biology program. Topics include regulation of protein activity, GTPases, cell signaling, cell proliferation, apoptosis, and experimental design.

BIOL 6231 - Advanced Cell Biology II

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Undergraduate genetics, biochemistry, and cell biology.

Core course for Molecular and Cell Biology program. Topics include the cytoskeleton, cell motility, extracellular matrix, establishment and maintenance of epithelial cell polarity, and protein trafficking.



BIOL 6240 - Molecular Genetics 1

Credit Hours: 2.0

Lecture Contact Hours: 2 *Lab Contact Hours:* 0 **Prerequisite:** Undergraduate genetics, biochemistry, and cell biology.

Core course for Molecular and Cell Biology program. Topics include prokaryotic molecular biology, DNA structure and replication, and advanced genetic approaches.

BIOL 6241 - Molecular Genetics 2

Credit Hours: 2.0

Lecture Contact Hours: 2 *Lab Contact Hours:* 0 **Prerequisite:** Undergraduate genetics, biochemistry, and cell biology.

Core course for Molecular and Cell Biology program. Topics include eukaryotic molecular biology, transcription, translation, RNA splicing, and chromatin modification.

BIOL 6297 - Selected Topics in Biology

Credit Hours: 2.0

Lecture Contact Hours: 2 *Lab Contact Hours:* 0 **Prerequisite:** consent of instructor.

Selected Topics

May be repeated for credit when topics vary.

BIOL 6298 - Special Problems

Credit Hours: 2.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 0

BIOL 6299 - Masters Thesis

Credit Hours: 2

Lecture Contact Hours: 0 *Lab Contact Hours:* 0 N

Additional Fee Y Fee Type Y

BIOL 6301 - Conservation Biology

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** None, but BIOL 3301 and BIOL 4368, or equivalent, are recommended.

Introduction to the fundamentals and practice of conservation biology, including the value of biodiversity, threats to biodiversity, conservation genetics, and applications in conservation biology at the genetic, population, community, and ecosystem levels.

BIOL 6309 - Mathematical Biology

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** MATH 3331 and BIOL 3306, or consent of instructor.

Topics in mathematical biology: epidemiology, population models, models of genetics and evolution, network theory, pattern formation, and neuroscience.

BIOL 6310 - Biostatistics

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** MATH 3339 and BIOL 3306, or consent of instructor.



Statistics for biological and biomedical data, exploratory methods, generalized linear models, analysis of variance, cross-sectional studies, and nonparametric methods. Students may not receive credit for both.

BIOL 6311 - Genomic Data Analysis

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

This course provides an introduction to analyzing genomic data to answer biological questions. This will include genome sequencing, functional genomics (e.g., RNA-seq, ChIP-seq), and metagenomics. The course will be a combination of lectures by the instructor, classroom discussions, demonstrations of data analysis, and hands-on exercises where students analyze publicly available data. Students will be evaluated based on homework assignments and a final project.

N

Additional Fee N Fee Type N

BIOL 6312 - Scientific Communication

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor

In this course, we explore different means of relaying scientific information, focusing of the basics of effective data visualization, writing and oral presentations.

BIOL 6315 - Neuroscience

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** BIOL 1161, 1361, 1162, and 1362, and BCHS 3304 or consent of instructor. Graduate standing

Molecular, cellular, and behavioral principles of nervous system function, including aspects of development, learning and memory, and evolution. Students must complete a written assignment on aspects of the course content

BIOL 6317 - Multivariate Biometry

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 3 **Prerequisite:** BIOL 3407 or equivalent.

Advanced techniques in biometrics, emphasizing multivariate methods.

BIOL 6320 - Molecular Biology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** BIOL 3301, Graduate standing

Molecular processes involved in biological systems and methods for their study, including recombinant DNA techniques and other modern research applications. Students must complete a written assignment on aspects of the course content.

BIOL 6323 - Immunology

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** BIOL 3301 or consent of instructor.

Structural and functional aspects of the immune system. Antigens, antibodies, and antigen-antibody and cellular reactions.

BIOL 6324 - Bioinformatics



Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Computer-assisted analyses of molecular data including data retrieval, database usage, sequence alignment, gene identification, phylogenetics, genomics, and proteomics. Individually designed research projects uses bioinformatic methods.

BIOL 6330 - Molecular Basis of Infectious Diseases

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None, but BCHS 3304 or equivalent is strongly recommended.

Molecular mechanisms of pathogenesis by selected bacterial and viral pathogens, with emphasis on basic concepts in microbial physiology and biochemistry.

BIOL 6333 - Advanced Microbial Physiology

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: BIOL 6233 Advanced Microbial Physiology

Prerequisite: BIOL 3332 and BCHS 3304, or consent of instructor.

Molecular and cellular mechanisms of fundamental processes in microbial physiology. Current literature and experimental techniques.

BIOL 6350 - Biomedical Sciences Practicum

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** Graduate standing. Can only be taken by students in the Biomedical Sciences Certificate.

Practicum in biomedical sciences. Students perform a laboratory research internship or a community health internship.

BIOL 6351 - Integrative Anatomy & Physiology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing. Can only be taken by students in the Biomedical Sciences Certificate.

An accelerated and advanced Anatomy and Physiology course built on a foundation of undergraduate genetics and biochemistry

BIOL 6352 - Molecular Mechanisms of Disease

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Advanced selected topics that illustrate genetic, biochemical, or cell biological bases of human diseases. Lecture and discussion are used to help students develop skill in linking fundamental biological mechanisms to human disorders.

BIOL 6354 - Endocrinology

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** BIOL 3301 and BIOL 3304 or consent of instructor.

Regulation and integration of bodily functions by hormones in normal and diseased animal.

BIOL 6355 - Introduction to Health Systems

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in the Certificate in Biomedical Sciences.

Topics include community health, health disparities, management of chronic disease, health policy, etc.



BIOL 6356 - Medical Ethics

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** Graduate standing.
Introduction to medical ethics.

Note: May be repeated for credit when topics vary.

BIOL 6357 - Community Ecology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** BIOL 3306 and BIOL 4368 or consent of instructor.

For biology majors. Current principles and theories regarding the structure and dynamics of communities, including concepts of predation, competition, succession, diversity, and stability.

BIOL 6366 - Molecular and Genome Evolution

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and BIOL 3301 or consent of instructor.

The evolution of genes, gene-products, genomes, and inter-genomic regions. Methodology of molecular evolutionary analysis. Identification of the evolutionary forces operating at the molecular level.

BIOL 6368 - Ecology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** BIOL 3301 and 3306 or consent of instructor. Graduate standing

Current concepts of the interrelationships between organisms and the environment. Students must complete a written assignment on aspects of the course content

BIOL 6374 - Cell Biology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** BIOL 3301. BCHS 3304, graduate standing.
Composition, organization, and function of cells at the molecular level.

Note: Credit may not be applied toward a graduate degree in Biology or in Biochemistry. Students must complete a written assignment on aspects of the course content.

BIOL 6384 - Developmental Biology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** BIOL 3301, Graduate standing

Cellular differentiation, growth, and morphogenesis of developing biological systems. Students must complete a written assignment on aspects of the course content.

BIOL 6397 - Selected Topics in Biology

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor.

Y

Note: May be repeated for credit when topics vary.

Additional Fee Y Fee Type Y



BIOL 6398 - Special Problems

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

BIOL 6399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

BIOL 6410 - Applied Biostatistics

Credit Hours: 4

Lecture Contact Hours: 4 Lab Contact Hours: 0 **Prerequisite:** None.

Concepts of basic statistics and probability, including probability distributions, ANOVA, linear modeling, multiple regression, logistic regression, and commonly applied non-parametric tests.

BIOL 6498 - Special Problems

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

BIOL 6598 - Special Problems

Credit Hours: 5.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

BIOL 6698 - Special Problems

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Must be a graduate student.

Independent Study.

BIOL 6798 - Special Problems

Credit Hours: 7

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Must be a graduate student.

Independent Study.

BIOL 6898 - Special Problems

Credit Hours: 8

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Must be a graduate student.

Independent Study.

BIOL 6998 - Special Problems



Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Must be a graduate student.

Independent Study.

BIOL 7123 - Advanced Microbiology Seminar

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Biology or Biochemistry.

Presentation and discussion of the current literature in Microbiology.

May be repeated for credit.

BIOL 7124 - Cell Biology Seminar

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** graduate standing in the Department of Biology and Biochemistry.

Presentations from the literature and discussion of current topics in cell biology.

BIOL 7125 - Biology of Nuclear Receptors Seminar

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Biology or Biochemistry.

Presentations from the literature and discussion of topics in the biology of nuclear receptors and cell signaling.

BIOL 7167 - Population Biology Seminar

Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 Formerly/Same as: BIOL 7367 Population Bio Seminar

Prerequisite: Graduate standing in biology.

Graduate seminar in newer aspects of population biology.

May be repeated for credit.

BIOL 7198 - Master Research

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Biology.

Independent research under the direction of a faculty advisor.

BIOL 7298 - Master Research

Credit Hours: 2

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Biology.

Independent research under the direction of a faculty advisor.

BIOL 7398 - Master Research

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Biology.

Independent research under the direction of a faculty advisor.

BIOL 7399 - Masters Thesis



Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

BIOL 7498 - Master Research

Credit Hours: 4

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Biology.

Independent research under the direction of a faculty advisor.

BIOL 7598 - Master Research

Credit Hours: 5.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Biology.

Independent research under the direction of a faculty advisor.

BIOL 7698 - Master Research

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Biology.

Independent research under the direction of a faculty advisor.

BIOL 7699 - Masters Thesis

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

BIOL 7798 - Master Research

Credit Hours: 7

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Biology.

Independent research under the direction of a faculty advisor.

BIOL 7898 - Master Research

Credit Hours: 8

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Biology.

Independent research under the direction of a faculty advisor.

BIOL 7998 - Master Research

Credit Hours: 9.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Biology.

Independent research under the direction of a faculty advisor.

BIOL 8198 - Doctoral Research

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0



BIOL 8199 - Doctoral Dissertation

Credit Hours: 1

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

BIOL 8298 - Doctoral Research

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

BIOL 8299 - Doctoral Dissertation

Credit Hours: 2

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

BIOL 8398 - Doctoral Research

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

BIOL 8399 - Doctoral Dissertation

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

BIOL 8498 - Doctoral Research

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

BIOL 8598 - Doctoral Research

Credit Hours: 5.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

BIOL 8698 - Doctoral Research

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

BIOL 8699 - Doctoral Dissertation

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

BIOL 8798 - Doctoral Research



Credit Hours: 7

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Biology.
Independent research under the direction of a faculty advisor.

BIOL 8898 - Doctoral Research

Credit Hours: 8

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Biology.
Independent research under the direction of a faculty advisor.

BIOL 8998 - Doctoral Research

Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** None.
Graduate standing in Biology.

BIOL 8999 - Doctoral Dissertation

Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 0 N
Additional Fee Y Fee Type Y

Biotechnology

BTEC 6100 - Seminar in Biotechnology

Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and consent of instructor.
Students are introduced to library, computing and research facilities. Faculty overview the responsible conduct of research, ethics, and describe research methods, and fields in Biotechnology.

N

Note: This course is offered at UH at Sugar Land only.

Additional Fee N Fee Type N

BTEC 6101 - Biotechnology Techniques Metho

Credit Hours: 1

Lecture Contact Hours: 0 Lab Contact Hours: 1 **Prerequisite:** Graduate standing and consent of instructor.
Modern techniques used in biotechnology laboratories.

N

Note: Additional Fee \$2.00 Fee Type Lab Fee. This course is offered at UH at Sugar Land only.

Additional Fee N Fee Type N

BTEC 6198 - Special Problems

Credit Hours: 1

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Y

Note: May be repeated. This course may be offered at UH at Sugar Land only.

Additional Fee N Fee Type N



BTEC 6300 - Standards in Biotechnology

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing.

Different technical standards guiding the business, safety, regulatory, and ethical policies of the biotechnology industry.

BTEC 6302 - Introduction to Regulatory Affairs

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing or consent of instructor.

Overview of federal and global regulations of biotechnology products. Topics include: history, regulatory agencies, drugs, biologics, and medical device submissions, GLP, GCP, GMP, and FDA inspections.

N

Note: This course is offered at UH at Sugar Land only.

Additional Fee Y **Fee Type** Y

BTEC 6303 - Protein Engineering Technology

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing or consent of instructor.

Cellular and genetic engineering of expression constructs and hosts for optimization of bio-therapeutic protein production; approaches and challenges.

N

Note: This course is offered at UH at Sugar Land only.

Additional Fee N **Fee Type** N

BTEC 6304 - Computational Methods in BTEC

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing or consent of instructor.

Application of computers to solve problems in biology and medicine. Statistical analysis and inference (experimental design and analysis), biological modeling and simulation, and biological imaging.

N

Note: This course is offered at UH at Sugar Land only.

Additional Fee N **Fee Type** N

BTEC 6395 - Biotechnology Internship

Credit Hours: 3

Lecture Contact Hours: 0 *Lab Contact Hours:* 3 **Prerequisite:** At least 12 hours in the MS/BIOTECH program and prior written approval of the graduate faculty advisor.

Work experience directly involved in biotechnology.

Y

Note: This course may be offered at UH at Sugar Land only.

Additional Fee N **Fee Type** N

BTEC 6396 - Masters Project in BTEC

Credit Hours: 3

Lecture Contact Hours: 0 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing or consent of instructor.

Master's project.



Y

Note: This course may be offered at UH at Sugar Land only.

Additional Fee N **Fee Type** N

BTEC 6397 - Selected Topics in BTEC

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing and consent of instructor.

Selected Topics in BTEC.

Y

Note: This course is offered at UH at Sugar Land only.

Additional Fee N **Fee Type** N

BTEC 6398 - Special Problems in BTEC

Credit Hours: 3

Lecture Contact Hours: 0 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing and consent of instructor.

Y

Note: May be repeated for course credit. This course may be offered at UH at Sugar Land only.

Additional Fee N **Fee Type** N

BTEC 6399 - Thesis

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** None.

Thesis in Biotechnology (BTEC).

Y

Note: This course may be offered at UH at Sugar Land only.

Additional Fee N **Fee Type** N

BTEC 6401 - Bioprocessing in Biotechnology

Credit Hours: 4

Lecture Contact Hours: 3 *Lab Contact Hours:* 1 **Prerequisite:** Graduate standing and consent of instructor.

Course covers microbial growth, kinetics, and fermentation operation as applicable to bioprocessing. Laboratory experiments will cover upstream and downstream techniques of product processing such as cell culture and protein purification.

N

Note: This course is offered at UH at Sugar Land only.

Additional Fee Y **Fee Type** Y

BTEC 6699 - Thesis

Credit Hours: 6

Lecture Contact Hours: 0 *Lab Contact Hours:* 6 **Prerequisite:** None.

Thesis in BTEC.

N

Note: Thesis hours may be available at UH at Sugar Land only.

Additional Fee N **Fee Type** N

BTEC 6999 - Thesis



Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 9 **Prerequisite:** None.

Thesis in BTEC.

N

Note: Thesis hours may be available at UH at Sugar Land only.

Additional Fee N **Fee Type** N

Chemical Engineering

CHEE 6111 - Graduate Seminar

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0

CHEE 6197 - Selected Topics

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0

CHEE 6198 - Research

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

CHEE 6289 - Chm Engr Project

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** approval of instructor.

Industrial scale chemical engineering economics and/or engineering project.

May be repeated for credit.

CHEE 6298 - Research

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

CHEE 6300 - Physics & Chem Engr Material

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing or consent of instructor.

Advanced theories of the structure and properties of materials, preparation methods, and applications in electronics, optics, catalysis and fuel cells.

CHEE 6319 - Introduction to Nanotechnology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CHEE 3333 or equivalent, engineering post baccalaureate or graduate standing in engineering.

Field of nanotechnology. Fundamental concepts underlying various nanotechnologies which serves as a leveling course.

CHEE 6320 - Introduction Nanomaterials Engineering



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CHEE 6319 or equivalent or consent of instructor.

Engineering of nanomaterials with emphasis on structural, optical, photonic, magnetic, and electronic materials. Synthetic methods and analytical characterization with design for applications will be emphasized.

CHEE 6322 - Topics in Colloid and Interfacial Science

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

This interdisciplinary course discusses the basics of colloidal interactions, dynamics, self-assembly, and characterization techniques for a wide range of materials and their applications, spanning areas of biotechnology, energy and nanotechnology.

CHEE 6323 - Fund of Tissue Engineering

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CHEE 3300 , CHEE 3334 and CHEE 3369 and graduate standing, or consent of instructor.

Fundamental concepts in tissue engineering and cell biology. Tissue structure, function, and replication.

CHEE 6327 - Experimental Methods in Chemical Engineering

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing and/or consent of instructor.

Experimental methods used in chemical and biomolecular research such as error analysis, experimental design, microscopy (optical, electron, atomic force), scattering, spectroscopic analysis, bioanalysis, electro chemical analysis, and x-ray diffraction.

CHEE 6330 - Foundations of Mathematical Methods in Chemical Engineering

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor.

Introductory graduate level mathematical methods used in linear system analysis, solution of ordinary and partial differential equations, and model parameter estimation for various problems encountered in chemical engineering.

CHEE 6331 - Math Mtds in Chem Engr

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** approval of department.

Linear methods applied to chemical engineering, matrices, transforms, series, complex variable methods, boundary layer problems.

CHEE 6332 - Mathematical Methods in Chemical Engineering II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CHEE 6331 or consent of instructor.

Solution of initial value problems, linear and non-linear equations. Solution of boundary value problems. Solutions of elliptic, parabolic and hyperbolic partial differential equations using finite-difference and finite element techniques.

CHEE 6333 - Transport Processes

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CHEE 3369 .



Advanced principles of fluid mechanics, heat and mass transfer with application to problems in research and design. Emphasis on unified point of view to transport processes in laminar and turbulent flow situations.

CHEE 6335 - Classical-Statistical Thermo

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CHEE 3460 .

Advanced methods. Advanced principles of chemical engineering thermodynamics. Introduction to molecular and statistical thermodynamics and their ability to predict bulk thermodynamic properties and characteristics of chemical engineering systems.

CHEE 6337 - Advanced Reactor Engr

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** undergraduate kinetics or reactor design course.

Introduction to modern concepts and techniques of chemical reactor analysis and design.

CHEE 6360 - Biomolecular Engr Fundamentals

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor

Analysis and design fundamentals for biomolecular processes.

CHEE 6365 - Fund of Catalysis

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CHEE 4367 or equivalent.

Theories and experimental procedures in modern heterogeneous catalysis, catalyst preparation and properties, absorption, surface mechanisms, catalyst design, and catalytic processes.

CHEE 6367 - Advanced Proc Control

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CHEE 3367 or equivalent or consent of instructor.

Application of high-speed computers in the control of chemical processes, reactors, and units.

CHEE 6368 - Chemical Process Economics I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in chemical engineering.

Managerial economics of chemical processes and products; development of decision-making methods using chemical industry examples.

CHEE 6369 - Chemical Process Economics II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CHEE 6368 .

Study of profitability, process comparison, and risk analysis from an advanced viewpoint, followed by extensive case history studies of managerial economics in process industries.

CHEE 6375 - Chm Pro-Microelectrnics



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CHEE 4367 or equivalent or consent of instructor.

Chemical engineering principles applied to micro-electronic device fabrication and processing.

CHEE 6377 - Intro To Polymer Science

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Introduction to the synthesis, characterization, physical properties and processing of polymeric materials. The course thematically revolves around methods to measure, characterize and tailor structure, processing, property correlations for polymeric materials.

CHEE 6379 - Safety and Reliability

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CHEE 3363 , CHEE 3369 and CHEE 3367 .

An overview of risk, safeguards and hazards associated with chemical process engineering. Layers of protection, hazard identification, source term models, toxic release and dispersion models, fires and explosions, probabilistic analysis, fault tree analysis, designs to prevent accidents, safety-instrumented systems, and safety-related standards and regulations.

CHEE 6383 - Adv Unit Operations

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CHEE 3462 .

Property prediction of multi-component fluids. Advanced principles of heat exchanger design, multi-component fractionation, absorption, stripping, and extraction from a unified point of view.

CHEE 6384 - Petrochemical Processes

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CHEE 3332 and graduate standing or consent of instructor.

Petrochemical industry in terms of feed stocks, products, companies and trends. Technology, markets, and economics for the major building blocks and derivatives.

CHEE 6386 - Air Polltn Probs&Contrl

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Air pollutant identification and control technology; estimation of pollutant transport, dispersion, and conversion; computer application for design of control units.

CHEE 6388 - Catalytic Processes

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CHEE 4367 or consent of instructor.

Process-oriented survey of catalytic technology; catalyst selection and design; catalytic processes, engineering, and economics in the petroleum, chemical, and pollution control industries.

CHEE 6390 - Energy and the Environment

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Chemical Engineering or consent of instructor.

This course surveys modern energy technologies and their impact on the environment. Topics include energy generation from fossil, nuclear, and



renewable sources. Energy utilization covers stationary and transportation applications. Optimization of source-to-consumer efficiencies and minimization of emissions are included, with special emphasis on emerging technologies such as fuel cells. Capstone topics for the course are future developments in the hydrogen economy and the technical-economic-social aspects of global warming.

CHEE 6393 - Cell & Biological Transport Phenomena

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Combines basic cell biology and biophysical chemistry principles with quantitative analysis of transport phenomena and chemical reactions.

CHEE 6397 - Selected Topics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing and/or consent of instructor

Selected Topics

May be repeated for credit.

CHEE 6398 - Research

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

CHEE 6399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

CHEE 6498 - Research

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

CHEE 6598 - Research

Credit Hours: 5.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

CHEE 7350 - Appl Nonlinear Mtds for Engrs

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CHEE 6331 , CHEE 6332 , or consent of instructor.

Recent nonlinear methods with emphasis on engineering applications. Topics: nonlinear functional analysis, steady-state bifurcation theory, dynamical systems, nonlinear partial differential equations, nonlinear waves, computation methods in bifurcation theory.

CHEE 7387 - Plasma Proc:Principles & Appl

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in engineering or natural sciences or consent of instructor.



Principles of low pressure glow discharge plasmas: plasma generation and maintenance, plasma chemistry, plasma diagnostics. Applications with emphasis on semiconductor manufacturing.

CHEE 7397 - Selected Topics

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 Y

Additional Fee Y Fee Type Y

CHEE 7399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

CHEE 8198 - Doctoral Research

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

CHEE 8298 - Doctoral Research

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

CHEE 8398 - Doctoral Research

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

CHEE 8399 - Doctoral Dissertation

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

CHEE 8498 - Doctoral Research

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

CHEE 8598 - Doctoral Research

Credit Hours: 5.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

CHEE 8699 - Doctoral Dissertation



Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

CHEE 8999 - Doctoral Dissertation

Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

Chemistry

CHEM 6111 - Graduate Colloquium

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** approval of chair.

Colloquia presented by distinguished speakers.

CHEM 6112 - Graduate Seminar

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** approval of chair.

Seminar presented by the students on an advanced topic in chemistry.

May be repeated for credit.

CHEM 6115 - Sem in Chm Lab Instruct

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** approval of chair.

General laboratory instructional techniques; interrelation of teaching assistants, faculty, and department staff.

CHEM 6198 - Special Problems

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

CHEM 6199 - Master's Thesis

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

CHEM 6298 - Special Problems

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

CHEM 6299 - Master's Thesis

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0



CHEM 6311 - Mechanisms

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CHEM 4364 or consent of instructor.

A discussion of the basic physical relationships involved in mechanisms (bonding, stereochemistry, conformation analysis, isotope effects), including a mechanistic description of a select series of reactions.

CHEM 6312 - Bonding

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CHEM 4115 and CHEM 4365 or consent of instructor.

Symmetry, bonding, and structure of compounds.

CHEM 6313 - Thermodynamics & Kinetics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CHEM 4372 or consent of instructor.

Thermodynamics of gaseous and condensed-phase chemical systems. Rates and mechanisms of chemical reactions.

CHEM 6314 - Spectroscopy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CHEM 4229 and CHEM 4369 or equivalent, or consent of instructor.

Theory, interpretation, and applications of spectroscopy to chemical systems.

CHEM 6321 - Quantum Chemistry

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Introduction to quantum mechanics and the theory of atomic and molecular structure.

CHEM 6322 - Statistical Thermodynamics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Introduction to statistical thermodynamics and the theory of gaseous and condensed phase systems.

CHEM 6324 - Molecular Spectroscopy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Theoretical description of the interaction between radiation and matter. Application to the major types of spectroscopy.

CHEM 6330 - Advanced Polymer Chemistry

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Introduces the basic principles and latest advances in polymer chemistry and their applications. Lectures will cover polymeric synthetic approaches and how chemistry helped polymeric materials gain importance in not only providing bulk commodity products but also in finding uses as biomedical devices, delivery systems, nanodevices and sensor materials. The renaissance of polymer chemistry has fast forwarded the development of specialty



products through the preparation of well-defined polymers with distinct properties.

Note: Please consult the online syllabus for course textbook.

CHEM 6332 - Inorganic Material Analysis

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 4 **Prerequisite:** consent of instructor.

Crystal structure, x-ray, electron, and neutron diffraction techniques, electron microbeam imaging and analytical techniques, and other instrumental methods of chemical analysis. Theory, routine use of equipment and applications of each technique.

CHEM 6333 - Fund-Chemical Analysis

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Advanced topics in acid-base and complexation equilibria, oxidation-reduction reactions, and an introduction to separation techniques and statistics.**

CHEM 6334 - Electroanalytical Chemistry

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CHEM 4369 or consent of instructor.

Advanced topics in classical polarography, coulometry, single and multiple-sweep voltammetry, pulse polarography, chronopotentiometry, and chronoamperometry.

CHEM 6351 - Organic Structure Detrm

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CHEM 4364 or consent of instructor.

A survey of current spectroscopic techniques used in organic structural determination.

CHEM 6352 - Orgnc React & Synthesis

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CHEM 6311 or consent of instructor.

A description of current synthetic methodology useful for the preparation of a wide variety of organic molecules.

CHEM 6353 - Physical Organic Chem

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CHEM 6311 or consent of instructor.

A mechanistic description of key organic reactions and reaction intermediates.

CHEM 6374 - Physical Inorganic Chem I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CHEM 4365 or equivalent, CHEM 4370 and CHEM 4372 or equivalents, and credit for or concurrent enrollment in CHEM 6312.

Group theory including groups, representations for groups, and character tables. Bonding theories for discrete complexes. Electronic spectra of coordination compounds. Coordination numbers and structures of inorganic complexes. Reaction pathways in coordination chemistry.

CHEM 6375 - Physical Inorganic Chem II



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CHEM 4365 or equivalent, CHEM 4370 and CHEM 4372 or equivalents, and credit for or concurrent enrollment in CHEM 6312.

Crystal symmetry and space groups. Diffraction methods, X-ray crystallography, neutron diffraction and electron microscopy. Magnetic properties, paramagnetism in metal complexes, ferromagnetism and antiferromagnetism.

CHEM 6376 - Organometallic Chemistry

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CHEM 4365 or equivalent and credit for or concurrent enrollment in CHEM 6312.

Ligands and electron counting. Syntheses and reactions of organometallic compounds. Reaction mechanisms. Applications of organometallic compounds in organic synthesis, catalysis and materials research.

CHEM 6377 - Solid State Chemistry

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CHEM 4365, CHEM 4370, and CHEM 4372 or equivalents and credit for or concurrent enrollment in CHEM 6312.

Synthesis and applications of solid materials. Characterization techniques. Chemical bonding in solids. Structure-property relations.

CHEM 6394 - Sel Tops-Organic Chm

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 May be repeated with approval of chair.

CHEM 6396 - Selec Topics Inorg Chem

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 May be repeated with approval of chair.

CHEM 6397 - Selec Topics Phys Chem

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 May be repeated with approval of chair.

CHEM 6398 - Special Problems

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

CHEM 6399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

CHEM 6498 - Special Problems

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 0



CHEM 6698 - Special Problems

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

CHEM 6998 - Special Problems

Credit Hours: 9.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

CHEM 7198 - Master Research

Credit Hours: 1

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Must be a graduate student in Chemistry.

Independent research under the direction of a faculty advisor.

CHEM 7199 - Master's Thesis

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

CHEM 7298 - Master Research

Credit Hours: 2

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Must be a graduate student in Chemistry.

Independent research under the direction of a faculty advisor.

CHEM 7299 - Master's Thesis

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

CHEM 7321 - Quantum Mechanics in Chemistry

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CHEM 6321 and CHEM 6322, or consent of instructor.

Advanced theory of molecular structure and energetics.

CHEM 7325 - Surface Science

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Basic principles of the modern surface science techniques: X-ray and UV photoelectron spectroscopy, Auger spectroscopy, ion scattering spectrometry, secondary ion spectrometry, and low energy electron diffraction.

CHEM 7398 - Master Research

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Must be a graduate student in Chemistry.

Independent research under the direction of a faculty advisor.



CHEM 7399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

CHEM 7698 - Master Research

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Must be a graduate student in Chemistry.

Independent research under the direction of a faculty advisor.

CHEM 7998 - Master Research

Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Must be a graduate student in Chemistry.

Independent research under the direction of a faculty advisor.

CHEM 8198 - Doctoral Research

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

CHEM 8199 - Doctoral Dissertation

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

CHEM 8298 - Doctoral Research

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

CHEM 8299 - Doctoral Dissertation

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

CHEM 8398 - Doctoral Research

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

CHEM 8399 - Doctoral Dissertation

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

CHEM 8698 - Doctoral Research



Credit Hours: 6.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 0

CHEM 8699 - Doctoral Dissertation

Credit Hours: 6

Lecture Contact Hours: 0 *Lab Contact Hours:* 0 N

Additional Fee Y Fee Type Y

CHEM 8998 - Doctoral Research

Credit Hours: 9.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 0

CHEM 8999 - Doctoral Dissertation

Credit Hours: 9

Lecture Contact Hours: 0 *Lab Contact Hours:* 0 N

Additional Fee Y Fee Type Y

Chinese

CHNS 6301 - Speech & Rhetorical Studies

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing or Post Baccalaureate status.

Covers topics such as the history of verbal expression and the structure of an argument; contrastive and dialectical logics within Chinese rhetorical tradition; and function and purpose of language use.

CHNS 6302 - Chinese Language Teaching Practicum

Credit Hours: 3.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 3 **Prerequisite:** Completion of B.A. or equivalent. Proficiency in Chinese language.

The course provides a campus or field-based educational work experience under direct supervision of faculty or field personnel, supporting Chinese students in 1) applying their teacher education knowledge to real classroom teaching, 2) reflecting on challenges and events occurring in their classrooms and schools, and 3) engaging in cooperative solving of the inevitable problems that arise in the beginning teacher experience. Includes analysis of teaching and learning in educational settings; legal and ethical aspects of teaching; and curriculum structure, organization, and management in schools.

CHNS 6350 - Studies in Chinese Cinema

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing or P.B.

Chinese 6350 explores Chinese film from the early to the contemporary era. Focus is given to China's "fifth" and "sixth" generation filmmakers, with some emphasis on early films (1930s and 1940s), revolutionary films, and selected films from Taiwan.

CHNS 6352 - Chinese Culture and Society Through Modern Literature

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing or Post Baccalaureate status.



Analyzes important literary works from the 1919 May 4th Movement to the 1970s within historical and cultural contexts; examines the influence of tradition on Chinese literature in the early 20th century.

CHNS 6355 - Readings in Chinese Literature in English Translation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Completion of B.A. or equivalent. No foreign language prerequisite.

The course will focus on the most famous works of Chinese literature in English translation and their social, historical, political and religious contexts in the Chinese culture. The course will discuss major genres and representative styles, key concepts of the Chinese thought and belief system, issues of the transmission, reception and appropriation of literary works, and the formation of the Chinese canon and literary tradition.

CHNS 6364 - Issues in Chinese Language & Culture

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Major issues of the Chinese language and linguistics. It is also intended to enhance student's appreciation of the Chinese culture through discussions of language and linguistic analyses. It is taught in English.

CHNS 6366 - History of the Chinese Language

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or P.B.

This graduate-level course introduces to students the phonetic, semantic, and syntactic changes in the history of Chinese, as is evidenced in the extant vernacular texts from the last 2,000 years.

CHNS 6367 - Sociolinguistic Fieldwork Methods

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or P.B.

Introduction to sociolinguistic fieldwork methods is designed for graduate students who are interested in conducting fieldwork on the Chinese language. The course involves a combination of reading, discussion, and actual fieldwork.

CHNS 6371 - Teaching Chinese as a 2nd Language

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Discussions and interactive activities about principles of teaching a foreign language. Hands-on opportunities to design a Chinese language course, a lesson plan, and instructional implementation in an interactive classroom. Taught in English. The same course title may be co-offered at the 4000 level but students enrolled in this course are required for more substantial readings and to submit a lengthier research paper.

CHNS 6372 - Studies of Chinese Language Acquisition

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 This course focuses on Chinese language acquisition by English-speaking students in formal instructional settings. Readings include studies that investigate processes of acquiring Chinese as a second or a foreign language. Taught in English. The same course title may be co-offered at the 4000 level but students enrolled in this course are required for more substantial readings and to submit a lengthier research paper.

CHNS 6373 - Chinese Second Language Curriculum Design and Instruction

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Completion of B.A. or equivalent. Proficiency in Chinese Language.



The course teaches students how to demonstrate knowledge on foreign language instruction in general and Chinese language teaching specifically, and how to understand theoretical issues in curriculum design and development. It draws upon a constructivist position on learning, teaching theories such as Backward Design, research on second language acquisition, teacher education research, and the Standards for Foreign Language Learning in the 21st Century from the American Council on the Teaching of Foreign Languages.

CHNS 6382 - Tales of East Asian Cities

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

In this course we will examine the literary and visual representations of various cities in East Asia: Shanghai, Beijing, Hong Kong, Taipei, Tokyo and Seoul. Through close analyses of the fiction, films, and photographs that illuminate East Asian urbanism, we will extensively discuss the cultural representations of East Asian metropolises. Taught in English.

N

Additional Fee N Fee Type N

CHNS 6383 - Chinese Popular Culture

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

This course examines contemporary Chinese popular culture as a response to the profound changes to Chinese society that have occurred since the end of the Cultural Revolution in 1976. Through discussing film, literature, music, performance, fashion, art and internet culture, this course explores the radically changing role of socialist politics, government censorship, the rise of consumerism, and China's global cultural significance in the contemporary world. All lectures, discussions and assignments will be in English. No prior knowledge of Chinese Culture or language necessary.

N

Additional Fee N Fee Type N

CHNS 6384 - Global Chinese Literature

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** None.

This course hopes to guide graduate students to examine the changing literary and cultural trends in modern China by guiding them to do thesis research. By reading representative literature of various genres (short stories, novels, poetry, etc.) and films throughout the 20th and 21st century, we will trace the social-political and cultural transformation of the Chinese society. The course focuses on various important themes and debates in modern Chinese literature and films such as nationalism, gender, race and class. Students can choose to do research on specific writer or specific period of literature.

N

Additional Fee N Fee Type N

CHNS 6397 - Selected Topics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Topics on Chinese culture, literature, or linguistics and major current issues. Taught in English. The same course title may be co-offered at the 4000 level but students enrolled in this course are required for more substantial readings and to submit a lengthier research paper.

May be repeated when topics vary.

CHNS 6398 - Special Problems

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Independent study. Topics on Chinese language, literature and culture. Taught in Chinese. The same course title may be co-offered at the 4000 level but students enrolled in this course are required for more substantial readings and to submit a



lengthier research paper.
May be repeated when topics vary.

Civil and Environmental Engineering

CIVE 6111 - Graduate Seminar

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** None.
Graduate seminar in Civil Engineering.
May be repeated for credit.

CIVE 6198 - Research

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

CIVE 6298 - Research

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

CIVE 6320 - Constitutive Modeling of Materials

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 N
Additional Fee Y Fee Type Y

CIVE 6322 - Stormwater Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CIVE 3434.
Detention pond analysis and design, storm water analysis and management alternatives, governmental criteria, and computer programs.

CIVE 6323 - Advanced Foundation Design

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CIVE 4369.
Site characterization; in-site testing methods; reliability in foundation design; structural design of shallow and deep foundations.

CIVE 6330 - Fiber Reinforced Polymer Composites For Structures

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor.
Introduction to mechanics of composites; fiber reinforced polymers for new concrete beams; retrofit of existing concrete slabs, beams, and columns; retrofit of existing steel beams.

CIVE 6331 - Hydraulics of Open Channel Flow



Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

CIVE 6335 - Advanced Concrete Design

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

CIVE 6337 - Matrix Analysis of Structures

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

CIVE 6338 - Advanced Steel Design

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CIVE 4364.

Plastic analysis of indeterminate structures; design of beams, columns, and beam-columns using the Load and Resistance Factor Design (LFRD) method.

CIVE 6349 - Structural Reliability

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: CIVE 6349 - Reliability and Safety of Structures

Prerequisite: Consent of instructor.

Review of probability theory; mathematical background of reliability theory; component and system structural reliability; reliability under model and statistical uncertainties; simulation methods and uncertainty quantification; applications.

CIVE 6350 - Advanced Mechanics of Materials

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

CIVE 6353 - Behavior and Design of Prestressed Concrete

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

CIVE 6355 - Introduction to Dynamics of Structures

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

CIVE 6361 - Engineering Hydrology



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in civil or environmental engineering.

Distribution and flow of water in the hydrosphere. Engineering methods to quantify and model rainfall, runoff, recharge, and groundwater flow. Conceptual models and application of computer methods for hydrological analysis and design problems.

CIVE 6362 - Water Quality Engineering

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CIVE 3331 and 3434 or permission of instructor.

Environmental chemistry and biology applications and implications to engineered and natural waters. Emphasis on physical, chemical, and biological characteristics of water and analytical methods for water quality management.

CIVE 6370 - Environmental Fluid Mechanics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CIVE 3434 (or equivalent) and consent of instructor.

Mechanics of fluid motion in natural systems such as rivers, estuaries, and turbidity currents; transport of scalar quantities in these settings.

CIVE 6373 - Experimental Methods in Environmental Engineering

Credit Hours: 3

Lecture Contact Hours: 2 Lab Contact Hours: 3 **Prerequisite:** Students are expected to have prior experience with Excel spreadsheets and Word processors.

General chemistry knowledge is also expected. This course will provide practical training on experimental methods in environmental engineering. Methods covered will include experiment planning, sample preparation, measurement using analytical instruments, and data analysis and reporting. Significant focus will be placed throughout the course on quality assurance, namely following best practices to acquire the best quality data possible and navigating the various approaches to make measurements on complex environmental samples.

N

Additional Fee N Fee Type N

CIVE 6374 - Digital Imaging Metrology

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Permission of Instructor.

Optics and Sensors, image measurements and optical distortion, interior, exterior and absolute image orientation. Collinearity, resection and intersection equations and aero-triangulation. Principles of direct georeferencing. Bundle adjustments, datum definitions and image self-calibration. Structure from motion and semi-global matching.

N

Additional Fee N Fee Type N

CIVE 6375 - Analysis and Design of Offshore Structures

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Approval of program director.

Classification of offshore structures; hydrostatic stiffness and stability of floating bodies; linear wave theory; wind, wave, and current loadings; dynamic effects; introduction to mooring analysis; design considerations for steel offshore structures; introduction to computational tools and engineering software.

N

Additional Fee N Fee Type N

CIVE 6376 - Physical Geodesy



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Permission of instructor.

This course provides a solid foundation for students pursuing studies in the Geosensing Systems Engineering program. Physical geodesy, concerned with determining the physical shape of the Earth, interacts with many other disciplines. A fundamental understanding of this core component is necessary for graduate studies of advanced Geosensing techniques.

CIVE 6377 - Environmental Chemistry

Credit Hours: 3

Lecture Contact Hours: 2 Lab Contact Hours: 3 N

Additional Fee Y Fee Type Y

CIVE 6378 - Principles of Environmental Modeling

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

CIVE 6380 - Introduction to Geomatics and Geosensing

Credit Hours: 3

Lecture Contact Hours: 2 Lab Contact Hours: 3 **Prerequisite:** Consent of instructor.

Introduction to horizontal and vertical curves computation. Fundamentals of geodesy, geodetic reference systems and map projection; introduction to Global Positioning System (GPS); principles of LiDAR technology; digital imaging and mapping.

N

Additional Fee Y Fee Type Y

CIVE 6382 - Lidar Systems and Applications

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor.

Principles of LiDAR (Light Detection and Ranging). Spaceborne LiDAR, airborne topographic, bathymetric, mobile terrestrial and static LiDAR systems. Full Waveform LiDAR. Bore-sight calibration. Filtering and Classification. Multi-Sensor Fusion.

CIVE 6384 - Satellite Altimetry and Interferometric Synthetic Aperture Radar

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor.

Radar measurement principles. Range estimation and corrections. Precise orbit determination. Applications in geodynamics, ocean and ice surface monitoring, and hydrology. Formation of SAR images. Procedures of InSAR.

N

Additional Fee Y Fee Type Y

CIVE 6387 - Physicochemical Treatment Processes

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CIVE 6377 and CIVE 6378, or consent of instructor.

Theory and practice of physicochemical processes for water and wastewater treatment: reactors, membrane processes, adsorption, and disinfection.

CIVE 6388 - Hazardous Waste Processes



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** 6361 or equivalent preferred and CIVE 6387.

Physical and chemical principles of solid and hazardous waste treatment processes; mass conservation equations, transport phenomena, phase equilibria, fluid flow in porous media with applications to soil vapor extraction, soil vapor extraction, soil leaching/flushing, stabilization, and bioremediation processes.

CIVE 6390 - Municipal Drinking Water Treatment

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CIVE 6377 and CIVE 6378, or consent of instructor.

Theory and design of unit processes used in conventional drinking water treatment: coagulation, rapid mix, flocculation, sedimentation, filtration, and disinfection. Source water control and regulatory issues are also studied.

CIVE 6391 - Environmental Engineering Microbiology

Credit Hours: 3

Lecture Contact Hours: 2 Lab Contact Hours: 3 N

Additional Fee Y Fee Type Y

CIVE 6392 - Mass Transfer in Environmental Systems

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and/or consent of instructor.

Principles of mass transfer; mass conservation equations, diffusivities, mass transfer coefficients, mass transfer with chemical reaction with applications to multi-phase chemical transport, water and wastewater treatment, and soil remediation.

CIVE 6393 - Geostatistics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor.

Characterization of spatial and spatiotemporal datasets. Random variables, probability and statistics, parameter estimation, inferential statistics, time series analysis and kriging.

CIVE 6396 - Master's Research Project

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** None

Enables students that are non-thesis to work with faculty on a project. The student will write a paper/report.

CIVE 6398 - Msce Research Project

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

CIVE 6398 - Research

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** None.

Masters Research

N

Additional Fee Y Fee Type Y



CIVE 6399 - Master's Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

CIVE 6498 - Research

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

CIVE 6598 - Research

Credit Hours: 5.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

CIVE 7336 - Finite Element Methods

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

CIVE 7337 - Advanced Environmental Engineering Microbiology

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 1 **Prerequisite:** CIVE 6391.

Theory and practice of key biotechnological techniques for environmental research, including PCR-based techniques for the identification of mixed microbial communities, microbial abundance, and gene expression.

CIVE 7340 - Earthquake Engineering

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CIVE 6355 or consent of instructor.

Characteristics of earthquake waves and ground motion; review of structural dynamics; building responses; inelastic spectrum; foundation effect; various support motions; hazard analysis; design procedure and seismic codes.

CIVE 7342 - Engineering Geographic Information Systems

Credit Hours: 3

Lecture Contact Hours: 1 Lab Contact Hours: 2 N

Additional Fee Y Fee Type Y

CIVE 7350 - Advanced Behavior of Reinforced and Prestressed Concrete

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CIVE 4363 or equivalent and/or consent of instructor.

Behavior of reinforced and pre-stressed concrete sections, members and wall/shell-type elements subjected to bending, axial load, shear and torsion. Confinement of concrete. Various truss model theories applicable to main members and strut-tie model applicable to disturbed regions, joints, and connections.



CIVE 7352 - Unified Theory of Concrete Structures

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** CIVE 4363 or equivalent and/or consent of instructor.

Unified theory applicable to the four basic actions in members and structures: bending, axial load, shear and torsion, rational models based on stress equilibrium, strain compatibility and constitutive laws of materials.

CIVE 7377 - Environmental Nanochemistry

Credit Hours: 3

Lecture Contact Hours: 2 *Lab Contact Hours:* 3 **Prerequisite:** CIVE 3331 and CIVE 6377 or permission of instructor.

The synthesis and characterization of nanomaterials, their aqueous stability, fate and transport in the environment, and the implications and applications of nanomaterials.

N

Additional Fee N **Fee Type** N

CIVE 7380 - GNSS/INS and Augmented Systems for Positioning and Navigation

Credit Hours: 3

Lecture Contact Hours: 2 *Lab Contact Hours:* 2 **Prerequisite:** Permission of instructor.

Modeling INS errors by linear state equations. Multi-sensor integration of GNSS, INS and alternative aiding sensors. Practical aspects of inertial positioning and inertial error models. Navigation system fault detection and integrity monitoring.

N

Additional Fee Y **Fee Type** Y

CIVE 7397 - Selected Topics

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 Y

Additional Fee Y **Fee Type** Y

CIVE 7399 - Master's Thesis

Credit Hours: 3

Lecture Contact Hours: 0 *Lab Contact Hours:* 0 N

Additional Fee Y **Fee Type** Y

CIVE 8198 - Doctoral Research

Credit Hours: 1.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 0

CIVE 8298 - Doctoral Research

Credit Hours: 2.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 0

CIVE 8398 - Doctoral Research

Credit Hours: 3.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 0



CIVE 8399 - Doctoral Dissertation

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

CIVE 8498 - Doctoral Research

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

CIVE 8598 - Doctoral Research

Credit Hours: 5.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

CIVE 8699 - Doctoral Dissertation

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

CIVE 8999 - Doctoral Dissertation

Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

Classics

CLAS 6305 - Fifth-Century Athens: Readings in Intellectual, Literary, and Political History

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or PB status

Overview of intellectual trends and political history of fifth-century BCE Athens, including development of democracy, birth of tragedy, Persian Wars, Athenian Empire, court system, Peloponnesian Wars, and death of Socrates. Taught in English.

CLAS 6350 - Law and Society in Ancient Rome

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or Post B.A. status.

A survey of key Roman legal ideas and texts from the archaic period to the late Republic and early Empire. Special attention paid to the law's relation to Rome's religion and changing social and political structures. Through Cicero the course explores the situation of the practicing advocate in complicated times. Ends with a look at later Roman jurisprudence.

CLAS 6366 - Greek Art and Archaeology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or PB status



Survey of ancient Greek art and archaeology connected to the Trojan War from the Bronze Age to the early Hellenistic Period with emphasis on its relationship to traditional myths and Classical literature.

CLAS 6374 - Women in the Ancient World

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or post B.A. status.

Women's lives from the Graeco-Roman world. Analysis and comparisons of literary texts and archaeological evidence in their cultural and historical context.

CLAS 6381 - Latin Classics in Translation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or Post-baccalaureate

Works of Latin literature read in conjunction with current scholarship and modern theorists. Taught in English.

CLAS 6382 - Classical Antiquity in Cinema

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate Standing or Post Baccalaureate status.

Examination of the way modern cinema adapts themes from Classical literature and uses them to explore contemporary issues.

Clinical Sciences and Administration, Pharmacy Administration

PHCA 6180 - Seminar in Pharmaceutical Health Outcomes and Policy

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** Graduate Standing or consent of Instructor.

Provides doctoral students an opportunity to present and discuss advanced topics within the field of Pharmaceutical Health Outcomes and Policy.

PHCA 6181 - Seminar in Pharmaceutical Health Outcomes and Policy

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** Graduate Standing or consent of instructor.

Provides doctoral students an opportunity to present and discuss advanced topics within the field of Pharmaceutical Health Outcomes and Policy.

PHCA 6198 - Special Problems

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** graduate standing or consent of instructor.

PHCA 6297 - Selected Topics

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0

PHCA 6298 - Special Problems

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0



PHCA 6310 - Sas Applications in Statistics

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

PHCA 6320 - Medication Safety and Quality Improvement

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Overview of medication safety and quality improvement in health systems including prevention and reporting of adverse events, total quality management, and patient safety.

PHCA 6396 - Masters Project

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Project proposal approved by major advisor and two committee members. Project developed in the area of pharmacy administration research.

PHCA 6397 - Selected Topics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

PHCA 6398 - Special Problems

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** graduate standing or consent of instructor.

PHCA 6399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

PHCA 6498 - Special Problems

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

PHCA 7111 - Research Practicum

Credit Hours: 1

Lecture Contact Hours: 0 Lab Contact Hours: 1 **Prerequisite:** Graduate standing, or instructors consent.

A structured research internship experience in the pharmaceutical or health care industry.

Y

Additional Fee N Fee Type N

PHCA 7180 - Seminar in Pharmaceutical Health Outcomes and Policy



Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** Graduate Standing or Consent of Instructor.

To provide doctoral students an opportunity to present and discuss advanced topics within the field of Pharmaceutical Health Outcomes and Policy.

PHCA 7181 - Seminar Pharm Administration

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** graduate standing, or consent of instructor.

Review and evaluate recent advances in pharmacy administration literature and the pharmacy profession.

PHCA 7199 - Master Thesis

Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

PHCA 7211 - Research Practicum

Credit Hours: 2

Lecture Contact Hours: 0 Lab Contact Hours: 2 **Prerequisite:** Graduate standing, or consent of instructor.

A structured research internship experience in the pharmaceutical or health care industry.

Y

Additional Fee N Fee Type N

PHCA 7299 - Master Thesis

Credit Hours: 2

Lecture Contact Hours: 2 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

PHCA 7301 - Advanced Regression Analysis Methods

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PHCA 7308 or Consent of Instructor

. Applications of multiple regression methods, regression diagnostics, variable selection, model building strategies, and assessment of model fit in pharmaceutical health outcomes research with emphasis on linear, logistic, and proportional hazards regression.

PHCA 7305 - Social and Behavioral Determinants and Theory in Pharmaceutical Health Outcomes

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and consent of instructor.

Introduces the concept of social and behavioral determinants in pharmaceutical health outcomes with an understanding of research topics and theory. Emphasis will be on historical, social and behavioral issues pharmacists have faced and the role of pharmacy managers in health care systems. The course will be a case-based discussion approach with pre-assigned reading material.

N

Additional Fee Y Fee Type Y

PHCA 7306 - Pharmaceutical Health Outcomes and Quality

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.



Critical examination and discussion of pharmaceutical health outcomes and quality of pharmaceutical care issues in practice, policy, and research.
N

Additional Fee Y Fee Type Y

PHCA 7307 - Epidemiologic Methods and Research Design

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and consent of instructor.

Principles of epidemiologic research methods and applications to address current clinical problems in pharmaceutical health outcomes research. Included are fundamentals of epidemiologic study design, quantitative and qualitative methods, computer applications, design of survey questionnaires, and proficiency in evaluating health policy interventions.

N

Additional Fee Y Fee Type Y

PHCA 7308 - Biostatistics and Experimental Design

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PHCA 6308 Biostatistics: Experimental Design

Prerequisite: Graduate Standing or Consent of Instructor.

Application of concepts, methods, and statistical approaches for the design and analysis of health outcome research studies. Introduces multivariable techniques to facilitate further study of these methods in advanced course.

PHCA 7310 - Teaching Practicum in Pharmaceutical Health Outcomes and Policy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate Standing or Consent of Instructor.

A structured academic environment experience to prepare and teach lectures in an undergraduate course with the guidance of a professor.

PHCA 7311 - Research Practicum

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 9 **Prerequisite:** graduate standing, or consent of instructor.

A structured research internship experience in the pharmaceutical or health care industry.

PHCA 7312 - SAS Programming for Healthcare

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PHCA 6310 or approval of instructor.

Introduction to SAS programming language to manage and manipulate large health care databases. Students become proficient to pass the SAS programmer certification.

PHCA 7313 - Pharmacoeconomics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PHCA 6312 Pharmacoeconomics in Outcomes Research

Prerequisite: PHCA 7306 or consent of instructor.

An integrated course that provides students with knowledge and skills in pharmacoeconomics and health outcomes research with application to disease state management.

PHCA 7316 - Pharmacoepidemiology



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PHCA 6316 Pharmacoepidemiology

Prerequisite: Graduate standing or consent of instructor.

Concepts, methods, and nomenclature in epidemiology and its applications to pharmaceutical health outcomes research.

PHCA 7320 - Intro to Health Care Systems and Policy

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and consent of instructor.

The new course entitled, "Introduction to Health Systems and Policy" will be broken up into three modules covering topics related to providers of healthcare, payers of healthcare, and patients receiving healthcare. This graduate-level course will have a longitudinal Health Policy Analysis project to be presented, reviewed, and submitted under the guidance of the course coordinating faculty member.

N

Additional Fee N Fee Type N

PHCA 7330 - Advanced Pharmacoeconomics

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

The course is designed to prepare upper doctoral students to the branch of economics that uses cost-benefit, cost-effectiveness, cost-minimization, cost-of-illness and cost-utility analyses to compare pharmaceutical products and treatment strategies. Students will learn principles, methods and applications of economic analysis for drug therapy, pharmacy services, and pharmaceutical health policy evaluations, economic model building, and conduct an advanced pharmacoeconomic project of their own suitable for publication.

N

Additional Fee N Fee Type N

PHCA 7340 - Data Analytics for PHOP

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and consent of instructor.

The course is designed to introduce doctoral students to computer data analytic topics and techniques to analyze large health care databases using SAS and R. Topics include big data in the US healthcare system, fundamental and advanced SAS and R programming, and issues related to conceptual approach to data analysis including causal inference vs. data mining. The course will prepare students with essential skills for advanced coursework and dissertation research.

N

Additional Fee N Fee Type N

PHCA 7396 - Masters Project

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** PHCA 6396 or consent of instructor.

Preparation of written report about pharmacy administration project and oral defense to major advisor and two committee members. Bound report submitted to committee.

PHCA 7398 - Special Problems in Pharmacy Administration Doctoral

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor

The course is designed to provide doctoral students with an opportunity to study advanced special problems in the field of Pharmacy Administration.

PHCA 7399 - Masters Thesis



Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

PHCA 8180 - Advanced Seminar in Pharmaceutical Health Outcomes and Policy

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** Graduate Standing or consent of instructor.

To provide doctoral students an opportunity to present and discuss advanced topics within the field of Pharmaceutical Health Outcomes and Policy.

PHCA 8181 - Advanced Seminar in Pharmaceutical Health Outcomes and Policy

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

To provide doctoral students an opportunity to present and discuss advanced topics within the field of Pharmaceutical Health Outcomes and Policy.

PHCA 8198 - Doctoral Dissertation Research

Credit Hours: 1

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** Consent of instructor.

Doctoral Dissertation Research.

N

Additional Fee N Fee Type N

PHCA 8199 - Doctoral Dissertation Defense

Credit Hours: 1

Lecture Contact Hours: 0 Lab Contact Hours: 1 **Prerequisite:** Consent of instructor.

Doctoral Dissertation Defense.

N

Additional Fee N Fee Type N

PHCA 8298 - Doctoral Dissertation Research

Credit Hours: 2

Lecture Contact Hours: 0 Lab Contact Hours: 6 **Prerequisite:** Consent of instructor.

Doctoral Dissertation Research.

N

Additional Fee N Fee Type N

PHCA 8301 - Behavioral Theories and Models in Pharmacy and Health

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PHCA 7305 and PHCA 7306 , graduate standing, or consent of instructor.

Discuss and appraise models and theories in pharmacy administration and management research focusing on social and behavioral aspects of pharmaceutical care.

PHCA 8302 - Advanced Research Methods in Pharmaceutical Health Outcomes and Policy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PHCA 7308 or consent of instructor.



To apply, conduct, and analyze classic and improved experimental, quasi-experimental, and observational study designs in pharmaceutical outcome research.

PHCA 8303 - Multivariate Analysis in Pharmaceutical Health Outcomes and Policy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PHCA 7308 and 7301 or consent of instructor.

Advanced statistical techniques for handling multiple dependent and independent measures in pharmaceutical health outcomes research such as factor analysis, multiple discriminant analysis, MANOVA, cluster analysis, canonical correlation, and structural equation modeling.

PHCA 8305 - Risk Adjustment of Health Care Outcomes

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate Standing or Consent of Instructor.

To interpret and apply patient risk factors, the Donabedian model, administrative and clinical data sources, comparisons across providers, propensity scoring, and estimating the effect of interventions in observational studies.

PHCA 8310 - Advanced Teaching Practicum

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 9 **Prerequisite:** graduate standing, or consent of instructor.

A structured academic environment experience to develop and teach lectures in a graduate course with the guidance of a professor.

PHCA 8311 - Proposal Development

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** Graduate standing or consent of instructor.

Applications of grant writing skills to develop and submit a proposal using the NIH format.

N

Additional Fee N Fee Type N

PHCA 8398 - Doctoral Dissertation Research

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 9 **Prerequisite:** Consent of instructor.

Doctoral Dissertation Research.

N

Additional Fee N Fee Type N

PHCA 8698 - Doctoral Dissertation Research

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 18 **Prerequisite:** Consent of instructor.

Doctoral Dissertation Research.

N

Additional Fee N Fee Type N

Communication Sciences and Disorders

COMD 6198 - Special Problems



Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** approval of director.

A course designed for graduate students who wish to pursue special studies for which a course is not organized.

COMD 6230 - Autism Spectrum Disorders

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Communication Sciences and Disorders or consent of the instructor.

Study of the identifying characteristics, etiologies, prevalence, assessment, and treatment of individuals with autism spectrum disorders.

COMD 6240 - Augmentative and Alternative Communication

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Communication Sciences and Disorders and consent of the instructor.

Overview of augmentative and alternate communication (AAC) with specific focus on access methods, message representation, and practical application for individuals with a variety of communication disorders.

COMD 6261 - Research and Critical Thinking

Credit Hours: 2.00

Lecture Contact Hours: 2.0 Lab Contact Hours: 0.0 **Prerequisite:** Graduate standing in Communication Sciences and Disorders (COMD) or consent of the instructor.

Critical evaluation and interpretation of research underlying theory, assessment, and treatment of communication disorders.

COMD 6298 - Special Problems

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** approval of director.

A course designed for graduate students who wish to pursue special studies for which a course is not organized.

COMD 6321 - Swallowing Disorders

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** COMD 2376 or equivalent and graduate standing in Communication Sciences and Disorders or by instructor approval.

Study of normal swallowing physiology and biomechanics and the evaluation and treatment of swallowing disorders.

COMD 6326 - Motor Speech Disorders

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in Communication Sciences and Disorders.

Assessment and management of motor speech disorders in adults, including apraxia of speech and degenerative neurological disorders; physiological systems contributing to reduced intelligibility; and differential diagnosis of the dysarthrias.

COMD 6328 - Acquired Cognitive Disorders

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in Communication Sciences and Disorders.



Study of the etiologies, prevention, assessment and treatment of acquired cognitive disorders such as those due to traumatic brain injury, right hemisphere stroke, aging and dementia.

COMD 6334 - Aphasia & Related Com Disorder

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in Communication Sciences and Disorders.

Symptomatology, diagnosis and treatment of acquired neurogenic communication disorders including aphasia, alexia, agraphia and agnosia.

COMD 6372 - Remediation of Childhood Language Disorders

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** Graduate status in major or consent of instructor.

Principles, methods, and procedures in the assessment and treatment of children with primary or secondary language disorders.

COMD 6387 - Voice Disorders

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COMD 2376 and COMD 4385 or equivalents, or consent of instructor.

Evaluation and management of vocal disorders including etiology, assessment, and treatment strategies.

COMD 6397 - Sel Topics in Comd

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

In-depth study of a specific area.

May be repeated for credit with permission of program head.

COMD 6398 - Special Problems

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** approval of director.

A course designed for graduate students who wish to pursue special studies for which a course is not organized.

COMD 6399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Master's Thesis.

N

Note: May be repeated for credit.

Additional Fee Y Fee Type Y

COMD 6489 - Clinical Procedures

Credit Hours: 4.0

Lecture Contact Hours: 3 Lab Contact Hours: 1 **Prerequisite:** Graduate standing in COMD and consent from the instructor.

Capstone course for COMD, practical application of clinical skills, guided clinical observation of certified speech language pathologists and/or audiologists.

COMD 7170 - Graduate Seminar in Speech-Language Pathology



Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Communication Sciences and Disorders and consent of instructor. Seminar will cover issues that impact the practice of speech-language pathology. Sample topics include cultural competence, use of technology, and use of interpreters and translators.

Course may be repeated for credit.

COMD 7192 - Advanced Practicum in Speech & Language Disorders

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1 **Prerequisite:** completion of 175 hours of graduate practicum & consent of instructor.

Supervised practicum in the diagnosis and treatment of speech-language disorders in an off-campus setting. Clinical clock hours are not awarded for grades below a "B".

May be repeated (two terms required for completion of the program requirement).

COMD 7199 - Thesis

Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

COMD 7221 - Fluency Disorders

Credit Hours: 2.00

Lecture Contact Hours: 2.0 Lab Contact Hours: 0.0 **Prerequisite:** Graduate standing in ComD or consent of the instructor.

Investigates the nature, assessment and treatment of fluency disorders in children and adults. Prevention and cultural considerations are addressed. An emphasis on evidence-based practice underlies the treatment portion.

COMD 7270 - Graduate Seminar in Speech-Language Pathology

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Communication Sciences and Disorders (COMD) and consent of instructor.

Seminar will cover issues that impact the practice of speech-language pathology. Sample topics include cultural competence, use of technology, and use of interpreters and translators.

Course may be repeated for credit.

COMD 7281 - Seminar in Medical Speech-Language Pathology

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

In-depth discussion and analysis of issues in medical speech-language pathology.

Course may be repeated for credit when topics vary.

COMD 7282 - Cultural & Linguistic Diversity Issues in Speech-Language Pathology

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and consent of instructor.

Typical and disordered communication in people who use languages, dialects, and cultural communication practices other than Standard American English. Specific topics may vary.

Course may be repeated for credit.



COMD 7283 - Seminar in Pediatric Speech Language Pathology

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and consent of instructor.

In-depth discussion and analysis of issues in pediatric speech-language pathology across a range of disorders and service delivery models. Specific topics will vary.

Course may be repeated for credit.

COMD 7322 - Speech Sound Disorders

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** Graduate standing in ComD or consent of instructor.

Differential diagnosis and evidence-based intervention approaches for speech sound disorders in children.

COMD 7381 - Seminar in Medical Speech-Language Pathology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

In-depth discussion and analysis of issues in medical speech-language pathology.

Course may be repeated for credit when topics vary.

COMD 7382 - Cultural & Linguistic Diversity Issues in Speech-Language Pathology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and consent of instructor.

Typical and disordered communication in people who use languages, dialects, and cultural communication practices other than Standard American English. Specific topics may vary.

Course may be repeated for credit.

COMD 7383 - Seminar in Pediatric Speech Language Pathology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and consent of instructor

In-depth discussion and analysis of issues in pediatric speech-language pathology across a range of disorders and service delivery models. Specific topics will vary.

Course may be repeated for credit

COMD 7391 - Clinic in Speech-Language Disorders

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** Consent of instructor.

Supervised practicum in the diagnosis and treatment of speech-language disorders. Clinical clock hours are not awarded for grades below a "B".

May be repeated (three terms required for completion of the program requirement).

COMD 7392 - Adv Pract Sp & Lang Dis

Credit Hours: 3.0

Lecture Contact Hours: 1 Lab Contact Hours: 6 **Prerequisite:** completion of 175 hours of graduate practicum & consent of instructor.

Supervised practicum in the diagnosis and treatment of speech-language disorders in an off-campus setting. Clinical clock hours are not awarded for grades below a "B".

May be repeated (two terms required for completion of the program requirement).



COMD 7399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing. Master's Thesis.

N

Note: May be repeated for credit.

Additional Fee Y Fee Type Y

COMD 7692 - Advanced Practicum in Speech & Language Disorders

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 6 **Prerequisite:** completion of 175 hours of graduate practicum & consent of instructor.

Supervised practicum in the diagnosis and treatment of speech-language disorders in an off-campus setting. Clinical clock hours are not awarded for grades below a "B".

May be repeated (two terms required for completion of the program requirement).

COMD 8191 - COMD Research

Credit Hours: 1

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Admission to the PhD program in Communication Sciences and Disorders or instructor approval.

Individualized research leading to the completion of an initial research project completed by the student with the guidance of the primary research mentor.

N

Additional Fee N Fee Type N

COMD 8193 - COMD Proseminar

Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** Admission to the PhD program in Communication Sciences and Disorders or instructor approval.

Seminar covering current issues and trends in research in the field including student projects and presentations.

N

Additional Fee N Fee Type N

COMD 8199 - Dissertation

Credit Hours: 1

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Candidacy. Doctoral dissertation.

N

Additional Fee N Fee Type N

COMD 8291 - COMD Research

Credit Hours: 2

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Admission to the PhD program in Communication Sciences and Disorders or instructor approval.

Individualized research leading to the completion of an initial research project completed by the student with the guidance of the primary research mentor.



N

Additional Fee N Fee Type N

COMD 8293 - COMD Proseminar

Credit Hours: 2

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Admission to the PhD program in Communication Sciences and Disorders or instructor approval.

Seminar covering current issues and trends in research in the field including student projects and presentations.

N

Additional Fee N Fee Type N

COMD 8299 - Dissertation

Credit Hours: 2

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Candidacy.

Doctoral dissertation.

N

Additional Fee N Fee Type N

COMD 8391 - COMD Research

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Admission to the PhD program in Communication Sciences and Disorders or instructor approval.

Individualized research leading to the completion of an initial research project completed by the student with the guidance of the primary research mentor.

N

Additional Fee N Fee Type N

COMD 8392 - COMD Advanced Research Methods

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to PhD Program in Communication Sciences and Disorders or instructor's permission.

Sample review of research methods used in the field of communication sciences and disorders.

N

Additional Fee N Fee Type N

COMD 8393 - COMD Proseminar

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to the PhD program in Communication Sciences and Disorders or instructor approval.

Seminar covering current issues and trends in research in the field including student projects and presentations.

N

Additional Fee N Fee Type N

COMD 8397 - Selected Topics in COMD



Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Admission to the PhD program in Communication Sciences and Disorders or instructor approval.

This course will explore the clinical and experimental literatures as well as theoretical issues on various topics within the field of communication sciences and disorders.

Y

Additional Fee N **Fee Type** N

COMD 8399 - Dissertation

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Candidacy.

Doctoral dissertation.

N

Additional Fee N **Fee Type** N

COMD 8691 - COMD Research

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Admission to the PhD program in Communication Sciences and Disorders or instructor approval.

Individualized research leading to the completion of an initial research project completed by the student with the guidance of the primary research mentor.

N

Additional Fee N **Fee Type** N

COMD 8699 - Dissertation

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Candidacy.

Doctoral dissertation.

N

Additional Fee N **Fee Type** N

COMD 8991 - COMD Research

Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Admission to the PhD program in Communication Sciences and Disorders or instructor approval.

Individualized research leading to the completion of an initial research project completed by the student with the guidance of the primary research mentor.

N

Additional Fee N **Fee Type** N

COMD 8999 - Dissertation

Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Candidacy.

Doctoral dissertation.

N

Additional Fee N **Fee Type** N



Communication

COMM 6198 - Comprehensive Exams

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Approval of associate director for graduate studies.

May be repeated for credit.

COMM 6199 - Thesis

Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

COMM 6300 - Quantitative Research Methods

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: COMM 6300 - Research Methodology.

Prerequisite: Graduate standing or consent of instructor.

Techniques of gathering, analyzing, and reporting quantitative research data within the communication discipline.

COMM 6302 - Communication Theory

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing or consent of instructor.

Theories and research findings regarding communication processes in interpersonal, organizational, and mass-mediated contexts.

COMM 6305 - Qualitative Research Methods

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: COMM 6305 - Applied Research Techniques in Communication.

Prerequisite: Graduate standing or consent of instructor.

Introduction to qualitative research inquiry, data collection, and interpretive analysis in communication research with emphasis on underlying epistemologies, design issues, and explanations of knowledge claims.

COMM 6306 - Legal,Regulatory & Eth Issues

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COMM 6300and COMM 6302or consent of instructor.

Examination of legal, regulatory, and ethical principles and controversies affecting print, film, and electronic media, and the new communication technologies.

COMM 6308 - Persuasion

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COMM 6300and COMM 6302, or consent of instructor.

Theories and research findings significant to the processes of social influence in interpersonal, organizational, and mass-mediated contexts.

COMM 6309 - Propaganda



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COMM 6300and COMM 6302, or consent of instructor.

Study of the history, theory, strategies, and social impact of propaganda.

COMM 6310 - Mass Comm Theory and Research

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COMM 6300and COMM 6302or consent of instructor.

Examination of mass communications' theories and research.

COMM 6314 - Issues in Intern'l Mass Comm

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COMM 6300and COMM 6302, or consent of instructor.

A comparative analysis of political, social and economic issues that affect the operation of media industries in the industrialized world.

COMM 6315 - History of Mass Communication

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COMM 6300and COMM 6302, or consent of instructor.

The development, diffusion and evolution of mass communication emphasizing relationships between media technology, economics and aesthetics.

COMM 6317 - Media Effects

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COMM 6300andCOMM 6302or consent of instructor.

Examination of media exposure.

COMM 6318 - Media Corporations and Media Content

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Explores how media oligopolies portray, prioritize, or underplay aspects of social reality and content; examines corporations, class ownership, management culture, markets, work routines, agenda setting, framing, news values, bias and ideology.

COMM 6320 - Organizational Communication

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COMM 6300and COMM 6302, or consent of instructor.

Investigates theoretical and pragmatic issues in complex organizations relevant to communication such as serial transmission, networks and communication climate.

COMM 6325 - Intercultural Communication and Organizations

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 This course examines culture, ethnicity/race, stereotypes and prejudice, attitudes, attributions, differences in verbal and nonverbal behaviors, theories of cultural differences, diversity, managerial leadership, and intercultural management and practices in organization.

COMM 6326 - Leadership Communication



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

This course examines leadership communication in organizational contexts. Topics include various theories and types of leadership, power, influence, diversity, ethics, leadership development, and related communication behaviors and activities.

COMM 6330 - Interpersonal Communication

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COMM 6300 and COMM 6302, or consent of instructor.

Theory and research relating to communication within established interpersonal relationships; such as friends, spouses, and coworkers.

COMM 6335 - Health Comm. Theory & Research

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Theories and research shaping health communication inquiry.

COMM 6336 - Communication in Healthcare Contexts

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: COMM 6336 - Provider-Patient Interaction.

Prerequisite: Graduate standing or consent of instructor.

Communication processes, issues, and meanings in the organization of healthcare within social, political, economic, and cultural structures; emphasis on theories, perspectives, and practices of patients, providers, and other health citizens in team-based interactions.

COMM 6338 - Health Literacy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Theories and research concerning how individuals' communication and decision making skills shape health care interaction.

COMM 6339 - Multicultural Health Communica

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Theories and research examining host and assimilating cultural influences on health care interaction and decision making.

COMM 6341 - Comm & Crisis Across Lifespan

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Theories and research concerning how maturational, situational, and moral crises influence health outcomes among health care providers and consumers.

COMM 6345 - Health Campaigns

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Systematic conceptual critique across successful, mixed, and unsuccessful public health campaigns focusing on lifestyle behaviors linked to health outcomes across diverse populations.

COMM 6350 - Social Media Impact and Implications



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: COMM 6350 - Communication Technology and Society.

Prerequisite: COMM 6300.

Investigates enduring issues concerning digital culture and the rise of social media and explores the role social media plays in shaping human sociology and the mass communications landscape.

COMM 6360 - Crit Theory in Media & Culture

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COMM 6300 and COMM 6302, or consent of instructor.

An introduction to critical cultural theory as it applies to the study of media and culture.

COMM 6361 - Case Studies in Media Culture

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COMM 6300 and COMM 6302, or consent of instructor.

Application of various theoretical approaches to specific case studies of media and culture.

COMM 6362 - Twentieth Cent Popular Culture

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COMM 6300 and COMM 6302, or consent of instructor.

Major theories explaining the impact of communication media on popular culture.

COMM 6363 - Media, Globalization & Social Change

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 A comparative analysis of political, social and economic issues that affect the operation of media industries.

COMM 6364 - Media & Politics in a Digital Age

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

This course explores the relationship between mass media, political institutions and entities, and the public agenda. Students will explore how elected officials, political candidates and strategists, journalists, media pundits, and citizens construct, transmit, and understand political messages, including how news, entertainment, new media, strategic communication, and advertising contribute to the shaping of political perceptions, emotions, and behaviors.

COMM 6370 - Public Relations Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COMM 6300 and COMM 6302, or consent of instructor.

Examination of staffing, planning, budgeting, and campaign management requirements in corporate, association, union, and nonprofit public relations.

COMM 6371 - Public Relations Theory

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COMM 6300 and COMM 6302, or consent of instructor.

Comparative analysis of public relations theories and research.



COMM 6376 - Seminar in Crisis Communicatn

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Study of the theory, research, and best practices of organizational planning, training, and communication response to crises.

COMM 6377 - Understanding Publics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

This course is designed to enable students to study, report on, understand, and apply current research, theory, and principles of identifying, segmenting, and working with publics. It helps students understand principles of segmenting publics as applied to the practice of public relations and other disciplines in communication; understand current research and theory related to different contexts of public relations practices such as activist public relations and conflict resolution; and learn different research methods of effective segmentation of publics in order to apply the results of such segmentation to future public relations campaigns.

COMM 6390 - Applied Project

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** None.

Course is an opportunity to apply knowledge and skills developed in graduate study to professional practice.

COMM 6398 - Comprehensive Examination

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 Formerly/Same as: COMM 6398 - Special Problems.

Prerequisite: Completion of degree coursework.

Comprehensive Examination.

May be repeated with permission of graduate director.

COMM 6399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

COMM 7397 - Selected Topics - Comm

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0

COMM 7399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

Computer Science

COSC 6110 - Graduate Colloquium



Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 2 **Prerequisite:** approval of chair.

May be repeated for a maximum of three semester hours of credit.

COSC 6198 - Special Problems

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

COSC 6199 - Thesis

Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 N

Additional Fee N Fee Type N

COSC 6298 - Special Problems

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

COSC 6305 - Introduction to Computer Science II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of the Director of Graduate Studies.

Object-oriented programming, elementary data structures and the C++ programming language. Students must make an oral presentation on aspects of the course content.

Note: Credit may not be applied toward a graduate degree.

COSC 6306 - Data Structures

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of the Director of Graduate Studies.

Credit may not be applied toward a graduate degree. Introduction to various data structures; sorting and searching; design, analysis and comparison of algorithms. Students must make an oral presentation on aspects of the course content.

Note: Credit may not be applied toward a graduate degree.

COSC 6308 - Computer Architecture

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of the Director of Graduate Studies.

Credit may not be applied toward a graduate degree in Computer Science. Principles and operation of digital computers, analyzing their component parts: arithmetic, memory, control and input/output units. Students must make an oral presentation on aspects of the course content.

Note: Credit may not be applied toward a graduate degree.

COSC 6309 - Introduction to Automata and Computability

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of the Director of Graduate Studies.

Credit may not be applied toward a graduate degree in Computer Science. Introduction to automata theory (finite state automata, pushdown automata, Turing machines; formal systems; computability, Church-Turing thesis. Students must make an oral presentation on aspects of the course



content.

Note: Credit may not be applied toward a graduate degree.

COSC 6310 - Fundamentals of Operating Systems

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of the Director of Graduate Studies.

Credit may not be applied toward a graduate degree in Computer Science. Purpose of an operating systems; sequential processes, concurrent processes, deadlock, mutual exclusion, semaphores; memory management, processor management, peripheral device management. Students must make an oral presentation on aspects of the course content.

Note: Credit may not be applied toward a graduate degree.

COSC 6315 - Data Science for Everyone

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate student; non-Computer Science major; MATH 5385.

This course is designed to teach to non computer science students how to conduct data analysis projects using commercially available tools. The course will cover the following topics: exploratory data analysis; data visualization; data preprocessing; unsupervised learning (clustering); supervised learning (classification and regression); documentation and presentation of data analysis results.

N

Additional Fee N Fee Type N

COSC 6320 - Data Structures & Algorithms

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COSC 2320 or COSC 6304 .

Mathematical techniques for algorithm analysis; advanced data structures including sets, graphs, tree structures and hashing; algorithm design techniques including dynamic programming, greedy methods, divide-and conquer; selected classes of algorithms; lower bounds.

COSC 6321 - Research Methods in COSC

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Ph.D. or M.S. thesis student status.

Topics cover experiment design, reading, writing and evaluating, papers and presentation. Semester projects include selecting, designing, completing and presenting a research project.

COSC 6323 - Statistical Methods in Research

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing.

The course covers statistical methods in technology and human studies or experiments.

COSC 6326 - Distributed Algorithms

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COSC 6320 or equivalent.

Focusing on models, algorithms, and complexity; covers distributed network algorithms, basic issues arising in distributed network systems such as communication, synchronization, fault-tolerance, and resource allocation, including applications to real-world networks.

COSC 6327 - Shared Memory Programming



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Overview of hardware running shared memory programs, principles of parallel programs, and specific challenges of shared memory computing.

COSC 6332 - Medical Robots & Interventions

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Fundamentals of medical robotics as used in image guided interventions or surgeries. Includes robot registration, sensing, kinematics, safety and control, augmented reality and tele-surgeries, includes project.

COSC 6335 - Data Mining

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COSC 2320.

Data mining, data preprocessing, OLAP and data warehousing, exploratory data analysis, classification and prediction, cluster and outlier analysis, association analysis, data mining methods, and case studies.

COSC 6336 - Natural Language Processing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COSC 3320 or equivalent.

Introduction to Natural Language Processing. Topics covered include part-of-speech tagging, syntactic parsing, semantic analysis, machine translation, sequence labeling algorithms, language models, grammar formalisms, text clustering and categorization, and NLP applications.

COSC 6339 - Big Data Analytics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Analytics: OLTP, cubes, statistical modeling, relational DBMSs, file systems, query and parallel query processing, algorithm acceleration, .UDF programming, MapReduce programming, matrix factorizations. Problems in data warehouses, social networks, search engines.

COSC 6340 - Database Systems

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of the instructor.

Database design with ER model, relational model and normalization. Relational algebra and SQL language. Database systems internals including storage, indexing, query optimizer, transaction processing, recovery, security.

COSC 6342 - Machine Learning

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 3338 and graduate standing or consent of instructor.

Concept learning, hypothesis spaces, decision trees, neural networks, Bayesian learning, computational learning theory, instance-based learning, genetic algorithms, rule-based learning, analytical learning, and reinforcement learning.

COSC 6344 - Visualization

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COSC 4370 or COSC 6372 or consent of instructor.



Introduction to the concepts, pipeline, principles, and techniques of visualization for various data forms, including graphs, trees, tables, higher-dimensional data, scalar, and vector-valued data, stemming from various real-world applications.

COSC 6345 - Programming Languages and Paradigms

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COSC 2320.

Discussion and comparison of basic programming styles and their underlying paradigms, such as imperative programming, functional programming, logic programming and object-oriented programming. Study of languages based on these paradigms.

COSC 6346 - Security Analytics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COSC 6347, or consent of instructor.

Review of security problems including malware, phishing and intrusions. Unique challenges of security domain. Introduction and Applications of Statistical, Data Mining, Natural Language Processing and Machine Learning techniques to security.

COSC 6347 - Foundations of Security

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 3336, and COSC 3360 and graduate standing or consent of instructor.

Security goals and mechanisms. Overview of secret-key and public-key cryptography, authentication protocols, message integrity, access control, software security, Internet security, malware and intrusion detection. Firewalls, malware, and practical issues.

COSC 6348 - Introduction to Game Art and Animation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor: Video game concept arts and computer animation.

Covers modeling game assets and animation, using the latest game software and hardware.

COSC 6349 - Intermediate Game Art and Animation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COSC 6348 or consent of instructor.

Advanced video game concept arts and computer animation. Covers advanced topics of modeling game assets and animation, using the latest game software and hardware.

COSC 6351 - Software Engineering

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: COSC 6350

Prerequisite: COSC 4351 or consent of the instructor.

In-depth treatment of software engineering topics, including project planning, software processes, metrics, quality assurance techniques, formal methods, and other subjects of current interest.

COSC 6353 - Software Design

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COSC 6311 or approval of the instructor.

Object-oriented paradigm, classes, object relationship, software architecture, use case analysis, object modeling technique, design metrics, software development patterns, practices and principles. Students must make an oral presentation on aspects of the class.



COSC 6354 - Software Development Practices

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COSC 6311 and COSC 6353or approval of the instructor.

Pragmatics of software development, hands-on iterative, incremental and agile software development team project with emphasis on use of state of the art tools, techniques, principles, and better practices. Students must make an oral presentation on aspects of the class.

COSC 6355 - Ubiquitous Computing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** some programming experience.

Advanced software development for ubiquitous devices such as PDAs and cell phones. Tackless issues of usability, user interfacing, and advanced design and testing.

COSC 6356 - Computer Animation and Simulation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COSC 4370 or COSC 6372.

Fundamental computer animation techniques, keyframing animation, physics-based simulation, fluid animation and its underlying algorithms, and optimization algorithms.

COSC 6358 - Interactive Game Development

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COSC 4370 or COSC 6372.

Advanced team development of interactive video games on state-of-the-art devices.

COSC 6359 - Intermediate Game Development

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COSC 4358 or COSC 6358or consent of instructor.

Continuation of Interactive Game Development course. Covers advanced theories and practices in game development.

COSC 6360 - Operating Systems

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COSC 4330.

Review of the current literature on operating systems concentrating on the current areas of operating systems interest.

COSC 6364 - Adv Numerical Analysis

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COSC 3362 or COSC 6303 or consent of instructor.

Numerical solution of partial differential equations by finite difference and finite element algorithms. Direct and iterative methods for solving large, sparse linear systems and related eigenvalue/vector problems. Emphasis is placed on robust mathematical software and its interaction with computer hardware and languages.

COSC 6365 - Intro High-Performance Comput

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COSC 4310, COSC 4330, and COSC 6303 or equivalent.



Hardware organization of vector array and parallel processors for high performance computations. Vector languages and language extensions for vectors and parallel processing. Automatic vectorization and parallelization of scalar programs. Implementation of vector and parallel algorithms for scientific applications.

COSC 6368 - Artificial Intelligence

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COSC 4350 or consent of instructor.

A survey of broad areas in artificial intelligence, emphasizing areas of current interest.

COSC 6369 - Theory of Computation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COSC 3340 or consent of the instructor.

Models of computation, Church-Turing thesis, undecidability, feasible computability, time and space complexity, complexity classes, lower bounds.

COSC 6370 - Fundamental of Medical Imaging

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Fundamentals of medical imaging modalities with emphasis on principles, data collection and reconstruction, X-rays, CT, ultrasound, MRI. Includes projects and simulations of image generation.

COSC 6372 - Computer Graphics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COSC 4370 or consent of instructor.

In-depth study of selected areas in computer graphics such as 3D modeling, hidden surfaces, surface reconstruction, shading and texturing, computer animation, and other recent developments in computer graphics.

COSC 6373 - Computer Vision

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COSC 6320 or consent of the instructor.

Introduction to computer vision and machine perception. Topics to be covered include: image formation, representation, image segmentation, feature extraction and analysis, shape representation, binocular stereo and motion analysis.

COSC 6374 - Parallel Computations

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COSC 3330 and COSC 4380, or consent of instructor.

Parallel computation models, design and analysis of parallel algorithms.

COSC 6376 - Cloud Computing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: COSC 6376 - Grid Computing.

Prerequisite: None.

Covers exploration in distributed data crunching with MapReduce, cloud and datacenter file systems, virtualization, cloud security and privacy, Amazon Web services and interactive web-based applications.



COSC 6377 - Computer Networks

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COSC 4377 or consent of the instructor.

Designing and specification of network protocols; advanced network protocols: broadcast, multicast, security, compression, congestion control, quality of service guarantees.

COSC 6380 - Digital Image Processing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COSC 4393 or consent of the instructor.

Digital image processing from an operational and theoretical perspective. Image acquisition, binary image processing, histograms, point operations, sampling, filtering, restoration, color, thresholding, coding.

COSC 6384 - Real-Time Systems

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COSC 4330 or consent of instructor.

Introduction to problems that may arise in real-time applications of digital computers; architecture of real-time systems; methods for real-time software design and implementation. (Term project required.)

COSC 6385 - Computer Architecture

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COSC 4330.

Elements of computer architecture: instruction set design, computer arithmetic, memory hierarchies, instruction level parallelism, SIMD, MIMD, system design and performance values.

COSC 6386 - Prgrm Analys & Testing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Introduction to concepts and problems related to program correctness; formal basis and techniques for program analysis, program testing, test-case generation, and their applications.

COSC 6390 - Internet Computing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COSC 4330 or consent of instructor.

Introduction to Internet, including http, cgi, server-side programming including object-oriented programming, applets, abstract windowing toolkit, multithreading, event handling, security, network programming and object serialization.

COSC 6391 - Biomedical Image Analysis

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Principles and computational methods for the analysis of biomedical images. Topics include segmentation, classification, registration and validation.

COSC 6396 - Internship in Computer Science



Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** 18 hours of graduate coursework and consent of the department.

To include real world experience complementing the academic education. Internship is initiated by the student, approved and monitored by graduate director. Requires a written report submitted by the student after internship.

COSC 6397 - Topics Computer Science

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 May be repeated for credit when topics vary.

COSC 6398 - Special Problems

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

COSC 6399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Masters student in computer science.

N

Additional Fee Y Fee Type Y

COSC 6698 - Special Problems

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

COSC 6699 - Masters Thesis

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Masters thesis student in computer science.

N

Additional Fee Y Fee Type Y

COSC 6999 - Masters Thesis

Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Masters thesis student in computer science.

N

Additional Fee Y Fee Type Y

COSC 7198 - Masters Research

Credit Hours: 1

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Consent of Instructor and approval of department chair.

Independent research under the direction of a faculty advisor.

COSC 7199 - Thesis



Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

COSC 7298 - Masters Research

Credit Hours: 2

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Consent of Instructor and approval of department chair.

Independent research under the direction of a faculty advisor.

COSC 7336 - Advanced Natural Language Processing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing or consent of instructor.

Extraction and analysis of information from text data with applications to security and biomedicine. Topics include part-of-speech tagging, named entity recognition, word-sense disambiguation, collocations, coreference analysis, summarization and question answering.

COSC 7362 - Advanced Machine Learning

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COSC 6342 and graduate standing or consent of instructor.

Modern topics in Machine Learning including Kernel Methods, Ensemble Learning, Transfer Learning, Learning Theory, Metalearning, Scientific Discovery and Adaptive Learning Systems.

COSC 7363 - Adv Artificial Intell

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COSC 6368 or consent of instructor.

Study of current research areas in artificial intelligence.

COSC 7364 - Adv Parallel Computatns

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COSC 6385 and COSC 6374 or consent of instructor.

An in-depth study of selected topics in parallel computations.

COSC 7370 - Network Intrusion Detection

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COSC 6320 or consent of instructor.

Introduction to intrusion detection, anomaly detection, signature-based detection, automated response to attacks, tracing intruders, user authentication, network tools for intrusion detection, and related computer security issues.

COSC 7373 - Advanced Computer Vision

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COSC 6373 or consent of the instructor.

In-depth treatment of computer vision, including physics-based modeling, shape from shading, motion tracking, object recognition and other subjects of current interest.

May be repeated for credit when topics vary.



COSC 7384 - Advanced Real-Time Systems

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COSC 6384 or consent of instructor.

Advanced study of the current research in the theory and techniques for the design and development of intelligent, highly fault-tolerant, and distributed real-time systems.

COSC 7388 - Advanced Distributed Computing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** COSC 6377 or consent of instructor.

Selected topics from current research in parallel and distributed computing.

COSC 7397 - Adv Topics-Computer Science

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 May be repeated for credit when topics vary.

COSC 7398 - Masters Research

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor and approval of department chair.

Y

Additional Fee N Fee Type N

COSC 7399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Masters thesis student in computer science.

N

Additional Fee Y Fee Type Y

COSC 7698 - Masters Research

Credit Hours: 6

Lecture Contact Hours: 6 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor and approval of department chair.

Y

Additional Fee N Fee Type N

COSC 7699 - Masters Thesis

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Masters thesis student in computer science.

N

Additional Fee Y Fee Type Y

COSC 7998 - Masters Research

Credit Hours: 9

Lecture Contact Hours: 9 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor and approval of department chair.



Y

Additional Fee N Fee Type N

COSC 7999 - Masters Thesis

Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Masters thesis student in computer science.

N

Additional Fee Y Fee Type Y

COSC 8198 - Doctoral Research

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

COSC 8199 - Dissertation

Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 N

Additional Fee N Fee Type N

COSC 8298 - Doctoral Research

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

COSC 8398 - Doctoral Research

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

COSC 8399 - Doctoral Dissertation

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

COSC 8598 - Doctoral Research

Credit Hours: 5.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

COSC 8698 - Doctoral Research

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

COSC 8699 - Doctoral Dissertation



Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

COSC 8998 - Doctoral Research

Credit Hours: 9.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

COSC 8999 - Doctoral Dissertation

Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

Construction Management

CNST 6100 - Construction Management Seminar

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

This course covers areas of interest in Construction Management. Students are introduced to research methods and fields available in the MS program.

CNST 6307 - Statistical and Optimization Methods in Construction Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Fundamental concepts and methods of statistics course that introduces the methods of optimization and covers formulating basic models using linear programming, dynamic programming, and genetic algorithms for decision problems.

CNST 6308 - Data Analysis in Construction Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Application of computational models in management science. Models include both statistics and optimization approaches using a variety of computer languages.

CNST 6310 - Construction Contract Administration

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Issues of administering construction contracts including: purpose of contract documents, legal hierarchy, interrelationships, liabilities, communications challenges, establishing chain of commands, warranties, and progress/final payments.

CNST 6320 - Cost Analysis and Bidding

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Preparation of parametric and definitive estimates, cost forecasts and variances, bid analysis, and use of estimating software.



CNST 6330 - Project Planning & Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Planning and scheduling techniques, including: bar charts, CPM network, resource loading and leveling, cost and schedule integration, time-cost tradeoff, schedule reduction, probabilistic scheduling, PERT and Monte-Carlo simulation.

CNST 6335 - Introduction to the Oil and Gas Industry

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

A comprehensive overview of the oil and gas industry, including production process and upstream, midstream, and downstream facilities.

CNST 6340 - Best Practices in Construction

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Current issues in the construction industry, including best practices developed at the Construction Industry Institute (CII) and critical issues facing the construction industry.

CNST 6350 - Decision Making and Risk Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or onsent of instructor.

Decision making, risk analysis, quantitative analysis applicable to construction projects.

CNST 6360 - Computer Applications in Construction Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Applications of software and Information Technology in the planning, organization, and control of construction projects.

CNST 6370 - Quality Management & Six Sigma in Const Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Concepts, standards, and tools of quality management with emphasis on the Six Sigma methodology for construction projects.

CNST 6375 - Building Information Modeling Applications for Construction Management

Credit Hours: 3.0

Lecture Contact Hours: 1.5 Lab Contact Hours: 1.5 **Prerequisite:** Graduate standing or consent of instructor.

Introduction to concept of model-based construction management workflows using BIM. Theory and hands-on practices on BIM technologies for important construction management tasks including cost estimating, scheduling, and coordination.

CNST 6380 - Leed & Green Construction Principles in Const Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Green construction methods and benefits in applying the Ledarship in Enregy and Environmental Design (LEED) principles.



CNST 6390 - Leadership for Construction Managers

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Leadership theories and styles, motivation and management of a diverse construction workforce, and ability to succeed in a global/international market.

CNST 6396 - Master's Project

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 May be repeated for six semester hour credits.

CNST 6397 - Selected Topics in Construction Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

May be repeated with approval of the department chair.

CNST 6398 - Special Problems

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Corrosion Engineering and Corrosion Control

CORR 6310 - Electrochemistry

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MECE 3345 Material Science OR equivalent course.

Corequisite: None.

This course provides fundamental understanding of electrochemical processes and electrochemical materials technology for materials and corrosion related tasks within the chemical process and petroleum industry. The course covers, modern electrochemical theory; to include the thermodynamics and kinetics of corrosion mechanisms. The role of Pourbaix and Evans diagrams will be presented. The effects of aggressive fluids, chemical species and content (chlorides, dissolved oxygen, H₂S, CO₂, bacteria, sand, bacteria, etc.) and important physical variables such as pressure, temperature, velocity, flow regimes etc., will be studied.

Y

Additional Fee N Fee Type N

CORR 6320 - Metallurgy and Non-Metallic Materials

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MECE 3345 Material Science OR equivalent.

Corequisite: None.

This course provides overview to structure and mechanical properties of metals and alloys; Metal strengthening processes, plastic deformation, work hardening, crystal imperfections, recovery, and recrystallization; Dislocation and defect theory, deformation and fatigue of metals, polymers and brittle materials; composite materials with non-metallic fiberglass reinforced plastic (FRP), and carbon fiber composites (CFC) in particular. The relationships between theory and best practice materials performance will be articulated.

Y

Additional Fee N Fee Type N



CORR 6330 - Protective Coatings and Inhibitors

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CORR 6360 Materials and Corrosion OR equivalent course.

Corequisite: None.

This course provides an overview of coating fundamentals and reasons for coating along with various types of coatings. The course focuses on curing mechanisms, mixing and thinning and methods on the application equipment. It defines the primary function of a coating and states the purpose of each coating component and identifies factors that impact the selection of coatings. The practice of coating selection, repair and performance will be highlighted. The students will also learn how to select and utilize various types of corrosion inhibitors for different systems.

N

Additional Fee N Fee Type N

CORR 6340 - Cathodic Protection

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CORR 6360 Materials and Corrosion OR equivalent.

Corequisite: None.

This course provides knowledge and techniques for testing and evaluating data to determine the effectiveness of both galvanic and impressed current Cathodic Protection (CP) systems and to gather design data. Also provides a strong focus on interpretation of CP Data, trouble shooting and migration of problems that arise in both galvanic and impressed current systems, including design calculations for these systems. Understanding the principles and procedures for CP design on a variety of structures for both galvanic and impressed current systems.

Y

Additional Fee N Fee Type N

CORR 6350 - Asset Integrity and Risk Management

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CORR 6360 Materials and Corrosion OR equivalent.

Corequisite: None.

This course outlines asset integrity and risk assessment and management due to corrosion and other factors. The course provides guidelines on how to perform an evaluation of a corrosion system and describes the various testing methods used during the evaluation, identifies safety hazards and critical areas of concern and describes the systems and their requirements used to collect information. The course provides information on identifying and defining the primary corrosion protection systems used. Practical techniques of corrosion risk management will be presented.

Y

Additional Fee N Fee Type N

CORR 6360 - Materials and Corrosion

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MECE 3345 Materials Science or equivalent course.

Corequisite: None.

This course provides an overview of materials and corrosion. The basics of corrosion with emphasis on the type of corrosion and materials degradation that can occur in oil and gas production are included. Materials addressed include metallic, non-metallic, and coatings. Erosion, a problem associated with high rate production encountered in oil and gas production will be addressed. The critical use of industry codes, standards, recommended practice and project specifications will be discussed and recommendations given.

Y

Additional Fee N Fee Type N

Curriculum & Instruction

CUIN 6198 - Independent Study



Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 May be repeated for credit.

CUIN 6301 - The Teaching Profession

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** admission to Teacher Education Program.

Practicum analyzing teaching and learning in educational settings; legal and ethical aspects of teaching; and curriculum structure, organization, and management in schools.

CUIN 6304 - Tch English/Mid&Sec Sch

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Selected aspects of the teaching of English language arts in middle and secondary schools.

CUIN 6307 - Change and Diffusion

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Exploration of the theories of technology diffusion and organizational change as well as the relevant professional practice literature. The course emphasizes the professional practices of leaders responsible for guiding change and reform efforts that focus on effective integration of information technology into organizations and schools.

CUIN 6313 - Foundations of Bilingual Education

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** None.

Overview of linguistic, psychological, sociocultural, political and historical foundations of bilingual education.

CUIN 6314 - Spanish/English Bilingual Curriculum

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** CUIN 6313 or consent of instructor. Students must be fluent in Spanish.

Exploration of theories and methods of curriculum development in bilingual education as well as techniques for teaching content areas in Spanish.

Note: Readings will be in English and Spanish. All instruction will be in Spanish.

CUIN 6317 - Ed Princ 2Nd Lang Acq

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Established principles and recent developments in second language acquisition and their educational applications.

CUIN 6318 - Approaches and Techniques in Second/Foreign Language Teaching

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** CUIN 6317.

Approaches, techniques, and strategies of teaching second/foreign languages with practical applications to the classroom.

CUIN 6319 - Instructional Design and Technology in Second/Foreign Language Education



Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** Permission of advisor.

Concepts in instructional design in second language acquisition such as needs assessment, teaching contexts, evaluation of available resources and the integration of instructional technologies.

CUIN 6320 - Technology in Learning Environments

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Emphasis on developing computer literacy skills, using applications software for teaching, and planning for the integration of technology instruction.

CUIN 6340 - Teaching Geometry and Measurement Grades 6-12

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: CUIN 6340 - Teaching Geometric Concepts for Grades 6-12.

Prerequisite: None.

Design and theory of research-based instructional methods, materials, and assessment techniques for teaching geometry and measurement concepts in grades 6-12.

CUIN 6341 - Teaching Math Problem Solving

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formulation on instructional strategies and procedures for teaching students to solve non-routine mathematical problems.

CUIN 6342 - Teaching Prob & Stats 6-12 Grd

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formulation of appropriate methods and materials which support student development of probability and statistics concepts in grades 6-12.

CUIN 6344 - Teaching Mathematics Middle Grades

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: CUIN 6344 - Teaching Mathematics in Grades 4-8.

Design and theory of research-based instructional methods, materials, and assessment techniques for teaching mathematics in the middle grades.

CUIN 6346 - Teaching Mathematics and Science with Technology

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Review and application of current research in technology-enhanced mathematics and science instruction; development of instructional products that demonstrate appropriate technology use.

CUIN 6347 - Teaching Mathematics in the Secondary Grades

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: CUIN 6347 - Teaching Math in Grades 7-12.

Prerequisite: None.

Design and theory of research-based instructional methods, materials, and assessment techniques for teaching mathematics in the secondary grades.



CUIN 6358 - Perspectives of Museum Education

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** none.

Survey of cultural, historical and theoretical contexts of museums. Exploration of museum education practices, critical analysis of museum education and community engagement, and current museum issues impacting education.

CUIN 6359 - Museum Education Practice & Application II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CUIIN 6358 and CUIIN 7302

Advanced practicum course where students address issues concerning current museum practices. Students and their museum partner identify a capstone project to demonstrate understanding of museum practice, along with the development and implementation of museum learning.

CUIN 6360 - Prin - Curric Developmnt

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Principles of curriculum and organization and the selection and evaluation of instructional materials. Rationale underlying major positions on those issues.

CUIN 6375 - Classroom Mgt

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CUIIN 6372 or consent of instructor.

Analysis of the sociopsychological dynamics of classroom groups with emphasis on implications of behavior modification, socioemotional, and group process theories of classroom management.

CUIN 6380 - Teaching Young Children

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Introduction to early childhood education; developing essential understanding and skills.

CUIN 6381 - Ece: Prekindergarten

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Study of the functions, philosophies, and organization of the prekindergarten.

CUIN 6383 - Introduction to Early Childhood Research

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** none.

The scientific method applied to early childhood research; decision making through design principles.

CUIN 6397 - Selected Topics in C&I

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0

CUIN 6398 - Independent Study



Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 May be repeated for credit.

CUIN 7198 - Independent Study

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 May be repeated for credit.

CUIN 7300 - Play-Early Childhood Edu

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CUIN 6360.

Review of recent research and theory illuminating the nature, purposes, and meaning of play as a critical early childhood teaching strategy.

CUIN 7301 - CUIN Capstone Seminar

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Approval from M.Ed advisor.

Research, develop, implement, and defend a culminating project approval by the Faculty in your area of emphasis.

N

Additional Fee N Fee Type N

CUIN 7302 - Community Education

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** none.

Community education offers community and place-based education experiences linked to curriculum and instruction. Problem and project-based activities and service learning are also integrated.

CUIN 7303 - Professional Seminar I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to CUIN Masters program.

This professional seminar serves as Part I of the CORE for the CUIN MEd program. Themes investigated include technology, research and community education.

CUIN 7304 - Professional Seminar II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to CUIN Masters program.

This professional seminar serves as Part I of the CORE for the CUIN MEd program. Themes investigated include Leadership, Learning and Social Justice.

CUIN 7305 - Design, Development, & Evaluation of Presentations

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** none.

Conceptual framework for understanding presentation design as well as opportunities for hands-on experiences in designing, developing, and evaluating educational presentations using a variety of strategies and tools.

CUIN 7308 - Educational Uses of CMC



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Basic computer literacy.

Computer-based communication technologies for educational, social and informational purposes including theoretical frameworks, CMC research, and implications of emerging and future communications technologies.

CUIN 7311 - Teaching Language and Literacy to Bilingual Learners

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** N/A.

Advanced topics in the teaching of language and literacy to bilingual or ESL learners such as culturally responsive education, literacy development, effective ways to teach vocabulary, and other language components in content classes.

CUIN 7312 - Curriculum Design in Bilingual Education

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** N/A.

Introduction of different types of curriculum design in bilingual contexts. Systematic approaches to mapping content to learning objectives, including developing a course outline and building a course.

CUIN 7314 - Sociocultural Context and Policies in Bilingual Education

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** N/A.

Examines social, cultural, and political aspects of bilingual education in the United States and other countries. Cultural identity and differences, the politics of recognition and social justice, and the relationship to educational policy and practice will be discussed.

CUIN 7315 - Assessment and Evaluation in Bilingual Education

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** N/A.

Study and evaluation of principles and tools in assessing language proficiency in bilingual education programs. Critical review of standardized tests and alternative language assessment techniques used in current practice.

CUIN 7316 - Design Online Educational Resources

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Basic computer literacy.

Introduction to design of online educational resources with emphasis on learning HTML, including publishing websites, with multimedia content, cross-browser/platform coding, user interface design, and usability/accessibility.

CUIN 7318 - Current Issues in Learning & Design

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None

Current issues and trends in learning and design.

CUIN 7322 - Curric Dev in Sci Ed

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CUIN 6360.



Analysis of contemporary science curricula research. Development and use of criteria for evaluating science curricula currently in use in the area of the student's specialization.

CUIN 7323 - Instructional Technology & Society

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None

Social and cultural implications of current issues in the field of learning, design and technology.

CUIN 7325 - Developing and Publishing Literacy Material

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Survey and evaluation of current materials/methods, and development of presentations and publications for improving the teaching of reading and language arts. Course Notes: Graduate students in Curriculum and Instruction or approval of instructor.

CUIN 7328 - Technology in Teacher Educatn

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Basic computer literacy.

Technology integration in the professional development of novice and practicing teachers.

CUIN 7331 - Diagnosis and Correction of Reading Problems

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** none.

Procedures for diagnosing, assessing, monitoring and correcting reading problems; methods and materials useful in addressing reading problems. This course will include a practicum experience.

CUIN 7332 - Teaching and Learning Math

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Application of models for teaching and learning mathematics.

CUIN 7333 - Developing Algebraic Thinking

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Research into and development of methods and materials supporting the learning of foundational algebraic concepts.

CUIN 7334 - Develop Proportional Reasoning

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Design of methods and materials which support student development of proportional reasoning.

CUIN 7336 - Popular Culture in Education

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Examine popular culture issues in education and in society as a whole, and its application in teaching and learning.



CUIN 7337 - Current Issues/Soc Stud

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** CUIIN 6336 and approval of advisor.
A review and analysis of current issues proposed for social studies curriculum and instruction.

CUIN 7338 - Tchg K-12 Environmental Ed

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 Formerly/Same as: CUIIN 6328

Prerequisite: None.

Methods and materials for ecological and environmental education instruction in K-12 classrooms.

CUIN 7339 - Global/International Education

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** None.

To enhance the relevance of Social Education by focusing on global and international education. Participants will engage in a critical constructivist endeavor through the investigation of regions, countries, or themes in global / international education.

CUIN 7340 - Issues in Mathematics Education

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** None.

Examines current issues in mathematics education such as curriculum reform, policy, equity and teacher change.

CUIN 7345 - Learning Theories for Instruction

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** None

Established and emerging theories of learning with emphasis on their applications and implications of teaching.

CUIN 7347 - Seminar in Learning, Design & Technology

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** None

Exploration of current issues and trends in instructional design and technology including materials drawn from mass media, recent educational journals and other relevant resources.

CUIN 7349 - Fundamentals of Engineering Education Design

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Admission to graduate program.

Introduces students to the scope of engineering, K-12 engineering education standards, engineering design cycle, and reverse engineering.

CUIN 7350 - Integrating Technology into the Curriculum

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Basic computer literacy.

Practical integration of technology into curriculum and appropriate uses of technology and software



CUIN 7351 - Engineering Education in Mathematics and Science

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to graduate program. CUIN 7349: Fundamentals of Engineering Design must have been completed or taken concurrently with this course.

Teachers will explore their roles within the dynamic field of engineering education and how the engineering skills can be supported with mathematics and science curriculum. Challenges and design problems will examine engineering concepts that are infused mathematics and science topics. During the course we will also examine the philosophy of engineering education through research and frameworks to guide critical reflection and analysis of the role engineering plays in student preparation for the 21st century workforce.

CUIN 7354 - Perspectives in Science & Math

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Overview that compares and contrasts Math and Science in terms of philosophies, methods, processes, outcomes and societal influences.

CUIN 7356 - Issues in Distance Education

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None

Examines the concepts, technologies and issues related to the development and delivery of distance education. Topics include theory and history, distance education programs throughout the world, components of a distance education system, course design and development, technology and media, instruction and interaction, the student and teacher, and administration and policy-making in distance education.

CUIN 7357 - Collaborative Development of Multimedia

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Credit for or concurrent enrollment in CUIN 7327 .

Collaborative team-based development of educational multimedia materials for a client

CUIN 7358 - Educational Uses of Digital Storytelling

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Basic computer literacy.

Explores the application of digital storytelling in a variety of educational contexts, including investigation of current research, theoretical frameworks, and instructional practice.

CUIN 7359 - Create Educational Materials for Digital Storytelling

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CUIN 7358or consent of instructor.

Explores the design and development of digital storytelling materials across multiple content areas and grade levels, including investigation of current research, theoretical frameworks and instructional practice.

CUIN 7360 - Curriculum Theory

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CUIN 6360or equivalent or consent of instructor.

Problems in curriculum theory, including the role of the teacher in the curriculum, problems of curriculum design and interrelationships between current issues in curriculum and societal forces.



CUIN 7361 - Master Reading Teacher

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None

This is a seminar-based course that investigates leadership theory and research, emphasizes the development of leadership skills for coaching, mentoring and the design of in-school action research project findings used to inform practice.

CUIN 7362 - Hist of Reading Instruction in the United States

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None

This a seminar-based course that investigates the sequence of reading instruction from the beginning of print to current tradition; and, the history of reading pedagogy and research in the United States

CUIN 7365 - Theoretical Models/Rdg

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** six semester hours of graduate-level course work in reading.

An examination of theoretical models of reading and their influence on the development of reading materials and teaching strategies.

CUIN 7366 - Science Instruction in Middle Grades I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: CUIN 6326

Prerequisite: None.

Methods, materials, and laboratory experiences for science instruction in grades 4-8.

CUIN 7368 - Digital Imaging in Education

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Basic computer literacy.

Application of digital photography, scanning and imaging in a variety of educational contexts, including investigation of current research, theoretical frameworks and instructional practice.

CUIN 7369 - Affective Learning and Instruction

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: CUIN 6370 Affective Instruction

Prerequisite: None.

Design, development, and implementation of instruction theoretically or empirically related to affective learner outcomes.

CUIN 7370 - Teacher As Researcher

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to graduate program in Curriculum and Instruction.

Examines the trend of "teachers as researchers" including both theory and practice. Covers concepts such as participant research, trustworthiness and dissemination. Guides students in action research projects.

CUIN 7372 - Expert Teaching Methods



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: CUIIN 6372 Expert Teaching Methods

Prerequisite: None

Detailed examination of teaching strategies that are empirically aligned to expert teaching methods.

CUIIN 7373 - Instr Strat Tchng Adult

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Doctoral degree objective or consent of instructor.

The focus is on how to teach adults so that change in instructional behavior occurs. Three classroom observation systems are taught so that changes in instructional behavior can be evaluated.

CUIIN 7374 - Educational Multimedia

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None

Classroom applications of digital graphics, animation, multimedia, video, and web mastering; creation of projects that merge multiple media into teaching and learning.

CUIIN 7375 - Capstone for Literacy Education

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to the Reading Language Arts Masters program in CUIIN and approval from academic advisor.

Research, develop, implement and defend a culminating literacy project approved by faculty in Literacy Education.

CUIIN 7376 - New Tools for Creating Online Educational Materials

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: CUIIN 7376 - Design of Online Educational Resources II.

Prerequisite: None.

Focuses on the exploration, use and evaluation of a range of web-based tools and programs that may be used to support instruction.

CUIIN 7378 - Models of Teaching

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to graduate program in Curriculum and Instruction.

Examines empirical and theoretical examination of models of teaching based upon studies of teacher roles and role behaviors.

Can be repeated for credit with instructor's permission.

CUIIN 7381 - Instructional Evaluation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: CUIIN 6378 Instructional Eval

Prerequisite: NONE.

Development of understanding and skills for evaluating student progress, student achievement, and instructional effectiveness in the classroom setting. Emphasis on collecting information, former judgments, and making instructional decisions.

CUIIN 7383 - Early Chld Curr



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CUIIN 6383 or consent of instructor.

Advanced study of research on theories and problems in early childhood education curriculum.

CUIIN 7384 - Trends & Issues in Ece

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CUIIN 6383 or consent of instructor.

Detailed review of selected current issues, trends and practices in early childhood education.

CUIIN 7386 - Trends and Issues in K12 Science Education

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Examination of trends and issues that have occurred in science education over the past 150 years, focusing on curriculum projects, recommendations of national committees, and societal pressure.

CUIIN 7387 - Theory and Process of Teaching Composition

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: CUIIN 7387 - Looking in Classrooms.

Prerequisite: None.

Exploration of how writing instruction interacts with development of vocabulary, mastery of mechanics, and application of modes of composition.

CUIIN 7389 - Digital Media

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Basic computer literacy.

Educational applications of digital graphics, animation, multimedia and video, including delivery online; to support projects that merge multiple media into teaching and learning.

CUIIN 7390 - Instructional Design

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** none.

Study and application of a systems approach to the design and evaluation of instruction for educational settings.

CUIIN 7391 - Curriculum Development for Health Sciences Education

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** none.

Principles of curriculum development and the selection and evaluation of instructional materials for health sciences education.

CUIIN 7392 - Internship

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 9 **Prerequisite:** consent of instructor or approval of chair.

Part- or full-time experiences in educational situations in which students work at a high level of independence and usually in a role for which they are being prepared. Seminars are required.

CUIIN 7397 - Selected Topics in CUIIN



Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Approval of chair.

May be repeated for credit when topics vary.

CUIN 7398 - CUIN Capstone Project

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 May be repeated for credit.

CUIN 7399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

CUIN 7692 - Internship

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 6 **Prerequisite:** CUIN 6358, CUIN 6359, CUIN 7302.

Students gain practical museum education experience within the environment of a specific institution. Internship projects will be determined based on the interests of the students and needs of the host museum. May be repeated for credit.

CUIN 8190 - Doctoral Thesis

Credit Hours: 1

Lecture Contact Hours: 0 Lab Contact Hours: 1 **Prerequisite:** CUIN 8310.

Corequisite: Student must be a doctoral students in the Executive EdD in Leadership in Health Science Education, Literacy Education or Social Studies/Social Education.

A one hour Doctoral thesis course for doctoral students in the Executive Ed.D. in Leadership in Health Science Education, Literacy Education or Social Studies/ Social Education

Y

Additional Fee N Fee Type N

CUIN 8198 - Independent Study

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 May be repeated for credit.

CUIN 8199 - Dissertation

Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

CUIN 8298 - Independent Study

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 May be repeated for credit.

CUIN 8301 - Erly Chld Ed-Tchnng Prcs



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CUIIN 6372 .

Examination of research literature about the teaching process in relation to the growth and development of young children.

CUIIN 8302 - Assessment of Young Children

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** N/A.

Study and evaluation of assessment instruments and procedures as a basis for the development of education programs for young children.

CUIIN 8303 - Seminal Thinkers Affecting American Education

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to PhD or EdD.

Seminar to investigate the ways a variety of prominent individuals think and interact to affect formal education in the United States.

N

Additional Fee Y Fee Type Y

CUIIN 8310 - Laboratory of Practice

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 10 **Prerequisite:** Admission to doctoral study.

Doctoral candidates engage in collaborative research in a school or related setting, including research design, data collection, data analysis, and reporting.

N

Note: May be repeated for credit.

Additional Fee Y Fee Type Y

CUIIN 8312 - Seminar in Bilingual/Multilingual Education

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** N/A.

Examination of the research literature in bilingual/multilingual, ESL, and foreign language education.

CUIIN 8313 - Trends and Issues in Bilingual/Dual Language Education

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

The recent trends and issues in bilingual/dual language education will be investigated. Topics may include bilingual curriculum design and technology, heritage language education, bilingual education, special education, and integrated content and literacy education for ELLs.

CUIIN 8318 - Issues in Urban Education

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to Ph.D. or Ed.D.

This course is an opportunity to engage in critical investigation of issues in urban education and is focused on readings and research in the field.

CUIIN 8320 - C&I Doctoral Rsch Sem



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Design and development of dissertation proposal.

May be repeated with the consent of the advisor.

CUIN 8322 - Mixed Methods Research in Education

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Individuals participating in this course need to have had an introduction to both quantitative and qualitative methods or approval of the instructor.

This course provides an overview of mixed methods research to graduate students who are already familiar with quantitative and qualitative research. Students will gain knowledge of the foundations of mixed methods research, mixed methods quality criteria, major mixed methods research designs, the value added of mixed methods research, and legitimation and validation concepts. Throughout the course, students will develop a scale project to demonstrate skills in designing a mixed methods research study.

N

Additional Fee N Fee Type N

CUIN 8325 - Research in Math Education

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Study of mathematics education as a disciplined field; examination of different research methodologies and corresponding implications for informing practice and developing theory within mathematics education.

CUIN 8326 - Math Education Leadership & Coaching

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** none.

To prepare doctoral students to coach classroom teachers in mathematics instruction and lead a mathematics program. Students will explore current issues in mathematics education related to leadership and coaching including models for coaching teachers, curriculum leadership, professional development and strategies to improve and support mathematics instruction and assessment. Course Notes: Admission to the PhD or EdD program in Curriculum and Instruction or approval of the instructor

CUIN 8329 - Academic Publishing/ Presenting

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

The writing and submitting of manuscripts for journal articles, convention proposals, and book queries.

CUIN 8330 - Literacy Trends and Concerns in the 21st Century

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Doctoral status or instructor approval.

Students will explore the critical trends and concerns being debated within the field of Literacy Education. The topics will be examined through historical and contemporary theory and practices with emphases on themes linked to policy and advocacy, providing students with a deeper understanding of current trends and develop the skills needed to critique ideas and issues surrounding literacy education.

CUIN 8331 - Curr. Stud-Engl & Lang Art Edu

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 The historical development of English and language arts teaching and curriculum organization in grades K-13.



CUIN 8334 - Issues in Multicultural / Diversity Education

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

This course is an opportunity to rethink multicultural and diversity education for the 21st century. You will engage in critical constructivist collaborations to examine current issues in rethinking multicultural / diversity education and will construct meaning as a community of learners as the course progresses. The course will consist of discussions in rethinking multicultural and diversity education. Course Notes: Admission to the EdD or PhD in Curriculum and Instruction or the consent of the instructor.

CUIN 8335 - Doctoral Seminar in Social Education

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

This course is offered as an opportunity to engage in an in depth investigation of issues and research in social education. Participants will engage in a critical constructivist endeavor to examine ideas and issues regarding social education. The members of the class will therefore construct meaning as a community of learners. Course Notes: Admission to the EdD or PhD in Curriculum and Instruction or consent of the instructor.

CUIN 8336 - Research in Social Education

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Engage in a critical investigation of research in social education and participate in a variety of social education scholarship endeavors.

CUIN 8337 - Social Education and Community

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Engage in a critical investigation of social education in the community and develop leadership skills through service learning and partnerships.

CUIN 8338 - Global/International Education

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

To enhance the relevance of Social Education by focusing on global and international education. Participants will engage in a critical constructivist endeavor through the investigation of regions, countries, or themes in global / international education. Course Notes: Admission to the EdD or PhD in Curriculum and Instruction or consent of the instructor.

CUIN 8340 - Survey and Research in Early Childhood Education

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** None.

Examination of current research literature in early childhood education.

CUIN 8341 - Critical Issues & Research in Urban Education

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to CUIN PhD program.

Investigates critical issues and research in urban education.

CUIN 8342 - Social Justice and Equity



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to CUIIN PhD program.

Investigates critical issues and foundations of equity and social justice in education and society.

CUIIN 8345 - Curriculum and Instruction Seminar

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission into Curriculum and Instruction Ph.D. program.

Overview of the Ph.D. program, policies and requirements, introduction to the profession, conducting and preparing scholarly work, and examining current theories and trends in curriculum and instruction.

CUIIN 8346 - Teaching Mathematics and Science with Technology

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Integration of technology within the instruction of PK-12 mathematics and science. The course will include the mechanics of implementing technology, the many different ways of integrating technology and the underlying learning theories and research that support such implementations.

Course Notes: Admission to the PhD or EdD program in Curriculum and Instruction or approval from the instructor.

CUIIN 8352 - Adv Seminar in Instruct Tech

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Completion of 21 hours of doctoral work.

Consideration of current trends and issues in the field of instructional technology with an emphasis on conceptual and theoretical questions that impact research and practice.

CUIIN 8360 - Seminar in Teaching and Teacher Education

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Teaching and Teacher Education Majors or instructor permission.

This seminar focuses on systems, practices and approaches to teaching and teacher education.

CUIIN 8361 - The State of the Curriculum Field in Education

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor and/or enrollment in the CUIIN PhD program.

Course examines the state of the curriculum field through critical analysis of handbook chapters, yearbook entries, and other scholarly works.

CUIIN 8365 - Organizational Psychology in Health Science Education

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to the Executive Doctor of Education in Professional Leadership with an Emphasis in Health Science Education.

Organizational Psychology, the scientific study of individual and group behavior in formal organizational settings, is a field that utilizes scientific methodology to better understand the behavior of individuals working in organizations. This course will cover various aspects of this field, including job satisfaction, organizational commitment, motivation, and organizational change and development, as well as how these topics are expressed in medical/health care organizations.

CUIIN 8366 - Academic Writing for Doctoral Candidates



Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Doctoral status.

Principles and practices for research-based writing in the development of a doctoral thesis in education. Students will learn to identify and put into practice fundamental concepts concerning style and purpose specific to the genre and will integrate and optimize writing and research processes specific to the discipline.

CUIN 8367 - Core Concepts of Learning and Teaching

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Doctoral status.

Introduction to many of the core concepts of learning and instruction that are currently in use in health science education. These include learning theories, learning styles, feedback, cognitive load theory, small/large group teaching, deep/strategic/surface learning and basic principles of the neuroscience of learning and memory. Topics will be considered in detail, alongside their application to the context of health science education.

CUIN 8368 - Curriculum Leadership

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Doctoral status.

Knowledge and skills about curriculum design, development, implementation, and evaluation required for leadership positions. Exploration of the factors and influences that have affected the development of curriculum, as well as the problems associated with curriculum design. Approaches to curriculum coordination from an administrative point of view.

CUIN 8369 - Leadership in a Complex World

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Doctoral status.

Comprehensive account of the seminal works, contemporary theories and models, and emerging perspectives of leadership. Cross-disciplinary and integrative views of the leadership phenomenon are adopted to highlight how different disciplines inform leadership study and to illustrate various methodologies that are used for understanding and assessing the concept of leadership.

CUIN 8370 - Intro to Educational Research

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to CUIN PhD program.

Provides an overview of purposes, problems, methods and implications of qualitative and quantitative educational research.

CUIN 8371 - Introduction to Quantitative Research

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CUIN 8370 and introductory statistics (PHLS 7322 or equivalent); or consent of instructor.

Provides an overview of quantitative research methods with an emphasis on inquiries conducted in urban educational contexts.

CUIN 8372 - Introduction to Qual Research

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to CUIN PhD program and completion of CUIN 8370.

Provides an overview of qualitative research methods with an emphasis on inquiries conducted in urban educational contexts.

CUIN 8374 - Policy and Politics of Educational Governance



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Doctoral status or instructor approval.

Advanced study of problems, issues, and trends related to governance, organization, and control of elementary and secondary schools and other educational institutions.

CUIN 8375 - Theory and Practice of Educational Program Evaluation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Doctoral status or instructor consent.

Focus on establishing whether a particular program, regulations, or policy is achieving its intended outcome.

CUIN 8377 - Qualitative Inquiry in Education I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** EDRS 8380/EDRS 8381 or consent of instructor.

Introduction to the theoretical and practical field of qualitative research. Covers basic principles of social theory and analytical methods in critical ethnography.

CUIN 8378 - Qualitative Inquiry in Education II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CUIN 8377 or consent of instructor.

Data collection and analysis methods based on critical ethnography. Exploration of qualitative approaches to discourse analysis and visual data analysis.

CUIN 8380 - Research Methods in CUIN

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to Ph.D. or Ed.D.

Examination of various inquiry strategies. Students investigate quantitative and qualitative research methods as they relate to issues in curriculum, instruction, and professional practice. Attention to formulating research questions and devising appropriate research designs.

CUIN 8381 - Research Methods

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to Ph.D. or Ed.D.

This course is a doctoral seminar in which students investigate various psychological theories as they relate to educational curriculum and practice.

CUIN 8383 - Action Research

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Completion or concurrent enrollment in CUIN 8381.

Theory and application of methodologies appropriate for collaborative action research in classrooms, schools and other educational settings.

Explorations of action research in theory and practice in relation to teaching in public schools and in leading educational organizations. Course Notes:

Admission to the Executive Ed.D. in Professional Leadership in CUIN

CUIN 8386 - Advanced Issues in Qualitative Research

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 This research course focuses on issues qualitative researchers encounter in the literature and in the field. Fine-grained differences between different qualitative research approaches and different research paradigms will be discussed.



CUIN 8390 - Doctoral Thesis

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CUIN 8310.
N

Additional Fee Y Fee Type Y

CUIN 8393 - Adv Internship & Prac

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 9 Advanced supervised field experiences for doctoral students in curriculum and instruction.

CUIN 8397 - Selected Topics in C&I

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 Y

Additional Fee Y Fee Type Y

CUIN 8398 - Independent Study

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** approval of chair.

CUIN 8399 - Doctoral Dissertation

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

CUIN 8690 - Doctoral Thesis

Credit Hours: 6

Lecture Contact Hours: 6 Lab Contact Hours: 0 **Prerequisite:** CUIN 8310.
Y

Additional Fee Y Fee Type Y

CUIN 8699 - Doctoral Dissertation

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

CUIN 8999 - Doctoral Dissertation

Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

Cultural and Urban Studies



CUST 6311 - Edu-Multicultrl Society

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Edu-Multicultural Society

CUST 6370 - Cultural Found Amer Edu

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Cultural Found Amer Edu

CUST 7310 - Lab Expr-Multicltrl Edu

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Lab Expr-Multicltrl Edu

CUST 7360 - Global Education

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Global Education

CUST 8375 - Hist & Phil of Higher Educ

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Hist & Phil of Higher Educ

CUST 8378 - Current Issues in Educ

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Current Issues in Educ

Curricular Practical Training

CPTA 6100 - Curricular Practical Training

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1

CPTB 6100 - Curricular Practical Training

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1

CPTC 6100 - Curricular Practical Training

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1

CPTD 6100 - Curricular Practical Training



Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1

CPTe 6100 - Curricular Practical Training

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1

CPTH 6100 - Curricular Practical Training

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1

CPTL 6100 - Curricular Practical Training

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1

CPTN 6100 - Curricular Practical Training

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1

CPTO 6100 - Curricular Practical Training

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1

CPTP 6100 - Curricular Practical Training

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1

CPTS 6100 - Curricular Practical Training

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1

CPTT 6100 - Curricular Practical Training

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1

Dance

DAN 6298 - Special Problems

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0



Decision and Information Sciences

BZAN 7A31 - Data Visualization

Credit Hours: 1.5

Lecture Contact Hours: 1.5 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing.

Course focuses on the use of Spotfire to make visual tools for decision-making and presenting data.

BZAN 6310 - Quantitative Analysis for Business Decisions

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing. Students may not receive credit for both BZAN 6310 and BZAN 6320.

An Excel-based introduction to the use of statistical and operations research models to make business decisions. Topics include descriptive statistics, probability analysis, simple and multiple linear regression, forecasting, simulation, and optimization in a variety of business decisions.

BZAN 6320 - Foundations for Business Analytics

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing. Students may not receive credit for both BZAN 6310 and BZAN 6320.

The use of statistical and operations research techniques to make evidence-based business decisions. Uses Excel.

BZAN 6351 - Basic Programming for Business Analytics

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing and admission to the MS/BZAN.

Course covers programming techniques for data management. Languages include Python and Spotfire.

BZAN 6352 - Quantitative Foundations for Business Analytics

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing and completion of or concurrent enrollment in BZAN 6351.

Corequisite: BZAN 6351.

Course covers primary topics in applied inferential statistics, using Python, R, and other programs.

N

Additional Fee N **Fee Type** N

BZAN 6353 - Research Design for Problems in Business Analytics

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing and admission to the MS in Business Analytics.

Course covers strategies on how to translate business problems into solvable research problems.

BZAN 6354 - Database Management Infrastructure and Architecture for Business Analytics

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing and admission to the MS in Business Analytics.

Course covers concepts in data modeling, cloud-based and other scalable database architectures.



BZAN 6355 - Advanced Programming for Big Data Analytics

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing and completion of BZAN 6351.
Course covers advanced programming techniques for big data management.

BZAN 6356 - Database Management Tools for Business Analytics

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing and completion of BZAN 6354.
Course covers tools for data repositories such as SQL, NoSQL, Hadoop, MapReduce, Pig, and Hive.

BZAN 6357 - Business Analytics - Frameworks and Methods

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing and completion of BZAN 6352 and BZAN 6353.
Course focuses on key algorithms for data analytics as well as on comparisons of data mining models.

BZAN 6660 - Capstone Project in Business Analytics

Credit Hours: 6

Lecture Contact Hours: 0 *Lab Contact Hours:* 6 **Prerequisite:** Graduate standing and admission to the MS/BZAN; completion of BZAN 6355, BZAN 6356, BZAN 6357.

Course allows students to apply knowledge from other courses and solve a practical problem of value.

N

Additional Fee N **Fee Type** N

BZAN 7320 - Business Modeling For Competitive Advantage

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 Formerly/Same as: GENB 7397 - Selected Topics.

Prerequisite: Graduate standing.

Models of unstructured business problems that improve decisions and provide insight into the impact of various factors.

BZAN 7332 - Social Media and Analytics

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing.

Course gives an MIS perspective on how to use and design social media, with metrics and analytics.

Earth and Atmospheric Sciences

GEOL 6117 - Structural Geology Laboratory

Credit Hours: 1.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 1 **Prerequisite:** Graduate standing with consent of faculty advisor and credit for or concurrent enrollment in GEOL 6318.

Corequisite: GEOL 6318 .

Five-day field trip required; expense to be defrayed by student. Techniques for solving problems in structural geology.

Note: This course does not count toward a graduate degree.



GEOL 6125 - Internship in the Earth and Atmospheric Sciences

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1 **Prerequisite:** Graduate standing in the Department of Earth and Atmospheric Sciences and consent of instructor or approval of Department Chairperson.

Course applies to students engaging in an off-campus summer internship program. May be repeated for credit.

GEOL 6197 - Selected Topics-Geology

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0

GEOL 6198 - Special Problems

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

GEOL 6199 - Master's Thesis

Credit Hours: 1

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee N Fee Type N

GEOL 6299 - Master's Thesis

Credit Hours: 2

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee N Fee Type N

GEOL 6318 - Structural Geology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and permission from the faculty advisor and credit for or concurrent enrollment in GEOL 6117.

Corequisite: GEOL 6117 .

Properties of earth minerals and their behavior in stress fields; description, classification, and interpretation of geologic structures.

Note: This course does not count toward a graduate degree.

GEOL 6320 - Advanced Physical Geology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor.

Fundamental concepts of geology for students entering graduate program without a traditional geoscience background.

GEOL 6321 - Aerosols and Climate

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 3 **Prerequisite:** GEOL 3378 and either MATH 3321 or MATH 3331.

Principles of primary and secondary sources of aerosols, nucleation, secondary organic aerosols, size distribution, chemical composition, cloud condensation nuclei, and microphysical properties. Climatic implications due to aerosol type, size, and microphysical properties. Credit may not be applied for both GEOL 4340 and GEOL 6327.



GEOL 6323 - Geoscience Applications of GPS & LIDAR

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in MSM or Engineering.

Fundamental issues, hardware, software, and geosciences applications of Global Positioning System (GPS) and Light Detection and Ranging (LIDAR); understanding errors in GPS and LIDAR measurements. Credit may not be applied for both GEOL 4332 & 6323.

GEOL 6324 - Satellite Positioning & Geodesy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in NSM or Engineering.

Theory of satellite-based positioning technologies, Global Navigation Satellite System (GNSS), geodetic datum definition and coordinate systems, error modeling and data processing strategies.

GEOL 6325 - Remote Sensing

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 3 **Prerequisite:** Graduate standing or consent of instructor.

Principles of remote sensing, data collection, digital image processing, and applications in geologic, environmental, and land use studies with emphasis on photographic, airborne/satellite, thermal, and active systems.

GEOL 6326 - Remote Sensing for Atmospheric Sciences

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 3 **Prerequisite:** PHYS 1322 and GEOL 3378, or PHYS 1322 and GEOL 3342 OR equivalent.

Remote sensing techniques, their physical principles and applications in atmospheric sciences. Analysis of meteorological variables, atmospheric trace gases, and surface properties.

GEOL 6327 - Atmospheric Radiation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** GEOL 3378 and PHYS 1332, or consent of instructor.

The basic physics of absorption and scattering by molecules, aerosols, and clouds, theory of radiative transfer, solar insolation, thermal emission, heating rates, and applications to climate and remote sensing.

GEOL 6328 - Atmospheric Data Analysis and Statistics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 3363 and either GEOL 1350 or GEOL 3378.

Physical and mathematical basis of atmospheric data analysis. Topics include basic concepts of statistics, regression, filtering, and principal component analysis, etc.

GEOL 6329 - Atm Instrument & Measurement

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 3363 or consent of instructor.

Operations of atmospheric chemistry and meteorological instruments, including instrument calibration, performance characteristics, and evaluation and interpretation of data quality.

GEOL 6330 - Dynamic Meteorology



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 3363 and PHYS 1322, or consent of instructor.

Study of atmospheric motions and thermodynamics as solutions of the fundamental equations appropriate to mesoscale and synoptic weather phenomena.

GEOL 6331 - Seismic Data Processing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor.

Detailed use of seismic exploration tools and routines in a variety of real scenarios, both two- and three-dimensional, involving land and shallow- and deep-water marine data.

GEOL 6332 - Air Pollution Meteorology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Meteorological factors influencing air quality. Atmospheric dispersion and characteristics, land use and topographic effect, local circulations, effects of cloud and precipitation, long range transport, exchange between troposphere and stratosphere.

GEOL 6333 - Geophysical Fluid Dynamics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 3363 or consent of instructor.

Basic concepts of geofluid dynamic equations, fluid kinematics, principles of irrotational and rotating fluid motion, compressible and incompressible flow, boundary-layer theory, Boussinesq assumptions, hydrodynamic instability, perturbation dynamics, Rayleigh instability theorem, thermal convection, linear and nonlinear theories, Benard cells, and dynamic similitudes in geofluid systems such as atmosphere and ocean.

GEOL 6334 - Atmospheric Chemistry

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 3363 and CHEM 1332, or consent of instructor.

Emission sources and chemical transformations of urban, regional, and global scale air pollution including ozone, particulates, and acids deposition.

GEOL 6335 - Atmospheric Numerical Modeling

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 3363 or consent of instructor.

Numeric modeling techniques used in atmospheric sciences including synoptic and mesoscale numerical weather forecasting, global climate modeling, and air pollution modeling.

GEOL 6336 - Boundary Layers and Turbulence

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 3363 or consent of instructor.

Boundary layer mean and turbulent motions, convective and stable boundary layers, boundary layer scaling and similarity theory, turbulence closures, and boundary layer modeling.

GEOL 6337 - Atmospheric Physics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 3363 or consent of instructor.

Physical principles in atmospheric sciences, including thermodynamics, radiative transfer, cloud physics and wave dynamics.



GEOL 6338 - Paleoclimate and Global Change

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing and consent of instructor.

Natural and anthropogenic global climate change, paleoclimates and paleogeography, evolution of the atmosphere, greenhouse effect, ozone depletion, ocean-atmosphere coupling, solar activity, Milankovitch cycles, effects of global change on agriculture, water resources and energy use.

GEOL 6339 - Igneous Petrology

Credit Hours: 3.0

Lecture Contact Hours: 2 *Lab Contact Hours:* 3 **Prerequisite:** GEOL 3371 and GEOL 3335 or consent of instructor.

Integration of geochemical, geological, and petrographic data in the interpretation of the origin of igneous rocks.

GEOL 6340 - Metamorphic Petrology

Credit Hours: 3.0

Lecture Contact Hours: 2 *Lab Contact Hours:* 3 **Prerequisite:** GEOL 3370, GEOL 3372, and GEOL 3373, or consent of instructor.

Mineral reactions, and textural changes in response to dynamothermal processes and applications of geothermobarometry and petrochronology to rocks from a variety of tectonic environments.

Repeated for credit.

Additional Fee \$40.00 **Fee Type** Field trip fee

GEOL 6341 - Geochemistry

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** GEOL 3370 and CHEM 1331,1332 or consent of instructor.

Principles of geochemistry, mineral-water stability relationships, isotope geochemistry, phase equilibria, and trace elements in igneous rocks.

GEOL 6343 - Organic Geochemistry

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** CHEM 1332 or equivalent.

Basic concepts of organic compounds and reactions in geological processes in sedimentary basins, and principles of selected analytical techniques.

GEOL 6344 - Light Stable Isotope Geochemistry

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** CHEM 1331 or equivalent.

Topics include: basic concepts and theoretical principles of stable isotopes (fractionation factors, mechanisms of isotopic exchange, etc.), characterization of stable isotope systematics for light elements (C, H, O, N, etc.) in different geological systems, including igneous and metamorphic rocks, waters and marine sediments, hydrothermal systems, biogeochemical systems, and extraterrestrial materials. Case studies and recent development of knowledge in this field will be emphasized.

Note: Course materials consist of lecture notes, and supplementary reading list of book chapters and journal papers. Students will get hands-on operation experience with analytical instrument. Student learning outcome will be assessed by the combination of a closed-book exam and a term paper on a covered topic with 15-min presentation.

GEOL 6346 - Geochemistry of Water-Rock Systems

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** CHEM 1332, GEOL 3370, or consent of instructor.



Processes controlling mineral alteration and chemical transport at low and high temperatures; aqueous geochemistry, chemical thermodynamics, and methods of calculating water-rock interactions and chemical-mass transfer.

GEOL 6347 - Sandstone Petrography

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 3 **Prerequisite:** BEOL 3372 and GEOL 3374 or consent of instructor

Interpretation of provenance, depositional environment, and diagenesis of sandstones by petrographic analysis.

May be repeated for credit.

Additional Fee \$40.00 **Fee Type** Field trip fee

GEOL 6348 - Carbonate Petrography

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 3 **Prerequisite:** GEOL 3372 and 3374 or consent of instructor.

Discussion and petrographic and hand-specimen analyses of the origin and diagenesis of carbonate strata and their depositional environments.

Additional Fee \$40.00 **Fee Type** Field trip fee

GEOL 6349 - Geodynamics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor.

Earth's layers (core, mantle, crust) and their interactions; mantle convection; lithosphere deformation and rheology; heat; magmatism; continental rifted margins; seafloor spreading; subduction.

GEOL 6350 - Advanced Structural Geology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** GEOL 3145, GEOL 3345, and MATH 2433.

For geology majors. Analysis of geologic structures using surface and subsurface data.

Additional Fee \$40.00 **Fee Type** Field trip fee

GEOL 6351 - Basin Modeling

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor.

Fundamental concepts and computer modeling of the formation and development of sedimentary basins on lithosphere and basin scale.

GEOL 6352 - Microtectonics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** GEOL 3345 and GEOL 3373.

Rock and mineral deformation in the interpretation of microstructural and petrofabric data in relation to kinematics and rheology.

GEOL 6353 - Planetary Materials

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 3 **Prerequisite:** GEOL 3370, GEOL 3372, and GEOL 3373; or consent of instructor.

Topics include classification and description of chondrite and achondrite meteorites including components within them, processes of planetary accretion and differentiation, and comparative planetology.



GEOL 6357 - Soils and Paleosols

Credit Hours: 3

Lecture Contact Hours: 2 *Lab Contact Hours:* 3 **Prerequisite:** None.

An intensive introduction to the properties and genesis of soils as well as the distribution and evolution of soils and landscapes through time.

N

Note: Additional Fee \$40.00 Fee Type Field trip fee.

Additional Fee N **Fee Type** N

GEOL 6358 - Terrigenous Depositional System

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** GEOL 4358, or consent of instructor.

Modern terrigenous depositional systems as a basis for the interpretation of ancient terrigenous sedimentary rocks. Field trip(s) may be required, cost to be defrayed by student.

GEOL 6363 - Carbonate Sedimentology

Credit Hours: 3.0

Lecture Contact Hours: 2 *Lab Contact Hours:* 3 **Prerequisite:** Consent of instructor.

Field trip(s) required; cost to be defrayed by student. Discussion of the origins and criteria of recognition of carbonate accumulations from different depositional environments.

Course can be repeated for credit.

GEOL 6364 - Mesoscale Meteorology Forecast

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** MATH 2433; PHYS 1322, GEOL 3342 or equivalent.

This course explores the physical nature of mesoscale atmospheric phenomena and their consequences: boundary layer mesoscale phenomena; orographic phenomena, deep convection; and the Weather Research and Forecasting Model (WRF) and its plotting packages.

GEOL 6366 - Hydrogeology

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** CHEM 1332, MATH 1432, GEOL 1330, and PHYS 1312, graduate standing in Natural Sciences and Mathematics or Engineering, or consent of instructor.

Field trips may be required; cost to be defrayed by student. Interdisciplinary study of groundwater, emphasizing the geologic aspects of groundwater flow and chemistry.

GEOL 6370 - Atmospheric Biogeochemistry

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** MATH 3363 or consent of instructor.

Integrated perspective on global biogeochemical cycles of relevant atmospheric species; factors that regulate cycles; impact of human perturbations of biogeochemical cycles on atmospheric composition, climate, and human health.

GEOL 6371 - Analytical Methods in Inorganic Geochemistry

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** None.

Classical and modern spectroscopic methods for elemental and isotope analysis; emphasis on instrumentation and application to Earth Science



problems.

Note: Topics include: ICP-OES spectroscopy, Q-ICP-MS spectroscopy, QQQ-ICP-MS, LA-ICP-MS, MC-ICP-MS and TIMS. Analytical Methods in Inorganic Geochemistry is designed as an overview of the principles of Emission Spectrometry and Mass Spectrometry; detailed operational practice training of available instruments in the Department of Earth and Atmospheric Sciences including sample preparation (Fusion, Acid Digestion and Laser Ablation), Instrument Operation; Data Reduction and Evaluation. Secondly, it is also designed to give background and context to publish data sets for peer reviewed publication and graduate thesis.

GEOL 6372 - Petroleum Geochemistry

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CHEM 3332, or consent of instructor.

Geological and geochemical constraints on petroleum generation and accumulation. Concepts and technology of petroleum geochemistry and their application in petroleum exploration, exploitation and production.

GEOL 6373 - Petroleum Systems Analysis

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Modern quantitative multi-disciplinary procedures for objective evaluation of petroleum potential of basins and exploration opportunities on the basis of statistical probabilities of hydrocarbon charge, reservoir, trap, and seal.

GEOL 6374 - Radiogenic Isotope Geochemistry

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** GEOL 3370, and GEOL 3373 or 3374 or consent of instructor.

Principles of radiogenic isotope chronology and its applications in surface processes and sedimentary systems, tectonics, solid Earth and planetary sciences.

GEOL 6375 - Tecton Himalayan-Tibet Orogen

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

The evolution of the Himalayan-Tibetan orogen; basic principles of lithospheric deformation and evolution at convergent tectonic boundaries; historical development of our understanding of the orogen and tectonic processes.

GEOL 6376 - Adv Tect and Sedimentation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Field trip may be required; cost to be defrayed by student. Examination of sedimentary rocks and sedimentary basins that form near plate boundaries.

GEOL 6378 - Basin Analysis for Petroleum Exploration

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** GEOL 3345, GEOL 3145, GEOL 3350, and GEOL 3150.

Application of petroleum workstations for basin analysis and petroleum exploration in tectonically complex areas, including the use of 3D seismic data volumes from a known petroleum-producing area.

GEOL 6379 - Applied Biostratigraphy



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** GEOL 3350, GEOL 3330, or consent of instructor.

Principles of biostratigraphy in the applications to solve geologic problems by integrating biostratigraphy with multiple-sourced datasets, seismic, and geochronological datasets

GEOL 6380 - Sequence Stratigraphy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** GEOL 3350 or consent of instructor.

Subdivision of basin fills into genetic packages, lithostratigraphic, chronostratigraphic, biostratigraphic, seismostratigraphic and sedimentological bases for correlation, mapping of facies and stratigraphic prediction.

Additional Fee \$40.00 **Fee Type** Field trip fee

GEOL 6381 - Petroleum Geology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** GEOL 3345, and GEOL 3350, or consent of instructor.

Credit may not be given for both GEOL 4382, and GEOL 6381. Fundamentals of petroleum geology; source rock, reservoir, and trap studies; well log and seismic interpretation, petroleum geochemistry, and mapping.

Note: Credit may not be applied toward a graduate degree.

GEOL 6382 - Plate Tectonics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** GEOL 3345 and GEOL 3350.

The historical development of the plate tectonic theory and its seismological basis; kinematics of plate motion, geometry, and evolution of plate mosaics; geologic analysis of the structure and history of plate boundaries and ancient orogenic belts.

GEOL 6383 - Petroleum Geology of Gulf of Mexico, Caribbean and Atlantic

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** GEOL 3345, GEOL 3145, GEOL 3350, and GEOL 3150.

Provides an integrated tectonic, stratigraphic, paleogeographic, and structural framework for the region to evaluate known and frontier petroleum areas.

GEOL 6384 - Petroleum Prospecting Workshop

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** GEOL 6390 or consent of instructor

Interdisciplinary, team-based petroleum system analysis and prospect generation.

GEOL 6386 - Igneous Petrogenesis & Plate Tectonics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** GEOL 3372 and 3373

Major element, trace element and radiogenic characteristics of magmas generated in different tectonic settings, processes responsible for chemical diversity of magmas, and petrogenetic models for magmatism in terms of global tectonic processes.

GEOL 6387 - Reservoir Geophysics



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Reservoir characterization using geophysical methods, including time-lapse seismic and permanently-instrumented reservoirs.

GEOL 6388 - Geospatial Analysis and Applications

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Geospatial science, methods, analysis, and applications in geosciences.

GEOL 6389 - Gis for Geologists

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** GEOL 6388 or consent of instructor.

Use of Geographic Information Systems (GIS, ArcInfo, Spatial Analyst, 3-D Spatial Analyst) in geology, geophysics, geohazards, hydrology, environmental geosciences, petroleum geology and geophysics.

GEOL 6390 - 3-D Seismic Exploration I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** GEOL 4330 or equivalent.

Interpretation of the spatial component of three-dimensional seismic data in geologic structure and stratigraphy with emphasis on hydrocarbon exploration.

GEOL 6391 - Introduction to Geophysics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and consent from instructor.

Principles of seismology, gravity, geomagnetism, radioactivity, electromagnetism and heat flow, and their use in geological interpretation.

Note: Credit may not be applied toward a graduate degree.

GEOL 6392 - Migration Seismic Data

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** GEOL 7333 or consent of instructor

Covers methods for processing seismic data to obtain a picture of the subsurface in both two and three dimensions.

GEOL 6393 - Seismic Amplitude Interpretation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: GEOL 6393 - Three-Dimensional Seismic Exploration I

Prerequisite: GEOL 4330 or equivalent.

Interpretation of the amplitude component of three-dimensional seismic data in predicting lithology and hydrocarbons. Correlation with logs, AVO, impedance inversion and reservoir characterization.

GEOL 6394 - Geophysical Data Acquisition

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 3 Formerly/Same as: GEOL 6394 - Three-Dimensional Seismic Exploration II.

Prerequisite: GEOL 4330 or equivalent or consent of instructor.



Instruction in geophysical survey design, instrumentation (ultrasonic, well logging, VSP, seismic, GPS, and radar), data acquisition, and various software packages. Local field surveys will be conducted.

GEOL 6395 - Petroleum Seismology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing and consent of instructor.

Overview of seismic methods and the role they play in petroleum exploration and production. Topics include aspects of acquisition, processing, and interpretation.

GEOL 6396 - Graduate Seminar

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in Earth and Atmospheric Sciences.

Current research topics in the earth and atmospheric sciences.

May be repeated for credit as seminar topics vary.

GEOL 6397 - Selected Topics in Geology

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** Consent of Instructor.

Current topics in geology and geophysics.

Note: May be repeated for credit when topics vary.

GEOL 6398 - Special Problems

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Note:** Independent Study

GEOL 6399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

GEOL 6498 - Special Problems

Credit Hours: 4

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** None.

Independent Study

GEOL 6499 - Master's Thesis

Credit Hours: 4

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee N Fee Type N

GEOL 6599 - Master's Thesis



Credit Hours: 5

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee N Fee Type N

GEOL 6698 - Special Problems

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

GEOL 6699 - Master's Thesis

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee N Fee Type N

GEOL 6998 - Special Problems

Credit Hours: 9.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

GEOL 7198 - Masters Research

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and consent of faculty advisor.
Independent research under the direction of a faculty advisor.

GEOL 7199 - Master Thesis

Credit Hours: 1

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

GEOL 7298 - Masters Research

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and consent of faculty advisor.
Independent research under the direction of a faculty advisor.

GEOL 7301 - Capstone Project

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.
Independent research on a laboratory, field or theoretical problem.

GEOL 7320 - Seismic Velocity

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** GEOL 7333or consent of instructor

Factors governing seismic velocities in Earth materials, velocity model building using seismic and wellbore data via modeling, Seminar/blank, seismic migration and tomographic inversion with applications in exploration and solid Earth geophysics.



GEOL 7321 - Multicomponent Seismic Exploration

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** GEOL 7333 and GEOL 7341, or consent of instructor.

Multicomponent (3C and 4C) acquisition techniques, elastic-wave signals analysis and processing (with emphasis on converted waves), and interpretation of PS with PP data using logs and VSP.

GEOL 7322 - Seismic Inversn: Currnt Concppts

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** GEOL 7332 or GEOL 7333, or consent of instructor.

Applied mathematical concepts and geophysical applications of two and three dimensional inversion of seismic data, emphasizing its applications in hydrocarbon.

GEOL 7323 - Borehole Geophysics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor.

Links borehole data to surface geophysical data. Rock physics, petrophysics, borehole seismics including VSP, borehole gravity and electromagnetics, well-logging methods.

GEOL 7324 - Rock Physics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Study of lithological, compositional, textural, and pore space properties of sediment and sedimentary rocks using laboratory and field measurements, empirical relations, and theoretical models.

GEOL 7325 - Petrophysics and Formation Evaluation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and consent of instructor.

Description of rock and fluid properties and evaluation of petroleum-bearing formations, using coring and core analysis, rock catalogs, mud logging, and drill stem and wireline formation testing.

GEOL 7326 - Microseismic Theory & Methods

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate Standing in Geophysics or Consent of Instructor.

Microseismics: physical-mathematical foundations, aspects of vector and tensor algebra, Green-Christoffel and static Green's tensor calculations; oil and gas industry technology applied in exploration and production.

GEOL 7327 - Principles of Marine Geophysics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** GEOL 3345, 4330 and Graduate Standing in Geophysics, or consent of instructor.

Theory of exploration geophysics in the marine environment; navigation, seafloor imaging; theory and techniques of marine seismic reflection and refraction, gravity, magnetics, heat flow; interpretation of marine geophysical data.

GEOL 7328 - Mathematical Methods in Geophysics



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate status and consent of instructor.

The course is devoted to the mathematical methods used in various topics of geophysics: rocks, boreholes, surface seismic, microseismic, potential and electromagnetic fields.

GEOL 7329 - Direct Hydrocarbon Indicators

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Direct evidence of subsurface hydrocarbon reservoirs as manifested on reflection seismic data. Fluid properties, fluid substitution, velocity anomalies, amplitude anomalies, amplitude variation with offset and angle, attenuation, frequency anomalies, chimneys, low frequency shadows, phase anomalies, and phase decomposition.

GEOL 7330 - Potntl Fld Mtds-Geophys

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 3363 or consent of instructor.

Theory of gravitational and magnetic fields; gravity and magnetic instruments and field procedures; reduction and quantitative interpretation of gravity and magnetic data.

GEOL 7331 - Seismic Structural Geology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and GEOL 3345.

Fundamental principles of fault-related folding and other deformation mechanisms of the upper crust in compressional and extensional tectonic settings, with applications to interpretation of seismic-reflection images of deformed sedimentary basins. Topics included syntectonic growth strata, geomorphic and bathymetric expression of active deformation, and growth of structures by deformation in repeated large earthquakes. Practical interpretation, restoration and quantitative analysis of seismic reflection images of complex structures, including those constrained by syntectonic growth strata.

GEOL 7332 - Tectonic Interpretation and Seismic Tomography

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Advanced techniques for structural and tectonic analysis of seismic tomographic models, including 3D mapping, geological model building, velocity analysis, and structural reconstructions.

GEOL 7333 - Seismic Wave & Ray Theory

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 3321 or consent of instructor.

Fundamental concepts and foundations of wave and ray theory with implications for the processing of seismic data.

GEOL 7335 - Geophysics of Porous Media

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 3321 or consent of instructor.

Basic concepts of Gassman and Biot type of media; Terzaghi equation and pore pressure analysis; concepts of absolute and relative permeability; wave propagation and frequency dependency in media with isolated and connected porosity.

GEOL 7341 - Geophysical Data Processing



Credit Hours: 3

Lecture Contact Hours: 2 Lab Contact Hours: 3 **Prerequisite:** MATH 3363.

Principles and methods in processing of geophysical data in discrete form, including sampling theory, spectral analysis, resolution, filtering, and deconvolution, plus an introduction to seismic imaging, velocity analysis, data fitting and inversion.

N

Additional Fee Y Fee Type Y

GEOL 7398 - Masters Research

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and consent of faculty advisor.

Independent research under the direction of a faculty advisor.

GEOL 7399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

GEOL 7698 - Masters Research

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and consent of faculty advisor.

Independent research under the direction of a faculty advisor.

GEOL 7998 - Masters Research

Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and consent of faculty advisor.

Independent research under the direction of a faculty advisor.

GEOL 8198 - Doctoral Research

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

GEOL 8199 - Doctoral Dissertation

Credit Hours: 1

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee N Fee Type N

GEOL 8298 - Doctoral Research

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

GEOL 8299 - Doctoral Dissertation



Credit Hours: 2

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee N Fee Type N

GEOL 8398 - Doctoral Research

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

GEOL 8399 - Doctoral Dissertation

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

GEOL 8498 - Doctoral Research

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

GEOL 8499 - Doctoral Dissertation

Credit Hours: 4

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee N Fee Type N

GEOL 8599 - Doctoral Dissertation

Credit Hours: 5

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee N Fee Type N

GEOL 8698 - Doctoral Research

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

GEOL 8699 - Doctoral Dissertation

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

GEOL 8898 - Doctoral Research

Credit Hours: 8.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

GEOL 8998 - Doctoral Research



Credit Hours: 9.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

GEOL 8999 - Doctoral Dissertation

Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

Economics

ECON 6338 - Regression Causal Modeling and Social Science Data Mining

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and approval of the program director.

The course focuses on very basic statistical data mining tools. Topic areas include review of multiple regression analysis, models of association and clustering, statistical learning models, the explanation of individual behaviors, and simple forecasting models. This is an applied statistics course, not a course in computer science or database management.

ECON 6340 - Health Economics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECON 6465 and ECON 6485 or consent of instructor.

Economic analysis of health care. Topics include the value of health, the demand of health care, health insurance markets, managed care and the Medicare and Medicaid programs.

ECON 6343 - Applied Methods II

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECON 6333 .

Continuation of ECON 6333 Applied Methods I.

ECON 6345 - Energy Economics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECON 6465 and ECON 6485 or consent of instructor.

Energy economics with applications: Markets and market structures including the effects of regulations; sources; substitutes; externalities; data analysis and policy.

ECON 6351 - Economic Forecasting

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECON 6465 or consent of instructor.

Forecasting and modeling techniques including univariate and multivariate time series, model selection, response function analysis and variance decompositions, various non-linear models, and forecast evaluation.

ECON 6352 - Quantitative Methods and Applications

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECON 6465, 6475, and 6485 or consent of instructor.



Cost-benefit analysis, debt and equity financing, asset allocation, derivatives, among other topics. Microsoft Excel experience will be emphasized. Maybe repeated for credit.

ECON 6353 - Capital Market Economics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECON 6465, 6475, and 6485 or consent of instructor.

This course covers capital markets from an economic perspective. Discussions will focus on the economic functions and roles capital markets play in the global economy, the key players and their economic functions, and various components that make up the capital markets such as stocks, bonds, options, and futures. Students will learn both mathematical methods for pricing capital assets and Excel applications of these methods. The student will gain an understanding of capital markets in theory and practice.

ECON 6356 - Econometrics I

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in economics.

Introduction to basic econometric concepts and methods necessary for conducting empirical analysis. Practical applications using Excel and Stata. Topics include model specification, regression analysis and results interpretation.

ECON 6357 - Econometrics II

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECON 6356.

Continuation of ECON 6356 Econometrics I. Introduction to several extensions of multiple regression methods for analyzing data in economics and related disciplines. Topics may include regressions with panel data, instrumental variables regression, analysis of randomized experiments, limited dependent variable models, etc.

ECON 6366 - Advanced Economic Theory

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing or consent of instructor.

Classical microeconomic concepts and models including topics in industrial organization.

ECON 6368 - International Economics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing or consent of instructor.

International trade and capital flows, with a focus on transition countries and emerging markets.

ECON 6372 - Issues in Microeconomics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor

Contemporary issues in microeconomic theory, including various modeling techniques.

ECON 6375 - Macroeconomic Analysis

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in economics or consent of instructor.

Analysis of aggregated economic relationships; the determinants of employment, economic growth, and inflation; the effects of monetary and fiscal policy on the national economy.



N

Additional Fee Y Fee Type Y

ECON 6385 - Microeconomic Analysis

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in economics or consent of instructor.

Analysis of price formation and allocation of resources; consumer (household) behavior; theory of the firm; applications of price theory to government regulation.

N

Additional Fee Y Fee Type Y

ECON 6390 - Workshop Research Methods I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Economics research methods covers how to devise a research agenda and methodology, find research sources and tools, and how to carry out research.

ECON 6391 - Master's Internship

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** ECON 6465, 6485, and consent of instructor.

Work with practicing economists in selected private industry, federal, state and local government offices.

ECON 6393 - Master's Research Project

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** Consent of Program Director.

Work under the guidance of faculty economists on selected research project(s).

N

Additional Fee N Fee Type N

ECON 6394 - Tpcs-Eco of Socl Issue

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Note:** Practicum

ECON 6395 - Wkshp Res Method II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

ECON 6397 - Topics in Eco Research

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Selected Topics

ECON 6398 - Res & Readings-Eco



Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** approval of chair.

Student may elect to receive either S/ U or letter grade. Individually directed readings or research in a particular field of economics.

ECON 6399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee N Fee Type N

ECON 6465 - Econometrics

Credit Hours: 4.0

Lecture Contact Hours: 3 Lab Contact Hours: 1 **Prerequisite:** Graduate standing or consent of instructor.

Statistical tools needed to understand and execute empirical economic research. Topics include linear regression, instrumental variables estimation, limited dependent variable models and panel data methods. Emphasis will be on applying econometrics to real-world problems.

ECON 6475 - Macroeconomic Analysis

Credit Hours: 4.0

Lecture Contact Hours: 3 Lab Contact Hours: 1 **Prerequisite:** Graduate standing or consent of instructor.

Advanced treatment of the core topics in macroeconomics with applications. Topics include business cycles, inflation, unemployment, growth, alternative exchange rate regimes, and fiscal and monetary policy.

ECON 6485 - Microeconomic Analysis

Credit Hours: 4.0

Lecture Contact Hours: 3 Lab Contact Hours: 1 **Prerequisite:** Graduate standing or consent of instructor.

Fundamentals of market and individual choice analysis emphasizing empirical analysis in a business setting. Analysis of domestic and international markets and individual choice, including the theoretical study of the relationships within and between individuals, organizations, and the international economy.

ECON 6691 - Master's Internship

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 6 **Prerequisite:** ECON 6465, 6485, and consent of instructor.

Work with practicing economists in selected private industry, federal, state and local government offices.

ECON 6693 - Master's Research Project

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 6 **Prerequisite:** Consent of Program Director.

Work under the guidance of faculty economists on selected research project(s).

N

Additional Fee N Fee Type N

ECON 6699 - Masters Thesis

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Consent of program director.



Faculty-guided applied research project.
May be repeated for credit.

ECON 7190 - Research & Readings - Economic

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** approval of department chair
Student may elect to receive either S/U or letter grade. Individually directed readings or research in a particular field of economics.
May be repeated for credit

ECON 7290 - Research & Readings - Economic

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** approval of department chair
Student may elect to receive either S/U or letter grade. Individually directed readings or research in a particular field of economics.
May be repeated for credit

ECON 7300 - Seminar Curr Econ Res

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.
Current topics in economic research presented in seminar format.
May be repeated with consent of instructor.

ECON 7301 - Seminar in Microeconomic Research

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.
Current topics in microeconomic research presented in seminar format.
May be repeated for credit.

ECON 7302 - Seminar in Macroeconomic Research

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.
Current topics in macroeconomic research presented in seminar format.
May be repeated for credit.

ECON 7330 - Quantitative Economic Analysis

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Economics or consent of instructor
Statistical basis for applied economic analysis, which includes discrete and continuous distributions, point estimation, test of hypothesis, methods of estimation and properties of estimators.

ECON 7331 - Econometrics I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECON 6331 and MATH 2331 or consent of instructor.
Regression analysis and the general linear model. Topics covered include ordinary least squares, heteroskedasticity, autoregression, distributed lags, and generalized least squares.



ECON 7335 - Applied Econometrics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECON 7331 or consent of instructor

Econometric techniques for applied microeconomic research. Topics include randomized experiments, matching techniques, fixed effects models, differences-in-differences, instrumental variables, and regression discontinuity designs.

ECON 7340 - Economic Growth and Development I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECON 7344 and ECON 7331 or consent of instructor.

Long-run economic growth from pre-industrial agricultural economies to modern industrial capitalism. Topics include technology acquisition, accumulation of capital, demographic transition, institutional and geographic factors in development and income distribution.

ECON 7341 - Microeconomic Theory I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Economics or consent of instructor

Contemporary microeconomic theory of decision and allocation in a market economy. Topics include theories of the consumer, the firm, and competitive markets under complete and incomplete information.

ECON 7342 - Microeconomic Theory II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Microeconomic Theory I.

Continuation of Microeconomic Theory I. Continuation of Microeconomic Theory I. Topics include market structure, centralized and decentralized decisions, alternative allocation mechanisms, contracts, capital theory, general equilibrium, unemployment, and money.

ECON 7343 - Macroeconomic Theory I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Economics or consent of instructor

Analytic tools of contemporary macroeconomics, including static analysis of classical and Keynesian models and the aggregate behavior of consumers, investors, and asset holders.

ECON 7344 - Macroeconomic Theory II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Macroeconomic Theory I.

Continuation of Macroeconomic Theory I. Topics include dynamic analysis, long run growth, stochastic macroeconomics, and theories of expectations. Emphasis on recent literature in macroeconomic theory.

ECON 7349 - Game Theory and Economic Behav

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECON 6342 or consent of instructor.

Modeling and analysis of strategic situations. Topics include cooperative game theory, simultaneous-move games and Nash equilibrium, sequential-move games and subgame perfect equilibrium, and applications.

ECON 7350 - Economic Growth & Develop II



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: ECON 7350 - Economic Growth and International Development

Prerequisite: ECON 7340or consent of instructor.

Advanced macroeconomics course on long-run economic growth and international development. Study of the interaction between factor flows, trade, capital markets and the growth process. Topics include property right institutions, corporate governance and government regulation. The course is intended for second- and third-year Ph.D. students in the Economics department.

ECON 7351 - Develop Econ:Microecon Issues

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECON 7342or consent of instructor.

Examines the micro foundations of economic development, including education, health, the family, land, credit, risk and institutions. Teaches econometric tools that have been used by researchers to identify causal relationships, including panel data, instrumental variables, randomized experiments and natural experiments.

ECON 7355 - International Finance and Macroeconomics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECON 7344and ECON 7331or consent of instructor.

International finance and open economy macroeconomics. Review of theoretical and empirical literature. Includes writing referee reports for peer reviewed journal articles, seminar presentations and development of critical analytical skills. The course is intended for second- and third-year Ph.D. students in the Economics department.

ECON 7365 - Labor Economics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECON 7341; ECON 7331recommended, or consent of instructor.

Topics include: labor demand, labor supply, and human capital.

ECON 7366 - Health Economics

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECON 7341 ; ECON 7331 recommended, or consent of instructor.

Topics include the determinants of health, social and economic inequalities in health, medical malpractice and the market for health insurance.

N

Additional Fee Y Fee Type Y

ECON 7372 - Economics of Education

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECON 7341; ECON 7331recommended, or consent of instructor.

Topics include models of education, estimation of return to schooling, education production function and issues in school finance.

ECON 7376 - Industrial Organization

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECON 7342or consent of instructor.

This course examines how industries are organized and how that affects their economic performance. Topics include the modern business firm and its vertical relations, market structure and the marketing strategies it can encourage including innovation, with attention to network industries and their problems of compatibility and standardization.



ECON 7377 - Public Finance

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECON 7342and ECON 7344.
Selected topics in the incidence and effects of government revenues, expenditures, and debt.

ECON 7378 - State and Urban Finance

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECON 7341or consent of instructor
Analysis of government tax and expenditure at the state and local level, with consideration of underlying determinants of local public sector budgets.

ECON 7379 - Public Economics & Individual Behavior

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECON 7341or consent of instructor
Impacts of government policies emphasizing the effects on individual behavior. Topics include education, Social Security, health insurance, unemployment insurance, disability insurance, and welfare.

ECON 7380 - Macro Modeling & Forecasting

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECON 7331and ECON 7344.
Univariate and multivariate time series, unit roots and structural change, heteroskedasticity, co-integration, panels, and out-of-sample forecasting and predictability.

ECON 7384 - Political Economy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECON 7341and 7342 or consent of instructor
Modern political economy theory and empiric. Topics include voting, running for office, lobbying, and the implications of these behaviors for economic policies and institutions. Applications include democratization, campaign finance policy, and corruption

ECON 7385 - Monetary Policy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECON 7342and ECON 7344.
Stabilization policy, rational expectations, and the Phillips curve, the IS curve, Phillips curve, and Taylor rule model. Monetary policy evaluation with Taylor rules and real-time data, and monetary policy and the financial crisis.

ECON 7387 - Eco Anlysis-Urbn Areas

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Markets for housing and sites, determinants of land use patterns. Topics include demand, rent and density gradients, racial discrimination, land use regulation, transportation access.

ECON 7388 - International Monetary Economics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: ECON 7398 - International Monetary Economics.
Prerequisite: ECON 7342and ECON 7344.



The foreign exchange market, models of money, prices, and exchange rates, fixed and flexible exchange rates, out-of-sample nominal exchange rate predictability, and purchasing power parity.

ECON 7390 - Research & Readings - Economic

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** approval of department chair

Student may elect to receive either S/U or letter grade. Individually directed readings or research in a particular field of economics.

May be repeated for credit

ECON 7393 - Time Series Analysis

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECON 7331 or consent of instructor.

Focuses on the theory and application of univariate time series methods. Topics covered include both stationary and nonstationary time series, with an emphasis on inference in nonstationary processes, e.g. unit root tests.

ECON 7394 - Time Series Analysis II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECON 7393 or consent of instructor.

Time series theory with applications. Topics include state space models, Kalman filter, models of Markov switching, state space models with Markov switching, trend/cycle decompositions, Markov Chain Monte Carlo (MCMC) methods, structural change, and median-unbiased estimation.

ECON 7395 - Selected Topics

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 Y

Additional Fee Y Fee Type Y

ECON 8198 - Doctoral Research

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Note:** 1-3 credit hours per semester, or more than 3 by concurrent enrollment.

ECON 8199 - Dissertation

Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 N

Additional Fee N Fee Type N

ECON 8298 - Doctoral Research

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Note:** 1 to 3 credit hours per semester, or more than 3 by concurrent enrollment.

ECON 8331 - Econometrics II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECON 7331.



Estimation methods in single-equation and simultaneous equations models. Topics include missing observations, errors in variables, and limited dependent variables.

ECON 8333 - Econometrics III

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECON 8331 or consent of instructor

Econometric theory with applications. Asymptotic distribution theory, identification of simultaneous equation systems, estimation of systems of equations, specification and diagnostic testing, and the estimation of fixed random effects panel data models.

ECON 8342 - Microecon Theory III

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECON 7342 - Microeconomic Theory II.

Concentration on recent journal literature in microeconomic theory.

ECON 8344 - Macroecon Theory III

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Macroeconomic Theory II.

Concentration on recent journal literature in macroeconomic theory.

ECON 8346 - Dynamic Macroeconomics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECON 7342, 7344, and 7331 or consent of instructor

Applied research methods with applications in macroeconomics. Topics include generalized method of moments, vector autoregression, and introduction to dynamic programming. Recent literature in applied macroeconomics will be reviewed

ECON 8361 - Workshop Research Methods III

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECON 7342, ECON 7344 and ECON 7331 or consent of instructor.

Data sources, specification analysis, and other aspects of empirical research in economics.

ECON 8362 - Workshop Research Methods IV

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECON 7342, ECON 7344 and ECON 7331 or consent of instructor.

Formulation, execution, and presentation of a research paper in economics.

ECON 8363 - Workshop in Research Methods V

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECON 7341, 7342, and 7331 or consent of instructor.

Formulation, execution, and presentation of a research paper in economics for advanced students.

ECON 8365 - Labor Economics II



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECON 7365, Continuation of ECON 7365.

Topics include wage differentials, persistence in inequality and social mobility, the driving forces behind inequality, and unemployment.

ECON 8396 - International Trade

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECON 7342.

Causes and consequences of international trade, theories and comparative advantage, theory and measurement of tariffs, capital movements, and multinational corporations.

ECON 8398 - Doctoral Research

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Note:** 1 to 3 credit hours per semester, or more than 3 by concurrent enrollment.

ECON 8399 - Doctoral Dissertation

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

ECON 8699 - Doctoral Dissertation

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

ECON 8999 - Doctoral Dissertation

Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

Educational Research

EDRS 8380 - Rsch Mthds in Educ

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** admission to doctoral program; PHLS 7322 or equivalent or consent of instructor.

Consideration of various inquiry strategies. Attention to formulating problem statements and hypotheses, devising appropriate research designs, acquiring and summarizing data, appreciating probabilistic thinking.

EDRS 8381 - Rsch Mthds in Educ

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** admission to doctoral program; PHLS 7322 or equivalent or consent of instructor.

Consideration of various inquiry strategies. Attention to formulating problem statements and hypotheses, devising appropriate research designs, acquiring and summarizing data, appreciating probabilistic thinking.



EDRS 8382 - Statistical Analyses in Educatn

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** EDRS 8381.

Basic descriptive and inferential statistical analyses and their application in educational research.

EDRS 8383 - Action Research

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0

Educational Leadership and Cultural Studies

ELCS 6197 - Selected Topics

Credit Hours: 1

Lecture Contact Hours: 1 *Lab Contact Hours:* 0 **Prerequisite:** None.

ELCS Special Topics is offered to provide Saturday Seminars on selected topics of interest to students obtaining a masters degree in Administration and Supervision.

ELCS 6199 - Thesis

Credit Hours: 1

Lecture Contact Hours: 1 *Lab Contact Hours:* 0 N

Additional Fee Y Fee Type Y

ELCS 6301 - Leadership for Equity in Diverse Schools

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** No prerequisite courses are required.

This course is designed to examine leadership competencies that focus on and enhance social justice, equity, and academic scholarship in diverse school environments. Current research in turnaround leadership, dynamics of failing schools, and leadership coaching for instructional improvements will be explored, analyzed, and reflected upon. Course work will provide opportunities for self-reflection in areas of personal leadership and ethical beliefs.

ELCS 6302 - Data-Informed Decision Making for School Leaders

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** No prerequisites for this course are required.

This course introduces administrators to the process of data-driven decision making with a concentrated application that increases student learning and achievement. Utilizing an Urban research environment, data-driven decision making practices will directly affect the school improvement planning process and instructional delivery of curriculum. In this course, various research methods will be introduced to assist building leadership to frame data-based questions, design action studies and interpret data. This course will introduce PAR, Participatory Action Research that provides an integration of data collection and the methodology of presenting research that will ultimately enhance leadership performance.

ELCS 6304 - Law & Policy for School Leaders

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** None.

Sources of educational policy development, legal authority, liability, and legal principles involved in operating school systems will be studied. Course



cases, current policy issues, and legal controversies will be referenced.

N

Additional Fee N Fee Type N

ELCS 6310 - Strategic Engagement of School/Community Stakeholders

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to the graduate program in Educational Leadership or approval of chair.

This course is designed to provide aspiring school leaders with a research-based understanding of community/stakeholder engagement for educational leaders. Specifically, this course will expose aspiring leaders to the pragmatic and theoretical foundations necessary to: build authentic partnerships with student caregivers; build authentic partnerships with a diverse range of community stakeholders; and, develop partnerships via the collaborative creation of goals and objectives. Development of administrative competence through laboratory experiences using the class to simulate an organization. Emphasis on interpersonal and group relations, using instrumented and clinical procedures.

ELCS 6320 - Instructional Supervision

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ELCS 6301 and ELCS 6302, and admission to the graduate program in Educational Leadership or approval of chair.

This course is designed to provide aspiring school leaders with a research-based understanding of best practices in terms of instructional leadership in today's schools. Specifically, this course will provide aspiring leaders with the pragmatic and theoretical foundations necessary to: observe, analyze, evaluate, and provide instructional assistance/coaching. With internship hours embedded, this course will cover issues pertaining to: effective methods of instructional observation, the development of a culturally competent school curriculum, adult development theory, and the data-informed decision making necessary to design/choose instruction-specific professional development.

ELCS 6322 - Org & Admin Stud. Support Serv

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Comprehensive introduction to the role of college student personnel services in higher education.

ELCS 6330 - Finance & School-Based Budgeting

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

The major objective of this course is to teach the fundamental concepts of American school finance for public schools and school districts. This course includes theory and practices of business management, internal accounting procedures, and Texas public school finance.

ELCS 6332 - Student Develop/Student Affair

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 The college student affairs profession is emphasized through the historical, philosophical, psychological, and sociological development of its student service functions.

ELCS 6334 - Assessment & Evaluation in Higher Education

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Evaluation of program efficiency, effectiveness and impact as well as the assessment of learning in and out of the classroom higher education settings.

ELCS 6336 - The Two-Year College



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Demographic and educational diversity of today's college students coupled with an understanding of various socio-economic barriers to education and identification of those institutional practices that increase feelings of student inclusion.

ELCS 6338 - American Higher Education

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 This course provides students with a broad overview of the history and philosophy of higher education, with particular emphasis on the emergence and development of higher education in America.

ELCS 6342 - Critical Issues in Higher Education

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 This course is designed to be an introductory examination of some of the recurrent significant issues in postsecondary education.

ELCS 6346 - Student Persistence in Higher Education

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

The impact of various factors on student persistence and how these factors may be used to decrease attrition rates.

ELCS 6350 - School Leadership, The Principalship

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

The primary purposes of this course include: preparing principals who understand and demonstrate the ability to a) identify, reflect upon, and articulate ethical beliefs and values. b) Assume the roles and functions of school-based management. c) Apply appropriately various leadership theories. d) Articulate personal understanding of the quality of schooling they wish to achieve for the community of the school they are to lead. e) Apply human relations skills in interacting effectively with others. f) Analyze and solve problems using appropriate decision-making techniques g) Preparation for the Texas Principals' Exam.

ELCS 6370 - Research for Educational Leaders

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** SPEC 6327 or corequisite, and admission to the graduate program in Educational Leadership or approval of chair.

Implications of concepts and theories of a multicultural society for practices and policy development in educational administration.

ELCS 6380 - Educational Planning & Policy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to the graduate program in Educational Leadership or approval of chair.

A study of the structure of school governance and the process of policy development and implementation in today's schools.

ELCS 6393 - Practicum

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** Consent of instructor.

Practicum experience.



ELCS 6394 - Practicum and Internship

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** consent of instructor.
Practicum and internship.

ELCS 6397 - Selected Topics in ELCS

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

ELCS 6398 - Special Problems

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** approval of advisor and consent of instructor.
Individual study of areas in educational administration. Requirements jointly established by staff and student.

ELCS 7330 - Admin of Higher Educ I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 First semester: introduction to management of colleges and universities; analysis of development of higher education, including history, finance, personnel, and public policy.

ELCS 7331 - Admin of Higher Educ II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

ELCS 7335 - Org&Adm-Stu Persnl Prog

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Organizational models, management processes, and program resources. Primarily concerned with higher education.

ELCS 7354 - Leadership for Change

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Study of the role of educational leadership in facilitating and enhancing the change process.

ELCS 7365 - Race & Ethnic Diversity in Edu

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Implications of concepts and theories in a multicultural society for practices and policy development in educational administration.

ELCS 7371 - Higher Educ Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ELCS 7330 or consent of instructor.

Analysis of legal issues in postsecondary education, including governance, faculty, students, and regulations by state and federal governments.



ELCS 7392 - Internship in Superintendent

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

ELCS 7393 - Internship and Practicum

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** Consent of instructor.
Internship/practicum experience.

ELCS 7399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

ELCS 8191 - Special Field Projects

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1 **Prerequisite:** approval of advisor and consent of instructor.

Individual study of areas in educational leadership and cultural studies. Requirements jointly determined by instructor and student.

ELCS 8198 - Independent Study

Credit Hours: 1

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** NA.

Individual study of areas in educational leadership and cultural studies. Requirements jointly determined by instructor and student.

Y

Additional Fee N Fee Type N

ELCS 8199 - Dissertation

Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

ELCS 8301 - Leadership Theory for School Administrators

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Examines advanced leadership theory and application by analysis of leadership, culture, organizational dynamics, change and function. Research, theory, and theory are addressed for school administrators.

N

Additional Fee N Fee Type N

ELCS 8310 - The Superintendency

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** master's degree.



Problems and issues in the management of school systems. Course includes consideration of school board relationships, personnel practices, grievance procedures, and administration of vocational, compensatory, and special education programs.

ELCS 8311 - Laboratory of Practice - Literature Review Development

Credit Hours: 3

Lecture Contact Hours: 1 Lab Contact Hours: 2 **Prerequisite:** Successful completion of first three semesters of coursework.

This course develops applied knowledge and application of educational research terminology, perspectives that support the development of unique dissertation chapter containing a critical literature review.

N

Additional Fee N Fee Type N

ELCS 8312 - Laboratory of Practice - Research Methods Development

Credit Hours: 3

Lecture Contact Hours: 1 Lab Contact Hours: 2 **Prerequisite:** Successful completion of first four semesters of coursework.

This course develops applied knowledge and application of educational research terminology, perspectives that support the development of unique dissertation chapter containing the methodology/methods sections.

N

Additional Fee N Fee Type N

ELCS 8313 - Critical Issues for Urban Education Administration, Leadership, & Policy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

For school administrators, central office leaders, and aspiring researchers to extend their knowledge and understanding surrounding a series of issues challenging public schools and districts in urban settings. This course will analyze policies addressing education reform, organizational improvement, and education policy and politics as well as discuss other important concerns related to multiple urban student populations.

ELCS 8315 - Transformational Leadership for School Administrators

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ELCS 8301.

An exploration for school administrators of personal leadership, intentional leadership, organizational dynamics, environment and culture, essential skills and competencies for advanced leaders and challenges for the future.

N

Additional Fee N Fee Type N

ELCS 8322 - Advanced Ethnographic Methods

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Knowledge, concept, and skill development for administrators with responsibility for evaluating personnel.

ELCS 8325 - Instnl Leadercurri&Prof Develop

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Advanced study of current theories and strategies of educational leadership, personnel management, critical incident simulation, and supervision model analysis.

ELCS 8330 - Statistical Analyses



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Identification of statistically appropriate techniques and data analyses for non-experimental research designs in education.

ELCS 8331 - Finance in Higher Education

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Financing of community colleges, public colleges, universities, and private institutions.

ELCS 8332 - Student Dev in Post Sec. Inst

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Development of administrative skills and conceptual models for supportive and student services in community colleges and other institutions of higher education.

ELCS 8335 - Seminar in Adult Education

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

This course focuses on the foundations of adult education in the United States. Students will apply principles of adult learning and development to design effective programs that meet the unique needs of adult learners. The course examines adult education delivered through formal and non-formal settings, and emphasizes the role of adult education in facilitating change and growth among individuals and communities.

N

Additional Fee N Fee Type N

ELCS 8336 - Commun/Jr Coll

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ELCS 7330or consent of instructor.

Study of community college education - the students, institution, and concepts underlying the programs of instruction. Emphasis on the planning, design, development, implementation, and evaluation of community/junior college programs.

ELCS 8338 - Admin Higher Educ Multiculset

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Introduction of management of colleges, and universities; analysis of development of higher education, including history, finance, personnel and public policy. Emphasis is placed on multicultural settings.

ELCS 8340 - Organizatn & Admin Curriculum

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Approaches to curriculum coordination from an administrative point of view. Including Current organizational plans, instructional management, and forces that influence decision making.

ELCS 8341 - Adult Learning Theory

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Focuses on an overview of learning models for instructional choices useful for adult learning.

N

Additional Fee Y Fee Type Y



ELCS 8345 - School-Based Budgeting and Practical Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to Ph.D. or Ed.D.

Explore legal topics that affect finance, curriculum, and school programs focusing on theory and praxis as guided by federal, state and local law, policy, guidelines, and practice

ELCS 8350 - Resource Management

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

This course is designed to provide educators with an introduction to the concepts and strategies that frame the effective use of human and fiscal resources in the dynamic educational environment and to teach the fundamental concepts of American school finance for public schools and school districts. This course includes theory and practices of business management, internal accounting procedures, and Texas public school finance. In addition, this course examines the interdependent dimensions of recruitment, selection, assignment, induction, staff development, evaluation, compensation, collective negotiations, and legal and ethical issues that guide the functions of human resource management.

ELCS 8355 - Policy Pol & Gov of Education

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Advanced study of problems, issues, and trends related to governance, organization, and control of elementary and secondary schools and other educational institutions.

ELCS 8356 - Program Policy Evaluation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to Ed.D.

Focus on establishing whether a particular programs, regulation, or policy is achieving its intended outcome.

ELCS 8360 - Studies Post Secondary Educatn

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 An investigation of the research and literature of educational leadership including the use of literature data bases of the field and their search via computer.

ELCS 8361 - Public & Community Relations

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Current research in community, public and human relations with emphasis on communication.

ELCS 8371 - Legal Issues Sch District Lev

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 In-depth study, using current issues of school management problems. Legislative recourses are considered.

ELCS 8391 - Special Field Projects

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** approval of advisor and consent of instructor.

Individual study of areas in educational leadership and cultural studies. Requirements jointly determined by instructor and student.



ELCS 8392 - Internship Admin of Higher Ed.

Credit Hours: 3.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 3 **Prerequisite:** Approval of Internship Coordinator.
Supervised internship experience in higher education.

ELCS 8395 - Doctoral Thesis

Credit Hours: 3

Lecture Contact Hours: 0 *Lab Contact Hours:* 0 **Prerequisite:** Approval of thesis advisor.
Doctoral thesis credit.

Y

Additional Fee N **Fee Type** N

ELCS 8397 - Sem Top Ed Ldshp&Cul St

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 May be repeated when topics vary.

ELCS 8398 - Independent Study

Credit Hours: 3

Lecture Contact Hours: 0 *Lab Contact Hours:* 0 **Prerequisite:** NA.

Individual study of areas in educational leadership and cultural studies. Requirements jointly determined by instructor and student.

Y

Additional Fee N **Fee Type** N

ELCS 8399 - Doctoral Dissertation

Credit Hours: 3

Lecture Contact Hours: 0 *Lab Contact Hours:* 0 N

Additional Fee Y **Fee Type** Y

ELCS 8610 - Laboratory of Practice - Literature & Research Methods Development

Credit Hours: 6.0

Lecture Contact Hours: 6 *Lab Contact Hours:* 0 **Prerequisite:** Permission of thesis advisor/instructor.

This course develops applied knowledge and application of educational research terminology, perspectives, methodological frameworks, and analytical techniques that support the development of unique thesis chapters containing a) critical literature reviews; and, b) research methods.

ELCS 8695 - Doctoral Thesis

Credit Hours: 6

Lecture Contact Hours: 0 *Lab Contact Hours:* 0 **Prerequisite:** None.

EdD doctoral thesis credit

Y

Additional Fee N **Fee Type** N

ELCS 8699 - Doctoral Dissertation



Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

Electrical - Electronics Technology

ELET 6100 - Seminar in Engineering Technology

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 Prerequisite: None.

Students are introduced to library, computing, and research facilities. Faculty overview the responsible conduct of research, ethics, and describe research methods, and fields in Engineering Technology leading to the Project or Thesis requirement of the M.S. degree.

ELET 6198 - Spec Probs in Microcomp. System

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0

ELET 6199 - Thesis

Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

ELET 6298 - Spec Probs in Microcomp. System

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0

ELET 6300 - Computer Network Programming

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Prerequisite: Familiarity with UNIX and Windows operating systems, C/C++ and Java Programming languages or consent of instructor.

This course covers an introduction to the programming aspects of computer networks. This will include an introduction to various network protocols and programming with UNIX sockets. The course is targeted for graduate students or other students who are interested in learning the basics of network programming for the internet.

ELET 6302 - Advanced Wireless Networks

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Prerequisite: ELET 4302, ELET 4315 and ELET 4325 or consent of instructor.

Digital modulation techniques, multiplexing, and radiowave propagation. Analysis and design of wireless data communication system. Performance evaluation of wireless networks.

ELET 6303 - Applied Neural Networks

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Prerequisite: Graduate standing and consent of instructor.



Simple neural nets for pattern classification, pattern association, backpropagation neural network, adaptive resonance theory, other neural networks, and fuzzy-neural networks.

ELET 6305 - Analytical Methods in Engineering Technology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of the instructor.
Coverage of selected mathematical analysis tools in engineering technology application areas.

ELET 6308 - Mobile Computing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Knowledge of a programming language.
Introduction to the performance evaluation of mobile computing and networking methods; mobile cloud computing; mobile application development.

ELET 6312 - Network Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Technical undergraduate degree or consent of instructor.
Introduction to network management with an emphasis upon current practices in managing the operation and maintenance of a computer network.

ELET 6313 - Network Security

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Technical undergraduate degree or consent of instructor.
Introduction to current security techniques for computer and other communications networks.

ELET 6316 - Network Routing Algorithms and Protocols

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ELET 4325 or equivalent and graduate standing or consent of instructor.
This course explores network routing algorithms and protocols for various networking environments. Interior gateway protocols as well as exterior gateway protocols will be studied. Emphasis will be on analysis, design and implementation.

ELET 6317 - Optical Networks

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.
Optical fiber transmission fundamentals, passive optical components, optical transmitters, receivers, optical amplification, and all-optical networking.

ELET 6318 - Analysis of Data Networks

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate status or consent of instructor.
Introduction to network performance analysis concepts and tools, including statistical data summarization, queuing and simulation techniques.

ELET 6319 - The Principle & Application of Fuel Cell Technology



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Systematic development of fuel cells addressing fundamental principles current and potential applications, and technology challenges in making fuel cells a clean energy option in the society.

ELET 6325 - Practicum in Engineering Technology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Completion of 12 graduate credits, a 3.25 GPA and consent of advisor.

Work experience in a pre-approved industrial site/research facility. Analyze, integrate, improve, organize and manage a complex system relevant to the program.

Course may be repeated twice.

ELET 6331 - Fundamentals of Medical Imaging

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate status or consent of instructor.

Physical principles underlying current medical imaging procedures, including X-Ray Imaging, Computed Tomography, Magnetic Resonance Imaging, Positron Emission Tomography, Ultrasound Imaging, Electro-and Magneto-encephalography, Near Infrared Spectroscopy and Thermal Imaging.

ELET 6332 - Physiological Systems Modeling and Simulation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate status or consent of instructor.

Basic aspects of human physiology. Introduction of engineering and computational approaches for modeling physiological systems. Hands-on experience with elementary physiological measurements.

ELET 6350 - Overview of Computational Health Informatics

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Overview of key areas in health informatics, including, information retrieval, electronic medical records, health information exchange, clinical decision making, telemedicine, consumer and public health informatics, HIPPA and evidence based medicine.

N

Additional Fee N Fee Type N

ELET 6351 - Biomedical Data Mining

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Basic Concepts: Supervised vs Unsupervised Classification; Training Dataset vs. Validation Dataset; Classification vs. Regression; Overfitting vs. Underfitting; Performance: Confusion Matrix, Sensitivity, Specificity, Accuracy, Receiver Operating Curve, Area under ROC; Bayesian Statistics: Bayes' Theorem, Bayes classifier, Risk and Losses. Supervised Techniques: Parametric Classification: Linear and nonlinear discrimination; Nonparametric Classification: K Nearest neighbor, Decision Trees, Support Vector Machine. u- Basic Regression: Linear Regression, Nonlinear regression. Unsupervised Techniques: Dimensionality Reduction: Linear, Non-linear; Cluster analysis: k-Means. Machine Learning in MATLAB: Data importing; Plotting; Machine Learning Toolbox: Classification Learner.

N

Additional Fee N Fee Type N

ELET 6352 - Matlab for Engineering Technology



Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Introduction to scripting languages and associated toolboxes. The courses consists of interactive lectures, and hands-on experience with tools.
N

Additional Fee N Fee Type N

ELET 6353 - Applied Statistics for Technology

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Collecting Data and Experimental Design. Data Summary and Descriptive Statistics: Why do we collect data and need statistics?; Graphical Representation of data: scatterplots, time series. Box-and-whisker plots, histograms; Measures of central tendency and variability. Assuming a probability model from the sample data: Standard normal distribution; Sample mean and confidence interval; t Distribution. Statistical inference: Comparison of population means; t Test: hypothesis testing and application, paired and unpaired test; Comparison of two variances; Comparison of three or more population means: one factor and two factor experiments, Tukey's multiple comparison procedure. Linear Regression and Correlation Analysis. Power Analysis and Sample Size.

N

Additional Fee N Fee Type N

ELET 6354 - Biomedical Image Analysis

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Linear Algebra, Programming, Matlab. Digital image processing from an operational, application oriented perspective.

Aspects of image acquisition, digitization, enhancement, restoration, segmentation and object measurement in practical applications will be covered.

N

Additional Fee N Fee Type N

ELET 6355 - Biomedical Signal Analysis

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None. Digital signal processing with applications to biomedical signals.

Aspects of signal acquisition, processing, and feature extraction along with practical applications and signal analysis algorithms will be covered.

N

Additional Fee N Fee Type N

ELET 6356 - Health Analytics and Visualization

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Covers fundamentals of communication and concepts for effective data presentation, principles of visual design, with specific emphasis on interpretation and story telling. Software tools such as Tableau and R are used for data visualization.

N

Additional Fee N Fee Type N

ELET 6357 - Research Methods in Health Informatics

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

This course provides fundamental concepts of research to prepare graduate students to conduct a research project effectively and responsibly.



N

Additional Fee N Fee Type N

ELET 6358 - Optical Brain Imaging

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Basic concepts: Electromagnetic spectrum and light; Characteristics of Near Infrared Light: tissue interaction and safety; Light Absorption and Scattering; Light Transmission and Reflection. Near Infrared Spectroscopy (NIRS): Basics of Spectroscopy; Beer-Lambert Law and Modified Beer-Lambert Law (MBLL); Hemodynamics: oxy- and deoxy-hemoglobin in human tissues; In-Vivo Hemodynamics measurements using NIRS: demonstration and applications. Functional Near Infrared Spectroscopy (fNIRS): Fundamentals of Brain Imaging: Structural vs. Functional Imaging; Hemodynamics in the brain: functional brain activity and neurovascular coupling; Brain imaging with fNIRS: advantages, disadvantages and contrast with other brain imaging techniques; Fundamentals of fNIRS instruments; Designing fNIRS experiments: block design vs. event-related design; Collecting fNIRS data: tips and tricks; Analyzing fNIRS data: fNIRS signals, movement artifact removal, scalp hemodynamics removal, block averaging, filtering, general linear model (GLM); Fundamentals of fNIRS image reconstruction: structural-functional co-registration; Interpreting fNIRS data: did we get what we expected?

N

Additional Fee N Fee Type N

ELET 6396 - Master's Project

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Master's Project

ELET 6397 - Selected Topics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Approval of department chair.

May be repeated for credit when topics vary.

Note: May be repeated for credit when topics vary.

ELET 6398 - Spec Probs in Microcomp. System

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

ELET 6399 - Master's Thesis

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Master's Thesis.

Y

Additional Fee Y Fee Type Y

ELET 6999 - Thesis

Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** None.

Thesis in Computational Health Informatics (CHI) or Network Communications (NECO).



Y

Additional Fee N Fee Type N

Electrical and Computer Engineering

ECE 6011 - Colloquium

Credit Hours: 0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

The ECE 6011 Colloquium is a research seminar event that is offered by the various research groups within the Department of ECE. Meetings are normally held once a week for a one-hour period. Each research group organizes the format of the Colloquium to best suit the needs of their group. During the Colloquium students typically make presentations about their research work and engage in discussions about their research with other students and faculty that are present. Guest speakers may also give presentations at the Colloquium.

ECE 6111 - Graduate Seminar

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0

ECE 6113 - Microwave Engineering Laboratory

Credit Hours: 1

Lecture Contact Hours: 0 Lab Contact Hours: 1 **Prerequisite:** ECE 2100.

Corequisite: ECE 6351.

Students will develop the ability to use commercially available modern software tools for microwave analysis of complex structures, including HFSS and possibly other software tools. Students will apply their knowledge of the software to analyze a practical structure such as a microwave filter. Students will write a technical report and thus demonstrate good communication skills. Students will develop an appreciation for the importance of modern software tools in microwave engineering and the need to be familiar with them.

N

Additional Fee N Fee Type N

ECE 6198 - Research

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

ECE 6298 - Research

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

ECE 6302 - Introductn To Neuroengineering

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of Instructor.

Single neurons, principles of perception and movement, learning and memory, functional magnetic resonance imaging, electroencephalography, magnetoencephalography, transcranial magnetic stimulation, chemical stimulation, functional neuroanatomy.

ECE 6305 - Power Electronics Converters and Control



Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECE 5380 or consent of the Instructor.

Power Electronics and applications; Review of power devices including wide band gap devices. Harmonics and power factor in non-sinusoidal systems. AC-DC Phase Controlled Thyristor Converters. DC-DC converters: Buck, Boost, and Buck-Boost converters. Flyback, Cuk, and Full bridge converters. DC-AC Inverters: Square wave, Sinusoidal, Space Vector PWM, and current regulated inverters. Introduction to Active Rectifiers, Resonant Converters, and Multi-level converters.

ECE 6306 - Introduction to Nanotechnology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECE 4339 or instructor permission.

Introduction to the fundamentals of nanoscale engineering. The emphasis of the course is on technologies that have significant potential to transform conventional semiconductor based electronics.

ECE 6307 - Nanomaterials and Solar Energy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECE 6306 or instructor permission.

Introduction to the engineering of nanomaterials with emphasis on structural, optical, magnetic and electronic properties as well as their applications in the conversion of solar energy to electricity or chemical energy.

ECE 6308 - Advanced Batteries: Principles, Materials, and Devices

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate Standing or consent of the department.

Course provides an overview of electrochemical energy storage with a focus on Li-ion batteries, and covers fundamental electrochemistry, including battery-systems, including lead acid, metal hydride, redox flow, and Li-ion batteries.

ECE 6309 - Microlithography for Micro-and Nano-system Manufacturing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and/or consent of the instructor.

Fundamental principles of microlithography: resolution limits, resist exposure and development, and modeling; electron-beam, imprint, x-ray, and ion-beam lithography.

ECE 6311 - Introduction to Robotics

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Credit for or Concurrent Enrollment In: MATH 3321 or MATH 2433 or equivalent.

Fundamentals of robotics including rigid motions; homogeneous transformations; forward and inverse kinematics; velocity kinematics; motion planning; trajectory generation; sensing, vision; control. Also, introduction to swarm programming, search strategies, and distributed planning and control.

ECE 6313 - Neural Networks

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Generalization of single-cell models to networks; network dynamics; feed-forward and recurrent additive, shunting equations; short-term memory; long-term memory; Hebbian and non-Hebbian learning rules; associative and competitive learning; adaptive resonance theory.

ECE 6314 - Nanoscale Design & Fabrication



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECE 6307 or instructor permission.

Fundamentals of nanoscale science and engineering. Effects of nanoscale phenomena on device scaling, technological advantages and challenges. Design, fabrication, metrology, and device integration at nanoscale.

ECE 6317 - Adjustable Speed Motor Drive Systems

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PES 6314 Adjustable Speed Motor Drive Systems

Prerequisite: ECE 6305 or consent of the Instructor.

Control equipment for motors and generators; motor starting. Steady state and dynamic performance of electric machines - induction, synchronous, reluctance, and PM machines. Two axis models of AC machines and AC drives. Control characteristics of electric machines and control methodologies. Direct torque and flux control and current regulated controllers. Field orientation control techniques - stator flux, rotor flux, and air gap flux orientation.

ECE 6318 - Power Converters - Modeling and Applications

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECE 6305 or consent of instructor.

Converter modeling and transfer functions. Soft switching converters. High frequency resonant converters. Active rectifiers and distributed power resources. Multi-level converters. Matrix converters. Applications in transportation, data centers, electrification of oil and gas, etc.

N

Additional Fee N Fee Type N

ECE 6319 - Dynamics of Electric Machines

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECE 4363 or consent of the instructor.

Transformers for power supplies and power distribution: Basics and operation, Equivalent circuits. Introduction to torque production in DC and AC motors. Operation, analysis, and dynamics of induction, synchronous, reluctance, and permanent magnet motors; Introduction to finite element analysis of electric machinery. Electromagnetic, structural, and thermal fields in electric machines; National Electric Code (NEC) applied in the industrial environment; standards for motors.

N

Additional Fee Y Fee Type Y

ECE 6321 - Principles of Internetworking

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing and consent of instructor.

Local area networks, Internet Protocol addressing, routing protocols, Transport Control Protocol flow, congestion and error control, Domain Name System, Dynamic Host Configuration Protocol, and Network Address Translation. Selected applications.

ECE 6323 - Optical Fiber Communications

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor.

Devices and systems in optical fiber communications: fiber dispersion and attenuation, fiber solitons, photodiodes, fiber amplifiers, SONET/SDH transport systems, and present and future multi-wavelength networks.

ECE 6325 - State-Space Control Systems



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECE 4375 or consent of instructor.

State-space modeling, matrix algebra, system response, coordinate transformation, stability, controllability, observability, realization, state-feedback design, observer, nonlinear system, Lyapunov functions, optimal control.

ECE 6326 - Power Systems Analysis

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECE 5377 or consent of the Instructor.

Power System Fundamentals. Transmission Line Parameters and Steady-State Operation. The Impedance Model (Zbus), Admittance Model (Ybus) and Network Calculations. Power Flow Analysis, Economic and Reliable Operation of Power Systems, Symmetrical Fault Analysis, Power Distribution Systems, Architecture and Composition of Industrial Power System.

ECE 6327 - Smart Grid Systems

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** Power system analysis, electrical circuits, AC and DC system (ECE 5377/6326 or ECE 6379).

Basic of Smart Grid, Definition and Applications. Self-healing, Smart metering and Advanced Metering Infrastructure, Corrective transmission switching, state estimation, PMU, wide area monitoring systems (WAMS), Cyber Security Challenges and power system cyber-attack, microgrid sizing and energy management, demand response, energy storage, integration of electric vehicle into the grid.

ECE 6328 - Cmos Analog Integrated Circuit

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and consent of Instructor.

The analysis and design of CMOS analog integrated circuits at the transistor level, single-stage and multistage amplifiers, differential pairs, current source biasing circuits, current mirrors, and operational amplifier circuits design.

ECE 6329 - Power System Protection, Monitoring and Control

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PES 6334 Power System Protection, Monitoring and Control

Prerequisite: ECE 5377 or consent of the Instructor.

Protection Basics; Instrument Transformers; Grounding schemes, fault detection and identification; Distribution Protection, Instantaneous overcurrent protection, Time overcurrent protection, Bus protection, Differential Protection; Protection of Transformer, Generator, and Motors. Phase Distance Schemes, Ground Distance Scheme, Supervising element, and Fault Type Selection Logic; Communication Aided Distance Protection; Line Current Differential Protection; Phasor Measurement units; Synchrophasor Vector Processor; Wide area protection.

ECE 6331 - Advanced Telecommunications

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECE 4371 and ECE 6337 or consent of instructor.

Random signals and wide, baseband data transmission, error analysis of additive white Gaussian noise channels, intersymbol interference, multipath interference, fading, signal-space concepts, and optimal receiver design.

ECE 6332 - Wireless Telecomm Systems

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECE 6331.

Theory of data communications, GPS systems, spread-spectrum systems, HDTV systems, RF and microwave devices in communication systems.



ECE 6333 - Signal Detec & Est Thry

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECE 6337 or consent of instructor.

Elements of hypothesis testing signal detection in discrete time, elements of parameter estimation, and elements of signal estimation.

ECE 6334 - High Voltage Electrical Substations Design and Architecture

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECE 5377 or consent of the Instructor.

Industrial substation configuration and composition; cable and busway system design, installation, protection and testing; switching apparatus fundamentals, types, calculation, design, operation, protection; capacitor switching; surge nature, insulation characteristics; system neutrals; arresters, grounding, static lightning protection; insulation coordination; substation planning, design, construction, automation, operation. HVDC and FACTS.

ECE 6335 - Digital Contrl Systems

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECE 4375.

Analysis and synthesis of digital control systems: z-transform; pulse transfer functions; discrete-time response; frequency domain analysis; stability; root locus; frequency domain concepts; parameter identification; state-space modeling; sampled-data system; time-delayed system; hybrid controller design.

ECE 6336 - Intro to Architecture of RTOS and IoT

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 1 **Prerequisite:** ECE 4436 or consent of instructor.

An introduction to the architecture and design of a Real Time Operating System (RTOS) and an Internet-of-Things (IoT) System.

N

Additional Fee Y Fee Type Y

ECE 6337 - Stochastic Processes in Signal Processing and Data Science

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

The course will cover random variables, probability theory and stochastic processes, and will apply these concepts to applications in signal processing and data science through programming class-projects.

N

Additional Fee Y Fee Type Y

ECE 6339 - Biophotonics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Instructor permission.

Fundamental principles of biophotonics and their applications in biological and biomedical research. Topics are light-matter interactions, optical imaging, optical and plasmonic biosensing, imaging systems and nanotechnology for biophotonics.

ECE 6340 - Interm Electromag Waves

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECE 3317.



Maxwell's equations, properties of matter, transmission lines, waveguides, plane waves, radiation from antennas, duality, image methods, equivalence principle, reciprocity, radiation from sources in layered media.

ECE 6341 - Adv Electromag Waves

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECE 6340.

Vector potentials, cylindrical wave functions, spherical wave functions, asymptotic methods, spectral-domain methods for layered media, radiation and scattering from periodic structures.

ECE 6342 - Digital Signal Process

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECE 3366.

Sampling theory, use of the DFT/FFT, design of FIR and IIR digital filters, quantization and finite word length effects, and digital signal processing hardware.

ECE 6343 - Renewable Energy and Distributed Power Generation

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECE 5380 or consent of the Instructor.

Fundamentals of Energy. Sustainability and renewable energy. Interconnection of energy and environment. Grid synchronization. Renewable energy sources and availability. Basics of hydro, wind, solar, geothermal, and fuel cell systems. Power Converters and drives for energy conversion. Converters and controllers for integration of renewable energy sources. Solar and wind energy technologies and system design. Hybrid power generation systems. Grid energy storage systems. Introduction to Microgrids and energy management. Microgrids and Energy Management. Control of Microgrids.

ECE 6345 - Microstrip Antennas

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECE 6340.

Introduction to microstrip antennas, overview of basic properties, CAD formulas, transmission-line model, cavity model, equivalent-circuit model, spectral-domain analysis, mutual coupling, segmentation methods.

ECE 6346 - Vlsi Design

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECE 3456 or ECE 3457, or graduate standing and/or consent of instructor.

Integrated circuit design using computer aided design methods; MOS, GaAs and bipolar techniques, standard cells, digital subcircuit and memory layout and design.

ECE 6348 - Material Science of Thin Films

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Deposition, characterization, properties, and applications of thin films.

ECE 6350 - Num Mtds in Electromags

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECE 6340 or consent of instructor.



Formulation and numerical solution of integral equations for scattering and radiation by thin wires, two- and three-dimensional conducting structures, bodies of revolution, dielectric bodies.

ECE 6351 - Microwave Engineering

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor.

Transmission lines; wave guides; micro-strip circuits; microwave circuit theory; scattering matrices; impedance transformers; passive microwave devices; resonators; microwave tubes; solid state active devices.

ECE 6352 - Antenna Engineering

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor.

Antenna concepts: linear, aperture, and wire antennas; printed- circuit radiators; frequency-independent antennas; measurement techniques.

ECE 6353 - Rf & Microwave Electronics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor.

Fundamentals of RF and microwave electronic circuit design, matching networks, small-signal and large-signal transistor amplifier design, noise, broadband techniques, oscillator design, high-frequency circuit simulation.

ECE 6354 - Digital Video

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Concepts, theory, and applications of digital video compression. Sampling and quantization, data compression, adaptive coding, BMP and JPEG image standards, H.261 video-conferencing, MPEG codecs, mathematical animation techniques.

ECE 6355 - Intro To Well-Logging Tech

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECE 3317 or GEOL 4330 or PHYS 4321.

Logging tools discussed include electrical resistivity, induction, acoustic, dielectric, natural gamma ray, neutron density, pulse neutron, NMR, and diameter. Various production tools are discussed along with well-log data transmission, processing, and recording.

ECE 6356 - Introduction to Machine Learning

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** This course lectures will frequently involve linear algebra. Therefore, you need to be familiar with basic linear algebra concepts, including vector, matrix, vector/matrix operations, linear independence, eigen decomposition, matrix inversion, matrix derivative, etc. You should be familiar with basic concepts in probability and statistics such as distribution, expectation, variance, and maximum likelihood estimation of a random variable. You should also know the basic of optimization theory such as gradient descent, local optimality, and convexity. We will have programming assignments. You should be familiar with either Python or Matlab.

Deep Learning; Convolutional Neural Network; Auto-Encoder; Generative Adversarial Network; Recurrent Network; Dictionary Learning and Sparse Coding; Dimensionality Reduction; Ensemble Learning; Classification; Regression; Feature Selection

ECE 6357 - Introduction to Cybersecurity



Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Credit of a C- or better in: ENGI 1100, MATH 2433, ECE 3331 .
Basic security concepts. Cryptography basics. Computer security, and network security. Security analysis.

ECE 6358 - Optoelectronics and Photonics: Principles and applications

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor
Introduction to the principles of optics and modern photonics/optoelectronics. Fundamental technologies including lasers, detectors, photonic devices, components and systems, and applications in communication, computer, and consumer electronics.

ECE 6360 - Parallel Algorithms for GPUs and Heterogeneous Systems

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** None.

Limitations in single-threaded processors are forcing new paradigms in software and algorithm development in order to process ever-increasing data sizes. Research and industry applications often require massively parallel systems for simulation, data processing, and data analysis. Several architectures, including nVidia's CUDA and Intel's Xeon Phi, provide highly parallel performance at low cost. However, algorithms optimized for massively parallel systems require new design and programming strategies. In this course, we will focus on the design and development of algorithms that take advantage of highly parallel co-processors, such as the nVidia GPU and Xeon Phi, in order to solve research related problems. This course will include an overview of data parallel architectures and principles in programming massively parallel systems.

ECE 6364 - Digital Image Processing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECE 6342.

The nature of images; visual effects; acquisition of images; sampling, quantization, and two-dimensional linear processing; image enhancement and restoration; image coding; texture analysis; tomography.

ECE 6370 - Advanced Digital Design

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 1 **Prerequisite:** Consent of instructor.

Design fundamentals and techniques using ASIC development and synthesis tools and FPGAs. Design of control units, arithmetic and logic units, memory and I/O subsystems and cache.

ECE 6372 - Advanced Hardware Design

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECE 6371 or consent of instructor.

Advanced analysis and design of complex hardware-based systems and algorithms.

ECE 6373 - Adv Computer Arch

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECE 4436 and ECE 5440 or consent of instructor.

Parallel processing and multioperation machine organizations (multiprocessors, multifunction, pipeline and array machines). In-depth study of control units, processors, and memories.

ECE 6374 - State-Space Estimation with Physiological Applications



Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Probability theory, Signal processing, and MATLAB.

State-space modeling, state-space estimation, Kalman filtering, theory of point processes, estimation of point processes, maximum likelihood estimation, expectation maximization, point process filtering and smoothing, and sparse signal processing.

N

Additional Fee N Fee Type N

ECE 6375 - Medical Devices Law, Regulation, and Ethics

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 This course provides a practice-oriented introduction to the U.S. Coordinated Framework for regulating fast-emerging technologies such as smart robots, artificial intelligence software, precision medicine, neurotechnologies and advanced prosthetics, genomic testing and gene-edited life forms. Collectively, these technologies promise to revolutionize healthcare, enhance human capabilities, and address nagging environmental and social problems such as world hunger, yet they threaten to displace workers and disrupt entire economic sectors. The course offers a manageable, highly practical survey of key US safety regulations administered by agencies including the Food and Drug Administration, the Environmental Protection Agency, the U.S. Department of Agriculture. It also samples the difficult ethical, privacy, societal, and human rights issues these technologies are already raising. The course is suitable for engineers and scientists with no prior legal experience who want a practical introduction to how to navigate the federal regulatory frameworks that affect development and commercialization of their innovations. It is suitable for law students wishing a highly practical account of the challenges entrepreneurs/clients face in moving products through the U.S. biotechnology regulatory framework.

N

Additional Fee Y Fee Type Y

ECE 6376 - Digital Pattn Recognitn

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECE 6337.

Adaptive techniques for classifying patterns, Bayesian decision theory, parametric and nonparametric techniques, supervised and unsupervised estimation, feature selection, and clustering.

ECE 6381 - Sparse Representations for Signal Processing

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** The students are expected to have basic knowledge of Digital Signal Processing or material covered in an equivalent course. Students are also expected to have basic Matlab knowledge.

The course will focus on foundations of multi-resolution analysis and wavelet theory for signal representation. Additionally, the general framework of sparsity (a foundational tool for applications such as compressive sensing, denoising and classification) and structured sparsity will be presented. The course will have a rigorous theoretical component and a hands-on project component where students will apply these techniques to a real-world image analysis problem.

ECE 6382 - Engineering Analysis I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor.

Analytical methods applied to electrical engineering problems; solution techniques involving complex variables, conformal mapping, residue calculus, asymptotic evaluation of integrals; solution of boundary-value problems by separation of variables and transform techniques; special functions.

ECE 6384 - Micro-Nano-Electro-Mechanical Systems and Nano Devices

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECE 6466or equivalent course



Micro-and-nano-electro-mechanical system (MEMS/NEMS); relevant material science, physics, design, manufacturing techniques and operation. Applications.

ECE 6390 - Lin Multivar Contrl Sys

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

ECE 6392 - Internship I

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

ECE 6393 - Special Projects I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Prior approval required from Director of Graduate Studies. Supervised research/ development.

ECE 6397 - Selected Topics

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 Y

Additional Fee Y Fee Type Y

ECE 6398 - Research

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

ECE 6399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

ECE 6466 - Integrted Circ Engr

Credit Hours: 4.0

Lecture Contact Hours: 3 Lab Contact Hours: 3 **Prerequisite:** ECE 4339.

Design, fabrication and testing of integrated circuits. An individual research project is required.

ECE 6498 - Research

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

ECE 6598 - Research



Credit Hours: 5.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

ECE 7349 - Adv Tpcs-Microelectrnics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECE 6466and consent of instructor.

Current research issues in the design, fabrication, testing and reliability of integrated circuits.

ECE 7366 - Advanced Process Integrat Vlsi

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECE 6466or equivalent and consent of instructor.

Process integration for application in VLSI and ULSI circuits; advantages and limitations of NMOS, CMOS, Bipolar and Bicmos technologies; process and device simulators.

ECE 7373 - Adv Topics in Comp Arch

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ECE 6373.

Vector and array processing and their application in engineering problems.

ECE 7392 - Internship II

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

ECE 7393 - Special Projects II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Prior approval required from Director of Graduate Studies.

Supervised research/ development.

ECE 7399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

ECE 8198 - Doctoral Research

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

ECE 8298 - Doctoral Research

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0



ECE 8398 - Doctoral Research

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

ECE 8399 - Doctoral Dissertation

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

ECE 8498 - Doctoral Research

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

ECE 8598 - Doctoral Research

Credit Hours: 5.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

ECE 8699 - Doctoral Dissertation

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

ECE 8999 - Doctoral Dissertation

Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

Elementary Education

ELED 6301 - Tch Soc Studies/Ele Sch

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Recent literature, teaching methods, and trends in elementary school social studies.

ELED 6305 - Tchng Language Arts

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Spelling, handwriting, oral and written expression, usage, and grammar.

ELED 6335 - Tchg Math in Elem Grade

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Teaching materials, evaluation techniques, and classroom management strategies for arithmetic, grades one through six.



ELED 7315 - Literature for Children

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: ELED 6315 Literature for Children

Prerequisite: Graduate student in the College of Education or consent of the instructor.

Analysis of fiction and nonfiction, approaches to criticism, and emphasis upon criteria for selection of books for literary study.

ELED 7320 - Foundations of Literacy Instruction

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: ELED 6320 Foundations of Reading Instruction

Prerequisite: None

Examines research-based theories, foundations and practices in reading instruction in elementary schools.

ELED 7324 - Science Instruction in Elementary Grades

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: ELED 6324

Prerequisite: None.

Methods, materials, and laboratory experiences for science instruction in elementary grades.

ELED 7325 - Hist Dev of Child Lit

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ELED 7315, SEDE 7335, or consent of instructor.

Influence of social, political, and cultural developments upon literature for children. Traditional literature; trends in illustration, content, and style; development of reviewing of children's books.

Engineering

ENGI 6198 - Research

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

ENGI 6397 - Selected Topics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

ENGI 8111 - Future Faculty Seminar for Engineers

Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** Doctoral standing in the Cullen College and permission of instructor.

The Future Faculty Program (FFP) is a series of semester-long seminar and training courses whose objective is train top doctoral students to compete for, and achieve success as, leaders in the academic profession. Students will learn about effective articulation of career and research goals, networking, professionalism, setting teaching goals for undergraduate and graduate classes, teaching techniques that are effective for introductory to advanced courses, use of modern technology and managing interactions with students, elevator pitches for research to detailed proposal writing, balance of breadth and depth in research, and the use of resources and technology in seeking grant and funding opportunities.



N
Additional Fee N Fee Type N

Engineering Technology Innovation and Management

ETIM 6310 - Fundamentals of Innovation

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Fundamental skills to create, communicate, and implement innovations in any field, including how to generate unique solutions to problems, define and communicate those solutions to stakeholders, test the viability of innovations, and use principles of system design and thinking to lead systems for innovation.

N
Additional Fee N Fee Type N

ETIM 6311 - Advanced Innovation Methods

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ETIM 6310 or consent of instructor.

A systematic approach to the creation and execution of innovations in any field. Advanced techniques for ideation, problem solving, positioning, and pitching innovations and moving ideas through validation and development.

N
Additional Fee N Fee Type N

ETIM 6312 - Legal Issues in Technology

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Provides an overview of warranty law, deceptive trade practices law, product liability, and class action concepts. Class discussions will focus on legal considerations for managers in technology driven enterprises, risk assessment, and the expense and adverse impact of litigation.

N
Additional Fee N Fee Type N

ETIM 6390 - Applied Innovation Project

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ETIM 6311 or consent of instructor.

Intensive application of concepts including create, communicate, and commercialize. Lead an innovation project in any field by taking an idea from the proposal stage to prototype and beyond.

N
Additional Fee N Fee Type N

English

ENGL 6198 - Rd&Research in Lang&Lit

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** approval of chair of graduate studies in English.

Tutorial hours for pre-thesis research.



ENGL 6199 - Thesis

Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 N

Additional Fee N Fee Type N

ENGL 6300 - College Tchg-Lang & Lit in Eng

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** consent of instructor or approval of chair of graduate studies in English.

Sequential seminars for graduate teaching assistants on techniques and problems in freshman and sophomore English.

ENGL 6310 - Advanced Academic Writing Workshop

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Two semesters of graduate coursework

This course has one central purpose: to guide you in the production of a final, high quality research project of the student's choosing. To that end, we will break down the research and writing process into its component parts, working toward the goal of producing a final, cohesive draft of the MA report by the end of the semester. Reading and writing assignments in early weeks will help you articulate the central issues, questions, and problems of your MA report, allowing you to approach the entire project (to be drafted in later weeks) with a sense of awareness and control. All writing assignments-in draft, provisional, and final form-will be "workshopped" with the entire group.

May not be repeated.

ENGL 6311 - Bibliog & Research Mtds

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

ENGL 6312 - Hist of Lit Criticism

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** approval of chair of graduate studies in English.

A historical study of critical theory, its philosophical foundations, and its application from Plato through the New Criticism.

ENGL 6313 - Modern Literary Theory

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** approval of chair of graduate studies in English.

A survey of critical theory in the twentieth century, its philosophical foundations, and its application.

ENGL 6314 - Feminist Criticism

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in English or approval of chair of graduate studies in English.

Beginning with a background of general theories in feminism, the course focuses on feminist literary theory and criticism, with particular attention to such writers as de Beauvoir, French, Gilligan, Lakoff, Kristeva, Moi, Showalter, Christian, Alarcon, Gilbert, and Gubar.

ENGL 6315 - Crit Cultural Theory

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in English or approval of chair of graduate studies in English.



An introduction to critical cultural studies, emphasizing the complementary influence of literary, communication, semiotic, rhetorical and social theories on one another.

ENGL 6316 - American Folklore

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in English or approval of chair of graduate studies in English. Introduction to the theories and methods of folklore collection and study, with particular emphasis on American traditions.

ENGL 6319 - Modern Thought

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in English or approval of chair of graduate studies in English. Consideration of the work of major nineteenth and twentieth century intellectual figures in literature, literary theory, esthetics, and philosophy.

ENGL 6320 - Poetic Forms

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** approval of chair of graduate studies in English. Study and practice of various poetic forms and techniques.

ENGL 6321 - Fictional Forms and Techniques

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** approval of chair of graduate studies in English. Study and practice of various narrative modes.

ENGL 6322 - Poetry Workshop

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** approval of chair of graduate studies in English. Writing and discussion of poetry from a variety of stylistic approaches.

ENGL 6323 - Fiction Workshop

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** approval of chair of graduate studies in English. Writing and discussion of fiction.

ENGL 6324 - Non-Fiction Prose Workshop

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** approval of chair of graduate studies in English. Writing and discussion of selected categories in non-fiction prose.

ENGL 6330 - General Linguistics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor or approval of chair of graduate studies in English. Fundamental concepts of linguistic description: phonology, morphology, and syntax.



ENGL 6332 - History of Eng Language

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in English or approval of chair of graduate studies in English. Study of the backgrounds of English and its progression from Old to Middle to Modern English, with particular attention to special problems.

ENGL 6333 - Descript & Cont Ling

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** approval of chair of graduate studies in English.

Descriptive phonetics, phonology, morphology and syntax with contrastive study of these systems in English and common first languages of English learners, such as Spanish and Vietnamese.

ENGL 6334 - Theories of Esl

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ENGL 6330 or equivalent.

Corequisite: May be taken concurrently.

Study of theories and research underlying current approaches to teaching English as a second language to secondary school and adult learners.

ENGL 6360 - Old English

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

ENGL 6361 - Old English

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

ENGL 6393 - Research Colloquium-M.A.

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in M.A. program in English.

Seminar on writing and research methods.

ENGL 6397 - Sel Top-Linguistics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in English or approval of chair of graduate studies in English.

Will be identified by a specific title each time it is offered.

May be repeated for credit when topics vary.

ENGL 6398 - Rd&Research in Lang&Lit

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** approval of chair of graduate studies in English.

Tutorial hours for pre-thesis research.

ENGL 6698 - Research



Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** approval of chair of graduate studies in English.
Tutorial hours for pre-thesis research.

ENGL 7315 - Cultural Criticism

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in English or approval of chair of graduate studies in English.
A seminar applying various theoretical approaches in critical cultural studies to specific case studies, emphasizing the complementary influence of theories drawn from different disciplines in the humanities and social sciences on one another and on the analyses of the case studies.

ENGL 7322 - Advncd Poetry Workshop

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

ENGL 7323 - Advncd Fiction Workshop

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

ENGL 7324 - Writers On Literature

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in English or approval of chair of graduate studies in English.
Analysis of selected works from the creative viewpoint with a practicing writer in the represented genre. Course may not count toward required literature hours in any degree program.
May be repeated for a maximum of six semester hours when topics vary.

ENGL 7325 - The British Empire

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in English, or approval of chair of graduate studies.
Exposes students to interdisciplinary approaches to the study of the British Empire, including discourses of empire in theoretical, historical, and literary texts.
Note: Seminar.

ENGL 7332 - Syntax

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ENGL 6330or equivalent.
Principles of formal analysis and description of natural language grammatical systems with special attention to English.

ENGL 7333 - Phonology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ENGL 6330or equivalent.
Principles of formal analysis and description of natural language sound systems with special attention to English.

ENGL 7334 - Studies in Lang Acq



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ENGL 6330or equivalent.

A survey of seminal theories and research on first and second language acquisition with special attention to the acquisition of English.

ENGL 7335 - Sociolinguistics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ENGL 6330or equivalent.

Examination of relationship between language and society with attention to social stratification, ethnicity, and situational contexts.

ENGL 7336 - Lin Bases Mtrl Develop

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ENGL 6334.

Study, evaluation, and development of materials for teaching English as a second language utilizing various linguistic models and current language acquisition theory.

ENGL 7338 - Language Assessment

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ENGL 6334or approval of chair of graduate studies in English.

Theory and practice of assessing English language proficiency and achievement in second or foreign language learners.

ENGL 7344 - Discourse Analysis

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ENGL 6330or equivalent.

Analysis of the relationship between structure and meaning in extended units of oral and written discourse.

ENGL 7362 - Presem: Middle Eng Lit

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in English or approval of chair of graduate studies in English.

Study of literary works selected to illustrate major trends and ideas of the period.

ENGL 7363 - Presem: Renaissance Lit

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in English or approval of chair of graduate studies in English.

Study of literary works selected to illustrate major trends and ideas of the period.

ENGL 7364 - Presem: Rest & 18Th-C

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in English or approval of chair of graduate studies in English.

Study of literary works selected to illustrate major trends and ideas of the period.

ENGL 7366 - Presem: Modern Brit Lit



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in English or approval of chair of graduate studies in English. Study of literary works selected to illustrate major trends and ideas of the period.

ENGL 7367 - Presem: Am Lit-Civ W

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in English or approval of chair of graduate studies in English. Study of literary works selected to illustrate major trends and ideas of the period.

ENGL 7368 - Presem:Am Lit Sin Civ W

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in English or approval of chair of graduate studies in English. Study of literary works selected to illustrate major trends and ideas of the period.

ENGL 7369 - Introduction to Postcolonial Studies

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in English or approval of chair of graduate studies in English. Foundations in the theory and literature of colonialism, focusing on colonial discourse and postcolonial theory and presenting literary texts focusing on postcolonial themes.

ENGL 7370 - History of Rhetoric

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in English or approval of chair of graduate studies in English. A study of rhetorical theory in the western world as applied to written language.

ENGL 7371 - Rhetoric & Composition

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in English or approval of chair of graduate studies in English. A study of theories of rhetoric and discourse as applied to various forms of written composition.

ENGL 7372 - History of Composition

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or approval of chair. Historical narratives of composition in U.S. with attention to archival research methods.

ENGL 7374 - Critical Pedagogy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or approval of chair. Theories of and research on critical pedagogy specific to rhetoric and composition; interrogates function of writing and writing instruction in university.

ENGL 7380 - History of Poetry and Poetics



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing.
Study of the history and techniques of lyric poetry from antiquity to the present.

ENGL 7381 - Narrative and Narrative Theory

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing.
Study of the history and techniques of narrative from antiquity to the present.

ENGL 7390 - Introduction to Doctoral Studies in English

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** doctoral standing.
Introduction to the profession of English studies.

ENGL 7396 - Topics in Language & Literature

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

ENGL 7398 - Special Problems

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** consent of instructor and approval of chair of graduate studies in English.
For the advanced student wishing to pursue individual study.
May be repeated for a maximum of six semester hours credit.

ENGL 7399 - Essay

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Completion of 27 hours of course work toward the MA in English and approval of the director of graduate studies.

May be repeated.

N

Additional Fee Y Fee Type Y

ENGL 7699 - Thesis

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Completion of 36 hours of course work toward the MA in English and approval of the director of graduate studies.

May be repeated.

N

Additional Fee Y Fee Type Y

ENGL 8199 - Dissertation

Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 N

Additional Fee N Fee Type N



ENGL 8316 - Documenting Community Culture

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: ENGL 8316 - Folklore Theory and Fieldwork.

Prerequisite: Graduate standing or approval of chair of graduate studies in English.

A term-long fieldwork and research project emphasizing the methods and principles of community ethnography and recording folklore.

ENGL 8318 - Research Seminar in Rhetoric and Composition

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or approval of chair.

Investigation of approaches, assumptions, and methods in specific fields within the discipline of rhetoric and composition employed in production of research.

Course can be repeated once for credit.

ENGL 8322 - Master Workshop: Poetry

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** 9 hours of poetry workshops.

Shaping and refining the poetry manuscript.

ENGL 8323 - Master Workshop: Narrative

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** 9 hours of fiction workshops.

Shaping and refining the fiction manuscript.

ENGL 8340 - Elizabethan & Jacobean Drama

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ENGL 7363 or approval of chair of graduate studies in English.

Drama of the late sixteenth and early seventeenth centuries, excluding Shakespearean drama.

ENGL 8341 - Shakespeare's Comedies and Histories

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ENGL 7363 or approval of chair of graduate studies in English.

Study of selected plays of the genre.

ENGL 8342 - Shakespeare's Tragedies

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ENGL 7363 or approval of chair of graduate studies in English.

Study of selected plays of the genre.

ENGL 8344 - 16th-C Non-dramatic Literature

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ENGL 7363 or approval of chair of graduate studies in English.

Detailed study of British prose and poetry of the period.



ENGL 8346 - 17Th-C Nondramatic Literature

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ENGL 7363or approval of chair of graduate studies in English.
Detailed study of British prose and poetry of the period, excluding the poetry of Milton.

ENGL 8347 - Milton

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ENGL 7365 or approval of chair of graduate studies in English.
Study of both the prose and poetry of John Milton.

ENGL 8354 - The English Novel

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ENGL 7364or approval of chair of graduate studies in English.
Evolution of the English novel to 1832.

ENGL 8355 - English Romanticism

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ENGL 7365 or approval of chair of graduate studies in English.
Study of early romantic poetry and prose.

ENGL 8356 - English Romanticism

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ENGL 7365 or approval of chair of graduate studies in English.
Study of late romantic poetry and prose.

ENGL 8360 - The English Novel

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ENGL 7365 or approval of chair of graduate studies in English.
Development of the English novel from 1832.

ENGL 8361 - Victorian Poetry

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ENGL 7365 or approval of chair of graduate studies in English.
Tennyson, Browning, Arnold, the Pre-Raphaelites, and others.

ENGL 8362 - Victorian Prose

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ENGL 7365 or approval of chair of graduate studies in English.
Carlyle, Macaulay, Newman, Mill, Ruskin, Arnold, and others.

ENGL 8364 - Women Writers



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in English or approval of chair of graduate studies in English. This course focuses on the poetry, prose, and drama written by such writers as the Brontes, Austen, Eliot, Woolf, Cather, Lessing, Drabble, and Morrison.

ENGL 8371 - Amer Novel of 19Th Cen

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ENGL 7367or approval of chair of graduate studies in English. Study of such writers of the period as Cooper, Hawthorne, Melville, James.

ENGL 8372 - Amer Transcendentalism

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ENGL 7367or approval of chair of graduate studies in English. Study of such writers of the movements as Emerson, Whitman, Thoreau.

ENGL 8373 - American Romanticism

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ENGL 7367or approval of chair of graduate studies in English. Study of such writers of the movement as Poe, Hawthorne, Melville.

ENGL 8374 - American Realism & Naturalism

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ENGL 7368or approval of chair of graduate studies in English. Study of such writers of the movement as Twain, Howells, Crane, James, Dreiser.

ENGL 8376 - 19Th C American Poetry

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ENGL 7367or approval of chair of graduate studies in English. Study of such writers of the period as Bryant, Longfellow, Whitman, Dickinson.

ENGL 8378 - Modern Am Lit

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ENGL 7368or approval of chair of graduate studies in English. Study of such writers of the period as Eliot, Stevens, Williams, Faulkner, Hemingway.

ENGL 8379 - Modern American Drama

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ENGL 7368or approval of chair of graduate studies in English. Emphasis upon American drama of the twentieth century.

ENGL 8381 - Contemporary American Fiction



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ENGL 7368 or approval of chair of graduate studies in English. Study of such writers of the period as Bellow, Mailer, Pynchon, Gass.

ENGL 8382 - Contemp Am Poetry

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ENGL 7368 or approval of chair of graduate studies in English. Study of such writers of the period as Bishop, Berryman, Warren, Wright.

ENGL 8383 - African Amer Poetry/Dra

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in English or approval of chair of graduate studies in English. Study of the works of such writers as Paul Laurence Dunbar, Langston Hughes, Countee Cullen, Arna Bontemps, Gwendolyn Brooks, Lorraine Hansberry, Ed Bullins, Alice Childress, Ntozake Shange, and August Wilson.

ENGL 8384 - African American Fic

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in English or approval of chair of graduate studies in English. Study of the works of such writers as Zora Neale Hurston, Richard Wright, Ralph Ellison, James Baldwin, Margaret Walker, Alice Walker, and Toni Morrison.

ENGL 8385 - Mexican-American Literature

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in English or approval of chair of graduate studies in English. Mexican-American literature using various, genres, themes, or critical or theoretical approaches.

ENGL 8386 - Topics in Postcolonial Studies

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in English or approval of chair of graduate studies in English. Study of any topic within the field of postcolonial studies including but not limited to surveys of postcolonial fiction, poetry, drama, film, or theory, colonial discourse analysis, globalization studies, third world intellectuals, specific traditions within the postcolonial world.

ENGL 8388 - Topics in Literary Translation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in English, or approval of chair of graduate studies in English. Critical approaches to the history, theory, and practice of translation. Course may be repeated for credit when topics vary.

ENGL 8389 - Advanced Projects in Translation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in English or approval of director of graduate studies in English; and either Literary Translation or Topics in Translation Studies; and permission of the instructor. Advanced workshop on individual projects in literary translation. May be repeated once for credit.



ENGL 8390 - Literary Translation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: ENGL 8390 - Studies in Literary Translation.

Prerequisite: Graduate standing in English or approval of chair of graduate studies in English; reading knowledge of a foreign language. Study of the theory and practice of literary translation.

ENGL 8393 - Research Colloquium-Doctoral

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in Ph.D. program in English.

Seminar on writing and research methods.

ENGL 8394 - Sel Topics-Compar Lit

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in English or approval of chair of graduate studies in English.

The theoretical bases and critical strategies for the comparative study of literary texts from different linguistic and national traditions. Texts may be selected according to genres, themes, poetic or narrative techniques, geographical or political areas, etc.

ENGL 8395 - Selected Topics in Rhetoric and Composition

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or approval of chair.

Study of major topics within discipline of rhetoric and composition.

May be repeated for credit if topic varies.

ENGL 8398 - Graduate English Resrch

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** approval of chair of graduate studies in English.

Conference course concerned with specific areas of research and professional development under the supervision of members of the graduate faculty.

ENGL 8399 - Doctoral Dissertation

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

ENGL 8698 - Graduate Research

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** approval of chair of graduate studies in English.

Conference course concerned with specific areas of research and professional development under the supervision of members of the graduate faculty.

ENGL 8699 - Doctoral Dissertation



Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

Entrepreneurship

ENTR 6A98 - Research

Credit Hours: 1.5

Lecture Contact Hours: 1.5 Lab Contact Hours: 0 Prerequisite: Graduate standing and approval of chair.

Research in entrepreneurship.

May be repeated as appropriate to degree plan.

ENTR 7A97 - Selected Topics in Entrepreneurship

Credit Hours: 1.5

Lecture Contact Hours: 1.5 Lab Contact Hours: 0 Prerequisite: Graduate standing. May be repeated when topics vary.

May be repeated for credit when topics vary.

ENTR 7335 - Entrepreneurial Profit and Cash Management

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 Prerequisite: Graduate standing.

Projecting and managing profits, cash, and funding needs for early stage and growing businesses.

N

Additional Fee N Fee Type N

ENTR 7336 - Entrepreneurship Overview

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: ENTR 7336 - Entrepreneurship Overview and Revenues.

Prerequisite: graduate standing.

The nature of the entrepreneurial business process and business plan development

ENTR 7337 - Entrepreneurship Capital & Legal Forms

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: ENTR 7337 - Entrepreneurship Cost, Capital, and Legal Forms.

Prerequisite: Graduate standing.

Capital alternatives and legal form options for entrepreneurs.

ENTR 7338 - Entrep Business Plan

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Prerequisite: ENTR 7337. Credit for both ENTR 7338 and MANA 7361 cannot be applied toward a degree.

Development and implementation of individual business plans.

ENTR 7339 - Venture Fund



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and approval of instructor.
Analysis of early stage companies and management of an early stage investment fund. May be repeated for credit.

ENTR 7341 - Family Business

Credit Hours: 3.0

Lecture Contact Hours: 3.0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.
Strategic, managerial, behavioral and financial issues in family owned and managed companies.

ENTR 7342 - Women in Entrepreneurship

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.
Issues that women entrepreneurs face and means of addressing those issues.

N

Additional Fee N Fee Type N

ENTR 7381 - Technology Commercialization

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.
Issues and challenges in commercializing technology, with an emphasis on assessing commercial potential, early stage market research, and commercialization strategies.

ENTR 7383 - Technology Commercialization Projects

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and instructor approval.
Application of technology commercialization processes.

ENTR 7390 - Technology Entrepreneurship

Credit Hours: 3.0

Lecture Contact Hours: 3 **Prerequisite:** Graduate standing. Credit not given for both ENTR 7336 and ENTR 7390.
The nature of the entrepreneurial business process for technology-based business.

ENTR 7393 - RED Labs Pre-accelerator

Credit Hours: 3.0

Lecture Contact Hours: 3.0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and consent of instructor.
Technology entrepreneurship focused on building a real company. Developing the business model and team.

ENTR 7394 - RED Labs Accelerator

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and consent of instructor.
Technology entrepreneurship focused on building a real company. Validating the business model and moving to launch.

ENTR 7397 - Selected Topics in Entrepreneurship



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and chair or program director approval.

May be repeated for credit when topics vary.

Finance

FINA 6A31 - Analyzing Financial Statements

Credit Hours: 1.5

Lecture Contact Hours: 1.5 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Provides students with the basic tools needed to use financial statements in finance applications. It provides a structured approach to the analysis of financial statements. The course format will include lectures, group discussions, problem solving and discussion on recent events related to the analysis of financial statements.

FINA 6A35 - Managerial Finance

Credit Hours: 1.5

Lecture Contact Hours: 1.5 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Principles of financial analysis, including discounting techniques, project evaluation techniques, and fundamental concepts of securities pricing.

FINA 6A98 - Research

Credit Hours: 1.5

Lecture Contact Hours: 1.5 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and approval of chair.

Research in finance.

May be repeated as appropriate to degree plan.

FINA 7A37 - Corporate Strategy-Equity Fund Management

Credit Hours: 1.5

Lecture Contact Hours: 1.5 Lab Contact Hours: 0 **Prerequisite:** Graduate standing, FINA 6A35 or FINA 6335, and instructor permission.

This course analyzes the effects of industry competition and corporate strategy on equity valuation. Using analytic approaches and case studies, the course covers the relation of industry structure and product market strategy to sustainable competitive advantage and equity return performance.

N

Additional Fee N Fee Type N

FINA 7A40 - Fixed Income I

Credit Hours: 1.5

Lecture Contact Hours: 1.5 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and FINA 6A35 or FINA 6335.

This course focuses on (1) the basic concepts of fixed income securities such as yield, duration, and convexity; (2) the empirical techniques to describe the term structure of interest rates; (3) general understanding of the market for defaultable securities; (4) the valuation of defaultable securities.

N

Additional Fee N Fee Type N

FINA 7A51 - Derivatives II

Credit Hours: 1.5

Lecture Contact Hours: 1.5 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and FINA 7A50.

Mechanics and institutional features of futures markets. Hedging strategies with futures. Swaps markets for interest rates, FORX, commodities and



bases. Financial engineering.

N

Additional Fee N Fee Type N

FINA 7A10 - Intermediate Corporate Finance: Valuation

Credit Hours: 1.5

Lecture Contact Hours: 1.5 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and FINA 6A35.

in-depth analysis of valuation techniques, including Weighted Average Cost of Capital (WACC), Adjusted Present Value (APV), and Free Cash Flow to Equity. Application of these techniques to value firms.

FINA 7A20 - Capital Markets

Credit Hours: 1.5

Lecture Contact Hours: 1.5 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and FINA 6A35.

Analysis of the institutional structure of stock, bond, and derivatives markets. Analysis of securities trading. The valuation of fixed-income securities and derivative securities.

FINA 7A23 - Portfolio Theory and Practice

Credit Hours: 1.5

Lecture Contact Hours: 1.5 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and FINA 7A20.

Analysis of risk and return, portfolio theory, and asset allocation. Factor models, performance evaluation, and market efficiency.

FINA 7A30 - Advanced Corporate Finance

Credit Hours: 1.5

Lecture Contact Hours: 1.5 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and FINA 7A10.

In-depth analysis of financial structure and dividend policy. Application of theories to develop a better understanding of a firm's optimal mix of financing sources, and thus its cost of capital.

FINA 7A33 - Mergers & Acquisitions I

Credit Hours: 1.5

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and FINA 7A10.

This is the first of two half-semester courses on mergers and acquisitions (M&As). The course provides a broad overview of M&As, and their impact on the shareholder value of bidding and target firms. Apart from valuation issues, the course will emphasize deal design, corporate governance, takeover defense and attack strategies, and leveraged buyouts.

N

Additional Fee N Fee Type N

FINA 7A50 - Derivatives I

Credit Hours: 1.5

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and FINA 6A35 or FINA 6335.

Mechanics and institutional features of option markets, and trading strategies involving option. Properties of options prices and valuation using the Black-Scholes-Merton model. Delta hedging.

N

Additional Fee N Fee Type N

FINA 6335 - Managerial Finance



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing, ACCT 6331, and FINA 6387.

Principles and methods of asset management, and financial planning and control of the attainment of both short- and long-range objectives.

FINA 6387 - Managerial Analysis

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing.

An examination of analytical concepts and methods that have application to business problems.

FINA 6398 - Research

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** graduate standing and approval of chair.

FINA 7322 - Security Analysis

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and FINA 6A35 or FINA 6335.

Topics will include: Analytical methods used in projecting individual stock and bond performance such as discounted cash flows, factor models, value versus growth and an analysis of factors affecting the risks and returns of individual securities.

FINA 7323 - Applied Equity Fund Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and FINA 6A35 or FINA 6335.

Provides an in-depth knowledge of financial valuation and portfolio management techniques through the experience of managing a multi-million-dollar investment portfolio. This course is suitable for anyone planning a career in finance that requires robust competence in financial valuation or portfolio management.

FINA 7324 - Investment & Portfolio Management Project I

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and FINA 7A10.

Corequisite: FINA 7325.

This course is designed to help students learn key concepts to invest in equities and work professionally in investments. Students will have the opportunity to simulate working as a buy-side financial analyst with an investment company including managing a "virtual portfolio".

N

Additional Fee N **Fee Type** N

FINA 7325 - Investment & Portfolio Management Project II

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and FINA 7A10; must register for FINA 7324 and FINA 7325 concurrently.

This course is designed to help students learn key concepts to invest in equities and work professionally in investments. Students will have the opportunity to simulate working as a buy-side financial analyst with an investment company including managing a "virtual portfolio".

N

Additional Fee Y **Fee Type** Y

FINA 7326 - Private Equity and Investment Banking



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and FINA 6335or FINA 6A35.

Structure and objectives of private equity with a focus on venture capital and entrepreneurial finance. Analysis of investment opportunities, structuring, financing and growing portfolio companies and small businesses.

FINA 7329 - Behavioral Finance

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Examination of individual decision behavior within a financial market context. Evaluation of psychological explanations for market movements and anomalies. Emphasis on the application of psychological principles to decision making behavior.

FINA 7341 - Commercial Banking

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and FINA 6A35or FINA 6335.

Survey of commercial banking principles and in-depth analysis of current banking issues.

FINA 7350 - Derivatives I: Options

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and FINA 7A50.

Analysis of the theory of options and its applications in practice. Emphasis is on the options' strategies and modeling as used in managerial risk management.

FINA 7351 - Derivatives II: Forwards, Futures and Swaps

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and FINA 7A50.

Analysis of the theory of forwards, futures, and swaps, and their applications in practice. Emphasis is on the use of these derivatives in risk management by investors and firms of all sizes.

FINA 7352 - Energy Derivatives

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and FINA 6335or FINA 6A35.

Analyzes the most important traded energy instruments, including futures, swaps, and options; the institutions on which they are traded; and their pricing. Relationships between economic fundamentals and price behavior are explored, as are the implications of these relationships for the pricing of traded energy instruments and the management of energy price risk, current policy issues in energy markets.

FINA 7360 - International Finance

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: (Also INTB 7360, formerly FINA/INTB 7386.)

Prerequisite: Graduate Standing and FINA 6A35or FINA 6335.

Students may not receive credit for both FINA 7386 and INTB 7386. A comprehensive overview of currency, equity, and international bond markets around the world. Institutional, theoretical issues, and current trends will be analyzed. A strong emphasis will be placed on the hedging techniques and tools used to reduce the risks associated with those financial markets.

FINA 7361 - Risk Management



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and FINA 6A35 or FINA 6335.

Examines advanced risk issues for top management. Systematic characterization of types of risk facing corporations and the hedging of such risks through the use of derivatives, futures and forwards, securitization, and specialized contracting arrangements with input suppliers and purchasers.

FINA 7364 - International Business and Political Risk Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and FINA 6A35 or FINA 6335.

Examines political risk in international business in the context of enterprise risk management. Utilizes plant site, firm, and country case studies to introduce approaches to political risk assessment and tools for managing political risk and capitalizing on unexploited opportunities related to high risk factors.

FINA 7370 - Cases in Corporate Finance

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: FINA 7368

Prerequisite: Graduate standing and FINA 6A35 or FINA 6335.

Application of financial theory to analyze interesting and topical case studies of corporate financial management.

FINA 7371 - Energy Value Chain

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and FINA 6335 or FINA 6A35.

The nature of energy assets, operations and products produced, and the economics of each component of the EVC.

FINA 7372 - Upstream Economics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and FINA 6387

The energy industry's upstream (E&P) segment, discussing geological processes that form and trap hydrocarbons, describing the techniques used to find, produce, and process energy discoveries. Ownership, operational decision making, finding and lifting costs, risk assessment and mitigation, reserve accounting, financing, and unconventional hydrocarbons.

FINA 7373 - Petrochemical and Refining Economics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing and FINA 6387.

Consideration of economic concepts and analysis of the structure and behavior of global refining and petrochemical industries. Exploration of current issues facing the industry, including the impact of changes in relative hydrocarbon values, regulatory impacts, unconventional crudes, alternative transportation fuels, and the role of the industry in economic development.

FINA 7374 - Midstream Energy Finance

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and FINA 6A35 or FINA 6335.

Provides an insight into the midstream sector of the oil and gas industry by studying real projects and strategies executed in this sector. Explores the financial risks, structures and investment strategies and the drivers to investment in the midstream industry. Includes an overview of how this sector has developed and the entities that have come to the forefront of this sector.

FINA 7376 - Energy Trading



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and FINA 6A35 or FINA 6335.

Energy trading organization and the risks facing energy companies. Emphasis on valuation in contract trading, including technical and fundamental analysis in petroleum, natural gas, and power markets.

FINA 7377 - Electric Power Markets

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and FINA 6A35 or FINA 6335.

Examines the history of the electric power markets in the United States and the fundamental concepts of power and its significance in the economy. Provides detailed knowledge of the US Power Grid including regional analysis, generation, load, and transmission. Studies the impact of the environment and weather on the market. Analyzes the trading of power and discusses corporate trading risks.

FINA 7380 - Real Estate Finance

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and FINA 7A10.

Introduction to real estate economics and finance fundamentals. Analysis of investments, trends in development, and financing.

FINA 7382 - Developing a Real Estate Project

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and FINA 6A35 or FINA 6335.

Overview of the real estate development industry including applied processes and best practices used in actual development projects. Follows the development process from an entrepreneurial and "deal making" point-of-view and uses case studies to illustrate the multidisciplinary nature of real estate development teams. Topics include market analysis, site selection, project budgeting/financial analysis, land acquisition, marketing and leasing, joint ventures, financing, design and construction management, and dispositions.

N

Additional Fee N Fee Type N

FINA 7383 - Real Estate Market Analysis & Valuation

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and FINA 6A35 or FINA 6335.

This course covers the fundamentals of market research in real estate and determination of development project feasibility. Topics include land economics, shift-share analysis, market demand forecasts, and assessment of competitive conditions, determination of market risk plus project vacancy and absorption projections for residential, commercial and mixed-use projects.

N

Additional Fee N Fee Type N

FINA 7397 - Selected Topics in Finance

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and FINA 6A35 or FINA 6335.

Y

Note: May be repeated for credit when topics vary.

Additional Fee Y Fee Type Y

FINA 8338 - Sem in Fincl Mgt I



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing and FINA 6335.

Advanced study of the theoretical issues and quantitative techniques of the financial management of the firm.

FINA 8339 - Sem in Fincl Mgt II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing and FINA 6335.

Advanced study of the theoretical issues and quantitative techniques of the financial management of the firm.

FINA 8368 - Seminar in Investments

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing and FINA 6335.

Advanced study of the theoretical issues and quantitative techniques of the security analysis and portfolio evaluation.

FINA 8372 - Seminar Options & Futures

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

The course develops the option pricing techniques and their application to corporate finance.

FINA 8373 - Emp Methods in Finance

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

The course discusses various empirical methods used in current finance literature.

FINA 8395 - Teaching Practicum

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** graduate standing and approval of instructor.

Supervised practice in the teaching of finance.

FINA 8396 - Research Practicum

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** graduate standing and approval of instructor.

Supervised research in finance.

FINA 8397 - Selected Topics in Finance

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing and approval of chair.

May be repeated for credit when topics vary.

FINA 8398 - Special Problems

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** graduate standing and approval of chair.



FINA 8399 - Doctoral Dissertation

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.
N

Additional Fee Y Fee Type Y

FINA 8699 - Doctoral Dissertation

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.
N

Additional Fee Y Fee Type Y

FINA 8999 - Doctoral Dissertation

Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.
N

Additional Fee Y Fee Type Y

French

FREN 6313 - Advanced Composition and Stylistics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Rhetorical figures of the French language, the different registers of discourse, idioms and comparative stylistics.

FREN 6315 - Advanced Translation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Translation of literary and non-literary texts.

FREN 6316 - Contemporary France

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 French Institutions, political and social issues, and France in the Francophone World.

FREN 6318 - French Cinema

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or P.B.
The historical, cultural, thematic, and aesthetic evolution of French cinema from the silent era to modern times.

FREN 6321 - Francophone Cinema

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or P.B.
Study of films from French-speaking North & Sub-Saharan Africa within their historical, cultural, thematic, and aesthetic context.



FREN 6331 - 20th Century French Theatre

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing.
Leading playwrights from the turn of the 20th century to the theatre of the absurd.

FREN 6334 - Jung and French Literature

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing.
Application of Jungian theory to various works of French literature.

FREN 6340 - French Women Writers

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing.
French women writers from the Renaissance to present.

FREN 6341 - Food in French Culture

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.
Perspectives on food and gastronomy in French history, culture, and society.

FREN 6350 - Sex and the Other in French Literature

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.
Gender, sexuality, and identity in French and francophone literature.

FREN 6392 - French For Non Majors

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None
French 6392 is intended to teach graduate students in majors other than French to read French texts. The emphasis will be on comprehension and not on aspects such as pronunciation.

FREN 6393 - French for Non-Majors

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Reading for non-majors II is a course for graduate students of majors other than French
It reviews and expands upon the components necessary to read French texts.

FREN 6397 - Topics-Fre Lit Lang Cul

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

FREN 6398 - Special Problems



Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

FREN 6399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

FREN 7399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

Foresight

FORE 6311 - Introduction to Foresight

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: FUTR 6311 - Introduction to Futures Studies.

Prerequisite: Graduate standing.

An introduction into the methods, practitioners and issues of foresight research.

FORE 6319 - Proseminar in Foresight

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: FUTR 6319 - ProSeminar in Futures Studies.

Prerequisite: Graduate standing.

A review of Foresight as a professional discipline and practice, including the latest techniques and the ethics of professional practice.

FORE 6331 - Social Change

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: FUTR 6331 - Social Change.

Prerequisite: Graduate standing.

A review of classical and contemporary theories of how organizations, societies, and other human systems change over time.

FORE 6333 - Systems Thinking

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: FUTR 6333 - Systems Thinking.

Prerequisite: Graduate standing.

Introduces students to a perspective on the world involving the interaction of interconnected parts.

FORE 6351 - Futures Research

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: FUTR 6351 - Futures Research.



Prerequisite: Graduate standing.

An introduction to and practice in the tools and techniques used in traditional and in alternative futures forecasting.

FORE 6355 - Alternative Perspectives on the Future

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate Standing.

Alternative Perspectives brings together new and different perspectives, concepts, and methods for approaching the future, emphasizing challenging assumptions, and developing critical and creative thinking.

FORE 6359 - Design Futures

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Design futures combines futures thinking with design thinking in order to create tangible futures scenarios by learning through intellectual and practical "in use" approaches.

FORE 6371 - World Futures

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: FUTR 6371 - World Futures.

Prerequisite: Graduate standing.

A review of global trends shaping the future, including the most important demographic, environmental, technological, economic, political, and cultural changes.

FORE 6395 - Master's Project in Foresight

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: TECH 6395 - Master's Project in Futures Studies in Commerce.

Prerequisite: FORE 6319.

May be repeated for credit.

FORE 6396 - Internship

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 Formerly/Same as: FUTR 6396 - Internship.

Prerequisite: FORE 6319.

Part- or full-time experience in a futures studies or industry setting.

May be repeated for credit.

FORE 6397 - Selected Topics in Foresight

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

May be repeated for credit.

FORE 6398 - Special Problems in Foresight

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

May be repeated for credit.



FORE 6399 - Master's Thesis

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 Formerly/Same as: FUTR 6399 - Master's Thesis.

Prerequisite: FORE 6319.

Conduct independent research according to Department guidelines.

May be repeated for credit.

General Business Administration

GENB 6A50 - Business Communications

Credit Hours: 1.5

Lecture Contact Hours: 1.5 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing

Communication skills useful in business, including methods for organizing ideas and presenting information.

GENB 7A97 - Selected Topics

Credit Hours: 1.5

Lecture Contact Hours: 1.5 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing.

May be repeated when topics vary.

GENB 6330 - International Environment of Business

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing and FINA 6387 .

The major social, political, legal, ethical, and cultural dimensions of the changing world environment and the impact of these dimensions on the firm.

GENB 6350 - Bus Comm & Ethical Reasoning

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** graduate standing.

Study of communication and critical thinking skills useful in business, including methods for organizing ideas, analyzing data, assessing decision alternatives, presenting information, and developing an ethical framework for professional behavior.

GENB 6398 - Research

Credit Hours: 3.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 0 **Prerequisite:** graduate standing and approval of chair.

GENB 7196 - Internship

Credit Hours: 1.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 1 **Prerequisite:** Graduate standing.

Enhancement of concepts and techniques learned in the classroom. Written report required.

GENB 7197 - Selected Topics



Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** graduate standing and approval of chair or program director.

May be repeated as topics vary.

GENB 7297 - Selected Topics

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** graduate standing and approval of chair or program director.

May be repeated as topics vary.

GENB 7303 - Professional Accounting Communication

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Strategies to increase the effectiveness of oral and written communication to accounting information stakeholders.

GENB 7304 - Business Ethics for Accountant

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing.

Ethical principles in business and accounting, focusing on the origins of ethical thinking (history/philosophy), modern day ethical issues (real business cases), and the professional ethical standards applicable to CPAs today.

GENB 7305 - Commercial Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing.

Application of basic legal principles to contracts, sales, insurance, commercial paper, agency, business organizations, real property, personal property, trade regulation, secured transactions, and bankruptcy.

GENB 7334 - Brainstorming to Bankrolling: Beyond the Classroom

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

This project-based course provides a unique opportunity to explore the area of microfinance from a theoretical, practical, and experiential viewpoint. Topics include social entrepreneurship and business concepts such as Triple Bottom Line and Base of the Pyramid, and how entrepreneurs use business concepts, innovation, and technology to solve some of the most pressing and challenging problems of society.

GENB 7335 - Research & Application of Emerging Innovations in Microfinance

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and GENB 7334 or instructor approval.

Application of principles of microfinance, including research and service learning projects.

GENB 7390 - Books an MBA Should Read

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing

Reading for breadth, sophistication, and business-related applications.

GENB 7393 - Business Consulting Lab I



Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** Graduate standing and permission of instructor. Consulting and engagement management practices. Involves participation in a live project.

GENB 7394 - Business Consulting Lab II

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** Graduate standing and permission of instructor. Consulting and engagement management practices. Involves participation in a live project.

GENB 7397 - Selected Topics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing and approval of department chair or program director. May be repeated when topics vary.

GENB 8011 - Research Activities

Credit Hours: 0.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and consent of instructor. Track current research activities.

GENB 8301 - Communication of Academic Research

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and consent of instructor. Writing and presenting academic papers in all business administration disciplines.

German

GERM 6198 - Special Problems

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

GERM 6333 - The Age of Enlightenment

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: GERM 6330

Prerequisite: graduate standing.

The study of major works of literature and criticism written between 1700 and 1781; that is, from Gottsched to Kant.

GERM 6343 - The Romantic Movement

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing.

The origin and development of German romanticism (1798-1835). Examination of major literary, critical, and philosophical texts.

GERM 6354 - 19th Century Drama



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing

Introduction to critical literature dealing with the drama of the period; analysis and discussion of representative works of major dramatic authors.

GERM 6355 - 19th Century Prose and Poetry

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing.

Poetry, the novelle, and the novel of the nineteenth century with emphasis upon the literature of Junges Deutschland, the Biedermeier era, and realism.

GERM 6360 - Weimar Germany

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing or P.B.

Analysis of representational works within the historical context of Weimar Germany. Emphasis on literature, drama, film, visual arts, and cultural theory. Taught in German.

GERM 6361 - History and Memory in German Cinema

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or P.B.

Representations of History and Memory in German Cinema. Analysis of individual films and genres (documentary, melodrama, drama, comedy) with consideration of theoretical and conceptual frameworks such as identity formation (individual and national), memory studies, narration studies, and the representation of historical trauma.

Note: Taught in English.

GERM 6362 - The Holocaust in Literature and Visual Arts

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing or P.B.

Theoretical and critical readings on representing the Holocaust and analysis of Holocaust representations in literary and autobiographical writings, cinema, and the visual arts.

GERM 6363 - Post-Reunification German Culture

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing or P.B.

Trends in contemporary German culture with emphasis on literature, theater, film, and the visual arts. Taught in German.

GERM 6366 - Twentieth Century Drama

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing.

Analysis and discussion of representative works; emphasis on the experimentation in form, the variety of dramatic expression, and the impact of dramatic intent upon form.

GERM 6370 - Vienna 1900 - The Birth of the Modern

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate of PB standing.



Avant-grade turn-of-the century movements in Viennese literature, theater, music, art, architecture, philosophy, and psychoanalysis examined within the cultural, social, and political context of pre-1918 Central Europe.

GERM 6392 - Reading German/Non-Majors I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing or consent of instructor.

May not apply toward foreign language requirement for BA degree. Reading knowledge of German as research tool. Accelerated study and analysis of grammar and linguistic structures of German scholarly and scientific literature.

GERM 6393 - Reading German/Non-Majors II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** GERM 6392.

May not apply toward foreign language requirement for BA degree. Continuation of GERM 6392 with emphasis on translation problems and specialized vocabulary. Readings in specific research areas.

GERM 6395 - Selected Topics in German Language and Literature

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

GERM 6396 - Sel Topics-German Lit

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 May be repeated with approval of chair.

GERM 6398 - Special Problems

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

GERM 6399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

GERM 7399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

Global Energy, Development, and Sustainability

GEDS 6310 - Promoting Sustainable Oil and Gas Projects: Legal and Social Frameworks

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.



An interdisciplinary approach (Social Sciences, Law) trains students to identify, analyze, and problem-solve re: social, political, environmental challenges associated with oil and gas projects in developing nations and new production sites. Topics may include: key stakeholders and varying priorities; issues of ethnicity/identity, religion, health, social and enviro justice; international soft law codes of conduct and human rights; formal and informal regulation of IOC operations by courts, arbitrators, and industry trade groups; the role of international law, U.S. law, host government laws, and petroleum contract obligations in interactions with host communities or nations; IOC pressures from/alliances with NGOs.

GEDS 6320 - Promoting Sustainable Oil and Gas Projects: Petroleum Agreements, Regulations, and Economics

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

In-depth introduction to/analysis of commercial, fiscal and regulatory frameworks necessary for sharing risks and returns between companies and governments, promoting sustainable projects and operations. Topics may include: national laws, regulations, Codes of Conduct and Standards (industry-created/international), types of agreements and contracts; Concession Agreements, Production Sharing Agreements, fiscal terms /fiscal stability; international treaties; arbitration; project economics, economic rent and government take; capital costs (impacts on government); corruption and impacts of regulations, transparency and disclosure, and the roles of NGOs, World Bank, EITI and home country governments (impacts on investors and governments); sovereign wealth and stabilization funds; impacts of all above on company and government strategies, results for broader economic development.

GEDS 6330 - Promoting Sustainable Oil & Gas Projects: Local Content, Communities, & Corporate Social Responsibility

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Introduces/analyzes current best practices to ensure sustainable benefits for local employees, communities, businesses, broader society, economy. Topics may include: organizational behavior/human resource management models for improving local content (recruitment, retention, promotion within companies); barriers to local company formation/success in oil sector, how IOCs, NOCs, oilfield service companies, governments can assist in overcoming; methods for consulting with local societies/avoiding conflict; environmental impacts on host communities and local economies; case studies and lessons learned re: approaches to Corporate Social Responsibility (CSR) in the petroleum sector.

GEDS 6397 - Selected Topics in Global Energy, Development, Sustainability

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Selected Topics focused on Global Energy, Development, and Sustainability.
May be repeated with Director's approval.

Global Retailing

GRET 6332 - Consumer Issues and Applications for Global Retailing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

To examine and synthesize consumer based issues of global market research, consumer influence patterns and decision making with implications for international retailing.

GRET 6333 - Retail Management and Cross-Cultural Perspectives

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Global retail management practices with cross-cultural perspectives.



GRET 6334 - Global E-Tailing Systems

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.
Advanced dynamics of web-based approaches for technology based enterprises.

GRET 6335 - Regional Retail Markets

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.
Identification and analysis of characteristics and practices of regional retail markets.

GRET 6336 - Global Retail Analysis of World Regions

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.
Global retail analysis methodology and applications for diverse world regions.

GRET 6370 - Global Retail Analytics

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.
Critique of the data, financial and analytical requirements for running a successful global business.

N

Additional Fee N Fee Type N

GRET 6396 - Internship in Global Retailing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.
Professional Internship experience in retailing organizations.

GRET 6397 - Selected Topics in Global Retailing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and approval of program director.
Selected Topics in Global Retailing.

GRET 6398 - Special Problems in Global Retailing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and approval of program director.
Special problems in Global Retailing.
May be repeated for credit.

GRET 6399 - Master's Thesis in Global Retailing

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and approval of program director.
Master's Thesis in Global Retailing.

Y



Note: May be repeated for six semester hour credits.

Additional Fee N Fee Type N

Greek

GREK 6300 - Advanced Study in Ancient Greek

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or Post Baccalaureate status

Selected readings in ancient Greek poetry and prose together with modern works of scholarship.

This course may be repeated for credit

GREK 6302 - Homeric Greek

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or PB status.

Advanced work in Ancient Greek, consisting of readings from the Homeric poems together with contemporary scholarship.

GREK 6303 - Selected Readings from Greek Tragedy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or PB status.

Advanced work in Ancient Greek, consisting of readings from the tragedies of Aeschylus, Sophocles, and Euripides, together with contemporary scholarship.

History

HIST 6198 - Special Problems

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

HIST 6298 - Special Problems

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

HIST 6310 - Col Latin Am Historiography

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Intensive study with readings and discussions of major works and schools of thought in colonial Latin American History.

HIST 6311 - Res Sem in Col Latin America

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Application of historical research and writing techniques to specified problems in colonial Latin American history.



HIST 6312 - Mod Latin Am Historiography

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Intensive study with readings and discussions of major works and schools of thought in modern Latin American history.

HIST 6313 - Res Sem in Mod Latin America

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Application of historical research and writing techniques to specified problems in modern Latin American history.

HIST 6314 - Mexican Historiography

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Intensive study with readings and discussions of major works and schools of thought in Mexican history.

HIST 6315 - Res Sem in Mexican History

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Application of historical research and writing techniques to specified problems in Mexican history.

HIST 6320 - Ancient History Methods and Historiography

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Permission of the instructor.

An intensive study of the sources, methods, and changing interpretations of the history of the ancient world.

HIST 6321 - Eur Historiog To 1600

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

An intensive study of the sources, methods, and changing interpretations of European history. First semester: to 1600; second semester: from 1600.

HIST 6322 - Eur Historiog From 1600

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

An intensive study of the sources, methods, and changing interpretations of European history. First semester: to 1600; second semester: from 1600.

HIST 6332 - Historiography of the Medieval and Early Modern Islamic World

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Permission of instructor.

This course introduces students to the historiography of the medieval and early modern Islamic world. It offers an intensive study of scholarship and historiographical questions, research topics, and provides the students with a basic background in the field's major themes and questions.

HIST 6334 - Research Seminar in Middle Eastern History (Medieval and Early Modern Islamic World)



Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Permission of the instructor.

This class introduces the students to the historiographical debates and historical research topics in the field. It primarily focuses on the period between 12th and 19th centuries. In addition to scholarly monographs and articles, class readings will include primary sources in translation.

HIST 6340 - Research Seminar in European History

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Application of historical research and writing techniques to specified fields of European history.

May be repeated with approval of chair.

HIST 6341 - The Medieval Church

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

HIST 6342 - Rdgs in the Early Middle Ages

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

HIST 6343 - Rdgs in High Middle Ages

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

HIST 6346 - Readings in Imperialism

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

HIST 6348 - Soc Modern France & Germany

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

HIST 6349 - Rdgs in Modern French History

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

HIST 6350 - Teaching Practicum

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

HIST 6351 - The Professional Historian



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor or director of graduate studies.
Required of all doctoral students. Training for the various academic and non-academic roles of the professional historian.

HIST 6355 - Colonial US Historiography

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

An intensive study of the changing interpretations by leading historians of the nation's development. First semester to 1815; second semester: 1815-1900; third semester: since 1900.

HIST 6356 - U.S Historiography to 1877

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Permission of the instructor.

An intensive study of the sources, methods, and changing interpretations of the history of US History to 1877.

HIST 6357 - 19Th Cent US Historiography

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

An intensive study of the changing interpretations by leading historians of the nation's development. First semester to 1815; second semester: 1815-1900; third semester: since 1900.

HIST 6358 - U.S Historiography from 1877

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Permission of the instructor.

An intensive study of the sources, methods, and changing interpretations of the history of US History since 1877.

HIST 6359 - 20Th Cent US Historiography

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

An intensive study of the changing interpretations by leading historians of the nation's development. First semester to 1815; second semester: 1815-1900; third semester: since 1900.

HIST 6363 - Intro Sem in U S His

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Basic principles and their application in the critical method of historical research and writing.

HIST 6368 - Readings in American Food History

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor.

Supervised study of the major writings of American historians.

May be repeated with approval of graduate program director.

HIST 6370 - Adv Research & Writ Sem



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

The analytical assessment of historical data/documents and student critiques of original research and writing techniques.

HIST 6371 - Rdgs in US Women's His Sn 1800

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

HIST 6372 - Rdgs in US Social Policy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

HIST 6373 - Sem Latin American His

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Development and use of historical research and writing techniques.

May be repeated with approval of chair.

HIST 6374 - Readings in Latina/Latino History

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Introduces themes in Latina/o history and explores the lives that Latina peoples built in the U.S. while maintaining connections to Mexico, the Caribbean, and Central and South America in the nineteenth and twentieth centuries.

Note: Seminar.

HIST 6380 - Public History Internship

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** Consent Director for Center for Public History.

Supervised assigned work experience outside the Department of History in cooperation with supervisor of local public history programs.

HIST 6381 - Readings in Public Hist

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Intensive study of major works on the history of institutions and public policies in the United States, especially since 1880.

HIST 6382 - Research in Public History

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor.

Application of public history research, writing, presentation skills, and methodologies to specific projects designed by the instructor.

Note: Course may be repeated for credit with the approval of the Director of Public History.

HIST 6383 - Topics in Public Hist



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Application of methods of public history to public policy, business decision making, community studies, cultural resources management, and historical editing.

May be repeated for credit when topics vary.

HIST 6384 - Oral History

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Oral history as a research tool: selecting subjects, interviewing, transcribing, editing, and interpreting interviews; legal and ethical aspects of oral history.

HIST 6387 - Hist Archives Mgmt

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

The selection, retention, acquisition, and management of historical records, including the records generated by contemporary organizations and corporations as well as by organizations and individuals in the past.

HIST 6390 - Comparative Slavery & Forced Labor

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing.

Investigates slavery and forced labor across the globe and over a long expanse of time, from antiquity to sex slavery today, with some emphasis on African American slavery.

HIST 6391 - World Hist Theory & Teaching

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing

Overview of the theory and practice of world history.

HIST 6392 - World History Readings

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing

Overview of the major writings and themes in world history.

HIST 6393 - Rdgs Seminar in US History

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 May be repeated with approval of chair.

HIST 6394 - Res Seminar in US History

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Seminar to develop analytical skills and research necessary for writing thesis and dissertation.

May be repeated with approval of chair.



HIST 6395 - Topics European History

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 May be repeated with approval of chair.

HIST 6396 - Topics in Latin-American Hist

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Intensive study with readings and discussions.

HIST 6397 - Selected Topics in History

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor.

Intensive study with readings and discussions.

Note: May be repeated for credit when topics vary.

HIST 6398 - Special Problems

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

HIST 6399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

HIST 6651 - Public History Internship

Credit Hours: 6.0

Lecture Contact Hours: 1 Lab Contact Hours: 11 **Prerequisite:** consent of instructor.

Supervised assigned work experience outside the Department of History in cooperation with supervisor of local public history programs.

HIST 7399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

HIST 8199 - Dissertation

Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 N

Additional Fee N Fee Type N

HIST 8377 - Reading for Comprehensive Exams



Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Completion of PhD coursework.

Independent study with the chair or a member of the comprehensive examination committee resulting in preparation for and successful completion of the exams.

Y

Note: Course may be repeated for credit.

Additional Fee N **Fee Type** N

HIST 8388 - Dissertation Proposal

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Completion of PhD coursework.

Independent study with the chair or a member of the dissertation committee resulting in completion of a dissertation proposal.

Y

Note: Course may be repeated once for credit.

Additional Fee N **Fee Type** N

HIST 8399 - Doctoral Dissertation

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y **Fee Type** Y

HIST 8677 - Reading for Comprehensive Exams

Credit Hours: 6

Lecture Contact Hours: 6 Lab Contact Hours: 0 **Prerequisite:** Completion of PhD coursework.

Independent study with the chair or a member of the comprehensive examination committee resulting in preparation for and successful completion of the exams.

Y

Note: Course may be repeated for credit.

Additional Fee N **Fee Type** N

HIST 8688 - Dissertation Proposal

Credit Hours: 6

Lecture Contact Hours: 6 Lab Contact Hours: 0 **Prerequisite:** Completion of PhD coursework.

Independent study with the chair or a member of the dissertation committee resulting in completion of a dissertation proposal.

Y

Note: Course may be repeated for credit.

Additional Fee N **Fee Type** N

HIST 8699 - Doctoral Dissertation

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y **Fee Type** Y

HIST 8999 - Doctoral Dissertation



Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

Hotel and Restaurant Management

HRMA 6101 - Colloquium

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 Prerequisite: None.

This course is a graduate student seminar that consists of a series of individual lectures by industry leaders, faculty, and students. Hotel and restaurant management faculty, guest lecturers, and current graduate students will also present research concepts, practical issues, and studies related to the hospitality industry.

HRMA 6153 - Hotel Marketing-New York Style

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 Analysis of hotel's physical plant, customer segments, pricing and unique characteristics, identification, evaluation of products and services from the national purveyors at the international trade show.

HRMA 6172 - Management Training Work Experience Program I

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 20 Analysis and evaluation of a hospitality establishment from a managerial perspective while student is employed at the establishment. This course is equivalent to 300 clock hours.

HRMA 6173 - Management Training Work Experience Program II

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 20 Analysis and evaluation of a hospitality establishment from a managerial perspective while student is employed at the establishment. This course is equivalent to 300 clock hours.

HRMA 6190 - Hospitality Research Proposal

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 Prerequisite: HRMA 6382, and completion of at least 15 hours of core coursework. Development of a detailed research proposal and corresponding data collection instrumentation.

HRMA 6191 - Project Development

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 Prerequisite: HRMA 6381, and completion of at least 15 hours of core coursework. Development of a detailed research project and corresponding data collection instrumentation.

HRMA 6197 - Selected Topics

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 Selected Topics

HRMA 6198 - Special Problems



Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 For the advanced student wishing to pursue individual study.

May be repeated for a maximum of six (6) semester credit hours.

HRMA 6290 - Professional Paper I

Credit Hours: 2

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

An exploratory, qualitative or quantitative analysis of a management problem specific to the hospitality industry.

N

Additional Fee Y Fee Type Y

HRMA 6291 - Project Implementation

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** HRMA 6191.

An exploratory, qualitative or quantitative analysis of a management problem specific to the hospitality industry.

HRMA 6297 - Selected Topics

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 Selected Topics

HRMA 6298 - Special Problems

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 For the advanced student wishing to pursue individual study.

May be repeated for a maximum of six (6) semester credit hours.

HRMA 6299 - Professional Paper II

Credit Hours: 2

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** HRMA 6209.

Continuation of research activity for the completion of the professional paper.

N

Additional Fee N Fee Type N

HRMA 6309 - Legal Issues-Hospitality Ind

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 An interactive approach to the impacts of changing social values, current legislation and case law on management in the hospitality industry.

HRMA 6315 - Introduction to SPA Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 An overview of the history and understanding of the nature of the spa industry, its history, future and characteristics. To develop a working and hands-on knowledge of spa operations.

HRMA 6317 - Innovative Hosp. Technologies



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None

This course equips students with the skills to manage the design, implementation, and functionality of the most innovative IT systems through lectures, discussions, case studies and hand-on projects.

HRMA 6321 - Hosp. Business Strategies in Asia

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None

This course will allow students to develop analytical thinking, decision-making, and the ability to deal with complex business situations in the hospitality industry focusing on Asia.

HRMA 6322 - Restaurant Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None

Manager's role in restaurant operations. Control systems, managerial leadership, staff selection and staff development, effective approaches to successful client relations, and approaches to maintaining the balance between food, service, and facilities quality.

HRMA 6324 - Hospitality Business Strategies in the Americas & the Caribbean

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None

This course focuses on the general manager's role in the development of business culture, legal environment, human resource management, financial practices, marketing and information systems in the Americans and Caribbean.

HRMA 6326 - Catering Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 An analysis of catering operations and management in the hospitality industry and various catering disciplines.

HRMA 6329 - Negotiations for Services Ind.

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 The application of negotiating skill in all phases of business aspects. Providing participants with the theoretical framework and practical tools for resolving issues on favorable terms while maintaining/ enhancing relationship.

HRMA 6330 - Statistical Data Analysis in the Hospitality Industry

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 This course covers the basic principles of statistics necessary to conduct hospitality research. The primary topics addressed will include the links between theory, research design and statistical techniques; variable measurement and frequency distributions; summary statistics for central tendency and variation; hypothesis testing; and bivariate correlation and regression analysis. The primary focus is on using the SPSS statistical package for calculating multivariate statistics and the utilization of the statistical output in research findings. Students will learn how to analyze hospitality data by using SPSS 17.0 for Windows, including how to set up data sets. Because this course is a prerequisite to HRMA 6382, students are expected to have a sound understanding of data analysis techniques relevant to research methods.

HRMA 6340 - Organizational Behavior & Hospitality Leadership Strategies



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None

This course is designed to provide a thorough understanding of the internal and external components of supervision and leadership in the hospitality industry through cases, videos, examples and in- class exercises.

HRMA 6342 - Alcoholic Beverage Production

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 2 Formerly/Same as: HRMA 6396 - Selected Topics: Alcoholic Beverage Production

Prerequisite: None.

Production of wine, beers, distilled spirits and cordials. Standards of quality, processing, storage and service for the four categories of spirituous beverages and various types of products within those categories. Production of small quantities of major types of alcoholic beverages including wine fermentation, beer brewing and distillation of spirits.

Additional Fee \$40.00 **Fee Type** HRMA Fee

HRMA 6343 - Beverage Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Analysis of major elements of beverage operations including social concerns and management functions, planning and marketing, mixology and selling techniques, the operational components of control systems, and the development of management's daily information to follow-up procedures.

HRMA 6344 - California Wine Experience

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** HRMA 6345 or consent of instructor; must be of legal drinking age.

Viticulture and viniculture practices and techniques, as well as production, marketing strategies, business strategies and the corporate culture of California wineries. Wine tours, seminars and tastings are included. Students to defray expenses for their travel and lodging.

HRMA 6345 - Wine Appreciation

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 2 Analysis of wine producing regions of the world including compiling of wine lists, serving and recommending wine and food combinations.

Additional Fee \$100.00 **Fee Type** HRMA Fee

HRMA 6348 - Beer Appreciation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 2 Formerly/Same as: HRMA 6396 - Selected Topics in Hospitality Management: Beer Appreciation

Prerequisite: None.

Analysis of current theories and phenomenon intended to provide students with the opportunity to enhance the knowledge and gain operational skills in both class and lab settings.

HRMA 6349 - Hospitality Purchasing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Analysis of vendor and purveyor selection for the purchasing manager. On site tours of properties are required.

HRMA 6351 - Lodging Operations Mgmt



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Theoretical applications and process improvement in managing the major divisions of a lodging establishment.

HRMA 6355 - Event Administration

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Analysis of event management focusing on sports and entertainment, examining human resources, customer services, facility, tickets, concessions operations, legal issues, budgeting and financial administration, sales marketing, merchandising, and promotions.

HRMA 6356 - Hotel Development

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Analysis and evaluation of the feasibility study development in hospitality industry operations with emphasis on market analysis, property location, valuation, and finance.

HRMA 6357 - Gaming and Casino Mgmt

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Analysis of operation, marketing, accounting/controls, security, social/cultural consequences of the gaming industry including lotteries, pari-mutuel wagering and casino gaming.

HRMA 6360 - Graduate Directed Practicum

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Designed for students to take on an operations issue for a hospitality concern and conduct research and propose solution(s).

HRMA 6364 - Hospitality Managerial Accounting

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Hospitality managerial accounting, emphasizing planning and control functions including yield management, cash and operating budgets, standards and decision making. Break-even analysis, ratio analysis, interpretation of financial statements, budgeting, cash forecasts and hospitality case studies.

HRMA 6365 - Tourism and Travel

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Analysis of the interactive economic and cultural influences of tourism and travel on the hospitality industry.

HRMA 6368 - Career Capstone Project

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None

The Capstone Consulting Project (CCP) aims to develop and enhance the employability of graduates, while industry professionals and academics mentor students toward their career goal.

HRMA 6378 - Hospitality Real Estate Finance



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None

This course is aimed at equipping future decision makers with analytically intensive knowledge about real estate finance and investments. In-depth discussions on debt and equity analyses and decision-making are the focus.

HRMA 6380 - Hospitality Business Analytics and Communication

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Student must be in HRMA (040) master's program.

This course utilizes case studies and industry reports to provide critical information for hospitality business analysis and communication, focusing on how analysis is performed and disbursed within the hospitality industry.

N

Additional Fee N Fee Type N

HRMA 6381 - Strategic Decisions Making in the Hospitality Industry

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: HRMA 6381 - Hospitality Management Computer Applications

Prerequisite: None.

An introduction to hospitality business research methods and quantitative analysis for decision making. Topics include defining research questions to address management issues, research study designs, sampling plans and data collection.

HRMA 6382 - Meth of Res in Hospitality Ind

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Analysis and evaluation of existing research in hospitality management with emphasis on the study of various research models.

HRMA 6383 - Country Club Ops. Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Analysis and strategic management in the private club industry with emphasis on environments, opportunities and strategies particular to managing the functions of private clubs.

HRMA 6384 - Gourmet Night Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor required.

Enrollment limited to students serving as directors or assistant directors for Gourmet Night. Food & beverage management, logistics management, marketing, operations management, service management and wine management. Recruitment and training management of student volunteers for area student is directing. Develop training manuals, order equipment, market event and oversee respective areas.

HRMA 6385 - Hall of Honor Management I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: HRMA 6396 - Selected Topics in Hospitality: Hall of Honor Management I

Prerequisite: Instructor approval.

Management course emphasizing general team leadership, food and beverage management, logistics management, marketing operations management, and human resources. Management emphasis in preparation of annual Hospitality Industry Hall of Honors days.

HRMA 6388 - Managing for Diversity in Hosp



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Evolving issues of workplace diversity. The impact of cultural, legal and economic forces on business. Management of an increasingly diverse workforce with respect to moral, legal and employee relations considerations.

HRMA 6396 - Selected Topics in Hospitality Management

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 1 **Prerequisite:** None.

Analysis of current theories and phenomenon intended to provide students with the opportunity to enhance the knowledge and gain operational skills in both class and lab settings.

HRMA 6397 - Selected Topics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Selected topics with approval of faculty.

May be repeated when topics vary.

HRMA 6398 - Special Problems

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 For the advanced student wishing to pursue individual study.

May be repeated for a maximum of six (6) semester credit hours.

HRMA 6399 - Thesis II

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** HRMA 6599.

Continuation of research activity for the completion of the thesis.

N

Additional Fee Y Fee Type Y

HRMA 6599 - Thesis I

Credit Hours: 5

Lecture Contact Hours: 5 Lab Contact Hours: 0 **Prerequisite:** HRMA 6190.

An exploratory, descriptive, or explanatory study based on a strong theoretical foundation. Thesis should be conducted as a quantitative and/or qualitative research working with a thesis committee.

Y

Additional Fee N Fee Type N

HRMA 7334 - Pricing and Revenue Management in Hospitality

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: HRMA 6334 Pricing & Revenue Management

Prerequisite: None

A comprehensive introduction to both the theory and practice of revenue management and pricing. This course involves mathematical analysis using excel.

HRMA 7337 - Human Resources in Hospitality



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None

The application of current sociological and psychological theories to organizational behavior, motivation, and conflict with focus on employee-employer relations.

HRMA 7341 - Food and Beverage Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None

Develops students in the areas of the various food service systems, culinary techniques, theories of nutrition and public health, and their impact on the hospitality industry.

HRMA 7353 - Services Management in Hosp.

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: HRMA 6353 Services Management

Prerequisite: None

Current theories and practical issues within the hospitality industry; exploration of concepts necessary for the development of a service management philosophy.

HRMA 7361 - Hospitality Marketing Analysis

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: HRMA 6361 Hospitality Marketing Analysis

Prerequisite: None

Technological analysis of the environments, opportunities, and strategies particular to managing the marketing function in the hospitality industry.

HRMA 7366 - Hospitality Management Strategies

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: HRMA 6366 Hospitality Management Strategies

Prerequisite: HRMA 6341 and/or HRMA 6366 .

Strategic management of lodging, food service and travel related businesses focusing on current issues, operations, development, finance, human resources, and marketing.

HRMA 7369 - Hospitality Financial Assets & Planning Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Acquisition of long-term assets, lease-purchase decisions, cost of capital, and effects of the economic cycles on long-term financing in hotel and restaurant operations.

HRMA 7397 - Selected Topics in Hospitality Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None

Theoretical and practical research oriented class which provides students with the opportunity to understand sophisticated phenomenon of the hospitality industry in the various disciplines.

HRMA 8188 - Ph.D. Colloquium



Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** None

The course aims to engage Ph.D. students in an ongoing dialogue about how to become a prominent researcher. Course covers an in-depth exploration of hospitality empirical and practical research.

HRMA 8303 - Multivariate Analysis in Hospitality Administration

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** HRMA 6330 or equivalent statistics.

The course introduces and develops multivariate techniques using the SAS/SPSS computer package. Methods covered include multiple regression analysis, multivariate analysis of variance, logistic regression and canonical correlation.

HRMA 8304 - Qualitative Design in Hospitality Administration

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** HRMA 6382 or equivalent research method course

This course will provide concepts of qualitative research methods through case studies, qualitative reviews, interviews, content analysis and focus groups.

HRMA 8305 - Grant Writing in Hosp Industry

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** HRMA 8303

Develop skills in grant writing, identifies external funding, manages grants, prepares manuscripts for peer-reviewed publications, and prepares papers and posters sessions at professional meetings.

HRMA 8310 - Teaching Methods in Hospitality Administration

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None

Course covers the steps required to effectively teach students using traditional methods as well as distance education. The student will be required to develop a course and teach one lecture module.

HRMA 8320 - Guided Research in Hospitality Industry

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None

The course will provide the student with concepts and applications of identifying a research topic, applying appropriate methods, and completing research study. The goal is for the student to become a researcher with significant skills.

HRMA 8398 - Research Proposal in Hospitality Administration

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Comprehensive exam and approval from the supervisory committee

Dissertation based upon original investigation and must reflect technical mastery of a special field, capacity for independent research and scholarly ability.

HRMA 8399 - Doctoral Dissertation Research I in Hosp. Admin

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** HRMA 8398.



Research in hospitality administration for the doctoral dissertation. Students must register for the course within three consecutive terms after approval of their dissertation proposal or in any term in which they are actively working on their dissertation with their committee members.

HRMA 8699 - Dissertation II in Hosp. Admin

Credit Hours: 6.0

Lecture Contact Hours: 6 *Lab Contact Hours:* 0 **Prerequisite:** HRMA 8398.

Research in hospitality administration for the doctoral dissertation. Students must register in this course each term in which they are actively working on the dissertation. Once students register, they must continue registering for three consecutive terms.

HRMA 8999 - Doctoral Dissertation Research III in Hosp Admin

Credit Hours: 9.0

Lecture Contact Hours: 9 *Lab Contact Hours:* 0 **Prerequisite:** HRMA 8398.

Research in hospitality administration for the doctoral dissertation. Students must register for the course within three consecutive terms after approval of their dissertation proposal or in any term in which they are actively working on their dissertation with their committee members.

Human Development and Consumer Sciences

HDCS 6300 - Quantitative and Statistical Methods in HDCS

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing.

A survey of statistical and quantitative methods for data analysis.

HDCS 6331 - Advanced Strategies For Futures Planning

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 Formerly/Same as: HDCS 6331 - Advanced Strategies for Futures Planning in Consumer Sciences and Retailing

Prerequisite: Graduate standing or consent of instructor.

Strategic thinking for changing environments and organizations, focusing on research, best practices, and planning.

Human Resources Development

HRD 6301 - Leadership Development in HRD

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 Formerly/Same as: HRD 6301 - Global Leadership in Training.

Prerequisite: Graduate standing or consent of instructor.

Review of leadership development at the individual, group, and organizational levels. Topics include leadership theories and models, motivation, power and influence, diversity, change management, and approaches to leadership development.

HRD 6302 - Design & Management E-Learning

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** TECH 1301 or consent of instructor.

Knowledge of design, development, implementation and maintenance of distributed learning techniques.

HRD 6303 - Assessment & Evaluation in Hrd



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** TMTH 3360 or consent of instructor.

Analysis techniques employed in conducting program and instructional assessment in the context of return on investment.

HRD 6304 - Research in Human Resource Dev

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** TMTH 3360 or consent of instructor.

Examination and application of research models utilized in conducting research in human resources development.

HRD 6305 - Organizational Learning

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Organizational learning and performance focuses on identifying, discussing and using behavioral science knowledge and practices to improve individual, group and organization effectiveness.

HRD 6310 - Global Talent Management Interventions

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** None.

Address value and impact of talent related strategies in organizations. Emphasis will be on executing talent strategies as change.

HRD 6350 - Foundatn in Human Resource Dev

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Alternative supporting theories and philosophies that provide perspective for human resources development.

HRD 6352 - Inst Design for Training Envir

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Strategies and techniques for developing instructional programs for performance improvement and training.

HRD 6353 - Methods of Adult Learning

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Overview of adult learning theories and application of instructional strategies to facilitate adult learning.

HRD 6354 - Facilitating Adult Group Proc.

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Development of skills for facilitating group processes and productivity of traditional and technology enhanced groups.

HRD 6355 - Designing Organization Development Interventions



Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** None.

Apply behavioral science knowledge and practices to improve individual, group and organizational effectiveness. Students will identify, evaluate and design interventions to move an organization from a current to desired state.

HRD 6356 - Consulting & Prof. Practice

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Negotiating, organizing, proposing solutions and ethical procedures for assessing and delivery of client needs in human resources development.

HRD 6357 - Applications in Research

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in MS in Human Resource Development or consent of instructor. Examine the role of research in HRD, emerging themes in HRD research, and criteria for evaluating research in HRD.

HRD 6358 - Global Human Resource Development

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Global human resource development at the macro and micro levels. The course covers models, frameworks and definitions related to GHRD. May be repeated for credit.

HRD 6359 - Trends in Organization Development

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** None.

Graduate standing or consent of instructor. Explores cutting-edge practices and findings in the field of organization learning. Attention will be given to organization theory, organizational learning, knowledge management, diversity and talent management, and development.

HRD 6360 - Emerging Research in Human Resource Development

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in MS in Human Resource Development or consent of instructor. Examine the role of research in HRD, emerging themes in HRD research, and criteria for evaluating research in HRD.

HRD 6396 - Internship in Human Res. Dev.

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Approval of program advisor. Part- or full-time experience in training and development or industry setting.

HRD 6397 - Selected Topics in Hrd

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Approval of program advisor. Special topics in human resources development.

HRD 6398 - Special Problems in Hrd



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

Industrial Design

INDS 6197 - Selected Topics

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** approval of Director of Industrial Design and instructor.

Selected Topics

May be repeated for credit as topic varies.

INDS 6198 - Independent Study

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** approval of Director of Industrial Design and instructor.

May be repeated for credit.

INDS 6298 - Independent Study

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** approval of Director of Industrial Design and instructor.

May be repeated for credit.

INDS 6310 - Visual Thinking

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Major in Industrial Design, or consent of instructor.

Visual thinking and visualization processes using diverse materials and media.

INDS 6311 - Digital Sketch Techniques

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** INDS 6310, or consent of instructor.

Visual thinking and visualization processes using digital media and computer sketch tablets. Emphasis on creative workflow management and enhancing efficiencies in the ideation process.

INDS 6320 - Materials and Methods

Credit Hours: 3

Lecture Contact Hours: 2 Lab Contact Hours: 3 **Prerequisite:** Major in Industrial Design, or consent of instructor.

Understanding large volume production, material specification and manufacturing processes common in the industrial design field.

Additional Fee \$2.00 **Fee Type** Lab Fee

INDS 6322 - Visual Communication

Credit Hours: 3

Lecture Contact Hours: 2 Lab Contact Hours: 3 **Prerequisite:** Major in Industrial Design, or consent of instructor.

Visual language and creative design problem solving with two dimensional software programs.



INDS 6326 - Design History II

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Major in Industrial Design, or consent of instructor.
Contemporary design and art with an emphasis on the influence of cultural, philosophical, and technical forces.

INDS 6329 - Computer Aided Industrial Design I

Credit Hours: 3

Lecture Contact Hours: 2 *Lab Contact Hours:* 3 **Prerequisite:** Major in Industrial Design, or consent of instructor.
Introduction to the process and methodology of computer aided industrial design utilizing SolidWorks and Keyshot software as learning tools.

INDS 6330 - Computer Aided Industrial Design II

Credit Hours: 3

Lecture Contact Hours: 2 *Lab Contact Hours:* 3 **Prerequisite:** INDS 6329 or consent of instructor.
Development of advanced modeling, rendering and animation techniques for rapid, high-quality design visualization.
Additional Fee \$2.00 **Fee Type** Lab Fee

INDS 6333 - Human Factors

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Major in Industrial Design, or consent of instructor.
Survey of anthropometry, perception, and man-machine interface. Focused on the use and application of human factors to case studies.

INDS 6335 - Design Research Methods

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Major in Industrial Design, or consent of instructor.
Human-centered methods of design research. Formulating, analyzing and synthesizing information into applications through the design process.

INDS 6336 - Design Interaction

Credit Hours: 3

Lecture Contact Hours: 2 *Lab Contact Hours:* 3 **Prerequisite:** Major in Industrial Design, or consent of instructor.
Fundamentals of interaction and experience design. Emphasis on human-machine interaction, programmable interfaces, and the application of digital technology to physical objects and environments.

INDS 6337 - Physical Computing

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Major in Industrial Design, or consent of instructor.
Practical exploration of physically interactive technology including tangible interfaces and communication between objects. Investigation of various aspects of smart object design, expressive behaviors, interactive environments, and contexts of use.

INDS 6338 - E-Portfolio

Credit Hours: 3

Lecture Contact Hours: 2 *Lab Contact Hours:* 3 **Prerequisite:** Major in Industrial Design, or consent of instructor.
Establish a portfolio strategy, action plan and skill evaluation to gain employment in the industrial design field. Create a consistent visual language



and identity for content across interactive digital and print media.

Additional Fee \$2.00 **Fee Type** Lab Fee

INDS 6339 - Design Practice and Business

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Major in Industrial Design, or consent of instructor.

Comprehensive aspects of design practice including planning and managing design projects. Legal and ethical issues associated with the design practice and product development.

INDS 6340 - Advanced Design Materials

Credit Hours: 3.0

Lecture Contact Hours: 1 *Lab Contact Hours:* 6 **Prerequisite:** INDS 2360 and 2361 or equivalents.

Material exploration, research, experimentation and fabrication techniques that incorporate both hands on and digital fabrication tools. Investigation of design possibilities with creative use of materials that express contemporary needs.

INDS 6345 - Advanced Human Factors

Credit Hours: 3.0

Lecture Contact Hours: 2 *Lab Contact Hours:* 3 **Prerequisite:** INDS 3360 or consent of instructor.

Advanced concepts in human factors, usability engineering, and user experience design. Computer simulation, wire-framing, rapid prototyping, scale model investigations and user testing are explored and applied to complex design projects.

INDS 6350 - Design Studies

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing in Industrial Design Program or approval of instructor.

Introduction to the theory and practice of industrial design in the contemporary world. Topics include design processes and methodologies, principles of digital technology, sustainability, UX, service design, other emerging issues which broaden and deepen designers' thinking and abilities.

INDS 6355 - Integrated Design Research

Credit Hours: 3.0

Lecture Contact Hours: 1 *Lab Contact Hours:* 6 **Prerequisite:** INDS 6350 and INDS 6360.

Examination of new concepts and methods of innovative design development. Research projects exploring an integrated perspective on the design research and processes. Prepares students in the MS ID program for their thesis project.

Note: Prepares students in the MS ID program for their thesis project.

INDS 6360 - Industrial Design Studio

Credit Hours: 3.0

Lecture Contact Hours: 1 *Lab Contact Hours:* 6 **Prerequisite:** Graduate standing in Industrial Design.

Students explore a variety of advanced topics and skills with industry partners for design-driven entrepreneurial opportunities. Interdisciplinary experts and external reviewers give students an opportunity to develop an analytical and critical language for the creation and evaluation of product systems.

Additional Fee \$2.00 **Fee Type** Lab Fee

INDS 6361 - Industrial Design Studio II



Credit Hours: 3

Lecture Contact Hours: 1 Lab Contact Hours: 6 **Prerequisite:** INDS 6360 , or consent of instructor.

Advanced studio experience associated with health care and entrepreneurship. Interdisciplinary experts and external reviewers give students an opportunity to develop critical thinking and evaluation of product systems.

INDS 6397 - Selected Topics

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Approval of Director of Industrial Design and instructor.

Topics vary.

May be repeated for credit.

INDS 6398 - Independent Study

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** approval of Director of Industrial Design and instructor.

May be repeated for credit.

INDS 7300 - Design Thesis I

Credit Hours: 3.0

Lecture Contact Hours: 1 Lab Contact Hours: 6 **Prerequisite:** INDS 6355 and approval of Director of Industrial Design.

Students work with a faculty adviser (or advisors) to conceive, plan, and develop a thesis project emphasizing research methods and execution of design research.

Additional Fee \$2.00 **Fee Type** Lab Fee

INDS 7301 - Design Thesis II

Credit Hours: 3.0

Lecture Contact Hours: 1 Lab Contact Hours: 6 **Prerequisite:** INDS 7300 and approval of Director of Industrial Design.

A continuation of INDS 7300 Design thesis I with further development, mid-term review, and final public presentation of the thesis project.

Additional Fee \$2.00 **Fee Type** Lab Fee

Industrial Engineering

INDE 6111 - Graduate Seminar

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0

INDE 6198 - Research

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

INDE 6298 - Research

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0



INDE 6321 - System Safety Engineering

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

INDE 6323 - Economics of Disaster

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing and/or consent of instructor.

Advanced tools necessary to evaluate, measure, and compare contributions of economic principles to disaster research, mitigation, and planning: Deterministic and probabilistic methods in developing objective and sound engineering decisions.

INDE 6332 - Egr Project Mgt

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing.

Planning, scheduling, and control of engineering projects, network models, CPM and PERT, resource allocation, time-cost tradeoff.

INDE 6333 - Probability Stat For Engineers

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: INDE 6333 - Industrial Ecology.

Prerequisite: Graduate standing or consent of instructor.

Probability triplet, fundamental laws, conditioning probability, discrete and continuous random variables, point estimation, confidence interval estimation, hypothesis testing.

INDE 6336 - Reliability Engineering

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

INDE 6337 - Human Factors Syst Dsgn

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** permission of instructor and graduate standing.

Methods of measurement of human performance, psychological and physiological background of human information processing, principles and techniques of display and information system design, and human error and reliability.

INDE 6339 - Materials Handling

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** INDE 4331 and CIVE 2332.

Systems, equipment, and methods related to industrial and commercial operations. Design of equipment.

INDE 6351 - Operations and Supply Chain Management

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate Standing.

Theoretical and quantitative concepts, models, methods, and strategies for designing and managing manufacturing and service systems include quality, inventory, forecasting, scheduling, and logistics.



INDE 6359 - Engineering Communication I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 This is a course for written presentation of speech structure and delivery.

INDE 6361 - Prod Planning & Invent Control

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

INDE 6363 - Statistical Process Control

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and/or consent of instructor

Philosophy of statistical process control; control charts for variables and attributes; process capability analysis; cumulative sum and exponentially weighted moving average charts; multivariate process control; acceptance sampling; and Six Sigma.

INDE 6364 - Experimental Design and Regression

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: INDE 6364 - Advanced Engineering Statistics

This is a one-semester course in the design and analysis of experiments and concludes with the study of regression analysis. The material relies heavily on the analysis of variance (ANOVA) and the statistical estimation criterion of least squares.

INDE 6365 - Engineering Economy II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** INDE 3333 and INDE 4371 or approval of chair.

Advanced theory, problems, and cases in the economic aspects of engineering enterprises. Operations research techniques applied to problems in engineering economy.

INDE 6370 - Operation Research-Digital Simulation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 2 **Prerequisite:** INDE 4371.

Quantitative modeling of engineering systems; generating stochastic variables; collection of data for digital simulation; simulation language.

INDE 6372 - Advanced Linear Optimization

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Operations research models with applications to engineering systems; mathematical programming; stochastic models of queueing and inventory.

INDE 6377 - Industrial Engineering Applications

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

This graduate project-intensive course is inspired by the Senior Capstone Design course in the undergraduate curriculum. For this graduate course, each team of graduate students will partner with a team of employees at a local company who are already working on a challenging project given to them by their management. Together, this expanded team must develop solutions, validate them and justify them to the management of the sponsor company.



Y

Additional Fee N Fee Type N

INDE 6378 - Case Study in Applied Inde Erg

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

This graduate project-intensive course is inspired by the Senior Capstone Design course in the undergraduate curriculum. For this graduate course, each team of graduate students will partner with a team of employees at a local company who are already working on a challenging project given to them by their management. Together, this expanded team must develop solutions, validate them and justify them to the management of the sponsor company.

Y

Additional Fee N Fee Type N

INDE 6380 - Accounting for Engineering Managers

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate Standing.

Process and application of data, traditional and non-traditional management accounting and information for decision making and planning. Topics include product costing, budgeting, cost volume-profit analysis and ABC.

INDE 6383 - Engineering Design and Prototyping

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing or consent of instructor.

To discuss advanced topics in integrated design and rapid manufacturing. Topics include: engineering design process, design for manufacture and assembly, GD&T and rapid prototyping and manufacturing.

INDE 6386 - Innovation Management and Entrepreneurship

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Explore methods and methodologies for new venture creation and to foster innovation for business formations as independent and/or in a corporate setting relevant to today's high-tech world.

INDE 6397 - Selected Topics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

INDE 6398 - Research

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

INDE 6399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y



INDE 7340 - Integer Programming

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and/or consent of instructor
Formulation of integer programming problems; optimality conditions; relaxation techniques; bounds; complexity, branch-and-bound, cutting planes, valid inequalities, column generations; Bender's decomposition; heuristic methods.

INDE 7342 - Nonlinear Optimization

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and/or consent of instructor
Nonlinear programming theory and algorithms; convex sets and convex functions; Karush-Kuhn-Tucker optimality conditions; algorithms for unconstrained and constrained optimization models.

INDE 7383 - Systems Engineering

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and consent of instructor
Detailed discussions on the engineering design and engineering management processes within the systems design life-cycles. The methods, frameworks, techniques and tools for designing, implementing, and managing large-scale systems are presented.

INDE 7385 - Manufacturing Systems

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and/or consent of instructor
Mathematical methods for modeling and analyzing manufacturing systems; machine selection; process planning; group technology; machine cell and layout design; work-in-process allocation.

INDE 7390 - Supply Chain Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing and/or consent of instructor.
Topics include: inventory and risk pooling, networking planning, value of information, supply chain integration, distribution strategies, strategic alliances, procurement and outsourcing strategies, global logics and risk management.

INDE 7397 - Selected Topics

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 Y
Additional Fee Y Fee Type Y

INDE 7399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N
Additional Fee Y Fee Type Y

INDE 8198 - Doctoral Research

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0



INDE 8298 - Doctoral Research

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

INDE 8398 - Doctoral Research

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

INDE 8399 - Doctoral Dissertation

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

INDE 8498 - Doctoral Research

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

INDE 8598 - Doctoral Research

Credit Hours: 5.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

INDE 8699 - Doctoral Dissertation

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

INDE 8999 - Doctoral Dissertation

Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

Information Technology

CIS 6321 - Introduction to Information System Security

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Overview of information systems security issues for technology professionals from an applied perspective.

CIS 6322 - Secure Enterprise Computing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CIS 6321 and CIS 6325 , or consent of graduate faculty advisor.



Enterprise security administration for technology professionals through systems architecture and configuration; hands-on experience with UNIX and Windows operating systems.

CIS 6323 - Cryptography & Information Systems Security

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CIS 6321or consent of graduate faculty advisor.

Practical issues in cryptography, including examples of current historical cryptography systems; major types of cryptosystems and cryptanalytic techniques, and how they operate; hands-on experience with current cryptographic technology.

CIS 6324 - Information Sys Sec Risk

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CIS 6322or CIS 6323or consent of graduate faculty advisor.

This course focuses on the organizational issues of risk analysis in the legal context of the Internet. Organizational problems involving reliability, safety, security, privacy, and human well-being are addressed.

CIS 6325 - Network Security

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 3 **Prerequisite:** None.

Corequisite: CIS 6321 or consent of the instructor.

Introduction to Network Security, including foundations of networking, applying security functionality via protocols and controls, security architectures and network security operations.

CIS 6326 - Critical Thinking in Information Security

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CIS 6321 .

An examination on how the ongoing information revolution interfaces with traditional national and international issues from trade and law, to security and development, to societal issues. Among issues covered in the class are cybersecurity, Internet governance, public diplomacy, digital crime, and the impact of disruptive technological innovation on norms, rules, and policies.

CIS 6337 - Digital Forensics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CIS 6321or consent of graduate advisor.

Explores the realm of digital forensics, including media analysis, data reconstruction, network forensics and the legal issues surrounding the use of forensic data.

CIS 6347 - Advanced Digital Forensics

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 3 **Prerequisite:** CIS 6337.

Advanced digital forensics processes and procedures, e-discovery, media analysis, data reconstruction, reporting and legal issues surrounding digital data in criminal and civil litigation.

CIS 6357 - Control Systems Security



Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 3 **Prerequisite:** CIS 6321

Application of security principles to industrial control systems and their networks. Hands-on laboratory exercised with SCADA devices.

CIS 6358 - Secure Software Design

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CIS 6321.

Examines the management of software engineering process with an emphasis on security, including common bugs and tools to prevent them in a secure development process.

CIS 6359 - Penetration Testing

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 3 **Prerequisite:** CIS 6321, CIS 6322, CIS 6323.

Application of tools, techniques, and procedures to perform penetration testing on networks and applications.

CIS 6370 - Introduction to Data Science

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Data Mining and Machine Learning techniques to solve real problems. Pattern discovery, clustering, ordering, and analysis of different types of data, such as sets and sequences. Supervised and unsupervised machine learning, tuning model complexity, dimensionality reduction, nonparametric methods, comparing and combining algorithms, and practical applications.

N

Additional Fee N Fee Type N

CIS 6371 - Design of Data Analytics Solutions

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate Standing.

Python or a similar coding language is utilized to acquire, manage, analyze, and understand complex data using data mining and machine learning techniques. Development of fundamental and advanced programming skills associated with data science. Hands-on experiences and practical case studies develop a broad set of data analysis techniques and interdisciplinary knowledge.

N

Additional Fee N Fee Type N

CIS 6391 - Information Systems Security Management Seminar

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** TEPM 6301, CIS 6321, CIS 6322, and CIS 6323.

Students demonstrate their ability to complete a major project that identifies and resolves an important technology or technology leadership issues.

CIS 6395 - Information Systems Security Integration Project

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** CIS 6391 and completion or concurrent enrollment CIS 6324, TEPM 6302, TEPM 6303 and TEPM 6304.

Students demonstrate their ability to structure and complete an integrative project that draws upon the skills developed in the project management common core courses and the students specialization. Students report the results of their efforts in written and oral form.



CIS 6396 - Internship in Information Security

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** At least 12 hours in the MS/ISS program and prior written approval of the graduate faculty advisor.

Information Systems Security internship in a public or private organization.

May be repeated for credit.

CIS 6397 - Selected Topics

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 Y

Additional Fee Y **Fee Type** Y

CIS 6398 - Special Problems

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Consent of graduate faculty advisor.

Individual projects under faculty sponsorship.

CIS 6399 - Master's Thesis

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Permission of the graduate faculty advisor.

Y

Note: May be repeated one time for a total of six semester hours credit.

Additional Fee N **Fee Type** N

Interdisciplinary Arts

IART 6070 - Interdisciplinary Fieldwork

Credit Hours: 0

Lecture Contact Hours: 0 *Lab Contact Hours:* 3.0 **Prerequisite:** IART 6370.

This is the laboratory component of the Interdisciplinary Masterclass. Requires approval of Director of Interdisciplinary Initiatives. This component takes place off campus and is intended for intensive short-term research in the field.

Note: Fieldwork associated with IART 6370.

IART 6370 - Interdisciplinary Masterclass

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Consent of instructor.

This seminar focuses on issues and topics in contemporary practices that go beyond traditional disciplinary boundaries, and engage innovative artistic forms and concepts. The course will be taught by the Director of Interdisciplinary Initiatives, other full-time faculty, or visiting faculty including guest lecturers and visiting artists. Topics may vary. Students will have assigned readings, discussion topics and other research-oriented assignments as determined by instructors.

Note: Fieldwork/Laboratory course typically offered in the following mini term.

IART 6398 - Independent Study



Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Consent of Instructor.

Independent Study in Interdisciplinary Arts.

Note: May be repeated for credit.

Interdisciplinary Liberal Arts and Social Sciences

ILAS 6397 - Selected Topics - Interdisciplinary

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

Interdisciplinary-NSM

IDNS 5397 - Selected Topics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

IDNS 6391 - Ethics in Science

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and consent of instructor

The course links historical cases of ethics to present science standards and practices, while offering experiential training.

IDNS 6392 - History of 20th Century Science

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and credit for or registration in 12 hours of natural science courses

This course analyzes central issues in the evolution of science during the past century.

IDNS 6393 - Advanced Science Ethics

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 3 **Prerequisite:** IDNS 6391 or consent of instructor

Includes a semester long practicum observing ongoing animal or human subject experiments. In-depth discussions of problem in scientific ethics, including issues encountered by students during practicum.

IDNS 6397 - Selected Topics in Interdisciplinary Science

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor

Twentieth century was the century of science and technology. Using history, this course analyzes central issues in the evolution of science and technology during the past century; emphasis is placed on the integration between science, technology, and American society.

International Business

INTB 6398 - Special Problems



Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** graduate standing and approval of chair.

INTB 7343 - Intl Legal Environment of Mgmt

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing. Students may not receive credit for both INTB 7343 and MANA 7343.

Management impact of sovereignty, treaties, executive agreements, contracts, non-tariff trade barriers, extraterritorial antitrust, dispute resolution. International oil and gas, air, sea, space law.

INTB 7351 - Managing Global Organizations

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing and MANA 6332. Students may not receive credit for both INTB 7351 and MANA 7351.

The study of comparative management with emphasis on the international and cultural issues in organizational behavior and management encountered by multinational operations.

INTB 7352 - Intnt'l Mgmt of Technology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing and MANA 6332. Students may not receive credit for both INTB 7352 and MANA 7352.

Global management of technology issues, such as strategies and organization designs for international technology generation and transfer.

INTB 7353 - Regional Issues in Global Mgmt

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: (also MANA 7353)

Prerequisite: graduate standing. Students may not receive credit for both INTB 7353 and MANA 7353 for the same topic.

Economic, cultural, technological and managerial factors that may impact an organization's strategies, practices and effectiveness. Topics may include a focus on a global region such as Latin America, Europe, or Asia.

Can be repeated for a total of 6 credit hours with different topics.

INTB 7364 - Experience in Emerging Market Economies

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and instructor approval.

In-country study of regional business practices in one or more emerging economies via on-site visits with local businesses and governmental officials.

INTB 7365 - Business and World Economy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing.

Factors and elements which demonstrate how international economies, events, policies and business strategies affect both large and small firms in today's global economy.

INTB 7375 - Sem in International Business



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing and INTB 7365.

Historical development and contemporary issues related to international business.

INTB 7397 - Selected Topics in Inb

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing, consent of instructor.

Topics will vary. Areas of interest from various disciplines concerned with international business and research interests of faculty and students.

May be repeated with approval of Office of Student Services.

Italian

ITAL 6302 - Advanced Italian Conversation and Composition

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Advanced discussion and composition in Italian on culture, society and literature. Taught in Italian.

N

Additional Fee N Fee Type N

ITAL 6305 - Teaching Italian as a Foreign Language

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Advanced course in advanced grammar and teaching methodology. Satisfies College of Education requirements for Italian teachers certification. Taught in Italian.

ITAL 6306 - Advanced Italian Cinema

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Italian Cinema in the context of Italian literature, culture, art, and society, requiring a good level of language understanding. Taught in Italian.

ITAL 6308 - Italian Heritage

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 The Italian American Experience in Literature, Cinema, and Music. Taught in English

ITAL 6309 - Advanced Studies in Women Writers and Filmmakers

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Advanced analysis of works of women writers and filmmakers of modern and post modern Italy in conjunction with relevant scholarship. Taught in Italian.

N

Additional Fee N Fee Type N

ITAL 6365 - Dante's Legacy



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Analysis of Dante's major works and their impact on modern literature and visual arts. Relevant critical approaches to Dante from European and American perspectives. Taught in English.

ITAL 6393 - Reading Italian for Non-Majors II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** ITAL 6392 or equivalent.

May not apply toward foreign language requirement for BA degree. Continuation of ITAL 6392 with emphasis on translation problems and specialized vocabulary. Readings in specific research areas.

ITAL 6397 - Selected Topics in Italian Literature

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or PB status. Target language proficiency at level of B.A. major or minor.

Topics in Italian Literature from the Middle Age to the present. Taught in Italian.

May be repeated for credit when topics vary.

ITAL 6398 - Special Problems Ital Culture

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 Special Problems in Italian Culture, Art, and History. Taught in Italian.

Latin

LATN 6300 - Advanced Study in Latin

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or Post Baccalaureate status

Selected readings in Classical Latin poetry and prose together with modern works of scholarship.

This course may be repeated for credit

Law

LAW 5101 - Health Law Research

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** N/A.

This is a specialized course on health law research. It will focus on federal and state primary legal materials related to health law, including relevant statutes, regulations, agency guidance and decisions, and case law.

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 5102 - Records Sealing and Expunction II

Credit Hours: 1.00

Lecture Contact Hours: 0.0 Lab Contact Hours: 1.0 **Prerequisite:** N/A.

Having a criminal or juvenile delinquency record can create major barriers in obtaining employment, financial aid, housing, public benefits, educational and licensing opportunities, military enlistment, and many other benefits. Most juvenile records and certain adult records can be sealed or removed from an individual's criminal history, thereby increasing opportunities for employment, education, and more. This course will give law



students the opportunity to continue gaining experience in three different types of records clearing procedures: (1) juvenile records sealing; (2) expunctions of adult criminal records; and (3) nondisclosure orders for adult criminal records. Students will have the opportunity to choose which types of records clearing cases they would like to focus on.

LAW 5103 - Health Law Journal

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Membership on Health Law Journal staff.

Advancement from candidacy to staff requires satisfactory completion of two case notes or one comment. Credit is given for satisfactory staff service.

LAW 5104 - Houston Business/Tax Journal

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Membership on Houston Business/Tax Journal staff.

Advancement from candidacy to staff requires publication of two case notes or one comment. Credit is given for satisfactory staff service.

LAW 5105 - Interscholastic Mock Trial

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

LAW 5106 - Interscholastic Moot Court

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

LAW 5108 - Advanced Health Law

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 This course provides LL.M. students with an opportunity to develop and present their own research projects as well as to survey a wide range of topics in health law and policy. This course is limited to, and required for, LL.M. students.

LAW 5109 - Advocates-Negotiation-Curr. Yr

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1 This course is for students participating in the Advocates Negotiation Competition, and includes negotiating a problem set provided by the American Bar Association, drafting a contract that reflects the negotiation, and drafting a short memo detailing their negotiating strategy.

LAW 5110 - Law Review

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Membership on Law Review staff.

Advancement from candidacy to staff requires publication of two case notes or one comment. Credit is given for satisfactory staff service.

LAW 5111 - Advocates-Blakely Moot Court



Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1 Students seeking credit for this course must participate in the Blakely Moot Court Competition. The Blakely Competition is an intra-scholastic moot court competition.

LAW 5112 - Advocates-Hippard Mock Trial

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1 Students seeking credit for this course must participate in the Hippard Mock Trial Competition. The Hippard Competition is an intra-scholastic mock trial competition where students can compete in the Hippard Open or Hippard Novice Competition.

LAW 5113 - Advocates

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 Counts as credit for advocates board membership or competitive team membership. May be repeated for a maximum of four semester hours.

LAW 5114 - Entrepreneurship and Community Development Clinic II

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1 **Prerequisite:** None.

Students advise small businesses and people trying to start small businesses about business structure, contracts, possible tax issues, commercial law matters and similar problems.

LAW 5118 - Environment, Energy & Natural Resources Research

Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** None.

This is a practical class, focused on finding the law and legal authorities relevant to taking and defending actions concerning the environment, energy, and natural resources.

N

Additional Fee Y Fee Type Y

LAW 5119 - Advocates-Negotiation-Retro

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1 This course is for students who have participated in the Negotiation Competition and includes negotiate a problem set provided by the American Bar Association and then draft a contract that reflects the negotiation. As part of the contract submission, students also draft a short memo detailing their negotiating strategy.

LAW 5120 - Texas Legal Research

Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** None.

This course will expand on research skills explored in your first-year lawyering skills and strategies course with a focus on Texas specific resources. Topics for the class will include sources for Texas case law, statutory, and regulatory research; secondary sources and practitioners' materials specific to Texas; and understanding and using Texas legislative histories.

N

Additional Fee Y Fee Type Y

LAW 5121 - Moot Court Board



Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1 Assists the Moot Court Director in all administrative aspects of the Moot Court Program, and facilitates the judging process for the John Black mandatory rounds, including providing training for judging, coordinating the organization of the competition with The Advocates and Legal Analysis Research and Communication, and researching the problems issues to provide summaries and questions for the judges.

LAW 5122 - Advocates-Hipp Mock TR Retro

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1 Student seeking credit for this course must participate in the Hippard Mock Trial Competition in a previous semester. This is an intra-scholastic competition where students can compete in the Hippard Open or Hippard Novice Competition.

LAW 5126 - Advocates-Newhouse Mediation-Current

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1 **Prerequisite:** None.

Students seeking credit for this course must participate in the Newhouse Mediation Competition in a current/previous semester. The Newhouse Competition is an intra-scholastic advocacy in mediation competition.

LAW 5127 - Advocates-Newhouse Mediation Retro

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1 **Prerequisite:** None.

Students seeking credit for this course must participate in the Newhouse Mediation Competition in a current/previous semester. The Newhouse Competition is an intra-scholastic advocacy in mediation competition.

LAW 5132 - Advocates-Blake Moot Crt Retro

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1 Student seeking credit for this course must participate in the Blakely Moot Court Competition in a previous semester. The Blakely Competition is an intra-scholastic moot court competition.

LAW 5136 - Interscholastic Moot Court- Retro

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1 This is a Moot Court Competition. Participants will engage in legal research, brief writing, and oral arguments pursuant to competition rules.

LAW 5147 - Houston Journal of Int'l Law

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Membership on Houston Journal of International Law staff.

Advancement from candidacy to staff requires publication of two case notes or one comment. Credit is given for satisfactory staff service.

LAW 5151 - Tax Research

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** LAW 5359, LAW 5459 - Federal Income Tax,

A specialized course in tax research open only to master's degree students specializing in taxation.

LAW 5183 - Mediation Process



Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1 **Prerequisite:** Enrollment in the Mediation Externship.

In order to enroll in the externship, students must have completed the course work in mediation and be in compliance with the Texas Statute 154.052 requiring forty classroom hours of instruction.

LAW 5188 - Interscholastic Mock Trial-Retro

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1 This is a Moot Court Competition. Participants will engage in legal research, brief writing, and oral arguments pursuant to competition rules.

LAW 5197 - Selected Topics

Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 Y

Additional Fee Y Fee Type Y

LAW 5198 - Special Rsch & Writing

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0

LAW 5199 - Special Problems

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Approval of the dean.

For law students who wish to pursue special studies for which a course is not organized.

May be repeated for a maximum of four semester hours.

LAW 5200 - Depositions

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 Students learn through simulation exercises how to take and defend depositions including the skills of developing a deposition outline, beginning a deposition, entering into stipulations, using different questioning styles, gaining admissions, making objections and protecting the witness.

LAW 5201 - Intellectual Property Survey

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 Study of the main principles and doctrines of trade secret, copyright, trademark, and patent law.

LAW 5202 - Entrepreneurship and Community Development Clinic II

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 2 **Prerequisite:** None.

Students represent entrepreneurs and small businesses in connection with entity formation, drafting and negotiating commercial contracts, raising capital, buying and selling equity and assets, working with employees and independent contractors, and other transactional business law matters.

LAW 5203 - Government and Nonprofit Externship I



Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 2 **Prerequisite:** None.

Government and Nonprofit Externship

LAW 5205 - Immigration Clinic II

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 2 **Prerequisite:** LAW 5405 - Immigration Clinic.

Covers practical and theoretical training in immigration law.

LAW 5206 - Government and Nonprofit Externship II

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 2 **Prerequisite:** Government and Nonprofit Externship I.

The Government/Nonprofit Externship Program enables students to experience and reflect upon the law in practice through field places in local, state, and federal government agencies, as well as nonprofit institutions. The program's goal is to expose students to the disposition of real world legal issues, while working under the supervision of experienced attorneys.

LAW 5207 - Clean Air Act

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 Legal requirements for air pollution control under the federal Clean Air Act, with emphasis on the 1990 amendments and state and local approaches including an examination of the Texas Clean Air Act.

LAW 5210 - Law Review

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Membership on Law Review staff.

Advancement from candidacy to staff requires publication of two case notes or one comment. Credit is given for satisfactory staff service.

LAW 5211 - Energy and the Environment

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None

An environmental law course that will explore pivotal issues involving the synergistic relationship between energy law and environmental law. The course will examine several critical topics of global importance associated with various sources of energy and the impact on natural resources and the environment.

LAW 5214 - Elder Law

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

Highlights the social and legal issues associated with an aging society; critical understanding of the distinct legal problems of the elderly, and familiarity with governmental programs aimed at older people.

LAW 5217 - Fraud and Abuse

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None

This course examines the federal and state laws imposing criminal and civil penalties on health care providers for a variety of fraudulent activities. It



explores the implications of the federal and state Anti-Kickback Laws, the federal anti-referral (Stark) law, the federal civil monetary penalty and exclusion laws, the federal and state false claims laws, and traditional federal white collar criminal laws as applied to health care.

LAW 5218 - Human Trafficking Law

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None

This course discusses human trafficking and related federal criminal immigration issues, legal and public awareness measures that are taken to prevent, deter, and respond to human trafficking, including the social service organizations that are critical to the restoring victims and preparing witnesses in trafficking cases.

LAW 5220 - ERISA

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

Provides a basic overview of ERISA's regulatory scheme, explaining the difference between pensions and defined contribution plans.

LAW 5221 - Int'l Commercial Arbitration

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 A comprehensive study of international commercial arbitration which includes examination and analysis of international arbitration procedure, arbitration agreements, institutional rules and international conventions.

LAW 5222 - Introduction to the Law of Mexico

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None

This course will provide a general introduction to the Mexican legal system to include an overview of Mexican legal history; Mexican constitutional law; the Mexican judicial system; introduction to civil and commercial law; real estate law; civil procedure; and criminal law.

LAW 5223 - Post-Mortem Estate Planning

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** LAW 5359, LAW 5459 - Federal Income Taxand (LAW 5339, LAW 5440 - Trusts and Wills).

Issues associated with estate administration; estate tax compliance and audit procedures; examination of the use of trusts as estate surrogates.

LAW 5227 - Procedure of Patent Litigation

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None

the Course will focus on how to litigate a patent infringement case in Federal District Court and the relationship of the district courts and the Federal Circuit in patent litigation. In particular, the course will examine a hypothetical patent case from the pleadings, through the Markman hearing, and to trial.

LAW 5228 - Judicial Externship I

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 2 **Prerequisite:** None

The Judicial Externship Program enables students to experience and reflect upon the law in practice through field placements within state and



federal judges chambers. The programs goal is to expose students to the disposition of real world legal issues, while working under the supervision of a judge and experienced attorneys.

LAW 5229 - Judicial Externship II

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 2 **Prerequisite:** Judicial Externship I.

The Judicial Externship Program enables students to experience and reflect upon the law in practice through field placements within state and federal judges chambers. The program's goal is to expose students to the disposition of real world legal issues, while working under the supervision of a judge and experienced attorneys.

LAW 5230 - Mergers and Acquisitions

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** LAW 5421 - Business Organizations.

An examination of the law and finance of corporate acquisitions; evaluation of capital markets and the efficient markets hypothesis; analysis of the motives underlying acquisitions; legal duties and liabilities of directors facing takeover bids.

LAW 5232 - Trade Secrets

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 Study of characteristics, protection and enforcement of trade secrets as tangible property rights. Emphasis on litigation tactics, including specialized injunctive relief, proof, evidence, remedies and calculation of damages.

LAW 5234 - Shale Gas and LNG

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** none.

This course explores the myriad of legal, policy and environmental issues pertaining to global natural gas markets with a particular focus on global shale gas development and the development of LNG import and export projects around the world, including recent developments in US LNG export projects.

LAW 5239 - Oil and Gas Tax

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** LAW 5359, LAW 5459 - Federal Income Tax.

Focuses on federal taxation of domestic oil and gas exploration and production operations. Taxation of foreign oil and gas exploration and production operations will also be included in the course, although in summary fashion addressing tax models foreign jurisdictions can adopt and the resulting U.S. tax overlay.

LAW 5241 - Advanced Drafting for Corporate Transactions

Credit Hours: 2.00

Lecture Contact Hours: 2.0 Lab Contact Hours: 0.0 **Prerequisite:** N/A.

The purpose of this course is to prepare students for their first year of general corporate practice, whether in an in-house, law firm, or solo practice setting, by completing a simulated financing transaction. The course will focus on how secured transactions law, bankruptcy law and corporate law influence the structuring and documenting of a typical secured bank loan.

LAW 5242 - Advanced Spanish For Lawyers



Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** N/A.

An advanced-language course for students already fluent in Spanish. Students will strengthen their communicative language skills such as speaking, writing, interpreting, and vocabulary building within the context of several areas of legal practice.

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 5243 - Advertising and Marketing Law

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** N/A.

Advertising and Marketing Law teaches both the law and commercial perspectives concerning the advertising and marketing to consumers in a survey format that includes treatment of issues from false advertising under the Lanham Act, Federal Trade Commission regulation and enforcement, state attorney general enforcement, consumer class actions, substantiation of advertising claims, Internet advertising, consumer protection, privacy, data protection, trademark law, business torts, constitutional law, copyright law, social media marketing, and several other areas of law that are important to advertising and marketing to consumers.

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 5245 - Civil Practice Clinic II

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 2 **Prerequisite:** LAW 6371, LAW 5420 - Civil Practice Clinic I, LAW 5401(Criminal Defense Clinic I), LAW 6375 - Client Interviewing & Counseling.

Students, under close faculty supervision, represent clients with a broad variety of legal problems arising in a civil context. Attendance mandatory for the classroom component necessary to learn skills for effective lawyering.

LAW 5246 - International Litigation

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 This course will address, among other subjects: suits against foreign defendants in United States courts, suits by foreign plaintiffs, foreign sovereign immunity, and the recognition and enforcement of foreign judgments.

LAW 5247 - Houston Journal of Int'l Law

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Membership on Houston Journal of International Law staff.

Advancement from candidacy to staff requires publication of two case notes or one comment. Credit is given for satisfactory staff service.

LAW 5248 - International Corporate Compliance

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

Corporate compliance, one of the fastest growing markets for legal services, addresses the problems of organizations struggling to manage risk ranging from corruption to data privacy. This class will teach you the process involved in addressing compliance risk and how to integrate compliance processes into a business. We will discuss a number of substantive compliance areas, but the goal of the class is to teach you how to develop a risk based approach to solve compliance problems.

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 5251 - Health Legislation & Advocacy II

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Health Legislation & Advocacy I.



This course is the second part of a two-semester course. The spring semester will focus on monitoring and participating in health legislation before the Texas 84th Legislature Regular Session. Students will monitor and provide support for the policy proposal developed in the fall semester course, track and report on other health legislation, and follow the actions of health-related committees. Grading will be based on several practical writing assignments (including drafting committee testimony, amendment language, community education article, legislative sponsor's talking points, committee business tracking, and a health legislative summary). This course satisfies the Skills Course Requirement.

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 5252 - Children and the Law Lab

Credit Hours: 2.0

Lecture Contact Hours: 2 *Lab Contact Hours:* 0 **Prerequisite:** N/A.

In this course students will have the opportunity to represent children in abuse and neglect proceedings in a Harris County court.

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 5254 - Tax Controversy & Litigation

Credit Hours: 2.0

Lecture Contact Hours: 2 *Lab Contact Hours:* 0 **Prerequisite:** LAW 5459 - Federal Income Tax.

Covers the tax controversy process, starting with handling an IRS audit, administratively protesting before IRS Appeals, and representing a client before the United States Tax Court.

LAW 5256 - Sports Law

Credit Hours: 2.0

Lecture Contact Hours: 2 *Lab Contact Hours:* 0 Formerly/Same as: LAW 5256 - Juvenile Law Clinic.

Prerequisite: None.

Examines both aspects of Professional and Amateur Sports. Player Contracts, collective bargaining, antitrust issues, Intellectual Property and Torts in Sports, and Eligibility and the NCAA.

LAW 5259 - State & Local Tax

Credit Hours: 2.0

Lecture Contact Hours: 2 *Lab Contact Hours:* 0 **Prerequisite:** LAW 5359 or LAW 5459 - Federal Income Tax.

An examination of the various laws concerning state taxes, including income, franchise, property, excise, and severance taxes. State taxation of interstate businesses.

LAW 5261 - Real Estate Tax

Credit Hours: 2.0

Lecture Contact Hours: 2 *Lab Contact Hours:* 0 **Prerequisite:** LAW 5359 or LAW 5459 - Federal Income Tax.

Analysis of state and federal tax considerations pertaining to the ownership, rental, and sale of interests in real estate.

LAW 5263 - Taxation of Comp

Credit Hours: 2.0

Lecture Contact Hours: 2 *Lab Contact Hours:* 0 **Prerequisite:** LAW 5359 and LAW 5459 - Federal Income Tax.

Taxation of qualified and nonqualified deferred compensation arrangements, nonqualified and incentive stock options, restricted property arrangements, part-in-interest transactions, executive compensation and severance arrangements and welfare benefit arrangements.

LAW 5264 - Health Legislation & Advocacy I



Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** N/A.

This course is the first part of a two-semester course offered in alternate academic years. Students desiring to enroll are required to take both semesters. The fall semester will focus on the health policy development process, including researching and drafting a policy proposal on behalf of a non-profit community partner. Students will learn the skills to determine the best method to advance the policy proposal, whether through legislation or rulemaking. Grading will be based on several practical writing assignments (including a legal memorandum outlining the policy issue and possible solutions, a draft of proposed legislation, community support proposal, a letter to community partner, and a letter to a legislator).

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 5265 - Inc Tax Est & Tr

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** LAW 5359or LAW 5459 - Federal Income Tax.

An in-depth examination of Subchapter J Taxation of estates and trusts, including their grantors and beneficiaries.

LAW 5266 - Tax of Exempt Orgs

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** LAW 5359or LAW 5459 - Federal Income Tax.

Study of federal and state law concerning organizations exempt from federal income taxation including contributions deductibility, standards for granting exemption, private foundations, fiduciary duties and limits on political activities.

LAW 5267 - Tax Accounting

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** LAW 5359or LAW 5459 - Federal Income Tax.

Study of methods in context of federal tax laws including cash, accrual installment methods, inventory taxation, changes of accounting methods, and time value of money concepts.

LAW 5268 - Taxation of Sales

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** LAW 5359or LAW 5459 - Federal Income Tax.

Tax treatment of capital gains on the sale or exchange of property, as well as similarity treated transactions.

LAW 5269 - Immigration Law

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** N/A.

This course will address the fundamental issues of who gets to become a United States citizen, who we will let into the country and under what conditions, and who decides. We will review the underlying assumptions of citizenship and its various dimensions: entry for family and employment purposes, refugee and asylum issues, and international and comparative law fundamentals.

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 5270 - Money and Morals in the Courtroom and Boardroom

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** N/A.

This course explores the complexities in real legal issues you read about in the papers: Can you compete in Asia and Africa without bribing foreign officials when your foreign competition pays bribes? The course will investigate policy and moral implications that are considered - or ignored - by



popular culture and often by the participants themselves.

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 5271 - Advanced Negotiation

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

Focuses on in-depth analysis, planning and practice on preferred systems and techniques for complex negotiations involving hard and soft interests.

LAW 5273 - International Intellectual Property

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** N/A.

This course examines, analyzes and studies the remarkable subject of International Intellectual Property Law and how to enforce trademarks, patents and copyrights beyond national boundaries. Special emphasis will be placed on international standards for intellectual property and its implementation, application and practices in national jurisdictions. In addition the course covers the differences and similarities between the diverse national intellectual property systems.

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 5274 - Interscholastic Moot Court-Retro

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 2 This is a Moot Court Competition. Participants will engage in legal research, brief writing, and oral arguments pursuant to competition rules.

LAW 5276 - Immigration and Business Law

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 Formerly/Same as: LAW 5276 - Government Contracts; LAW 5276 - Maritime Cargo

Prerequisite: LAW 5389 - Immigration Law

Concentration upon the employment-based provisions of immigration law (EB), particularly those non-immigrant and permanent resident provisions that authorize employment.

LAW 5277 - Records Sealing and Expunction I

Credit Hours: 2.00

Lecture Contact Hours: 0.0 Lab Contact Hours: 2.0 **Prerequisite:** N/A.

This course will give law students the opportunity to learn how to practice in three different court systems (juvenile, criminal, and civil) and train students in three different types of records clearing procedures: (1) juvenile records sealing; (2) expunctions of adult criminal records; and (3) nondisclosure orders for adult criminal records. Students will be assigned clients and handle their cases from start to finish, including: (1) meeting with the client to explain the records clearing procedure and its effects and obtain necessary paperwork; (2) drafting all necessary pleadings; (3) assisting clients in obtaining court fee waivers; (4) both e-filing and in-person filing procedures; (5) attending court hearings; and, for students who are eligible for student bar cards, (6) presenting motions to the judge and arguing for the granting of records sealing applications.

LAW 5279 - Texas Consumer Law

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** N/A.

This course will be a condensed version of the three-hour Texas Consumer Law course, taught in the spring semester. Emphasis will be placed on those areas of law that are examined on the Texas Bar. Numerous old bar questions will be reviewed. Material that will not be covered includes



products liability, warranty, and federal debt collection.

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 5283 - Mediation Externship

Credit Hours: 2.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 2 **Prerequisite:** Completion of the A.A.White Mediation, and Professor Approval.

Students do not serve as an advocate or represent clients. Instead act as neutral third-party mediators who assist others, most often parties to small claim disputes, in resolving their disputes.

LAW 5284 - Spanish for Lawyers

Credit Hours: 2.0

Lecture Contact Hours: 2 *Lab Contact Hours:* 0 **Prerequisite:** N/A.

An introductory level Spanish course designed for students with little or no previous Spanish language knowledge. Speaking, listening, reading, writing, and vocabulary development skills will be practiced within the context of legal professions, especially criminal, family, and immigration law.

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 5286 - Interscholastic Mock Trial-Retro

Credit Hours: 2.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 2 This is a Moot Court Competition. Participants will engage in legal research, brief writing, and oral arguments pursuant to competition rules.

LAW 5287 - Offshore Leasing

Credit Hours: 2.0

Lecture Contact Hours: 2 *Lab Contact Hours:* 0 **Prerequisite:** None

the course will cover the Deepwater JOA, Participation Agreements, appropriate portions of 30 CFR, the cycle time from lease acquisition to first oil or gas, mid-stream issues (pipelines to shore and PHA's), OCS Lease Sales, internal approval processes of Lessees and other topics.

LAW 5288 - Tax Ethics

Credit Hours: 2.0

Lecture Contact Hours: 2 *Lab Contact Hours:* 0 **Prerequisite:** LAW 5359 or LAW 5459 - Federal Income Tax.

An analysis of the civil, disciplinary and professional rules that govern lawyers in their practice of tax law.

LAW 5289 - Interscholastic Mock Trial

Credit Hours: 2.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 0 Formerly/Same as: LAW 5289 - Problems in Commercial Law.

LAW 5290 - Interscholastic Moot Court

Credit Hours: 2.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 0 Formerly/Same as: LAW 5290 - Corporate Clinic.

LAW 5291 - Partnership Tax



Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** LAW 5359or LAW 5459 - Federal Income Tax. Analysis of federal tax considerations pertaining to partnership entities.

LAW 5292 - Tax Procedure

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** LAW 5359or LAW 5459 - Federal Income Tax. Study of procedural requirements pertaining to proceedings in federal tax disputes.

LAW 5293 - Tax Fraud/Money Laundering

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** LAW 5359or LAW 5459 - Federal Income Tax. Processes by which the IRS and Justice Departments uncover and prosecute tax crimes and money laundering cases, mandatory sentencing, improper investigative techniques, related non-tax crimes and related matters.

LAW 5295 - US Export Regulation

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0

LAW 5297 - Selected Topics

Credit Hours: 2.00

Lecture Contact Hours: 2.0 Lab Contact Hours: 0.0

LAW 5298 - Special Rsch & Writing

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0

LAW 5299 - Special Problems

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Note:** Independent Study

LAW 5300 - Criminal Defense Clinic

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** N/A.

Students in the Criminal Defense Clinic will be assigned misdemeanor cases and be responsible for handling all legal aspects of the case from arraignment to fact investigation to trial.

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 5301 - Immigration Clinic II

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** LAW 5405 - Immigration Clinic.

Covers practical and theoretical training in immigration law.



LAW 5302 - Civil Practice Clinic II

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** LAW 6371, LAW 5420 - Civil Practice Clinic I, LAW 5401(Criminal Defense Clinic I), LAW 6375 - Client Interviewing & Counseling.

Students, under close faculty supervision, represent clients with a broad variety of legal problems arising in a civil context. Attendance mandatory for the classroom component necessary to learn skills for effective lawyering.

LAW 5303 - Criminal Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Substantive criminal law; basic concepts; elements of crime; theories of punishment.

LAW 5304 - Complex Litigation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None

This course covers the major procedural issues that arise in complex civil litigation. It will focus primarily on multi-party, multi jurisdictional disputes, with particular emphasis on topics such as class actions, multidistrict litigation (MDL) practice, and other methods of aggregating claims.

LAW 5305 - Business Torts

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 This course will cover torts that typically cause pure economic harm (i.e., harms to the pocketbook, rather than harms to the person or property. The course will emphasize the operation of various business torts and will examine the torts' applicability to particular business or economic settings.

LAW 5306 - Law and Economics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Introduction to the use of economic tools and their application to legal principles.

LAW 5307 - How to Reason

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: LAW 5307 - Interagency Environmental Cooperation.

Prerequisite: None.

Explores common fallacies, and limits of reasoning, while considering certain areas of economic, ethical, political, and jurisprudential reasoning.

LAW 5308 - Federal Courts

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Covers the jurisdiction of the federal courts and other issues concerning the relationship of the federal and state courts. Topics include congressional control over the jurisdiction of the federal courts; justiciability doctrines such as standing; federal question and jurisdiction.

LAW 5309 - Advanced Trial Advocacy

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** LAW 5386 - Trial Advocacy.

The focus of this course is on persuasion and methods for causing a judge or jury to view evidence from a litigant's perspective. Emphasis will be



placed on developing a persuasive theory of the case, constructing opening statements and closing arguments to present the case theory, presenting expert testimony, and planning the presentation of evidence so as to maximize its effectiveness.

LAW 5310 - White Collar Crime

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 This course focuses on the criminal statutes affecting business people, as well as the defenses available to those charged under those statutes.

LAW 5311 - Product Liability

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 An in-depth study of the circumstances under which a manufacturer is or may be held responsible for damages to third parties caused by its products. Consideration of strict liability, negligence and contract theories.

LAW 5312 - First Amendment

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Advanced study of individual rights guaranteed by the First Amendment to the U.S. Constitution including the rights of free speech and religion.

LAW 5314 - Lawyering Skills & Strategies I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Not for upper level students.

Focuses on the introduction to the American legal system and the skills and strategic planning lawyers must possess to succeed within it.

LAW 5315 - Foundational Issues in Health Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None

This course introduces the basic legal and theoretical concepts related to the study of health law. Major topics include bioethical theories and their relevance to the law, medical malpractice, and the role of the courts in defining and applying standards of care.

LAW 5316 - Consumer Dispute Resolution

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** None.

Provides students with an opportunity to work with the Texas Consumer Complaint Center. Students deal directly with consumers and consider the legal and ethical problems that arise.

LAW 5317 - Trademark/Unfair Competition

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Development and protection of trademarks under state and federal law. Various phases of trademark and related unfair competition litigation. Intellectual Property Survey course recommended but not required.

LAW 5318 - Landlord and Tenant



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 A study of the legal rights of parties to commercial and residential leasing agreements.

LAW 5319 - Intro To American Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 A course in American legal method for foreign lawyers.

LAW 5320 - Pretrial Procedure

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Modern problems of pleading, parties, depositions, and discovery, primarily in the Texas State system.

LAW 5321 - Law Office Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None

Students will be introduced to basic concepts of law firm management, including typical and predictable problems in managing a law practice, and solutions to these problems.

LAW 5322 - Pretrial Litigation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Intensive individualized training and instruction in case analysis and the art of drafting and oral advocacy relating to pretrial discovery, motion practice and pleadings, including instruction in the law of pretrial procedure.

LAW 5323 - Conflict of Laws

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 The central issue focuses upon the controlling law if there are competing legal principles from various jurisdictions that have a connection with the controversy. The course is a cross section of many courses that the student has previously taken.

LAW 5324 - International Trade

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 A course in the problems businesses encounter in transnational dealings in goods and services, including import controls, export controls, tariffs, and sales conventions.

LAW 5325 - National Security Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None

This course is an introduction to national security law that will cover presidential and congressional national security powers under the Constitution as well as relevant statutes-such as the Foreign Intelligence Surveillance Act and the USA Patriot Act-regulations, and guidelines.

LAW 5328 - Judicial Externship I



Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** None

Judicial Externship I

LAW 5329 - Judicial Externship II

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** None

Judicial Externship II

LAW 5330 - Anti-Trust Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 The law and economics of antitrust policy and the methods for enforcing antitrust policy. Emphasis is placed on the issues of monopolization, mergers, price fixing, and state and local government actions displacing the competitive process.

LAW 5331 - English Legal History

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Development of English law from the twelfth to the eighteenth century with emphasis on the nature of legal change, the relationship between legal and social change, and the development of individual rights.

LAW 5332 - Patent Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 The substantive U.S. law of patents including eligible subject matter, novelty and nonobviousness requirements, scope of claims, and modern infringement law.

LAW 5335 - Land Use

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 This course will deal with the basic legal issues arising in the government control of land, including regulatory takings (especially in environmental area) and other special topics.

LAW 5336 - Public Health Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Surveys the laws and legal institutions that play key roles in the public's health in the United States.

LAW 5338 - Land Use & Finance Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Law pertaining to land use and finance, as reflected in governmental regulations, zoning and other municipal ordinances, and land-financing practices.

LAW 5339 - Trusts and Wills



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Express, resulting and constructive trusts, substantive and remedial aspects. Intestacy; execution, revocation, and construction of wills; contracts to devise.

LAW 5340 - Marital Property Rights

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Marriage, divorce, and annulment; rights of children and the community property law of Texas.

LAW 5341 - Disabilities and the Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Is a study of legal issues affecting persons with disabilities, including education, higher education, employment, architectural barriers, transportation, public accommodations, public services, housing and access to health care.

LAW 5343 - Employment Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Focuses on the expanding body of statutes and common law dealing with the legal rights of nonunion employees. The course examines the legal aspects of hiring practices, conditions of employment, and termination of employment and the legal regulation of employers and employees.

LAW 5344 - Appellate Advocacy I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Intensive, individualized training in the art of persuasive brief writing and effective oral argument, as well as the law of appellate advocacy.

LAW 5345 - Real Estate Transactions

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None

This course applies substantive concepts from the first-year property course to a wide range of common real estate transactions and related matters. The primary focus will be residential transaction, but issues relating to commercial transactions will also be considered.

LAW 5346 - State & Local Government Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None

States and local governments have substantial law-making and regulatory authority in areas as diverse as education policy, civil rights, tax law, land use and environmental issues. In addition, states and local governments are responsible for the financing and provision of most public services.

LAW 5347 - Criminal Procedure: The Investigation Process

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Deals with the law of search and seizure, confessions, right to counsel, incorporation of bill of rights guarantees, retroactivity, federal court supervisory power, due process and the war on terrorism.

LAW 5348 - Texas Consumer Law



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 An advanced course in sales and the Texas Deceptive Trade Practices Act designed to supplement courses in contract and commercial law.

LAW 5349 - Toxic Torts

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None

This course strives to give students an overview of the law of environmental and toxic torts. It includes cases in which there is a personal injury or property damage due to exposure to toxic substances, including drugs. It combines a historic overview of the field with coverage of the current issues confronting the courts and Congress.

LAW 5350 - Criminal Procedure: The Adjudication Process

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Addresses the constitutional rules of criminal procedure applicable in all court proceedings in a criminal prosecution in state or federal court.

LAW 5351 - Juvenile Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 A survey of the statutes and case law governing the rights of children alleged to be delinquent, incorrigible, or neglected.

LAW 5352 - Corporate Taxation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** LAW 5359, LAW 5459 - Federal Income Tax.

Taxation of corporate entities; corporate formations, distributions, liquidations, and reorganizations.

LAW 5353 - Business Planning

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** LAW 5359, LAW 5459 - Federal Income Tax; and either LAW 5421 - Business Organizations or LAW 5350 (Corporations).

An advanced course in the legal problems encountered in the organization of a corporation. Problems of taxation are a major topic of this course.

LAW 5354 - Environmental Law Practicum

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Environmental law.

This course will overview key areas of practice within environmental law such as regulatory counseling and permitting, civil enforcement, criminal liability, private litigation over environmental contamination, policy advocacy, and environmental aspects of commercial transactions.

LAW 5355 - Oil and Gas

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Covers the basic property, contract, and regulatory framework for oil and gas production in Texas.

Explores common law property concepts; the provisions of an oil and gas lease negotiated between a mineral interest owner and an oil company as lessee; and also examines Railroad Commission regulation of drilling, production, pooling, and unitization for the efficient and fair development of oil and gas.



LAW 5357 - Evidence

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 The rules evidence and reasons supporting them, state and federal, including relevancy, impeachment presumptions, judicial notice, competency of witnesses, privilege, and the hearsay rule and its exceptions.

LAW 5358 - Sales and Leasing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 The law of sales and leases including Articles 2 and 2A of the Uniform Commercial Code, and some consideration of the CISG-the law governing international sales of goods.

LAW 5359 - Health Industry Basics: Providers-Innovators-Regulators

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

This core health law course is an introductory tour of Texas/federal laws governing health-sector businesses that together account for 18% U.S. Gross Domestic Product, including traditional 20th-century institutions like hospitals and an expanding array of new players that supply innovative products (drugs, devices, diagnostics) and services (clinical laboratories, biobanks, contract research organizations, health data exchanges, management and informational services) to healthcare providers and increasingly directly to consumers.

LAW 5360 - Licensing and Tech Transfer

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** LAW 5201 - Intellectual Property Survey, LAW 5332 - Patent Law or LAW 5379 - Copyright Law; Consent of Instructor.

Introduction to the transfer of technology by licensing agreements where underlying rights are patent, trademark, copyright, or trade secret (know-how). Agreement structures and legal limitations via antitrust laws. U.S. law emphasis; some foreign laws considered.

LAW 5361 - Financial Statement Analysis and Business Practices for Lawyers

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Financial Statement Analysis and Business Practices for Lawyers will cover the area of introductory financial reporting and analysis. Included in the course will be introduction to the mechanics of financial accounting, the building of financial statements, reporting and analysis of financial information and in depth study of accounting principles and procedures. Certain business and financial practices are also covered.

LAW 5362 - Employment Discrimination

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Examines the substantive law of employment discrimination and the policy conflicts underlying the legal and social issues raised by the cases. Basic doctrines designed to protect individuals from unfair unemployment decisions: Title VII; Americans with Disabilities Act; and the Age Discrimination in Employment Act.

LAW 5363 - Securities Regulation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 A study of state and federal statutes regulating the issuance, transfer, and trading of securities.

LAW 5364 - Texas Coastal and Ocean Law



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 The course will deal with the origin and present status of the 1972 National Coastal Zone Management Act and subsequent coastal management programs adopted by virtually all coastal states. The Texas program is administered by the General Land Office and will be dealt with in depth as the central focus of the course. Statutory law relating to citizen, state, and federal rights and duties as they impact coastal law will be studied as a part of Texas real property law. Cases relating to those rights and duties and Public Trust Doctrine cases are an integral part of understanding the responsibilities of governments and rights of citizens. The course should help prepare an attorney to advise clients concerning their rights and responsibilities, as well as permit procedures and limitations applicable to the coast.

LAW 5365 - Bankruptcy & Creditors Rights

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 A study of federal and state laws relating to the remedies of debtors and creditors, including bankruptcy.

LAW 5366 - Comparative Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Examination of the major legal systems in the world today (focus on civil law and common law). Comparison of selected features of foreign laws, legal institutions, legal methodology, and legal culture with their American counterparts. Topics include procedure, private law, legal profession, legal education, sources of law, court structure and others. Countries sampled include Germany, France, Italy, Mexico, Japan, China, and others.

LAW 5367 - Biotechnology and the Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Surveys ethical, regulatory, and policy issues with modern medical technologies, such as genome-based products and nanotechnology, with emphasis on the challenges of regulatory novel products and resolving barriers to research and commercialization.

LAW 5368 - Estate Planning

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** LAW 5359, LAW 5459 - Federal Income Tax and LAW 5339, LAW 5440 - Trusts and Wills or seek instructor's permission to waive prerequisite.

Planning of estates from the standpoint of tax savings and ease of administration.

LAW 5369 - Insurance

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Examines the regulation of insurance contracts and insurance companies, including underwriting regulation, doctrines of contract interpretation, claims-processing regulation, solvency regulation and special remedies for breach. The course covers both the property/casualty and life/health "sides" of the insurance industry with an emphasis on policy issues and economics.

LAW 5370 - International Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Basic public international law; legal organization of the international community; the relation of individuals within a state to the rules of international law.

LAW 5371 - Int'l Petroleum Transaction



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Recommended prerequisite - not required, LAW 5355 - Oil and Gas.

A study of key provisions in development contracts (licenses and production-sharing contracts); relationships with host governments; and international joint operating agreements.

LAW 5373 - Admiralty

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Covers a number of unique features of maritime law such as limitation of liability, general average, salvage cargo claims, the Carriage of Goods by Sea Act and variations thereon under international conventions, and seamen's remedies for personal injuries including the Jones Act, unseaworthiness and maintenance and cure. It will also focus on the variety of federal jurisdiction issues that come into play in Admiralty.

LAW 5374 - Legal History

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Emphasis on the First and Fourteenth Amendments. A study of American legal history from 1776-1940. The course concentrates on federalism, the relationship between both state and federal constitutions and the common law, and the process of development of individual rights under the Constitution.

LAW 5375 - Administration of Estates and Guardianship

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Administration of Estates and Guardianships. A skills class that will cover all types of administrations encountered with decedents and incapacitated estates: Dependent Administrations, Independent Administrations, Probating wills, alternative to probate administrations, Intestacy and guardianships. Students will review and be exposed to defective wills as well as proper wills and learn how to get them admitted into probate in addition to reviewing a variety of estate administration pleadings.

LAW 5376 - Colloquium

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Students and scholars work cooperatively in a rigorous intellectual environment where students participate in a unique analytic discussion of the law of many different fields. Enrollment limited.

LAW 5378 - Statutory Interpretation & Reasoning

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Focuses on common law rules extracted from court opinions. Reading and interpreting statutes and administrative materials providing an overview of the legislative and regulatory process that generates those documents.

LAW 5379 - Copyright Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Study of protection for literary, artistic, musical, computer, and other works of human intellect under the Copyright Act of 1976. Prerequisites and formalities for protection; nature, scope, and limitations of rights with special emphasis on fair use; infringement actions, remedies and federal preemption of state law.

LAW 5380 - Labor Law



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 A study of the National Labor Relations Act and other federal legislation relating to the labor management relationship.

LAW 5381 - Legal Negotiation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 An introduction to legal negotiation as a method of reaching agreement on different matters.

LAW 5382 - Administrative Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 A study of the administrative process, primarily at the federal level; agency powers; agency jurisdiction; agency procedures; limitations on agency power; enforcement of agency decisions; judicial review.

LAW 5383 - Family Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 A study of the law of marriage, divorce, and child custody; legal aspects of illegitimacy, family desertion, nonsupport, and abandonment of children.

LAW 5384 - Endangered Species and Biodiversity Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** none.

The study of Endangered Species and Biodiversity Law.

LAW 5385 - Introduction to the Laws of European Union

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Students will gain an insight into the way in which the law of the European Union (European Community law) impacts the business community at a national and international level. The European Union now represents a vast market and a window of opportunity for business and commerce.

LAW 5386 - Trial Advocacy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** LAW 5270 , LAW 5357 - Evidence.

Through "learning-by-doing" students master the skills necessary to developing case theory, selecting a jury, conducting direct and cross examinations, handling exhibits, impeaching witnesses and presenting opening statements and closing arguments.

LAW 5387 - International Tax

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** LAW 5359, LAW 5459 - Federal Income Tax.

A study of issues in U.S. and foreign taxation including analyses of tax consequences relating to multinational business operations.

LAW 5388 - Storytelling



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Coverage of how to develop effective and persuasive case theories, rhetoric, and the psychological aspects of persuasion.

LAW 5389 - Immigration Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Study of United States laws relating to the permanent and temporary entry of foreign nationals into the U.S.

LAW 5390 - Environmental Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Environmental law, with emphasis on legal regulation and control of activities affecting the land, sea, and air environment.

LAW 5391 - Law Practice Strategies

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Covers strategies for document preparation, client relations, interviewing, counseling, negotiation, running the practice, and advocacy through simulations involving civil litigation, contracts, criminal litigation, real estate, divorce, and wills.

LAW 5392 - Int Business Trans

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

LAW 5393 - Intl Criminal Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: LAW 5393 - Information Law Seminar.

LAW 5394 - Crimmigration

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: LAW 5393 - Information Law Seminar.

Prerequisite: None.

This course will introduce students to the many issues at the intersection of immigration law and criminal law. Crimmigration is a complex and dynamic area of law. The course will provide students with the knowledge required to recognize and analyze the potential immigration consequences of a variety of criminal pleas and convictions.

LAW 5395 - Entrepreneurship and Community Development Clinic II

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** NONE.

Students represent entrepreneurs and small businesses in connection with entity formation, drafting and negotiating commercial contracts, raising capital, buying and selling equity and assets, working with employees and independent contractors, and other transactional business law matters.

LAW 5396 - Elections and the Law of Democracy



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** N/A.

This course covers the law that structures democratic politics and the processes of democracy, with a primary focus on constitutional law and election law.

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 5397 - Selected Topics

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 Y

Additional Fee Y **Fee Type** Y

LAW 5398 - Special Research and Writing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Second -or third- year standing and consent of instructor.

Independent research paper written under the direct supervision of a full-time faculty member. Cannot be used as the senior writing requirement unless approved by the Associate Dean for Student Affairs.

LAW 5399 - Special Problems

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

LAW 5400 - Government and Nonprofit Externship I

Credit Hours: 4.0

Lecture Contact Hours: 4 Lab Contact Hours: 0 **Prerequisite:** None.

The Government/Nonprofit Externship Program enables students to experience and reflect upon the law in practice through field places in local, state, and federal government agencies, as well as nonprofit institutions. The programs goal is to exposure students to the disposition of real world legal issues, while working under the supervision of experienced attorneys.

Note: Independent Study

LAW 5401 - Entrepreneurship and Community Development Clinic II

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 4 **Prerequisite:** NONE.

Students represent entrepreneurs and small businesses in connection with entity formation, drafting and negotiating commercial contracts, raising capital, buying and selling equity and assets, working with employees and independent contractors, and other transactional business law matters.

LAW 5402 - Entrepreneurship and Community Development Clinic I

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 4 **Prerequisite:** NONE.

Students represent entrepreneurs and small businesses in connection with entity formation, drafting and negotiating commercial contracts, raising capital, buying and selling equity and assets, working with employees and independent contractors, and other transactional business law matters.

Note: Students work under the supervision of a professor who is a member of the State Bar of Texas.

LAW 5403 - Street Law



Credit Hours: 4.0

Lecture Contact Hours: 4 Lab Contact Hours: 0 **Prerequisite:** N/A.

Law students will teach high school age students about the law including constitutional law, family law, criminal law, housing law, and other areas. Street Law empowers young people to be active, engaged citizens by equipping them with the knowledge and skills they need to successfully participate in their communities. Law students will gain a greater knowledge of substantive law and how to explain the law to lay people, develop their ability for oral presentations both in formal settings and thinking on their feet, improve legal research skills, and gain an understanding of the legal system in the context of those persons directly affected by it.

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 5405 - Immigration Clinic**Credit Hours: 4.0**

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Grade Point Average of 2.5. Recommended - not required, LAW 5222, LAW 6321 - Professional Responsibility, LAW 5270 , LAW 5357 - Evidence, LAW 5389 - Immigration Law.

The immigration clinic combines actual representation of clients with the theoretical teaching of immigration law. Each student handles an individual caseload of 5-7 clients. The types of cases handled through the clinic include: applications for political asylum; petitions under the Violence Against Women Act (VAWA); family visa petitions, citizenship, special immigrant juvenile petitions; and representation of long term residents in removal/deportation proceedings.

LAW 5406 - Civil Procedure**Credit Hours: 4.0**

Lecture Contact Hours: 4 Lab Contact Hours: 0 Introduction to civil procedure; jurisdiction of courts; pleading, discovery; trial; effect of judgments; appeals. Emphasis is on the federal rules of civil procedure.

LAW 5407 - Judicial Externship I**Credit Hours: 4.0**

Lecture Contact Hours: 0 Lab Contact Hours: 4 Judicial Externship I

LAW 5408 - Property**Credit Hours: 4.0**

Lecture Contact Hours: 4 Lab Contact Hours: 0 Introduction to basic principles of property law; acquisition of property; types of property interests; transfer of ownership; recording systems; conveyancing; landlord and tenant; regulation of land use.

LAW 5409 - Contracts**Credit Hours: 4.0**

Lecture Contact Hours: 4 Lab Contact Hours: 0 Basic contract law including contract formation, prerequisites such as consideration, remedies, enforcement, interpretation, writings, and multiple parties.

LAW 5410 - Law Review**Credit Hours: 4.0**

Lecture Contact Hours: 4 Lab Contact Hours: 0 **Prerequisite:** Membership on Law Review staff.

Advancement from candidacy to staff requires publication of two case notes or one comment. Credit is given for satisfactory staff service.

LAW 5412 - Judicial Externship II

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 4 Judicial Externship II

LAW 5414 - Immigration Clinic II

Credit Hours: 4.0

Lecture Contact Hours: 4 Lab Contact Hours: 0 **Prerequisite:** LAW 5405 - Immigration Clinic.

Covers practical and theoretical training in immigration law.

LAW 5415 - Government and Nonprofit Externship II

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 4 **Prerequisite:** Government and Nonprofit Externship I.

The Government Nonprofit Externship Program enables students to experience and reflect upon the law in practice through field places in local, state, and federal government agencies, as well as nonprofit institutions. The program's goal is to expose students to the disposition of real world legal issues, while working under the supervision of experienced attorneys.

LAW 5417 - Civil Practice Clinic II

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 4 **Prerequisite:** LAW 6371, LAW 5420 - Civil Practice Clinic I, LAW 5401(Criminal Defense Clinic I), LAW 6375 (Child Dependency I).

Students, under close faculty supervision, represent clients with a broad variety of legal problems arising in a civil context. Attendance mandatory for the classroom component necessary to learn skills for effective lawyering.

LAW 5418 - Torts

Credit Hours: 4.0

Lecture Contact Hours: 4 Lab Contact Hours: 0 Basic tort law; intentional torts, negligence, strict liability; causation and problems of multiple parties; damages and compensation systems; derivative liability; special kinds of torts.

LAW 5419 - Consumer Law Clinic

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 4 Focusing on consumer law issues, students enrolled in this clinic work as student attorneys with Lone Star Legal Aid and learn the law by a mixture of theory and actual hands-on experience representing low income clients at Justice Court, County Court, and District Court.

LAW 5420 - Civil Practice Clinic I

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 4 **Prerequisite:** At least 45 hours completion.

Students under close faculty supervision, represent clients with a broad variety of legal problems arising in a civil context. Attendance mandatory for the classroom component necessary to learn skills for effective lawyering.

LAW 5421 - Business Organizations

Credit Hours: 4.0

Lecture Contact Hours: 4 Lab Contact Hours: 0 A survey of materials relating to the legal consequences of various forms of business structures including agency, partnership, and incorporation.



LAW 5422 - Criminal Practice Externship

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 4 **Prerequisite:** None
Criminal Practice Externshipcase work.

LAW 5424 - Death Penalty Clinic

Credit Hours: 4.0

Lecture Contact Hours: 4 Lab Contact Hours: 0 **Prerequisite:** completion LAW 5303& LAW 5488.

Explores the substantive law, investigative techniques, & post-conviction appellate remedies applicable in capital (death penalty cases).

LAW 5427 - Consumer Dispute Resolution

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 4 Provides students with an opportunity to work in the Texas Consumer Complaint Center. Students deal directly with consumers and consider the legal and ethical problems that arise.

LAW 5459 - Federal Income Tax

Credit Hours: 4.0

Lecture Contact Hours: 4 Lab Contact Hours: 0 Introduction to federal income taxation. Identification and characterization of income subject to taxation and deductions therefrom.

LAW 5470 - Innocence Investigations

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 4 This course will cover basic issues associated with conducting factual investigations, years after a trial has occurred, to determine whether a prison inmate is innocent. The course will consider, among other things, the mechanics of conducting factual investigations, and will also address ethical issues associated with such investigations. Students will have the opportunity to screen cases and may have the opportunity to conduct investigations.

LAW 5488 - Constitutional Law

Credit Hours: 4.0

Lecture Contact Hours: 4 Lab Contact Hours: 0 Judicial review: powers of government; federalism; requirements of due process and equal protection; individual rights guaranteed by the Constitution.

LAW 5497 - Selected Topics

Credit Hours: 4

Lecture Contact Hours: 4 Lab Contact Hours: 0 Y
Additional Fee Y Fee Type Y

LAW 5498 - Special Problems - Jtcl

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

LAW 5500 - Government and Nonprofit Externship I



Credit Hours: 5.0

Lecture Contact Hours: 0 Lab Contact Hours: 5 **Prerequisite:** None

The Government/Nonprofit Externship Program enables students to experience and reflect upon the law in practice through field places in local, state, and federal government agencies, as well as nonprofit institutions. The programs goal is to exposure students to the disposition of real world legal issues, while working under the supervision of experienced attorneys.

Note: Independent Study

LAW 5514 - Judicial Externship I

Credit Hours: 5.0

Lecture Contact Hours: 0 Lab Contact Hours: 5 **Prerequisite:** None

Judicial Externship I

LAW 5515 - Judicial Externship II

Credit Hours: 5.0

Lecture Contact Hours: 0 Lab Contact Hours: 5 **Prerequisite:** None

Judicial Externship II

LAW 5600 - Judicial Externship I

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 6 Judicial Externship I

LAW 5602 - Government and Nonprofit Externship I

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 6 **Prerequisite:** None

The Government/Nonprofit Externship Program enables students to experience and reflect upon the law in practice through field places in local, state, and federal government agencies, as well as nonprofit institutions. The programs goal is to exposure students to the disposition of real world legal issues, while working under the supervision of experienced attorneys.

LAW 5603 - Government and Nonprofit Externship II

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 6 **Prerequisite:** Government and Nonprofit Externship I.

The Government Nonprofit Externship Program enables students to experience and reflect upon the law in practice through field places in local, state, and federal government agencies, as well as nonprofit institutions. The programs goal is to exposure students to the disposition of real world legal issues, while working under the supervision of experienced attorneys.

LAW 6200 - Attorney Comm/Persuasion Tech

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 Theoretical and practical approaches to the way lawyers communicate effectively with clients, judges and juries.

LAW 6201 - Sexual Orientation and the Law

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 Examines the manner in which the state regulates sexuality, gender, gender roles, and sexual orientation in a variety of substantive legal areas.



LAW 6202 - Asylum Law

Credit Hours: 2.0

Lecture Contact Hours: 2 *Lab Contact Hours:* 0

LAW 6203 - Bankruptcy Tax

Credit Hours: 2.0

Lecture Contact Hours: 2 *Lab Contact Hours:* 0 **Prerequisite:** LAW 5459 - Federal Income Tax.

Explores resolution of conflicting policies underlying bankruptcy & tax laws.

LAW 6204 - Entertainment Law

Credit Hours: 2.0

Lecture Contact Hours: 2 *Lab Contact Hours:* 0 An interesting blend of torts, contracts, and intellectual property concepts that arise in entertainment law practice.

LAW 6205 - Patent Prosecution

Credit Hours: 2.0

Lecture Contact Hours: 2 *Lab Contact Hours:* 0 **Prerequisite:** LAW 5332 - Patent Law, or permission of instructor.

Substantive law and procedure governing the patent application process. Students who are registered patent agents are graded on a separate curve.

LAW 6207 - Lawyering Skills & Strategy II

Credit Hours: 2.0

Lecture Contact Hours: 2 *Lab Contact Hours:* 0 **Prerequisite:** Not for upper level students.

The second semester of this course will focus more on developing persuasive skills and working through simulations designed to develop lawyering skills and problem-solving strategies.

LAW 6208 - International Arbitration Advocacy

Credit Hours: 2.0

Lecture Contact Hours: 2 *Lab Contact Hours:* 0 **Prerequisite:** N/A.

This course has two primary goals: (1) to expose students to international arbitration practice; and (2) to provide students with the skills they need to represent clients effectively in international commercial arbitrations. The backbone of the course will be a mock arbitration with the students advocating the entire matter through each stage of the arbitration process.

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 6209 - Health Law Journal

Credit Hours: 2.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 0 **Prerequisite:** Membership on Health Law Journal staff.

Advancement from candidacy to staff requires satisfactory completion of two case notes or one comment. Credit is given for satisfactory staff service.

LAW 6211 - Houston Business/Tax Journal

Credit Hours: 2.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 0 **Prerequisite:** Membership on Houston Business/Tax Journal staff.

Advancement from candidacy to staff requires publication of two case notes or one comment. Credit is given for satisfactory staff service.



LAW 6212 - Special Education Law

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** N/A.

Course addresses the state and federal laws and regulations that govern the education of students with disabilities. Course will cover identification, evaluation, individualized education programs, placement, related services, assistive technology, discipline, enforcement, and remedies. This course will use a combination of lectures, class discussions, in-class exercises, and case studies.

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 6213 - Innocence Investigations

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 This course will cover basic issues associated with conducting factual investigations, years after a trial has occurred, to determine whether a prison inmate is innocent. The course will consider, among other things, the mechanics of conducting factual investigations, and will also address ethical issues associated with such investigations. Students will have the opportunity to screen cases and may have the opportunity to conduct investigations.

LAW 6218 - Client Interviewing & Counseling

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

This course emphasizes a practice approach to learning with instructions on client-centered interviewing and counseling techniques and students will engage in mock interviews and counseling sessions.

LAW 6219 - U.S. Import Regulation

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0

LAW 6223 - Drafting & Negotiating Int'l Oil & Gas Agreements

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

International oil and gas agreements will be discussed while providing practical experience in drafting and negotiation. Students will learn how an international oil and gas lawyer approaches oil/gas industry challenges.

LAW 6224 - Remedies

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 Content includes a wide array of legal and equitable remedies available in civil actions - including injunctions (and the related contempt power), specific performance, common law "writs," restitution, money damages, attorney's fees, and prejudgment interest.

LAW 6226 - Advanced Oil & Gas Contracting

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 Focuses on contracts used in domestic oil and gas exploration and production operations, including oil and gas leases, operating agreements, unitization agreements, farm outs and term assignments, purchase and sale agreements and other contractual arrangements.

LAW 6228 - Comparative Health Law



Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

COMPARATIVE HEALTH LAW course focuses on the analysis of health foreign legal systems and topics, comparing them to the structure and notions existing in the US. The objective is to study through practical cases and legal notions and structures, a number of chosen aspects related to Health Law from an international and comparative point of view.

LAW 6229 - Negotiation in Sports

Credit Hours: 2

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

The skill of negotiating is required in all areas and all phases of legal practice. The purpose of the negotiation course can be described in terms of providing participants with a theoretical framework and practical tools for resolving issues on favorable terms while maintaining or enhancing relationships.

N

Additional Fee Y Fee Type Y

LAW 6230 - Current Crisis in the Middle East

Credit Hours: 2

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

This course will provide insight into substantive areas of history, religion, politics (regional and worldwide), longstanding relationships, legal systems, human rights and women's rights framed by current events in the most volatile and important region in the world.

N

Additional Fee N Fee Type N

LAW 6231 - Data Protection in Corporate Practice

Credit Hours: 2

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

Data Protection in Corporate Practice is a simulation course for students interested in corporate, nonprofit, intellectual property, or cyber law practice. The course is designed integrate doctrine, theory, skills, and ethics in the following areas (i) state, federal, and international regulation of data protection; (ii) privacy; and (iii) legal risk management in the corporate setting.

N

Additional Fee N Fee Type N

LAW 6232 - HIPAA

Credit Hours: 2

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

This course is designed to help you understand the HIPAA Privacy Rule, and will look at the requirements of covered entities, business associates, and subcontractors.

N

Additional Fee Y Fee Type Y

LAW 6233 - Internet Law

Credit Hours: 2

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

This course covers a survey of legal issues arising from the rapid growth of the internet and other on-line communications. The focus will be on the protection and enforcement of intellectual property rights on the Internet, including copyrights, trademarks, patents, and trade secrets.



N

Additional Fee Y Fee Type Y

LAW 6234 - Juvenile Representation II

Credit Hours: 2

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

Dual-status youth (also often referred to as Crossover Youth) are juveniles who are involved in both the Juvenile Justice system as well as the child welfare system. Students will be trained to represent and advocate for juveniles who are in contact with two different legal systems.

N

Additional Fee Y Fee Type Y

LAW 6235 - Juvenile Representation

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

Students will also learn about the CPS system and factors in this system that impact the delinquency cases and the youth that are facing charges.

LAW 6236 - Advocates Board

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 2 Administers the operations of this student organization, including organizing and running all intrascholastic competitions, providing workshop learning opportunities for students competing in their competitions.

LAW 6237 - Doing Deals

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Completion of Business Organizations LAW 5421 or Corporations.

Life cycle of private & public company mergers, and acquisitions from the perspective of a practicing lawyer.

LAW 6238 - International Risk Management

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

Legal framework for international oilfield service contracts, including substantive law & practical counseling.

LAW 6239 - Admiralty Environmental and Insurance Claims

Credit Hours: 2

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

The Deepwater Horizon blowout resulted in more than 500,000 claims and payments of more than \$60 billion, and the waters of the United States see collisions, allisions, injuries, spills, and discharges every day. Admiralty Environmental and Insurance Issues teaches the civil and criminal remedies available for the environmental claims resulting from these incidents as well as the insurance issues applicable when there is a marine accident.

N

Additional Fee Y Fee Type Y

LAW 6240 - Death Penalty Clinic



Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 2 **Prerequisite:** Completion of Criminal Law LAW 5303& Constitutional Law LAW 5488.

Explores substantive law, investigative techniques, & post-conviction appellate remedies in capital cases.

LAW 6241 - Licensing & Technology Transfer

Credit Hours: 2

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

A study of licensing in the following types of licenses: patent, copyright, trademark, know-how, and digital information.

N

Additional Fee Y Fee Type Y

LAW 6243 - Privacy and Data Protection

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

Deals with areas where privacy law conflicts with the media, & with law enforcement, & with the privacy accorded government records.

Encompasses privacy of financial data, and the relationship between privacy & place.

LAW 6245 - Doing Business Down Under-Australia & New Zealand

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

Company and securities laws of Australia & New Zealand, along with types of transactions planning issues that confront a practicing lawyers.

LAW 6257 - Legal Negotiations

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** none.

An introduction to legal negotiation as a method of reaching agreement on different matters.

LAW 6300 - Government and Nonprofit Externship I

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** None.

The Government/Nonprofit Externship Program enables students to experience and reflect upon the law in practice through field places in local, state, and federal government agencies, as well as nonprofit institutions. The programs goal is to exposure students to the disposition of real world legal issues, while working under the supervision of experienced attorneys.

LAW 6302 - Foreign Relations Law

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

This course examines the constitutional and statutory doctrines regulating the conduct of America's foreign relations.

LAW 6303 - Family Immigration Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** N/A.

Utilizing federal statutes, regulations, case law, the Visa Bulletin, the U.S. Dept. of State Foreign Affairs Manual as well as federal agency memoranda, students will work individually and in groups to find legal solutions to hypothetical situations that involve the immigration of families to the U.S.



Students will develop practical skills that will enable them to successfully represent clients who are seeking immigration benefits through a family member in the U.S. or abroad.

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 6308 - Communication Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 This course examines regulation and policy concerned with various forms of mass media in the US including radio and television as well as telecommunications regulation, law and policy.

LAW 6310 - Family Law Advocacy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** N/A.

Overview of Family Law case from initial interview through trial and closing documents. Overview of Texas Family Code how to generally navigate it and common problem statutes to know for practice.

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 6311 - Master Thesis - Intell. Prop

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

LAW 6312 - Master's Thesis Course-Tax

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

LAW 6313 - Master Thesis - Energy

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

LAW 6314 - Master Thesis - Health

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

LAW 6315 - Entrepreneurship

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Examines entrepreneurship and specifically discusses the challenges and strategies one faces becoming a successful entrepreneur. Whether opening a law practice or starting a new business or commercializing a new technology.

LAW 6316 - Energy Law & Policy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** N/A.

This course provides an introduction to U.S. energy law and policy. It looks at how energy sources (water, wind, sun, coal, oil, gas, nuclear) are extracted, transported, and converted into energy as well as the physical, market, and legal structures governing each energy source. It introduces



the key jurisdictional actors that play differing roles in energy controversies and provides students with an understanding of pervasive multi-jurisdictional approach to energy regulation. Finally, it explores current hot topics in energy law and policy and opens a dialog to analyze how those topics are interrelated to other topics such as business and economics, climate and environment, human rights, and energy security.

LAW 6317 - International Energy Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

This course provides an introduction to how international law regulates or impacts energy activities. It analyzes the legal framework for trade and investment in the energy sector, as well as rules governing energy development, the climate, and the environment. This course will also provide an overview of corporate responsibility and human rights consequences of energy activities. We will focus on how public and private international law consider the various actors, socio-economic interests, and environmental concerns associated with the exploitation of energy sources and how domestic law can impact those interests and concerns. By the end of the semester, you will be able to critically assess the key legal issues around the exploitation of energy sources from a multidisciplinary and global standpoint.

LAW 6318 - Houston Business/Tax Journal

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Membership on Houston Business/Tax Journal staff.

Advancement from candidacy to staff requires publication of two case notes or one comment. Credit is given for satisfactory staff service.

LAW 6319 - Human Resources: Advanced Issues in Employment Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** N/A.

This course will familiarize students with the legal issues involved in the management of human resources in the modern workplace. Topics will include (i) drafting and negotiation of individual employment agreements, (ii) drafting and implementation of benefits and compensation policies, (iii) drafting and interpretation of employee communications, including employee handbooks, (iv) labor and employment issues in corporate transactions, (v) workplace investigations and internal resolution of problems in the workplace, and (vi) global employment challenges for multinational corporations. Students will propose and analyze solutions to problems discussed in class and will prepare and submit drafts of documents or portions of documents relevant to the resolution of these problems.

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 6321 - Professional Responsibility

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 A study of the legal and ethical responsibilities of members of the legal profession. Meets PR requirement.

LAW 6324 - Entrepreneurship and Community Development Clinic I

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** None.

Students represent entrepreneurs and small businesses in connection with entity formation, drafting and negotiating commercial contracts, raising capital, buying and selling equity and assets, working with employees and independent contractors, and other transactional business law matters.

Note: Students work under the supervision of a professor who is a member of the State Bar of Texas.

LAW 6325 - Internet Law



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 A survey of legal issues arising from the rapid growth of internet and other on-line communications. Coverage will include intellectual property, First amendment, criminal and privacy issues.

LAW 6326 - Diplomacy for Oil and Gas

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** N/A.

This course features the crossroads between geopolitics and law. We will study the legal instruments that have been built to govern inter-state and state-corporate relations in the oil and gas industry, providing to the students political and economy background for investment strategies of the oil industry.

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 6327 - Digital Transactions

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** N/A.

The objectives of this course are to teach the substantive law of digital transactions and electronic commerce (with related intellectual property concepts) in a comprehensive manner, to consider ethical and professional questions related to the subject matter, and to integrate the subject matter with the analytical and practical skills necessary to the practice of law.

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 6329 - The Subprime Mortgage Crisis

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** N/A.

The subprime mortgage crisis of 2008 wreaked havoc on the U.S. and international economy, and its effects continue to be felt. This course examines the subprime mortgage crisis as a legal, social, economic, and cultural phenomenon.

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 6330 - Real Estate Transactions, Practical Drafting

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** N/A.

This is a "nuts & bolts" practical course that will consider the basic building blocks of real estate transactions, a survey of a wide range of various common real estate transaction, and related matters.

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 6334 - Acct and Finance for Lawyers

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 The course teaches the basics every lawyer should know about accounting and finance in order to communicate, negotiate, and counsel effectively regarding business matters: the accounting process; the balance sheet, income statement, and cash flow; financial statement analysis; auditing; time value of money; interest; credit; securities; risk; valuation; derivatives; financial decision rules; and financial markets and regulation. The course presumes no prior knowledge of accounting or finance. No special mathematical knowledge is required, just basic arithmetic and algebra.

LAW 6336 - The Law and Theology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** N/A.



The goals of this course are (i) to introduce students to selected topics in the study of theology that conceptually parallel specific subjects in law and legal philosophy; (ii) to expand students' understanding of how theological thought can inform legal inquiry, and how legal thought can inform theological inquiry; and (iii) to increase students' awareness and enhance students' comprehension of the variety of historical and contemporary approaches to resolving problems that have arisen in theological and legal thought.

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 6338 - Climate Change Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** N/A.

This course will focus on the foundations, options and challenges to the use of environmental law to address climate change and to determine the obligations or liability of parties allegedly contributing it.

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 6339 - Arbitration

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 A study of the arbitration process including procedural problems related to the initiation of the arbitration procedure and the jurisdictional power of the arbitrator/as well as substantive issues including, but not limited to contractual interpretation.

LAW 6340 - Hot Topics in FDA Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** N/A.

This course provides a practice-oriented basic survey of the Federal Food, Drug, and Cosmetic Act, a surprisingly comprehensive federal consumer safety framework that regulates not just medical products but microwave ovens, computer screens, nanoparticles in make-up, genetically modified foods, dietary supplements and a dizzying array of other products that together account for 1 in 4 dollars spent in the U.S. economy.

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 6341 - Water Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Explores the way rights to use are allocated in the various jurisdictions of the United States, and examines acquisition and exercise of water rights, statutory procedures of acquisition, comparison of riparian rights and appropriation rights.

LAW 6343 - International Risk Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** N/A.

This course will look at the legal framework for international oilfield service contracts, including both substantive law and practical counseling. The issues and solutions discussed in this course will be similar to those that arise in many other international agreements for the sale of services, which commonly form the substance of much international legal work in Houston.

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 6346 - Payment Systems

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 This course explores and compares the law of various "money substitutes", with emphasis on the check system. The allocations of risk by the check system, the credit card system, the debit card system, the wire transfer system, and the letter of credit system are compared and contrasted.



LAW 6347 - Secured Financing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 This course will focus on the law of secured financing-Article 9 of the Uniform Commercial Code. The course will center around problem sets rather than cases, as problem-solving helps the student to learn and to understand how Article 9 operates in practical situations.

LAW 6348 - Texas Criminal Procedure

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 An in-depth analysis of the Texas Code of Criminal Procedure and case law interpreting the same. Where appropriate, the Texas Rules of Criminal Evidence and Texas Rules of Appellate Procedure will be addressed and discussed. There will be a comparative analysis of the mentioned rules and statutes with their federal counterparts.

LAW 6349 - Consumer Law Clinic

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 Focusing on consumer law issues, students enrolled in this clinic work as student attorneys with Lone Star Legal Aid and learn the law by a mixture of theory and actual hands-on experience representing low income clients at Justice Court, County Court, and District Court.

LAW 6350 - Admiralty:P.I. & Death

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Focuses upon causes of actions and remedies that are available to the various classes of maritime workers. We will also focus upon maritime jurisdiction.

LAW 6351 - Transnational Petroleum Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** N/A.

This course features the transnational petroleum law method that provides the tools to understand the regulation that governs foreign investments in the oil and gas industry worldwide.

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 6354 - Houston Journal of Int'l Law

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Membership on Houston Journal of International Law staff.

Advancement from candidacy to staff requires publication of two case notes or one comment. Credit is given for satisfactory staff service.

LAW 6355 - Government and Nonprofit Externship II

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** Government Nonprofit Externship I.

The Government Nonprofit Externship Program enables students to experience and reflect upon the law in practice through field places in local, state, and federal government agencies, as well as nonprofit institutions. The programs goal is to exposure students to the disposition of real world legal issues, while working under the supervision of experienced attorneys.

LAW 6356 - Law Review



Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Membership on Law Review staff.

Advancement from candidacy to staff requires publication of two case notes or one comment. Credit is given for satisfactory staff service.

LAW 6357 - Children's Rights

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Students will explore the interaction between children and the legal system. It will examine the constitutional rights of children, child custody and visitation, abuse and neglect proceedings, adoption, juvenile delinquency, regulation of children's conduct, financial responsibility and control and the medical decision making process for minors.

LAW 6358 - Health Law Journal

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Membership on Health Law Journal staff.

Advancement from candidacy to staff requires satisfactory completion of two case notes or one comment. Credit is given for satisfactory staff service.

LAW 6360 - Trial Advocacy for Non-Litigators

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** N/A.

Trial Advocacy for Non-Litigators provides students who do not have any trial experience with a chance to gain basic litigation training. This class is ideal for students interested in transactional law who may encounter litigators in the course of their career.

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 6362 - Natural Resources Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 History, jurisdiction, and conflicts of the land management agencies (primarily the U.S. Forest Service and the Department of the Interior) under the various natural resources statutes.

LAW 6365 - The U.S. Health System: An Introduction to Managed Care, Transactions, and Policy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** N/A.

This course provides students with an understanding of how the health care system is currently organized, financed, and regulated, and explores what the health care system of tomorrow may look like. Students are introduced to the major laws and regulations that regulate health care finance and transactions, including the Affordable Care Act.

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 6366 - International Arbitration Advocacy

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

International arbitration is a growing field and increasingly is the mechanism by which the largest international commercial disputes are resolved.

This course has two primary aims: (1) to expose students to international arbitration practice; and (2) to provide students with the skills they need to represent clients effectively in international commercial arbitrations.

LAW 6367 - Environmental Law in Oil & Gas



Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Even with petroleum and natural gas' enormous importance to our modern economy and lifestyle, hydrocarbon development and use remain tightly intertwined with environmental law and liabilities. For every inspiring engineering marvel in oil field development, hydraulic fracturing, and deep sea drilling, a counterbalancing memory arises of the oil-slicked shores of the Gulf Coast, the catastrophe of the Exxon Valdez, and growing fears over climate change caused by fossil fuel development and use. Simply put, a lawyer advising oil and gas interests (or opposing them) simply cannot provide reliable legal advice without an understanding of the environmental limits and liabilities accompanying hydrocarbon development.

LAW 6369 - Legal Analysis and Writing

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

This course emphasizes legal analysis and writing skills for high stakes testing, with emphasis on the Bar Exam.

N

Additional Fee Y **Fee Type** Y

LAW 6370 - Advanced Legal Research

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Study of advanced techniques of legal research using advanced computer technology as well as accessing rarely used sources and materials for specialized legal research efforts. Also includes use of law library.

LAW 6371 - Transnational Investment Law and Arbitration

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** N/A.

The Transnational Investment Law and Arbitration course provides JD candidates and LLM students all the notions and tools necessary for the analysis and performance of complex legal issues related to foreign investment transactions, such as oil and gas, mining, and Transnational construction projects. During the last 50 years, more than 3000 Bilateral Investment Treaties have been agreed between nations.

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 6372 - Analytic Methods

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Teaches practical analytic methods to law students without prior quantitative training. Includes decision/game theory, contracting, law and economics, microeconomics, accounting, finance, and statistics.

LAW 6373 - Tax Policy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** N/A.

Designed (i) to introduce students to recurring themes of tax policy; and (ii) to develop students' ability to analyze and discuss existing and proposed laws in terms of the tax policies that such laws do and do not serve.

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 6376 - Intellectual Property Survey

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

This course covers domestic intellectual property laws - patent, copyright, trademark, and trade secret - through statutes and cases. The course will provide roughly equal treatment of patent, copyright and trademark law, approximately four weeks for each, with the remainder applied to the law



of trade secrets, introduction, and/or review.

N

Additional Fee Y Fee Type Y

LAW 6377 - Entertainment Law

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** None.

The course will focus on the constitutional, statutory, and common law framework of entertainment law and its practical implications for practitioners. With the Constitution as our base camp, we will explore the fusion of laws that govern the world of entertainment, including copyrights, trademarks, contracts, and tort law.

LAW 6378 - Advocacy Survey

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** none.

This unique course is designed to provide students the opportunity to experience a wide spectrum of legal advocacy.

LAW 6393 - Patent Remedies & Defenses

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** LAW 5332, LAW 5201, or consent of instructor.

Statutory and rules provisions governing U.S. patent litigation; commonly sought remedies and defenses; recent Federal Circuit decisions; jurisdictional and venue issues.

LAW 6395 - Race and the Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** none.

Examines and provides critical perspectives on race, racism and law, and focuses on the historical treatment of major racial groups in the United States.

LAW 6396 - Genetics and the Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** none.

Surveys the role of genetic information in diverse areas of the law.

LAW 6398 - Taxation of Exempt Organizations

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

This course is designed (i) to orient students to the laws governing nonprofit organizations; (ii) to familiarize students with the taxation of nonprofit organizations under federal law; and (iii) to introduce students to basic planning techniques for avoiding or minimizing taxes imposed on nonprofit organizations and their managers.

LAW 6500 - Government and Nonprofit Externship II

Credit Hours: 5.0

Lecture Contact Hours: 0 Lab Contact Hours: 5 **Prerequisite:** Government and Nonprofit Externship I.

The Government Nonprofit Externship Program enables students to experience and reflect upon the law in practice through field places in local,



state, and federal government agencies, as well as nonprofit institutions. The programs goal is to exposure students to the disposition of real world legal issues, while working under the supervision of experienced attorneys.

LAW 7201 - WRS: Advanced Topics in Family Law

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** None.

Advanced Topics in Family Law is a seminar whose main focus is to allow students to complete a paper relating to family law. The paper, which will satisfy the UH Law writing requirement, needs to be 35 pages long. Two initial drafts will need to be submitted before the final version.

LAW 7205 - WRS: Animal Law

Credit Hours: 2.00

Lecture Contact Hours: 2.0 Lab Contact Hours: 0.0 **Prerequisite:** None.

Animal Law is one of the fastest growing fields of legal practice and may involve issues of constitutional law, administrative law, environmental law, family law, and estates and trusts. In this class, we will address a broad range of topics including: the historical status of animals in the law; state legislative efforts and citizen initiatives to strengthen animal protection laws; the application of federal laws, including the Endangered Species Act and the Animal Welfare Act, to captive animals, wildlife, and farm animals; animal-related torts; constitutional standing to sue on behalf of animals; companion animals and the law; and the movement to obtain legal recognition of the rights of animals.

LAW 7297 - Selected Topics

Credit Hours: 2.00

Lecture Contact Hours: 2.0 Lab Contact Hours: 0.0

LAW 7303 - WRS: Early American Legal History

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Survey of American Legal and Constitutional History, primarily from 1776 to 1940, with an emphasis on rights, federalism (both state and federal constitutional law), and constitutional ideas embedded in the common law.

LAW 7305 - WRS: Hot Topics Criminal Law & Procedure

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

The seminar in Hot Topics in Criminal Law and Procedure will meet to discuss readings on some of the most pressing issues in the field.

LAW 7306 - WRS: Securities Regulation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

A study of the basic principles of our unique system of securities regulation. Among the areas addressed are jurisdiction, the identification of securities and the analysis and evaluation of the disclosure philosophy as it pertains to domestic and international offerings as well as under state "blue sky" laws. Special emphasis is given to the importance of the principal exemptions from registration under the 1933 Act, and to consequent civil liabilities for unregistered offerings or inadequate disclosure in filed documents.

LAW 7307 - WRS: Advanced Topics in Intellectual Property

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.



A seminar course to study the process of writing a large work and to study advanced topics in intellectual property or information law, typically within trade secrets, patents, trademark, copyright, or information law topics such as privacy, data security, licensing, cyber law or internet law.

LAW 7308 - WRS: Scientific Evidence & The Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

The purpose of this seminar is to offer an overview of topics in scientific evidence with a focus on mass and toxic torts.

LAW 7313 - WRS: Federal Natural Resources

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None

It examines the mechanisms for the management, preservation, conservation, use, & enjoyment of natural resources on federal land and the Outer Continental Shelf, to include wildlife, wilderness, refuges, rivers, national parks, National Conservation Landscape System lands, minerals, conventional and renewable energy, & timber.

LAW 7315 - WRC: Banned Books

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** N/A.

In Banned Books, we read 6 to 9 books each semester that have been among the most banned books in the US. Selections include novels, poetry and nonfiction. Class discussion focuses on the artistic quality of the text (in the case of fiction and poetry) or the book's central arguments and thesis (in the case of nonfiction).

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 7316 - WRS: Consumer Credit Law and Policy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** none.

This course will consider a variety of different consumer credit products such as mortgages, credit cards, payday loans, and auto title loans. We will read and discuss law review articles, statutes, cases, and/or books that deal with the law that currently governs these products, and we will consider how to change the laws to meet policy goals.

LAW 7317 - WRC: Federal Pretrial Drafting

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** N/A.

This course is an upper level writing class designed to prepare students for "real world" litigation practice after law school. In the context of a single federal court case, students will draft basic pleadings, some minimal discovery documents, a short motion for summary judgment and accompanying response, and a mediation statement. Lectures will cover requirements for these documents under the Federal Rules of Civil Procedure, but also enable students to refine their factual investigation, legal analysis and drafting skills. Students will receive ample feedback and opportunities to rewrite certain assignments to further hone these essential practice tools.

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 7319 - WRS: Law and Social Science

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** N/A.

This course focuses on the role of the social sciences within the legal system. We will look at the impact of social science research and evidence in a variety of contexts, including trademark, damages, school segregation, and tort liability. For example, how should courts use survey evidence in



determining whether trademarks cause confusion in the marketplace? The social sciences include the disciplines of psychology, economics, sociology, and anthropology. Students should expect to gain sufficient scientific literacy to critically read and apply social science research.

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 7320 - WRC: Contract Drafting

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

The goal of this course is to help students prepare for a type of assignment they will likely see throughout their careers: that of drafting, reviewing, analyzing, explaining, and negotiating contracts.

LAW 7321 - WRC: Domestic Violence Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Students will work individually and in small groups as they learn about the State laws, Federal Laws, and case law related to issues surrounding Domestic Violence

LAW 7322 - WRC: Making and Drafting Contracts

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** N/A.

This course will focus both on drafting skills and on other aspects of how lawyers help their clients to make contracts. This includes how to find out just what the client wants; how to learn the details of his business and the law that will govern the transaction; and the ethics of contract practice.

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 7323 - WRC: Practice-Based Legal Writing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Students will have varied opportunities to write and receive feedback on their writing in transactional and litigation contexts.

LAW 7324 - WRC: Advanced Legal Writing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Writing for Criminal Defense is an upper level class intended to help students become more proficient, efficient, and effective at researching and analyzing criminal law issues, and composing and organizing written documents.

LAW 7326 - WRC: Supreme Court Term

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Supreme Court Term covers between 12 and 20 cases from the Supreme Court's most recent term. The fall 2014 course will therefore cover cases from the October 2013 Term. Cases will not be announced until the first day of class. The objectives of the class are to gain basic familiarity with a diverse range of subject matter of current interest or importance to the Supreme Court, and to examine judicial opinions deeply and critically. The course will be divided into two groups of cases, and students will be required to write one paper for each group. Each paper will deal with a single case on the syllabus, and must satisfy two objectives: first, it must situate the decision in the legal landscape of which it is a part; second, it must explain in careful detail either the principal strength or principal weakness of any of the case's major opinions. Papers will be assessed based on their analytical content and quality of writing.



LAW 7327 - WRS: Advanced Topics in Copyright Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Copyright discussions, preparation of two drafts of paper, presentations of papers, final paper.

LAW 7328 - WRC: Writing for Criminal Defense

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

This course will help students become more proficient, efficient, and effective at researching, analyzing legal issues, and composing and organizing written documents in criminal cases.

LAW 7329 - WRS: Human Rights

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

The seminar will address the nature, sources and types of human rights; past forms of and possibilities for domestic incorporation and litigation of human rights law and the primacy of international or domestic laws in case of conflict.

LAW 7331 - WRC: Written Advocacy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** N/A.

This course is designed to help students gain a sharper understanding of their writing tendencies and develop better writing skills and habits. It is especially suited for those who expect to have a civil litigation practice.

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 7332 - WRS: Advanced Torts

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** N/A.

This seminar provides an opportunity for further exploration of tort law, beyond that of the typical first year torts course.

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 7334 - WRS: International Law & Use of Force

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

The seminar will focus on international legal issues relating to the use of armed force, including attention to various permissible uses of force and criminal responsibility for use of illegal force; U.S. constitutional issues concerning decisions to use armed force abroad; terrorism; permissible detention of individuals under international law; interrogation tactics, and relevant war crimes and individual responsibility.

LAW 7336 - WRS: Hot Topics in Health Policy

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

This writing seminar will examine immediate issues in health care finance, including contemporary legislative and regulatory developments.

LAW 7340 - WRS: Higher Education Law



Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** None

WRS: Higher Education Law

LAW 7341 - WRS: The Modern Corporation and Society

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** N/A.

This course will consider the role of modern business corporations in society. Should corporations be run exclusively in the interests of shareholders? How should boards of directors manage the claims of various groups affected by corporations? By what standards should we judge executive compensation? Should corporations be entitled to claim various constitutional rights, including freedoms of speech, association, and religion? After surveying foundational work in corporate theory, we will address these questions through a close reading of materials in law, economics, political theory, and business ethics.

Note: Course may be repeated with permission from the Law Center Office of Admissions.

LAW 7353 - WRS: Modern SCOTUS/Justice O'Connor

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** None.

In 1981, the first woman ever was appointed to the Supreme Court of the United States. Much has changed since then, including the personnel of the Court. This seminar allows students to explore both the jurisprudence of the changing Court and the viewpoints of its leading personalities over the past half century. Special attention will be devoted to Justice Sandra Day O'Connor's legacy in American legal history, but students will be able to write papers about her jurisprudence and the jurisprudence of any of the 18 Justices (Ginsburg, Scalia, Kennedy et al.) with whom she served or who have succeeded her.

LAW 7397 - Selected Topics

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 Y

Additional Fee Y Fee Type Y

Management

MANA 6A25 - Ethical Leadership & Critical Reasoning

Credit Hours: 1.5

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Develop awareness of leaders' ethical duties and the ability to systematically and critically assess business problems. Practice critical reasoning and ethical decision making skills.

N

Additional Fee N Fee Type N

MANA 6A32 - Organizational Behavior & Management

Credit Hours: 1.5

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Introduction to organizational analysis; problems of leadership, motivation, group dynamics, and organizational change and development; organizations as open systems.

N

Additional Fee N Fee Type N



MANA 6A83 - Strategic Analysis

Credit Hours: 1.5

Lecture Contact Hours: 1.5 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing.

A foundational course in strategic management that introduces the concepts of strategic thinking, environmental and industry analysis, internal analysis, sustainable competitive advantage and other formulation issues in domestic and international organizations.

MANA 6A98 - Research

Credit Hours: 1.5

Lecture Contact Hours: 1.5 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing and approval of chair.

Research in management.

May be repeated as appropriate to degree plan.

MANA 7A49 - Managerial Decision Making

Credit Hours: 1.5

Lecture Contact Hours: 1.5 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing.

Fundamentals of managerial decision making including decision making models, processes, contexts, and outcomes.

MANA 7A97 - Selected Topics in Management

Credit Hours: 1.5

Lecture Contact Hours: 1.5 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing.

May be repeated when topics vary.

MANA 7A80 - Implementation of Strategies

Credit Hours: 1.5

Lecture Contact Hours: 1.5 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing and completion of MANA 6A83.

Advanced study of the implementation of strategies. Emphasis will be given to the design and integration of (a) organizational processes, and (b) operating, information, and control systems for implementing strategies.

MANA 6310 - Fundamentals of Business

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing and admission to an MS Program in the Bauer College.

Introductory course establishing how management and leadership relate to the areas of marketing, finance, accounting, supply chain, and information technology in organizations.

MANA 6332 - Organizational Behavior & Management

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing.

Introduction to organizational analysis; problems of leadership, motivation, group dynamics, and organizational change and development; organizations as open systems.

N

Additional Fee Y **Fee Type** Y

MANA 6383 - Strategic Management



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing and completion of all modular M.B.A. core requirements.

A capstone course covering strategy formulation and implementation in domestic and international organizations and emphasizing the integration of decisions in the functional areas.

MANA 6398 - Research

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** graduate standing and approval of chair.

MANA 7329 - Behavioral Finance

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Examination of individual decision behavior within a financial market context. Evaluation of psychological explanations for market movements and anomalies. Emphasis on the application of psychological principles to decision making behavior.

MANA 7330 - Legal Environment of Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Analysis of legal problems which surround managers: relations with officers, directors, government agencies, employees, customers, competitors. Study of legislation, court decisions, and regulations.

MANA 7332 - Effective Negotiating

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing; cannot be taken for credit by students who have completed MANA 7A32.

Examines concepts, tools, and techniques that can be used to create effective formal and informal agreements. Fundamental challenges of distributive (i.e., competitive) and integrative (i.e., cooperative) negotiating are included.

MANA 7334 - Management Development & Career Planning

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

A review of practices and trends in management development career planning; career stages and changing career patterns; contemporary approaches to the quality of work life.

N

Additional Fee Y Fee Type Y

MANA 7336 - Human Resource Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing and MANA 6332.

An integrated course focusing on the planning, selection, development, assessment, and compensation of human capital in organizations.

MANA 7337 - Stress & Work

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.



Examination of stress causes and management techniques, including relationship of stress to health, performance, and individual differences.

N

Additional Fee Y Fee Type Y

MANA 7338 - Organizational Power, Politics, & Culture

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Explores and differentiates between the concepts of power and politics, and examines their relationship to organizational culture.

N

Additional Fee Y Fee Type Y

MANA 7339 - Leadership Development

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing.

Development of the skills sets needed to elicit commitment and productivity from people and groups, and the awareness of one's own values, beliefs, problem-solving skills and behaviors.

MANA 7340 - Management of High Tech Organizations

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Analysis of issues in high technology organizations, such as organization design for technological innovation, project group management, and career planning for professional employees.

N

Additional Fee Y Fee Type Y

MANA 7341 - Strategic Management of Technology & Innovation

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Examines frameworks and tools for managing technology advancement. Focuses on innovation development and investments, and developing the ability to anticipate, adjust, or respond to disruptive technologies by other firms.

N

Additional Fee N Fee Type N

MANA 7343 - International Legal Environment of Management

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Students may not receive credit for both INTB 7343 and MANA 7343. Management impact of sovereignty, treaties, executive agreements, contracts, non-tariff trade barriers, extraterritorial anti-trust, dispute resolution. International oil and gas, air, sea, space law.

N

Additional Fee Y Fee Type Y

MANA 7344 - Employee & Labor Relations

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Examination of the labor-management relationship, including collective bargaining, arbitration, labor law, union structures, and employee health,



safety and security.

N

Additional Fee Y Fee Type Y

MANA 7346 - Global Human Resource Management

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

The role of human resource management around the world; focuses on how HRM of multinational organizations differs from domestic organizations. Global pay, selection, labor relations, and HRM strategy are also examined.

N

Additional Fee Y Fee Type Y

MANA 7347 - Managerial Ethics & Corporate Social Responsibility

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Evaluation of alternative perspectives regarding a range of social and ethical issues confronting managers of contemporary organizations.

N

Additional Fee Y Fee Type Y

MANA 7351 - Management of Global Organizations

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: MANA 7351 - Managing Global Organizations.

Prerequisite: Graduate standing.

The study of comparative management with emphasis on the international and cultural issues in organizational behavior and management encountered by multinational operations.

MANA 7353 - Regional Issues in Global Management

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Can be repeated for a total of 6 credit hours with different topics. Students may not receive credit for both MANA 7353 and INTB 7353 for the same topic. Economic, cultural, technological and managerial factors that may impact an organization's strategies, practices and effectiveness. Topics may include a focus on a global region such as Latin America, Europe, or Asia.

N

Additional Fee Y Fee Type Y

MANA 7354 - Cultural Issues in Global Management

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Effective management in the context of cross-national and cross-cultural factors to maximize organizational and individual performance.

N

Additional Fee N Fee Type N

MANA 7355 - Staffing & Performance Improvement Systems

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MANA 7336 or approval of instructor.



Examination of recruitment, selection, and placement methods in organizations, including the identification of staffing needs. Discussion of performance measurement techniques and systems for enhancing individual and organizational productivity.

N

Additional Fee Y Fee Type Y

MANA 7356 - Diversity Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing.

Effective management in the context of changing global worker demographics to maximize organizational performance.

MANA 7358 - Compensation & Benefits

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Analysis of the decisions and strategies used to develop and implement compensation systems and structures, including base pay, incentive programs, and pecuniary and non-pecuniary benefits.

N

Additional Fee Y Fee Type Y

MANA 7361 - Entrepreneurship & New Venture Management

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

The study of environmental, organizational, and individual factors and their relationship with entrepreneurship, value creation, innovation, corporate venturing, and new venture management.

N

Note: Credit for both MANA 7361 and ENTR 7338 cannot be applied toward a degree.

Additional Fee Y Fee Type Y

MANA 7362 - Leading Change

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing.

Examines the leader's role in implementing and sustaining change at three levels: individual, group, and organization. Change strategies, diagnostic tools and techniques, resistance to change, and effective implementation are discussed.

MANA 7363 - Managing Innovation & Creativity

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and MANA 6332.

Developing, managing and focusing innovative and creative activities within the business context; opportunity recognition and evaluation; and how to develop new business concepts for implementation.

N

Additional Fee Y Fee Type Y

MANA 7373 - Strategic Management in the Oil & Gas Industry

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Examination of global oil and gas strategies through the use of strategic management frameworks. Focus on how organizations can position



themselves as leaders in the dynamic landscape of the oil and gas industry.

N

Additional Fee N Fee Type N

MANA 7375 - Global Leadership

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Examines the roles of global leaders, the competencies they need to develop, the challenges they face, and the person and organizational aspects of becoming a global leader.

N

Additional Fee Y Fee Type Y

MANA 7380 - People Analytics

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Use of analytics to generate strategic and tactical insights to guide human resource management related decisions.

N

Additional Fee Y Fee Type Y

MANA 7392 - Managerial Issues

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing.

Analysis of issues that confront managers at different stages of their careers, focusing on internal transitions as well as career changes

MANA 7393 - Global Strategy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Examination of opportunities and challenges associated with the globalization of business enterprises. Frameworks and tools that can be used to assess global strategy options and to identify the levers through which different global strategies can create or destroy value are included.

MANA 7394 - Management of Human Resources in the Oil & Gas Industry

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Examines how human resource management differs in the oil and gas industry. Focuses on the staffing, development, assessment, and compensation of human capital in firms in the oil and gas industry.

MANA 7395 - Practical Experiences in Management

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and admission to the Online MS in Management and Leadership.

This course uses practical experiences to apply the fundamental principles of management and leadership. These practical experiences may include internships, projects, and experiential courses such as study abroad courses.

MANA 7397 - Selected Topics in Management



Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and approval of chair or program director.

Y

Note: May be repeated when topics vary.

Additional Fee Y Fee Type Y

MANA 8199 - Doctoral Dissertation

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and approval of dissertation chair.

MANA 8330 - Sem in Mgt Research

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing and approval of chair.

Philosophy, design, and methodology of research in management theory.

MANA 8331 - Seminar in Organizational Theory

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing and MANA 7342 .

Theory and research pertaining to complex organizational structure and process, and comparative organizational analysis.

MANA 8336 - Seminar in Organizational Behavior and Management Theory

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing and approval of chair.

Critical examination of various theories of organizational behavior and management and supporting empirical studies. Study of selected problem areas.

May be repeated when topics vary.

MANA 8340 - Seminar in Human Resource Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing and approval of instructor.

An in-depth examination of the theory, research, and practice of human resource management.

MANA 8345 - Research Methodologies

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing and MANA 8330 or its equivalent.

Focuses on the development of research skills through an actual research experience that includes conceptualization of the problem through the reporting of results.

MANA 8380 - Seminar in Strategic Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing, MANA 6383, and approval of instructor.

Critical review of theoretical and empirical literature on strategy formulation and implementation.

MANA 8395 - Teaching Practicum



Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** graduate standing and consent of instructor.
Supervised practice in the teaching of management.

MANA 8396 - Research Practicum

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** graduate standing and consent of instructor.
Supervised research in management.

MANA 8398 - Special Problems

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

MANA 8399 - Doctoral Dissertation

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.
N

Additional Fee Y Fee Type Y

MANA 8699 - Doctoral Dissertation

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 N
Additional Fee Y Fee Type Y

MANA 8999 - Doctoral Dissertation

Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 0 N
Additional Fee Y Fee Type Y

Management Information Systems

MIS 6A41 - Information Systems

Credit Hours: 1.5

Lecture Contact Hours: 1.5 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Managerial perspective on the effective use of information systems for strategic advantage and operational performance in organizations.

MIS 7A97 - Selected Topics in Management Information Systems

Credit Hours: 1.5

Lecture Contact Hours: 1.5 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

May be repeated when topics vary.

MIS 6341 - Information Systems



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and MIS 2373.

A managerial perspective on the effective use of information systems for strategic advantage and operational performance in organizations.

MIS 6398 - Special Problems in Management Information Systems

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and approval of instructor and chair.

MIS 7374 - Business Applications of Database Management Systems II

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and MIS 7373.

Advanced study of the use of the semantic, entity-relationship, and relational data base systems for business applications

N

Additional Fee Y Fee Type Y

MIS 7375 - Transaction Processing Systems I

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and MIS 6341.

Uses of computer and information system technologies to develop computer-based tools that support nonstructured, judgemental tasks of a planning/strategic nature.

N

Additional Fee Y Fee Type Y

MIS 7376 - Systems Analysis and Design

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Study of various design methodologies used to develop the information requirements and design specifications for large-scale computer-based systems.

MIS 7378 - Information Technology Management and Control

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and MIS 6341.

Strategies for management and control of end-user computing. Topics include current and emerging techniques, tools, and support structures; and potential programs and solutions.

MIS 7381 - Management of Information Security

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and consent of instructor.

Models and techniques for managing and controlling the security of an organization's information assets.

MIS 7397 - Selected Topics in Management Information Systems

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and approval of chair or program director.

May be repeated when topics vary.



MIS 8351 - Advanced Research in Management Information Systems

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing and consent of instructor.
Current issues and trends in MIS research.
May be repeated as topics vary.

MIS 8396 - Research Practicum

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** graduate standing and approval of instructor.
Supervised research in decision and information sciences.

MIS 8397 - Selected Topics in Management Information Systems

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and approval of chair.
May be repeated for credit when topics vary.

MIS 8398 - Special Problems in Management Information Systems

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** graduate standing and approval of chair.
A per semester or more by concurrent enrollment.

MIS 8999 - Doctoral Dissertation in Management Information Systems

Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.
N

Additional Fee Y Fee Type Y

Marketing

MARK 6A61 - Marketing Administration

Credit Hours: 1.5

Lecture Contact Hours: 1.5 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.
Overview of marketing, including segmentation, targeting, positioning and the marketing mix.

MARK 6A98 - Research

Credit Hours: 1.5

Lecture Contact Hours: 1.5 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and approval of chair.
Research in marketing.
May be repeated as appropriate to degree plan.

MARK 7A43 - Digital and Inside Sales



Credit Hours: 1.5

Lecture Contact Hours: 1.5 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Sales organization structures and use of digital tools to enhance selling effectiveness and inside sales operations.

N

Additional Fee N Fee Type N

MARK 7A44 - Customer Relationship Management

Credit Hours: 1.5

Lecture Contact Hours: 1.5 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Strategies, methodology and software used to manage customer relationships and support and enhance selling and sales management.

N

Additional Fee N Fee Type N

MARK 7A45 - Complex and Key Account Sales

Credit Hours: 1.5

Lecture Contact Hours: 1.5 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Managing sales to key accounts and complex enterprises. Account segmentation, strategic account plans, and the complex sales cycle.

N

Additional Fee N Fee Type N

MARK 7A75 - Marketing Strategy

Credit Hours: 1.5

Lecture Contact Hours: 1.5 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and MARK 6361 or MARK 6A61.

Development of effective marketing strategies.

N

Additional Fee N Fee Type N

MARK 7A97 - Selected Topics in Marketing

Credit Hours: 1.5

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Y

Note: May be repeated when topics vary.

Additional Fee N Fee Type N

MARK 6361 - Marketing Administration

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing.

Marketing orientation and concepts; marketing programs incorporating the societal perspective in formulating strategies for the design, pricing, channeling, and promotion of products/services.

MARK 6398 - Research

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** graduate standing and approval of chair.

MARK 7332 - Social Media Marketing



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MARK 6A61or MARK 6361.

Using social media for branding and marketing. Understanding user-generated content and online word of mouth.

MARK 7333 - Search Engine Marketing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MARK 6A61or MARK 6361.

Enhancing marketing performance related to search engines, including search engine optimization and pay per click advertising.

MARK 7347 - Sales Analytics

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Use of analytical tools to guide selling and sales management decisions.

N

Additional Fee N Fee Type N

MARK 7362 - Management of Marketing Information

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing, MARK 6361or 6A61and BZAN 6310or BZAN 6320.

Acquiring and effectively utilizing market information in decision-making.

MARK 7365 - Introduction to Digital Marketing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MARK 6A61or MARK 6361.

Introduction to digital marketing including search engine marketing, social media marketing, E-commerce, and web analytics.

MARK 7366 - Digital Marketing Analytics

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and MARK 6361 or MARK 6A61.

Use of analytics to generate strategic and tactical insights to guide digital marketing efforts.

N

Additional Fee Y Fee Type Y

MARK 7367 - Digital Marketing Lab

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MARK 6A61or MARK 6361and instructor approval.

Application of digital marketing concepts, analytics, and methods. May be repeated for credit.

MARK 7368 - Integrated Marketing Communications

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MARK 6361or MARK 6A61.

the use of advertising, public relations, and other promotional tools.

MARK 7369 - International Marketing



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and MARK 6361or MARK 6A61. Students may not receive credit for both MARK 7369and INTB 7369 .

Marketing strategies for international firms.

MARK 7370 - Luxury Marketing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MARK 6361or MARK 6A61.

Provides an understanding of the fundamentals of the luxury industry and effective marketing of luxury goods and services. Using luxury brand exemplars, students will gain a broad knowledge of brand strategy development.

MARK 7371 - Pricing Strategy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing.

Pricing concepts and analytic tools for maximizing profitability.

MARK 7373 - Business to Business Marketing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MARK 6361or MARK 6A61.

Characteristics of business buyers and guidelines for effective B2B marketing.

MARK 7374 - New Product Development

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and MARK 6361or MARK 6A61.

New product development and testing, business analysis for new products and applications of marketing planning models for successful introduction of new products.

MARK 7376 - Brand Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and MARK 6361or MARK 6A61.

Theory and practice of brand and product management.

MARK 7377 - Customer Relationship Management and Database Marketing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: MARK 7377 - Customer Relationship Management.

Prerequisite: MARK 6361or MARK 6A61and BZAN 6310or BZAN 6320.

Concepts and analytical tools for managing customer relationships and analyzing customer data

MARK 7378 - Strategic Selling

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and MARK 6361or MARK6A61 and BZAN 6310or BZAN 6320.

Developing and managing major accounts with an emphasis on selling to complex enterprises with high-margin opportunities. Examining new ways to segment accounts. Business-to-business emphasis.



MARK 7379 - Sales Leadership

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing, MARK 6361 or MARK 6A61 and consent of instructor. Activities and problems of sale management; i.e. the process of formulating, implementing, evaluating, and controlling a sales program.

MARK 7380 - Advanced Marketing Analytics

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing, MARK 6361 or MARK 6A61, and BZAN 6310 or BZAN 6320. Use of advanced analytical tools to optimize marketing efforts.

N

Additional Fee N **Fee Type** N

MARK 7381 - Technology Commercialization

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing.

Issues and challenges in commercializing technology, with an emphasis on assessing commercial potential, early stage market research, and commercialization strategies.

MARK 7383 - Technology Commercialization Projects

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing and instructor approval.

Application of technology commercialization processes.

MARK 7393 - Business Consulting Lab I

Credit Hours: 3.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 3 **Prerequisite:** MARK 6361.

Evaluating marketing alternatives in business decisions.

May be repeated for credit when topics change.

MARK 7394 - Business Consulting Lab II

Credit Hours: 3.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 3 **Prerequisite:** Graduate standing and permission of instructor.

Consulting and engagement management practices. Involves participation in a live project.

MARK 7397 - Selected Topics in Marketing

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing and approval of chair or program director.

Y

Note: May be repeated for credit when topics vary.

Additional Fee Y **Fee Type** Y

MARK 7399 - MS Marketing Professional Project



Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing, MARK 6361 or MARK 6A61, and instructor approval. Professional project required for MS Marketing program.

N

Additional Fee N Fee Type N

MARK 8199 - Dissertation

Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

MARK 8335 - Marketing Models

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing and consent of instructor. Mathematical and statistical models in marketing.

MARK 8336 - Marketing Research Methods

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing and consent of instructor. Marketing research tools and techniques.

MARK 8337 - Behav Constructs in Mkt

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing and MARK 6361. Development of a model of buyer behavior.

MARK 8338 - Marketing Mgmt and Strategy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing and consent of instructor. Marketing management issues and their impact on marketing strategy.

MARK 8349 - Multivariate Methods in Mark

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing and consent of instructor. Multivariate data analysis techniques for marketing research.

MARK 8396 - Research Practicum

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** graduate standing and consent of instructor. Supervised research in marketing.

MARK 8397 - Selected Topics in Marketing



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing and approval of chair.

Selected Topics in Marketing

May be repeated for credit when topics vary.

MARK 8398 - Special Problems

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** graduate standing and approval of chair.

MARK 8399 - Doctoral Dissertation

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

N

Additional Fee Y Fee Type Y

MARK 8699 - Doctoral Dissertation

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

N

Additional Fee Y Fee Type Y

MARK 8999 - Doctoral Dissertation

Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

N

Additional Fee Y Fee Type Y

Materials Engineering

MTLS 6111 - Materials Engineering Seminar

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** Enrollment in Materials Engineering Program

The seminar consists of graduate student and invited researchers' presentation on various topics of material engineering. The course focus is to help develop presentation skills and broaden the students' knowledge on various materials engineering topics.

MTLS 6300 - Physics and Chemistry Of Engineering Materials

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 *Cross-Listed As:* Crosslisted with CHEE 6300.

Prerequisite: Enrollment in Materials Engineering graduate program.

Advanced theories of the structure and properties of materials, preparation methods, and applications in electronics, optics, catalysis and solar cells. (Crosslisted with CHEE 6300).

MTLS 6319 - Introduction to Nanoengineering



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 *Cross-Listed As:* Crosslisted with CHEE 6319.

Prerequisite: Enrollment in Materials Engineering graduate program.

Introduction to nanoengineering. Fundamental concepts underlying various nanotechnologies including nanoscale physics, methodology at the nanoscale, and the basics of material synthesis and device fabrication. (Crosslisted with CHEE 6319.)

MTLS 6320 - Nanomaterials Engineering

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 *Cross-Listed As:* Crosslisted with CHEE 6320.

Prerequisite: Enrollment in Materials Engineering graduate program.

Engineering of nanomaterials with emphasis on structural, optical, photonic, magnetic and electronic materials. Synthetic methods and analytical characterization with design for applications will be emphasized. (Crosslisted with CHEE 6320.)

MTLS 6321 - Nano Design and Fabrication

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 *Cross-Listed As:* Crosslisted with ECE 6314.

Prerequisite: Enrollment in Materials Engineering graduate program.

Design fundamentals and fabrication at the nanoscale. Effects of nanoscale phenomena on device scaling; technological advantages and challenges. Design, fabrication, methodology, and device integration at the nanoscale. (Crosslisted with ECE 6314.)

Mathematics

MATH 5310 - History of Mathematics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Mathematics of the ancient world, classical Greek mathematics, the development of calculus, notable mathematicians and their accomplishments.

MATH 5330 - Abstract Algebra

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Groups, rings and fields; algebra of polynomials, Euclidean rings and principal ideal domains. Does not apply toward the Master of Science in Mathematics or Applied Mathematics.

MATH 5331 - Linear Algebra W/ Applications

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and consent of instructor.

Systems of linear equations, matrices, vector spaces, linear independence and linear dependence, determinants, eigenvalues; applications of the linear algebra concepts will be illustrated by a variety of projects.

MATH 5332 - Differential Equations

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 5331 or consent of instructor.

Linear and nonlinear systems of ordinary differential equations; existence, uniqueness and stability of solutions; initial value problems; higher dimensional systems; Laplace transforms. Theory and applications illustrated by computer assignments and projects. Applies toward the Master of Arts in Mathematics degree; does not apply toward the Master of Science in Mathematics or the Master of Science in Applied Mathematics degrees.



MATH 5333 - Analysis

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Two semesters of calculus or consent of instructor.

A survey of the concepts of limit, continuity, differentiation and integration for functions of one variable and functions of several variables; selected applications. Applies toward the Master of Arts in Mathematics degree; does not apply towards the Master of Science in Mathematics or the Master of Science in Applied Mathematics degrees.

MATH 5334 - Complex Analysis

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 5333 or consent of instructor.

Complex numbers, holomorphic functions, linear transformations, Cauchy integral theorem and residue theorem.

MATH 5336 - Discrete Mathematics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Logic and proof, sets and relations; elementary set theory; the axiom of choice. Does not apply toward the Master of Science in Mathematics or Applied Mathematics.

MATH 5341 - Mathematical Modeling

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Three semesters of calculus or consent of instructor.

Proportionality and geometric similarity, empirical modeling with multiple regression, discrete dynamical systems, differential equations, simulation and optimization. Computing assignments require only common spreadsheet software and VBA programming.

MATH 5344 - Introduction to Scientific Computing

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Math 2331 linear algebra or equivalent.

This is an one semester course which introduces core areas of numerical analysis and scientific computing along with basic themes such as solving nonlinear equations, interpolation and splines fitting, curve fitting, numerical differentiation and integration, initial value problems of ordinary differential equations, direct methods for solving linear systems of equations, and finite-difference approximation to a two-points boundary value problem. This is an introductory course and will be a mix of mathematics and computing.

MATH 5350 - Intro To Differential Geometry

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 2433, or consent of instructor.

Curves, arc-length, curvature, Frenet formula, surfaces, first and second fundamental forms, Gauss' theorem egregium, geodesics, minimal surfaces. Does not apply toward the Master of Science in Mathematics or Applied Mathematics.

MATH 5378 - Axiomatic Geometry

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and consent of instructor

An axiomatic approach to Finite Geometries, Taxicab Geometry, Spherical Geometry, Hyperbolic Geometry and a review of Euclidean Geometry. Does not apply toward the Master of Science in Mathematics of Applied Mathematics.



MATH 5382 - Probability

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Two semesters of calculus and one semester of linear algebra or consent of instructor. Sample spaces, events and axioms of probability; basic discrete and continuous distributions and their relationships; Markov chains, Poisson processes and renewal processes; applications. Applies toward the Master of Arts in Mathematics degree; does not apply toward Master of Science in Mathematics or the Master of Science in Applied Mathematics degrees.

MATH 5383 - Number Theory

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and consent of instructor. Divisibility and factorization, linear Diophantine equations, congruences and applications, solving linear congruences, primes of special forms, the Chinese remainder theorem, multiplicative orders, the Euler function, primitive roots, quadratic congruences, representation problems and continued fractions.

MATH 5385 - Statistics

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** Two semesters of calculus and one semester of linear algebra or consent of instructor.

Data collection and types of data, descriptive statistics, probability, estimation, model assessment, regression, analysis of categorical data, analysis of variance. Computing assignments using a prescribed software package (e.g., R or Matlab) will be given. Applies toward the Master of Arts in Mathematics degree; does not apply toward Master of Science in Mathematics or the Master of Science in Applied Mathematics degrees.

MATH 5386 - Regression & Linear Models

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Two semesters of calculus, one semester of linear algebra, and MATH 5385, or consent of instructor.

Simple and multiple linear regression, linear models, inferences from the normal error model, regression diagnostics and robust regression, computing assignments with appropriate software. Applies toward Master of Arts in Mathematics degree; does not apply toward the Master of Science in Mathematics or the Master of Science in Applied Mathematics degrees.

MATH 5389 - Survey of Mathematics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 2433 or consent of instructor.

A review and consolidation of undergraduate courses in linear algebra, differential equations, analysis, probability, and abstract algebra. Students may not receive credit for both MATH 4389 and MATH 5389.

MATH 5397 - Selected Topics in Mathematics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 May be repeated with approval of chair when topics vary.

MATH 6198 - Special Problems

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0



MATH 6298 - Special Problems

Credit Hours: 2.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 0

MATH 6302 - Modern Algebra

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** MATH 4333 or MATH 4378, or consent of instructor.

Topics from the theory of groups, rings, fields, and modules with special emphasis on universal constructions.

MATH 6303 - Modern Algebra

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** MATH 4333 or MATH 4378, or consent of instructor.

Topics from the theory of groups, rings, fields, and modules with special emphasis on universal constructions.

MATH 6304 - Theory of Matrices

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** consent of instructor.

Emphasis on canonical forms and finite dimensional spectral theory.

MATH 6308 - Advanced Linear Algebra I

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** graduate standing, MATH 2331 and a minimum of 3 semester hours transformations, eigenvalues and eigenvectors.

An expository paper or talk on a subject related to the course content is required.

MATH 6309 - Advanced Linear Algebra II

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** graduate standing, and MATH 6308.

Similarity of matrices, diagonalization, hermitian and positive definite matrices, canonical forms, normal matrices, applications. An expository paper or talk on a subject related to the course content is required.

MATH 6312 - Introduction to Real Analysis

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** graduate standing and MATH 3334 or consent of instructor.

Properties of continuous functions, partial differentiation, line integrals, improper integrals, infinite series, and Stieltjes integrals. An expository paper or talk on a subject related to the course content is required.

MATH 6313 - Introduction to Real Analysis

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** graduate standing and MATH 6312 or consent of instructor.

Properties of continuous functions, partial differentiation, line integrals, improper integrals, infinite series, and Stieltjes integrals. An expository paper or talk on a subject related to the course content is required.



MATH 6315 - Masters Tutorial

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** consent of instructor. May be taken concurrently.

Open only to those choosing the non-thesis option for the M.S. degree. Special topics selected by student and instructor to be no less demanding than writing a thesis.

MATH 6320 - Func Real Variable

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 4332 or consent of instructor.

Lebesgue measure and integration, differentiation of real functions, functions of bounded variation, absolute continuity, the classical L_p spaces, general measure theory, and elementary topics in functional analysis.

MATH 6321 - Func Real Variable

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 4332 or consent of instructor.

Lebesgue measure and integration, differentiation of real functions, functions of bounded variation, absolute continuity, the classical L_p spaces, general measure theory, and elementary topics in functional analysis.

MATH 6322 - Func Complex Variable

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 4331 or consent of instructor.

Geometry of the complex plane, mappings of the complex plane, integration, singularities, spaces of analytic functions, special function, analytic continuation, and Riemann surfaces.

MATH 6323 - Func Complex Variable

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 4331 or consent of instructor.

Geometry of the complex plane, mappings of the complex plane, integration, singularities, spaces of analytic functions, special function, analytic continuation, and Riemann surfaces.

MATH 6324 - Differential Equations

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 4331.

General theories, topics in ordinary and partial differential equations, and boundary value problems.

MATH 6326 - Partial Diff Equations

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 4331 or consent of instructor.

Existence and uniqueness theory in partial differential equations; generalized solutions and convergence of approximate solutions to partial differential systems.

MATH 6327 - Partial Diff Equations



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 4331 or consent of instructor.

Existence and uniqueness theory in partial differential equations; generalized solutions and convergence of approximate solutions to partial differential systems.

MATH 6342 - Topology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 4331 and MATH 4337 or consent of instructor.

Point-set topology: compactness, connectedness, quotient spaces, separation properties, Tychonoff's theorem, the Urysohn lemma, Tietze's theorem, and the characterization of separable metric spaces.

MATH 6350 - Statistical Learning and Data Mining

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** Probability/Statistic and linear algebra or consent of instructor. Students must be in Master's in Statistics and Data Science program.

Automatic classification and clustering of data: k-means, k-medoids, tree based classification. Empirical use of support vector machines. Applications to real data will be studied via multiple projects.

MATH 6352 - Complex Analysis and Geometry

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 6322 or consent of instructor.

Complex manifolds, varieties, sheaves, holomorphic vector bundles, Kahler manifolds and Chern classes L2 estimate.

MATH 6353 - Complex Analysis and Geo II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 6352 or consent of instructor.

Idea sheaves with its applications and advanced techniques in transcendental algebraic geometry.

MATH 6357 - Linear Models and Design of Experiments

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 2433, MATH 3338, MATH 3339, and MATH 6308, or consent of instructor.

Linear models with L-S estimation, interpretation of parameters, inference, model diagnostics, one-way and two-way ANOVA models, completely randomized design and randomized complete block designs.

MATH 6358 - Probability Models and Statistical Computing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 3334, MATH 3338 and MATH 4378, or consent of instructor.

Probability, independence, Markov property, Law of Large Numbers, major discrete and continuous distributions, joint distributions and conditional probability, models of convergence, and computational techniques based on the above.

MATH 6359 - Applied Statistics and Multivariate Analysis

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 3334, MATH 3338 or MATH 3339, and MATH 4378, or consent of instructor.

Linear models, loglinear models, hypothesis testing, sampling, modeling and testing of multivariate data, dimension reduction.



MATH 6360 - Applicable Analysis

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing or consent of instructor.

Solvability of finite dimensional, integral, differential, and operator equations, contraction mapping principle, theory of integration, Hilbert and Banach spaces, and calculus of variations.

MATH 6361 - Applicable Analysis

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing or consent of instructor.

Solvability of finite dimensional, integral, differential, and operator equations, contraction mapping principle, theory of integration, Hilbert and Banach spaces, and calculus of variations.

MATH 6365 - Automatic Learning and Data Mining

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 3338 and MATH 3339, or instructor's consent.

Automatic learning and data mining cluster high-dimension inputs to predict their impact on decision outputs. Kernel based Clustering and Learning enable dictionary generation, pattern classification, non linear regression. Applications: shape recognition, genes expression analysis, etc.

MATH 6366 - Optimization Theory

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 4331 and MATH 4377, or consent of instructor.

Constrained and unconstrained finite dimensional nonlinear programming, optimization and Euler-Lagrange equations, duality, and numerical methods. Optimization in Hilbert spaces and variational problems. Euler-Lagrange equations and theory of the second variation. Application to integral and differential equations.

MATH 6367 - Optimization Theory

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 4331 and MATH 4377, or consent of instructor.

Constrained and unconstrained finite dimensional nonlinear programming, optimization and Euler-Lagrange equations, duality, and numerical methods. Optimization in Hilbert spaces and variational problems. Euler-Lagrange equations and theory of the second variation. Application to integral and differential equations.

MATH 6370 - Numerical Analysis

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in mathematics or consent of instructor.

Ability to do computer assignments. Topics selected from numerical linear algebra, nonlinear equations and optimization, interpolation and approximation, numerical differentiation and integration, numerical solution of ordinary and partial differential equations.

MATH 6371 - Numerical Analysis

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in mathematics or consent of instructor.

Ability to do computer assignments. Topics selected from numerical linear algebra, nonlinear equations and optimization, interpolation and approximation, numerical differentiation and integration, numerical solution of ordinary and partial differential equations.



MATH 6373 - Deep Learning and Artificial Neural Networks

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** Probability/Statistic and linear algebra or consent of instructor. Students must be in Master's in Statistics and Data Science program.

Artificial neural networks for automatic classification and prediction. Training and testing of multi-layers perceptrons. Basic Deep Learning methods. Applications to real data will be studied via multiple projects.

MATH 6374 - Num Part Diff Equations

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 6371 or consent of instructor.

Finite difference, finite element, collocation and spectral methods for solving linear and nonlinear elliptic, parabolic, and hyperbolic equations and systems with applications to specific problems.

MATH 6376 - Num Linear Algebra

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 6371 or consent of instructor.

Advanced techniques for the direct and iterative solution of linear systems, especially sparse systems, and for the solution of Eigen value problems.

MATH 6378 - Basic Scientific Computing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 4364 and MATH 4365 or equivalent, and either COSC 1304 or COSC 2101 or equivalents, or consent of instructor.

A project-oriented course in fundamental techniques for high performance scientific computation. Hardware architecture and floating point performance, code design, data structures and storage techniques related to scientific computing, parallel programming techniques, applications to the numerical solution of problems such as algebraic systems, differential equations and optimization. Data visualization.

MATH 6380 - Programming Foundation for Data Analytics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Essential foundations of Python programming language for developing powerful and reusable data analysis models: data structures, control statements, functions, data import/export, basic data cleaning, data preparation, and data processing.

MATH 6381 - Information Visualization

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 6320 or consent of instructor.

Random variables, conditional expectation, weak and strong laws of large numbers, central limit theorem, Kolmogorov extension theorem, martingales, separable processes, and Brownian motion.

MATH 6382 - Probability Statistics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 3334, MATH 3338 and MATH 4378, or consent of instructor.

A survey of probability theory, probability models, and statistical inference. Includes basic probability theory, stochastic processes, parametric and nonparametric methods of statistics.



MATH 6383 - Probability Statistics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 3334, MATH 3338 and MATH 4378, or consent of instructor.

A survey of probability theory, probability models, and statistical inference. Includes basic probability theory, stochastic processes, parametric and nonparametric methods of statistics.

MATH 6384 - Discrete Time Model in Finance

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 6382 or consent of instructor.

Single-period securities markets, arbitrage, risk-neutral probabilities, complete and incomplete markets, consumption investment problems, mean-variance portfolio analysis, equilibrium models, valuation of options, futures and other derivatives on equities, currencies, commodities and fixed-income securities.

MATH 6385 - Continuous Time Models in Fina

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 6384 or consent of instructor.

Stochastic calculus, Brownian motion, change of measures, Martingale representation theorem, pricing financial derivatives whose underlying assets are equities, foreign exchanges, and fixed income securities, single-factor and multi-factor HJM models, and models involving jump diffusion and mean reversion.

MATH 6386 - Big Data Analytics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Linear algebra, probability, statistics, or consent of instructor.

Concepts and techniques in managing and analyzing large data sets for data discovery and modeling: big data storage systems, parallel processing platforms, and scalable machine learning algorithms.

MATH 6387 - Biomed Data Analysis and Computing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Linear algebra, probability, statistics, or consent of instructor.

Longitudinal data and correlated data analysis, growth-curve models, mixed effects models, correlation structure, analysis of time-to-event data, hazard and survival functions, Kaplan-Meier estimate, log-rank test.

MATH 6388 - Genome Data Analysis

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 4332 and either MATH 4386 or MATH 6383.

General theory of parameter estimation and hypothesis testing, multivariate normal distribution and associated sampling distributions and tests for mean vectors and covariance hypotheses, discriminant analysis, covariance models and time series models.

MATH 6395 - Select Topics Analysis

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Select Topics Analysis

May be repeated with approval of chair.



MATH 6397 - Selected Topics in Math

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 Y

Additional Fee Y Fee Type Y

MATH 6398 - Special Problems

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

MATH 6399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

MATH 6498 - Special Problems

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

MATH 6698 - Special Problems

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Must be a graduate student in Mathematics.

Independent Study

MATH 6998 - Special Problems

Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Must be a graduate student in Mathematics.

Independent Study

MATH 7198 - Master Research

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** None.

The student will carry out independent research at the Master level under the supervision of a faculty member.

MATH 7298 - Master Research

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** None.

The student will carry out independent research at the Master level under the supervision of a faculty member.

MATH 7315 - Masters Tutorial

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** consent of instructor. May be taken concurrently.



Open only to those choosing the non-thesis option for the M.S. degree. Special topics selected by student and instructor to be no less demanding than writing a thesis.

MATH 7320 - Functional Analysis

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 6320 or consent of instructor.

Linear topological spaces, Banach and Hilbert spaces, duality, and spectral analysis.

MATH 7321 - Functional Analysis

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 6320 or consent of instructor.

Linear topological spaces, Banach and Hilbert spaces, duality, and spectral analysis.

MATH 7326 - Dynamical Systems

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 6320 or consent of instructor.

Ergodic theory, topological and symbolic dynamics, statistical properties, infinite-dimensional dynamical systems, random dynamical systems, and thermodynamic formalism.

MATH 7350 - Geometry of Manifolds

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 3431 and MATH 3333, or consent of instructor.

Manifolds and tangent bundles, submanifolds and imbeddings, integral manifolds, triangulation of manifolds, connections and holonomy; Riemannian geometry, surface theory, Morse theory, and G-structures.

MATH 7352 - Riemannian Geometry

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and consent of instructor.

Differentiable Manifolds, tangent space, tangent bundle, vector bundle, Riemannian metric, connections, curvature, completeness geodesics, Jacobi fields, spaces of constant curvature, and comparison theorems.

MATH 7374 - Finite Element Methods

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 6326; MATH 6327 or consent of the instructor.

Introduction to variational formulations of boundary value operators, construction of finite element spaces, existence and convergence of finite element solutions, mixed and hybrid finite element methods, algebraic formulation of finite element equations, iterative methods for large scale finite element systems, applications in fluid mechanics and electromagnetics.

MATH 7380 - Stochastic Differential Equation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 6380 or MATH 6382 or consent of instructor.

Brownian motion and its properties, martingales, the Ito integral, solutions of stochastic differential equations, numerical schemes, diffusion processes. Applications to mathematical finance (arbitrage and option pricing) and connections to PDE's.



MATH 7381 - Stochastic Process

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** MATH 6382.

Discrete-time and continuous-time Markov chains, poisson process, diffusions and analysis of mutliscale systems.

MATH 7394 - Select Topics Apld Mth

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 May be repeated with approval of chair.

MATH 7396 - Sel Top-Numerical Anal

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 May be repeated with approval of chair.

MATH 7397 - Topics in Probability

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** consent of instructor.

Topics in Probability

May be repeated with approval of chair.

MATH 7398 - Master Research

Credit Hours: 3.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 0 **Prerequisite:** None.

The student will carry out independent research at the Master level under the supervision of a faculty member.

MATH 7399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 *Lab Contact Hours:* 0 N

Additional Fee Y **Fee Type** Y

MATH 7698 - Master Research

Credit Hours: 6

Lecture Contact Hours: 0 *Lab Contact Hours:* 0 **Prerequisite:** None.

The student will carry out independent research at the Master level under the supervision of a faculty member.

MATH 7998 - Master Research

Credit Hours: 9

Lecture Contact Hours: 0 *Lab Contact Hours:* 0 **Prerequisite:** None.

The student will carry out independent research at the Master level under the supervision of a faculty member.

MATH 8198 - Doctoral Research



Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

MATH 8199 - Doctoral Dissertation

Credit Hours: 1

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** None.

Completion of Dissertation.

MATH 8199 - Doctoral Dissertation

Credit Hours: 1

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** None.

Completion of Dissertation.

Y

Additional Fee Y Fee Type Y

MATH 8298 - Doctoral Research

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

MATH 8398 - Doctoral Research

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

MATH 8399 - Doctoral Dissertation

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

MATH 8498 - Doctoral Research

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

MATH 8698 - Doctoral Research

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** None.

Note: Independent Study

MATH 8699 - Doctoral Dissertation

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y



MATH 8998 - Doctoral Research

Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** None.

The student will carry out independent research at the Doctoral level under the supervision of a faculty member.

MATH 8999 - Doctoral Dissertation

Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

Mechanical Engineering

MECE 6111 - Graduate Seminar

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0

MECE 6198 - Research

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

MECE 6298 - Research

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

MECE 6301 - Nanostructured Materials

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 3445, graduate standing and consent of instructor.

Overview of the advances in nanoscience and nanotechnology. The content covers solid state materials science, properties of nanomaterials, synthesis and characterization techniques, and applications of nanostructured materials.

MECE 6320 - Composite Materials

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Fiber, whisker and particulate reinforcements; polymer-, metal- and ceramic composite materials; principles of second-phase stiffening, strengthening and toughening; interface/interphase stress transfer and load partition; composite material constitutive equations; composite laminate beam and plate analyses; failure theories and criteria.

MECE 6321 - Polymer Materials & Mechanics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MECE 3469 and MATH 3363 or consent of instructor.

Relationships between molecular structure, mechanical properties and physical laws of mech. Characteristics of processing and properties for structural polymers. Time temperature affects and relationship between mechanical and other physical properties. Theory and experimental techniques for thermo mechanical properties.



MECE 6322 - Polymer Viscoelasticity & Failure

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MECE 3369 and MATH 3363 and consent of instructor.

A combined materials science and solid mechanics treatment of time-temperature-deformation and failure behavior of polymers and polymeric composites at both the molecular and continuum levels. Various approaches to quasi-static and steady state constitutive behavior are given including the solution of boundary value problems.

MECE 6333 - Conduction and Radiation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 3363 or equivalent and consent of instructor.

Steady and transient conduction with various boundary conditions; analytical and numerical evaluation of temperature distributions. Introduction to thermal radiation including surface properties, geometric factors and absorbing media. Applications involving coupled conduction and radiation.

MECE 6334 - Convection Heat Transfer

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Thermal boundary-layer theory; forced convection in laminar and turbulent flows; heat transfer of high velocities; transpiration cooling; dimensional analysis; free convection; selected applications.

MECE 6335 - Heat Transfer/Phase Change

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing or consent of instructor.

Dynamics of liquid-vapor interfaces including the role of capillary forces. Mechanisms and analysis of boiling and condensing heat transfer.

MECE 6336 - Engineering Heat Transfer

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Steady and unsteady, 1D and 2D heat conduction; heat transfer by forced and free convection; internal and external convection; heat exchanger design; radiative surface properties; radiation between surfaces.

MECE 6339 - Introduction to Engineering Alloys

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MECE 3345 or equivalent and graduate standing.

Metallurgy of alloy systems are covered at an introductory graduate level. Topics include structure of metals, defects, phase equilibria, phase transformations, heat treatment for microstructure property control.

MECE 6340 - Materials for Energy Storage

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor.

Material issues pertaining to energy storage applications will be discussed, including lithium ion batteries, fuel cells and supercapacitors. Electrode and electrolyte material properties, characterization, design and modeling and impact on device performance will be addressed.

MECE 6343 - Boundary Layers



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Computation of boundary layers in laminar and turbulent flow for compressible and incompressible fluids; exact and approximate methods; stability of boundary layer flow.

MECE 6345 - Fluid Dynamics 1

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** MECE 3363.

This graduate-level fluid course is designed to help students develop a systematic and comprehensive understanding on the principal concepts and analytical methods in fluid dynamics.

MECE 6349 - Hydro/Aerodynamics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in mechanical, chemical, or civil engineering.

Two- and three-dimensional potential flows with application to various hydro- and aerodynamic shapes, including bluff bodies and airfoils. Vortex methods. Surface singularity methods.

MECE 6353 - Intro Comp Fluid Dynam

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MECE 3463, MECE 3363 or equivalent, Fortran programming experience, or consent of instructor.

Numerical methods for linear and nonlinear partial differential equations. Emphasis on finite difference and spectral methods applied to the Navier-Stokes equations for incompressible flow. Turbulence modeling.

MECE 6357 - Computational Fluid Dynamics II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** I. MECE 3363, BIOE 3440 or equivalent fluid mechanics course; II. MATH 3321 or equivalent; or permission of instructor

Solution methods for the Navier-Stokes equations. Complex geometries and grid generation. Turbulent flows.

MECE 6358 - Superconductor Materials

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: MECE 6358 - Superconducting Ceramic Materials.

Prerequisite: MECE 3445 or consent of instructor.

Principles of superconductor physics, structures of low and high temperature superconductors and their impact on properties, materials science challenges with anisotropy, grain boundaries and flux pinning and solutions developed in engineering of superconductors.

MECE 6359 - Tribology I

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** None.

Introduction to Tribology; Contact Surface Interactions; Thermal, Mechanical and Physical Properties of Materials Affecting Surface Interactions; Contact Mechanics; Friction; Wear; Lubrication; Adhesion; Nano Tribology; Methods of Improving Tribological Behavior of Sliding Surfaces.

MECE 6361 - Mechanical Behavior/Materials



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MECE 3445 and graduate standing.
Dislocation and defect theory, deformation and fatigue of metals, polymers and brittle materials.

MECE 6363 - Physical Metallurgy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Structure and mechanical properties of metals and alloys. Metal strengthening processes, plastic deformation, work hardening, crystal imperfections, recovery, and recrystallization.

MECE 6364 - Phase Transform in Materials

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: MECE 6364 - Solidification and Heat Treatment.

Prerequisite: Consent of instructor.

One-, two-, and multi-component alloy systems, equilibrium and non-equilibrium solidification, non-ideal and regular solutions, systems containing invariant reactions, phase diagram construction, nucleation and growth of phases, solution and aging treatments and heat treatment of common alloys.

MECE 6365 - Semiconductor Materials and Photonic and Electronic Devices

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** None.

Concepts of semiconductor materials including electronic band structures, generation, recombination, and transfer of free carriers, p-n and metal-semiconductor junctions. Operating principles of semiconductor devices for photonic, electronic, and energy applications.

MECE 6366 - Flight Control Systems

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

This course covers the basic control system analysis and design methods in both frequency and time domains.

MECE 6367 - Control System Analysis and Design

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** MECE 3338.

This course covers the basic control system analysis and design methods in both frequency and time domains.

MECE 6368 - Mechanical Design Proj

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 Selected topics pertaining to individual design projects. Introduction to patent law.

MECE 6369 - Mechanical Design Proj

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** MECE 5367.

Nonlinear state-space models; Phase-plane techniques; describing function methods; stability analysis; Lyapunov function techniques; exact linearization methods; sliding mode control; adaptive control; examples from robotics and spacecraft dynamics.



MECE 6374 - Nonlinear Control Syst Design

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

MECE 6377 - Continuum Mechs I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MECE 5332 or consent of instructor.

Motion of a continuum, polar decomposition, measures of strain; rate of deformation and vorticity; transport theorem, balance laws; general constitutive theory, material symmetry, invariance requirements.

MECE 6382 - Theory of Elasticity

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing and consent of instructor.

Mathematical preliminaries: vectors, tensors, orthogonal transformations, integral transformations. Analysis of deformation, compatibility, stress, constitutive laws, material symmetry, formulation of boundary problems, examples.

MECE 6384 - Methods of Applied Mathematics I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of a math placement test to be given on first day of class or consent of department.

The theory and application of mathematical methods for partial differential equations arising in analytical engineering models.

MECE 6385 - Mtds of Appld Mthmtcs

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing.

The theory and application of mathematical methods for partial differential equations arising in analytical engineering models.

MECE 6386 - Computational Modeling of Materials

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor.

Computational methods for the modeling, analysis, and numerical simulation of mechanical response of materials from the atomistic scale to the continuum scale. Topic include molecular dynamics, finite element method, and multi-scale modeling techniques.

MECE 6387 - Intelligent Structural Systems

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MECE 5367 or equivalent.

Modeling, design and control of intelligent structures using various smart materials such as piezoceramics, shape memory alloys, magneto-rheological (MR) fluid, and fiber optical sensors.

MECE 6388 - Optimal Control Theory

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MECE 5367 or equivalent.



Variational calculus maximum principal and Hamilton- Jacoby theory. Linear quadratic regulator/servo problems and minimum time control. Computational methods in optimum systems control.

MECE 6389 - Matrix Inequality Control

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MECE 5367 or equivalent.

Linear matrix inequalities; Signal and system norms and performance specifications; Stability and system performance analysis using linear matrix inequalities; Uncertain systems and robustness analysis; Robust stability and performance synthesis; Linear parameter varying control methods; Model order reduction problems; Applications to mechanical and aerospace control problems.

MECE 6397 - Selected Topics

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 Y

Additional Fee Y Fee Type Y

MECE 6398 - Research

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

MECE 6399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

MECE 6498 - Research

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

MECE 6598 - Research

Credit Hours: 5.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

MECE 7320 - Micromechanics of Composites

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MECE 6320 and MECE 6382 or consent of instructor.

Microscopic stress transfer; effective composite thermo mechanical properties; inclusion theories; self-consistent mechanics; differential scheme; homogenization theory; Hashin & Christensen-Lo Multi-phase cylinder models; differential thermal stresses and properties; inelastic micromech. deformations and damage; crack growth & fracture.

MECE 7321 - Mech of Composite Matls & Stru

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Composite laminates and structures; classical lamination theory; hydrothermal stresses; stress



concentrations around cutouts in composite laminates; stability of composite laminate plates and shells; linear & nonlinear anisotropic composite laminate theories; interlaminar stresses and boundary layer effects; linear & nonlinear viscoelastic deformations; delimitations & transverse cracks; composite joints.

MECE 7322 - Damage & Failure Mech of Comp

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MATH 6320 and MECE 6382 or consent of instructor.

Composite materials and structures; damage mechanisms and failure modes; thermodynamic formulation of damage initiation and evolution; deformation and damage coupling; Microstructure and damage interactions; inelastic constitutive equations of composites with damage; damage and crack growth interactions; failure theories and criteria.

MECE 7341 - Introduction to Micro and Nano Fluidics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MECE 3363.

This class focuses on the fundamental flow physics that occurs at the micro/nanoscale. The goal is to prepare engineers and scientists to address problems they will encounter when studying fluid transport phenomena in micro/nanoscale physical processes, i.e., MEMS and BioMEMS. It is also accessible to students outside of thermal sciences area who desire a first, stand-alone graduate-level course in micro/nanofluidics.

MECE 7361 - System Identification

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MECE 6384.

This course focuses on methods of linear and nonlinear dynamic system identification using frequency domain and time domain methods.

MECE 7362 - Robust Multivariable Control

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Introductory graduate level feedback control and analysis course, complex variables, Laplace transformations, linear algebra, and extensive Matlab experience (Simulink, and Control Systems Toolbox).

The course will concentrate on frequency domain methods for control system design for systems with a large degree of parametric and nonparametric uncertainty required to satisfy hard time domain constraints for disturbance rejection and reference tracking. Specific points of interest include closed loop integrity (fault tolerance) to sensor and feedback transducer failures, controller bandwidth minimization, and actuator constraints.

MECE 7397 - Selected Topics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 May be repeated for credit.

MECE 7399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

MECE 8198 - Doctoral Research

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0



MECE 8298 - Doctoral Research

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

MECE 8398 - Doctoral Research

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

MECE 8399 - Doctoral Dissertation

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

MECE 8498 - Doctoral Research

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

MECE 8598 - Doctoral Research

Credit Hours: 5.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

MECE 8699 - Doctoral Dissertation

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

MECE 8999 - Doctoral Dissertation

Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

Mechanical Technology

MECT 6100 - Seminar in Mechanical Engineering Technology

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of the instructor.

This course covers areas of interest in Mechanical Engineering Technology. Students are introduced to research methods and fields available in the program.

MECT 6198 - Special Problems



Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and consent of the graduate faculty advisor.
Special problems.

MECT 6305 - Analytical Method in Engineering Technology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and consent of the graduate faculty advisor
Applied mathematical analysis tools of ordinary and partial differential equations describing physical processes occurring in the practice of Mechanical Engineering Technology areas such as fluid dynamics, elasticity and heat transfer.

MECT 6317 - Applications in Stress Analysis

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and consent of the graduate faculty advisor.
This course addresses advanced applications of combined stress systems and non-symmetrical loadings; deformation analysis of thin and thick walled pressure vessels, beams, and columns of composite materials; failure theories, energy methods, fatigue, fracture, and impact applications; and an introduction to elasticity theory.

N

Additional Fee N Fee Type N

MECT 6318 - Advanced Fluid Mechanics

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and consent of the graduate faculty advisor.
This course introduces two and three-dimensional fluid mechanics problems. Topics include classical analytical methods and modern computational methods that explain the capabilities of personal computers and available computational resources. The goal of this course is an industry-ready knowledge of flow past complex bodies, boundary layers, and numerical techniques that have become a design tool in many engineering systems.

N

Additional Fee N Fee Type N

MECT 6320 - Comp Integrated Mfg

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

MECT 6322 - Computer Aided Engineering I

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 3 **Prerequisite:** Graduate standing or consent of the instructor.
Applied numerical analysis tools (FEA) for ordinary and partial differential equations describing physical phenomenon occurring in the practice of Mechanical Engineering Technology in areas such as elasticity and heat transfer.

MECT 6340 - Materials Selection and Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MECT 4372 or equivalent, or consent of instructor.
Material selection as a part of the design process. Includes analysis of material properties, process and process selection, hybrid materials, and case studies.

MECT 6345 - Materials Selection for Energy Sources



Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and consent of the graduate faculty advisor.

This course focuses in the development of a strategy to select materials and the course will have a focus on energy related applications. Students will use engineering methodologies to optimize the selection of material for a specific application. A major component of this course is the establishment of the main working parameters of each component as well as the expected performance while considering cost, weight, processing and design parameters as major limiting conditions for optimization.

N

Additional Fee N **Fee Type** N

MECT 6347 - Rheology Energy Related Fluids

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and consent of the graduate faculty advisor.

The topics that will be discussed in this course include non-Newtonian fluid behavior and rheometry, which is the flow of fluids in pipe, conduits, and particulate systems; and the heat transfer characteristics of non-Newtonian fluids.

N

Additional Fee N **Fee Type** N

MECT 6350 - Cnc Machine Languages

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

MECT 6396 - Master's Project

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Master's project.

May be repeated for six semester hours credit.

MECT 6397 - Selected Topics

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and consent of the graduate faculty advisor.

Selected topics in Mechanical Engineering Technology.

Y

Note: May be repeated for credit.

Additional Fee Y **Fee Type** Y

MECT 6398 - Special Problems in Mechanical Engineering Technology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and consent of the graduate faculty advisor.

Individual projects under faculty guidance.

May be repeated for credit.

MECT 6399 - Thesis

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and consent of the instructor.

Master's thesis.

Y



Note: May be repeated for up to six semester hours credit.

Additional Fee Y Fee Type Y

MECT 6699 - Thesis

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** None.

Thesis in Mechanical Engineering Technology (MET).

N

Additional Fee N Fee Type N

MECT 6999 - Thesis

Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** None.

Thesis in Mechanical Engineering Technology (MET).

N

Additional Fee N Fee Type N

Music

MUSI 6100 - Chamber Music

Credit Hours: 1.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 May be repeated for a maximum of four semester hours.

MUSI 6101 - Opera Role Performance

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 5 **Prerequisite:** Graduate standing in Music.

Once cast, students will prepare and perform a role or chorus as assigned in an opera or musical theatre work. Fulfills the large ensemble requirement at the graduate level.

May be repeated for credit.

MUSI 6102 - Acting for Opera

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 2 **Prerequisite:** Consent of instructor

Basics of acting in a solo situation with the added dimension of music. Topics include physical awareness, improvisation, focus, gesture, dramatic and musical analysis, and style of presentation in auditions and concerts. Lecture, presentations, critiques, and in-class exercises

Additional Fee \$2.00 Fee Type Class/Music Laboratory

MUSI 6103 - Advanced Lyric Diction

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in music.

Review of IPA and lyric diction, continuing with the more nuanced performance requirements in the genres of art song, oratorio, and opera as sung in English, Italian, German, and French.

MUSI 6104 - New Music Ensemble



Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 2 **Prerequisite:** consent of instructor.

May be repeated for a maximum of four semester hours.

MUSI 6106 - Grad Large Ensemble

Credit Hours: 1.0

Lecture Contact Hours: 6 Lab Contact Hours: 0

MUSI 6112 - Chamber Music - Woodwind

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0

MUSI 6114 - Chamber Music - Brass

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0

MUSI 6120 - Percussion Ensemble

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 May be repeated for a maximum of four semester hours.

MUSI 6180 - Advanced Acting for Opera

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 2 **Prerequisite:** MUSI 6102.

Topics include, but are not limited to, spoken monologues with musical principals applied to speech, dealing with props, dramatic use of ornamentation, dramatic context for art songs, and professional resumes.

MUSI 6181 - Directing for Opera

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 2 **Prerequisite:** MUSI 6102.

Basics of producing and directing an opera or musical. Topics include script/score analysis, research, pre-production planning, casting, set, costume and lighting design, scheduling, surtitles, blocking, rehearsal techniques.

MUSI 6198 - Research

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

MUSI 6200 - Accompanying Seminar

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** graduate standing in music or consent of instructor.

Techniques of performing as a pianist with other instruments and voices.

May be repeated once for credit.



MUSI 6206 - Introduction to the Organ

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Music.

An introduction to the pipe organ as a musical and mechanical instrument; fundamentals of registration, construction, and maintenance will be covered.

MUSI 6260 - Internship in Piano Teaching I

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 2 **Prerequisite:** MUSI 6350 and MUSI 6351.

Guided teaching of beginner and intermediate level students through supervised scenarios designed by the instructor. This course offers students the opportunity to apply teaching techniques and employ problem-solving strategies within the individual instructional setting. Includes a focus on sequencing beginning through intermediate technical instruction.

MUSI 6261 - Internship in Piano Teaching II

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 2 **Prerequisite:** MUSI 6350, MUSI 6351, and MUSI 6260.

Guided teaching of intermediate and early-advanced level students through supervised scenarios designed by the instructor. This course offers students the opportunity to apply teaching techniques and employ problem solving strategies within the group and individual instructional settings. Includes a focus on sequencing intermediate through early-advanced technical instruction.

MUSI 6298 - Choral Techniques for Church Musicians

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

MUSI 6298 - Research

Credit Hours: 2.00

Lecture Contact Hours: 0.0 Lab Contact Hours: 0.0

MUSI 6300 - Introduction to Research Methods in Musicology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in music.

Research materials; problems of paper and thesis writing.

MUSI 6301 - Pedagogy of Music Theory

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MUSI 6300.

Teaching music theory on the junior or senior college level.

MUSI 6302 - 18th Century Counterpoint

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MUSI 6300.

Examination of contrapuntal techniques of the eighteenth century.



MUSI 6305 - Schenkerian Analysis

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MUSI 6300.
Reductive analysis, levels of structure in tonal music, and graphing techniques.

MUSI 6306 - Analysis of Post-Tonal Music

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MUSI 6300.
Set theory, serial theory, 12-tone operations.

MUSI 6307 - Analysis of Rhythm & Meter

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MUSI 6300.
The study of meter and large-scale rhythm. Repertoire includes tonal, post-tonal, and popular Western music.

MUSI 6308 - Semiotic Approach to Analysis

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MUSI 6300.
A focus on readings and approaches to musical analysis that explore meaning and signification in music.

MUSI 6309 - Variation Forms & Techniques

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MUSI 6300.
Survey of the history and literature of the theme and variations genre from the late Renaissance to the late Twentieth century, with a study of the concomitant compositional and analytical issues.

MUSI 6310 - History of Music Theory

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MUSI 6300.
Western music theory from Pythagoras to the Twentieth century. Introduction to the principal topics of music theory (tuning, notation, harmony, aesthetics), with readings from primary and secondary sources.

MUSI 6311 - Modal Counterpoint

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MUSI 6300.
Survey of contrapuntal techniques prior to the Eighteenth century.

MUSI 6312 - Orchestration

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** Graduate standing in Music and consent of instructor.
Advanced scoring for chamber ensembles and full orchestra.



MUSI 6313 - Introduction to Musical Acoustics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MUSI 6300.

Introductory explorations of the fundamental physical properties of musical sound, tuning and intonation, psycho-acoustics, specific acoustical features of the major instrument families and the voice, and architectural acoustics.

MUSI 6314 - Chromatic Harmony

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MUSI 6300.

Analysis and written exercises of extended tonal and early non-tonal music.

MUSI 6316 - Beethoven's Symphonies

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MUSI 6300.

Exploration of the symphonies of Beethoven using a variety of analytic tools, including theories of form, meter and rhythm, and semiotics. Historical context and orchestration will also be considered.

MUSI 6317 - Analysis of Jazz & Popular Music

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MUSI 6300.

A study of musical works from jazz and popular repertoires from perspectives of music theory, performer interaction, and meaning in social/historical context.

MUSI 6327 - Collaborative Skills for Organists I

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** none.

Advanced score reading and figured bass; transposition; console management; accompanying hymnody and various forms of chant; improvisation for sacred services.

MUSI 6328 - Collaborative Skills for Organists II

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MUSI 6327: Collaborative Skills for Organists I.

Weekly assignments of standard choral and solo literature; adapting piano and orchestral scores to the organ; rehearsal techniques as both accompanist and conductor; fundamentals of vocal pedagogy.

MUSI 6329 - Seminar in Organ Literature

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

An in-depth study of a selected composer or genre and its performance practice. Students will research, present, and prepare representative works to be coached in class, culminating in a class recital.

MUSI 6330 - Advanced Instrumental Conducting



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Music and consent of instructor.

Advanced theory and practical techniques for the conductor of orchestral ensembles.

MUSI 6340 - Graduate Music History Review

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Music.

Review of graduate-level music history and literature. May not be used to satisfy any degree requirement.

MUSI 6341 - Graduate Music Theory Review

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Music.

Review of graduate-level music theory and analysis.

Note: May not be used to satisfy any degree requirement.

MUSI 6342 - Graduate Music Theory Review II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Music.

Review of graduate-level music theory and analysis. May not be used to satisfy any degree requirement.

MUSI 6344 - Franz Schubert

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MUSI 6300.

An exploration of biographical and social contexts for Schubert's music, emphasizing his innovative approaches to musical genres.

MUSI 6345 - Franz Liszt

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MUSI 6300.

Exploration of biographical and social contexts for Liszt's music, emphasizing influences he absorbed to revolutionize piano music and piano playing, then his mission to transform orchestral and religious music.

MUSI 6347 - Igor Stravinsky

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MUSI 6300.

A survey of the life, work, and times of Igor Stravinsky.

MUSI 6350 - Applied Music Pedagogy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in music or consent of instructor.

Methods and materials with an emphasis on teaching techniques for beginning to advanced-level students, with supervised teaching.

MUSI 6351 - Applied Music Pedagogy



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in music or consent of instructor.

Methods and materials with an emphasis on teaching techniques for beginning to advanced-level students, with supervised teaching.

MUSI 6352 - Group Piano Pedagogy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in music.

An introduction to methods, materials, teaching techniques and strategies for group piano instruction. Formats explored include classes for pre-collegiate students, adult hobby students, and university students.

MUSI 6354 - Music of the Medieval Period (450-1450)

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MUSI 6300

Biographical, critical, cultural, and theoretical contexts for medieval music by composers such as Ambrose of Milan, Notker, Bernart da Ventadorn, Hildegard von Bingen, Perotin, de Vitry, Machaut, and Landini, extending from the Hunnish invasion to the death of Dunstable.

MUSI 6355 - Baroque Sonata

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MUSI 6300.

An exploration of the Baroque sonata repertoire, with combined academic and performance study in chamber groups.

MUSI 6357 - Music in the 17th Century

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MUSI 6300.

Genres and styles of music from Monteverdi through Buxtehude and their relationship to the culture that produced it.

MUSI 6358 - Music of Bach and Handel

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MUSI 6300.

Life, times, and selected musical works by the two most famous composers from the late Baroque: G.F. Handel and J. S. Bach.

MUSI 6360 - Haydn, Mozart and Beethoven

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: MUSI 6360 - Music in the Middle Ages.

Prerequisite: MUSI 6300.

Music of the late Eighteenth century with emphasis on the Viennese school of Haydn, Mozart, and Beethoven.

MUSI 6361 - Music of the Romantic Period I (1800-1848)

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: MUSI 6361 - Music in the Renaissance.

Prerequisite: MUSI 6300.

Biographical, critical, cultural, and theoretical contexts for early romantic music by composers such as Schubert, Rossini, Berlioz, and Chopin, extending from Beethoven's middle period to the revolutions of 1848-1849.



MUSI 6362 - The Mendelssohns

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MUSI 6300.

A study of one of the most interesting families in Biedermeier, Germany, including struggles with their Jewish heritage and its effect on the music of siblings Felix and Fanny.

MUSI 6363 - Music of the Romantic Period II (1848-1914)

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MUSI 6300.

Biographical, critical, cultural, and theoretical contexts for late romantic music by composers such as Wagner, Brahms, Tchaikovsky, and Mahler, extending from the revolutions of 1848-1849 through 1910.

MUSI 6364 - Music of the 20th Century I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MUSI 6300.

Biographical, critical, cultural, and theoretical contexts for music from 1900 through 1945.

MUSI 6365 - Music of the 20th Century II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MUSI 6300.

Biographical, critical, cultural, and theoretical contexts for music since 1945.

MUSI 6367 - French Music 1830-1870

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MUSI 6300.

Survey of French music written between the July Revolution and the Franco-Prussian War, emphasizing French romanticism's development during the July Monarchy and French classicism's resurgence after Louis-Napoln's election.

MUSI 6370 - Art Song Repertoire

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in music and permission of instructor.

Introduction to art song repertoire: poetry, music, styles, and national characteristics (German, French, American, British, Italian, Spanish, and Russian).

MUSI 6371 - Analysis of Art Song

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MUSI 6341 or consent of instructor.

This course examines the nineteenth-century German art song of the Lied tradition. Composers covered include Franz Schubert, Robert Schumann, Clara Schumann, Johannes Brahms, Fanny Hensel, and Josephine Lang. By the end of the semester, students should be familiar with analysis of German Romantic poetry, chromatic harmony, text setting, text expression, form, and performance analysis.

N

Additional Fee N Fee Type N

MUSI 6372 - Seminar in Ethnomusicology



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MUSI 6300.

The study of music as a human activity with case studies drawn from different parts of the world.

MUSI 6374 - Music and Nationalism

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MUSI 6300.

Seminar on nationalism and national identity in music.

Note: Seminar.

MUSI 6380 - Opera Literature

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MUSI 6300.

Survey of opera literature from its Baroque-era beginnings through the present day.

MUSI 6382 - Symphonic Music

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MUSI 6300.

The birth of the orchestra and a survey of its repertoire from the Eighteenth century to the present.

MUSI 6383 - Symphonic Choral Music of the 19th Century

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MUSI 6300.

A study of the great masterworks for chorus and orchestra from the Nineteenth century, including symphonies, oratorios, masses, requiems, and dramatic cantatas.

MUSI 6385 - Oratorio Literature

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MUSI 6300.

Examination of oratorio literature from its 17th century origins through the modern era.

MUSI 6386 - Choral Literature

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MUSI 6300.

Choral literature, including sources, editions, stylistic considerations, and appropriate performance practices from each of the major periods of music history.

MUSI 6388 - Piano Literature

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MUSI 6300.

Examination of piano literature from the 17th century to the 20th century.

MUSI 6391 - Organ Literature I



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MUSI 6300.

Early organ literature to the works of J.S. Bach.

MUSI 6392 - Organ Literature II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MUSI 6300.

Organ literature from the works of J. S. Bach to the present day.

MUSI 6393 - Sacred Music Practicum

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** Consent of Director of Music Graduate Studies.

Supervised practical training in leading a church music program, including administration and practical rehearsal and performance techniques of various types of church ensembles.

Note: Practicum.

MUSI 6397 - Selected Topics-Music

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 Y

Additional Fee Y Fee Type Y

MUSI 6398 - Research

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

MUSI 6399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

MUSI 7399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

MUSI 8106 - Doctoral Large Ensemble

Credit Hours: 1.0

Lecture Contact Hours: 6 Lab Contact Hours: 0 Performance in large vocal or instrumental ensembles.

May be repeated for credit.

MUSI 8199 - Dissertation



Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 N

Additional Fee N Fee Type N

MUSI 8296 - Doctoral Essay

Credit Hours: 2

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Candidacy for the degree.

Doctoral essay research.

Y

Additional Fee N Fee Type N

MUSI 8298 - Research

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 Pass-fail option.

May be repeated for credit.

MUSI 8299 - Doctoral Document

Credit Hours: 2

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Candidacy for the degree.

Doctoral document research.

Y

Additional Fee N Fee Type N

MUSI 8300 - Doct Research Seminar

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Materials and techniques for advanced research in performance, literature, and pedagogy.

MUSI 8301 - Seminar in Performance Pedagogy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Study of private teaching techniques with directed teaching.

MUSI 8303 - Seminar in Music Theory

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Research in advanced theoretical subjects.

MUSI 8350 - Renaissance and Baroque Performance Practice

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in music.

Performance practices of the Renaissance and Baroque periods.

MUSI 8351 - Classic and Romantic Performance Practice



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in music.
Performance practices of the Classic and Romantic periods.

MUSI 8398 - Research

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 Pass-fail option.
May be repeated for credit.

MUSI 8399 - Doctoral Document

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N
Additional Fee Y Fee Type Y

MUSI 8499 - Doctoral Document

Credit Hours: 4

Lecture Contact Hours: 0 Lab Contact Hours: 4 **Prerequisite:** Doctoral candidacy.
Doctoral Document.
Y
Additional Fee N Fee Type N

MUSI 8698 - Research

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 Pass-fail option.
May be repeated for credit.

Music Education

MUED 6301 - Intro to Research in Music Edu

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Introduction to descriptive research methodologies used in music education.

MUED 6310 - Curriculum and Assessment

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: MUED 6310 - Trends in Music Education.

Prerequisite: Graduate standing in Music.

Study of strategies for developing and implementing elementary and secondary music curricula according to fundamental principles in history, philosophy, and educational policies. Addresses methods for assessing and evaluating individual student learning.
May be repeated for credit for maximum of 6 credits.

MUED 6315 - Teaching and Learning Theories

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: MUED 6315 - Concepts in Music Education.



Prerequisite: Graduate standing in Music.

Examines teaching and learning theories from various disciplines, including education, philosophy, psychology, and sociology, with a focus on contemporary strategies and innovations in the field of music education.

MUED 6398 - Research in Music Education

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Approval of the Director of Music Graduate Studies.

May be repeated for credit.

Note: Independent Study.

MUED 6431 - Kodaly Certification Level I

Credit Hours: 4.0

Lecture Contact Hours: 4 Lab Contact Hours: 0 **Prerequisite:** MUED 4305 or consent of instructor.

Philosophy and teaching techniques for the Kodaly methodology in American pre-kindergarten and kindergarten music classes. Includes personal musicianship, conducting, folk music and pedagogical materials collection/analysis, and choral ensemble rehearsal/performance.

MUED 6432 - Kodaly Certification Level II

Credit Hours: 4.0

Lecture Contact Hours: 4 Lab Contact Hours: 0 **Prerequisite:** MUED 6431, MUED 4305, or consent of instructor.

Philosophy and teaching techniques for the Kodaly methodology in American first and second grade music classes. Includes personal musicianship, conducting, folk music and pedagogical materials collection/analysis, and choral ensemble rehearsal/performance.

MUED 6433 - Kodaly Certification Level III

Credit Hours: 4.0

Lecture Contact Hours: 4 Lab Contact Hours: 0 **Prerequisite:** MUED 6432, MUED 4305, or consent of instructor.

Philosophy and teaching techniques for the Kodaly methodology in American third and fourth grade music classes. Includes personal musicianship, conducting, folk music and pedagogical materials collection/analysis, and choral ensemble rehearsal/performance.

MUED 7305 - Contemporary Methods in Music Education

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: MUED 7305 - Teaching for Musical Understanding, Grades K - 12.

Prerequisite: MUED 6315.

Surveys and critically examines contemporary pedagogical methods, materials, and processes in contemporary K-12 environments. Students actively engage in teaching a variety of musical genres and ensemble formats.

May be repeated for credit.

MUED 7399 - Music Education Final Project

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Completion of all other degree requirements and approval of the Coordinator of Music Education.

Music education final project. Repeated for credit until completion of project.

Y

Additional Fee N Fee Type N

MUED 8398 - Research in Music Education



Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Approval of the Director of Music Graduate Studies.

May be repeated for credit.

Note: Independent Study.

Nursing

NURS 6230 - Diagnostic Tests & Procedures

Credit Hours: 2.0

Lecture Contact Hours: 1 Lab Contact Hours: 1 **Prerequisite:** NURS 6330

Advanced Diagnostic Physical Examination Prepares students for analysis and interpretation of diagnostic data in development of appropriate differential diagnosis. Cost, invasiveness, acceptability, and efficacy of appropriate diagnostic and therapeutic interventions emphasized.

NURS 6301 - Adv Rsrch Intgrtd Evidnce Prctc

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** NURS 6332 .

This course examines nursing research: designs and methodologies for use in nursing practice. Principles and methods of research in problem identification, framework, critique, design, data collection, and analysis are emphasized. Students will critically examine the literature and develop evidence based practice guidelines for practice concerns identified in education, administration, or in clinical practice.

NURS 6302 - Independent Study

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Approval of instructor.

Topics will vary.

NURS 6306 - Policy, Role & Economics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 This course focuses on the impact of policy and economics on advanced nursing practice roles. The importance of advanced practice participation in shaping the direction of healthcare is emphasized.

NURS 6309 - Advanced Leadership and Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Credit for or concurrent enrollment in NURS 6306 , or NURS 6307.

This graduate level course focuses on the knowledge, skills, and abilities needed to practice in an administrative position in a health care organization at the nurse manager or nurse executive level. Students analyze leadership theories and management principles in advanced roles.

NURS 6312 - Measurement & Evaluation in Nursing Education

Credit Hours: 3

Lecture Contact Hours: 2 Lab Contact Hours: 3 **Prerequisite:** NURS 6301 or NURS 6332.

Examines theoretical aspects of measurement and evaluation as they pertain to the role of nurse educator and to nursing practice and research. Focuses on the concepts of reliability and validity in the development of objectives and evaluation strategies.

N

Additional Fee Y Fee Type Y



NURS 6313 - Theories and Methods of Teaching and Learning in Nursing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** NURS 6306 ,

Presents an overview of educational theories and instructional methods related to nursing education. Students use evidence-based principles to deliver nursing education.

NURS 6314 - Development of Nursing Curriculum

Credit Hours: 3

Lecture Contact Hours: 2 Lab Contact Hours: 3 **Prerequisite:** NURS 6306.

Focuses on nursing curriculum design and development for the nurse educator. Students develop curriculum elements.

N

Additional Fee Y Fee Type Y

NURS 6316 - Healthcare Organizational Behavior

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Credit for or concurrent enrollment in NURS 6306 , or NURS 6307

Provides overview of managerial functions with an emphasis on the study of individual, group and intergroup behaviors in organizations.

NURS 6317 - Human Resource Management in Healthcare

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Encompasses an analysis of the classical and contemporary administrative functions involved in management of people and organization. Staffing, EEO regulation, compensation policy, performance appraisal and training and career development within the context of an increasing diverse, internationalized, and competitive health care organizational environment are emphasized.

NURS 6318 - Healthcare Delivery Systems and Organization

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Credit for or concurrent enrollment in NURS 6306 , or NURS 6307

Provides foundational overviews of U.S. nursing and health care delivery systems. Students analyze key concepts, models, frameworks, process, and structures related to health care delivery organizations.

NURS 6319 - Healthcare Finance

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Corequisite: None.

This graduate level seminar course provides an overview of financial management and health care finance for non-financial managers. topics include assets, liabilities, and net worth; revenue and expenses; forecasting and benchmarking; resource allocation and fund acquisition; and effective budgeting.

NURS 6320 - Healthcare Informatics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Credit for or concurrent enrollment in NURS 6306 , or NURS 6307.

Focuses on health informatics, information technology systems, and health care technologies. Students examine how to utilize health information and technologies for quality outcomes.



NURS 6321 - Leadership Practicum

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 9 **Prerequisite:** NURS 6309; NURS 6316; NURS 6318; NURS 6319.

Provides opportunities to integrate previously learned knowledge and skills during a 135 hour practicum. Students work with nurse preceptors in mid- or upper- level administrative positions in a variety of health care settings to demonstrate competencies related to complex adaptive systems, health care administration, and health care quality and safety.

NURS 6330 - Advanced Diagnostic Physical Examination

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 3 Provides advanced knowledge and skill in health assessment across the lifespan. Emphasis on acquiring relevant assessment data, performing focused and comprehensive PE, and presenting holistic findings.

NURS 6331 - Advanced Pharmacotherapy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Focuses on advanced pharmacology and role of the advanced practice registered nurse in pharmacotherapeutics. Management of patients receiving pharmaceutical agents is viewed from a holistic perspective.

NURS 6332 - Biostatistics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Statistics.

Focuses on the development of statistical and computer methods applied to the health sciences. The critical analysis and application of research studies to evidence-based practice is emphasized.

NURS 6333 - Population Health

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Biostatistics NURS 6332.

Examines theoretical and research bases for identification and analysis of factors impacting the health of populations served by the advanced practice nurse. Focuses on application of epidemiologic principles to populations.

NURS 6335 - Management of Health Disorders in Adults

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** NURS 6330 , NURS 6331 , NURS 6338 .

Corequisite: NURS 6336

First of three-course sequence to prepare Family Nurse Practitioners. Systems approach examines commonly occurring acute and chronic health deviations with emphasis on assessment, differential diagnosis, formulation of holistic treatment plan and health promotion across the lifespan.

NURS 6336 - Management of Health Disorders in Adults Clinical

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 9 **Prerequisite:** NURS 6330, NURS 6331, NURS 6338.

Corequisite: NURS 6335

Clinical practicum to prepare MSN Education and Family Nurse Practitioner students in the provision of safe, quality health care across the lifespan in primary care settings.

NURS 6338 - Advanced Pathophysiology



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Provides student with advanced knowledge in anatomy, physiology and pathophysiology across the lifespan. Emphasis on disease, adaptive and maladaptive changes, and interpreting changes.

NURS 6345 - Management of Health Disorders in Women and Children

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** NURS 6330 , NURS 6331 , NURS 6338 , NURS 6335 , NURS 6336 .

Corequisite: NURS 6346

Second of three-course sequence to prepare Family Nurse Practitioners. A systems approach is utilized to critically examine select health deviations in children and women across the lifespan in holistic patient management.

NURS 6346 - Management of Health Disorders in Women and Children Clinical

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 12 **Prerequisite:** NURS 6330, NURS 6331, NURS 6338, NURS 6335, NURS 6336.

Corequisite: NURS 6345

Second of three-course clinical sequence to provide clinical experiences for the refinement of clinical reasoning skills in Family Nurse Practitioners. Clinical experience provides for development of collaborative relationships.

NURS 6351 - Evidence-Based Practice Project

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** NURS 6301 , NURS 6332 , Capstone course final semester of MSN program. Student must have a 3.0 GPA in MSN program to take this course.

Synthesizes knowledge from the core and track specific courses in the development of an evidence-based project based on a practice concern identified. Students prepare the project for implementation, publication, grant submission, or professional presentation.

NURS 6355 - Management of Health Disorders Across the Lifespan in Diverse Settings

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** NURS 6330 , NURS 6331 , NURS 6338 , NURS 6335 , NURS 6336 , NURS 6345 , NURS 6346 .

Corequisite: NURS 6356

Management of Health Disorders Across the Lifespan in Diverse Settings Clinical Last of three-course sequence to prepare Family Nurse Practitioners in the care of older adults, and individuals and families across the lifespan in diverse healthcare settings. Systems approach with emphasis on differential diagnosis, complex symptom management and disease treatment, and evaluation of plan.

NURS 6356 - Management of Health Disorders Across the Lifespan in Diverse Settings Clinical

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 12 **Prerequisite:** NURS 6330, NURS 6331, NURS 6338, NURS 6335, NURS 6336, NURS 6345, NURS 6346.

Corequisite: NURS 6356

Management of Health Disorders Across the Lifespan in Diverse Settings Last of three-course clinical sequence to prepare Family Nurse Practitioners. Emphasis on safe, holistic care in an integrated family practice and in diverse healthcare settings.

NURS 6366 - FNP Capstone Clinical

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 12 **Prerequisite:** NURS 6230, NURS 6330, NURS 6331, NURS 6338, NURS 6335, NURS 6336, NURS 6345, NURS 6346, NURS 6355, NURS 6356.



Corequisite: NURS 6333.

With the Capstone committee, students will identify specialty preceptor(s) and develop objectives for Capstone experience.

N

Additional Fee N Fee Type N

Nutrition

NUTR 6301 - Clinical Aspects of Nutrition Support

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** None.

In-depth review of nutritional assessment and nutrition support for initiation and management of enteral and parenteral nutrition.

NUTR 6302 - Advanced Medical Nutrition Therapy

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** None.

Advanced practice in medical nutrition therapies and physical assessment skills.

NUTR 6303 - Nutrition Management and Leadership for the Clinical Professional

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** None.

Development of effective management skills for the clinical nutrition leader.

NUTR 6304 - Advanced Nutrition Counseling and Education

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** None.

Strategies for identifying at-risk populations and development and evaluation of educational programs.

NUTR 6305 - Research Methods

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** None.

Research planning, design, implementation and analysis in nutrition.

NUTR 6306 - Statistics for the Healthcare Professional

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Previous undergraduate statistics course.

Overview of statistical design and analysis including univariate and multivariate statistical methods for the healthcare or public health environment.

NUTR 6307 - Community Nutrition Practice

Credit Hours: 3.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 3 **Prerequisite:** None.

Supervised practice practicum assessing the needs of the population and developing nutrition education in the community setting (300 total hours).

NUTR 6308 - Clinical Nutrition Practice I



Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** None.

Assessing the nutritional needs of patients in a healthcare setting (300 total hours).

NUTR 6309 - Clinical Nutrition Practice II

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** None.

Advanced nutritional assessment and intervention skill development of complex patients in the acute care setting (300 hours).

N

Additional Fee N **Fee Type** N

NUTR 6311 - Capstone I

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** NUTR 6305: Research methods; NUTR 6306: Statistics; must be completed during the second to the last semester of study.

Special projects in nutrition and dietetics, in the form of a literature review, grant proposal, education program or tool development and/or evaluation, or research project approved by course instructor.

NUTR 6312 - Capstone II

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** NUTR 6311; must be completed during the last semester of study.

Special projects in nutrition and dietetics, in the form of a literature review, grant proposal, education program or tool development and/or evaluation, or research project approved by course instructor. The student experience will culminate in the submission of the completed project in the form of an abstract, poster session, or other means of dissemination coordinated with the instructor.

NUTR 6314 - Gender and Culture Issues in Physical Activity and Fitness

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PEP 6306.

Prerequisite: None.

This class is a multidisciplinary integration of epidemiological, psychological, and cultural approaches to the study of physical activity and fitness levels among diverse ethnic groups and minorities in the United States. The focus of this class will be on examining the impact of gender and cultural beliefs on the physical activity and fitness levels of Hispanic, African American, and White adult and children populations and the development of interventions to promote PA and fitness in these populations.

N

Additional Fee Y **Fee Type** Y

NUTR 6316 - Advanced Diabetes Management and Education

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

A comprehensive overview of diabetes including diagnosis, management, and education for all life stages and populations.

N

Additional Fee N **Fee Type** N

NUTR 7313 - Urban Fitness



Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PEP 7303.

Prerequisite: None.

The course is designed for graduate students to demonstrate the understanding, skills and process of the development, implementation and evaluation of obesity prevention, treatment and control intervention programs.

N

Additional Fee Y Fee Type Y

NUTR 7315 - Advanced Nutrition for the Elderly

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Advanced practice in nutritional care and in-depth focus on the physiological changes with the elderly population. In this course, students identify the basic physiological changes during aging and their impacts in health and disease. The focus of the course is on successful aging with special emphasis on physical activity and nutrition.

N

Additional Fee N Fee Type N

Optometry

OPTO 5111 - Optics Lab I

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** concurrent enrollment in OPTO 5314.

Selected experiments in geometrical optics.

OPTO 5112 - Optics Lab II

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** concurrent enrollment in OPTO 5315.

Selected experiments in physical and modern optics.

OPTO 5133 - Adv Human Anat/Hist Lab

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** concurrent enrollment in OPTO 5233.

Laboratory in human gross anatomy with emphasis on head and neck and histology of tissues and organ systems.

OPTO 5134 - Neuroanatomy Laboratory

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** concurrent enrollment in OPTO 5334.

Laboratory in neuroanatomy with emphasis on the visual system.

OPTO 5135 - Ocular Anatomy Lab

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** OPTO 5133 and OPTO 5134

Corequisite: Concurrent enrollment in OPTO 5335.

Laboratory in gross, microscopic, and clinical ocular anatomy.



OPTO 5171 - Clinic Practicum I

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** concurrent enrollment in OPTO 5271.

Practical instruction in diagnostic and therapeutic techniques used in primary care optometric practice. Introduction to ocular health assessment techniques and use of ophthalmic diagnostic agents.

OPTO 5172 - Clinic Practicum II

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** OPTO 5111, OPTO 5171, OPTO 5271, and OPTO 5314

Corequisite: concurrent enrollment in OPTO 5272.

Practical instruction in objective and subjective determination of refractive error, phorias, and fusional abilities.

OPTO 5194 - Ophthalmic Optics Lab

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** OPTO 5111 and OPTO 5314.

Spectacle lens verification (lensometry), hand neutralization, ophthalmic frames, single vision lenses and multifocals, prism and lens positioning in a frame.

OPTO 5198 - Special Problems in Physiological Optics

Credit Hours: 1.00

Lecture Contact Hours: 1.0 Lab Contact Hours: 0.0 **Prerequisite:** Permission of instructor.

Independent study.

Note: May be repeated for credit.

OPTO 5221 - Vision Science II

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** OPTO 5314

Corequisite: Concurrent enrollment in OPTO 5272 and OPTO 5315.

Optics, image-forming properties and refractive conditions of the eye.

OPTO 5233 - Adv Human Anatomy and Hist

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** concurrent enrollment in OPTO 5133.

Advanced human anatomy for eye-care professionals and vision scientists with emphasis on the gross anatomy of the head and neck and the histology of human tissues and organ systems.

OPTO 5250 - Seminar Scientific Investigatn

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0

OPTO 5271 - Optometry I

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** concurrent enrollment in OPTO 5171. Overview of the optometric examination.



Discussion of the diagnostic examination process with emphasis on the patient history interview. Introduction to problem-oriented record-keeping as applied to optometric practice.

OPTO 5272 - Optometry II

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** OPTO 5111, OPTO 5171, OPTO 5271, and OPTO 5314

Corequisite: concurrent enrollment in OPTO 5172.

Epidemiology of ametropias, classification, diagnosis, management, and treatment of ametropias, optical principles of diagnostic instrumentation, objective and subjective examination of refractive errors and binocular vision anomalies, application of psychophysical methods to the clinical examination and near lens determination for presbyopia.

OPTO 5282 - Community Health Optometry

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 This course is designed to acquaint the student with the organization of the health care delivery system and to provide the underpinnings of the profession including its history and socioeconomic, ethical, and legal elements. It will include epidemiology and biostatistics as they apply to optometry.

OPTO 5297 - Selected Topics in Opt

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0

OPTO 5298 - Special Problems in Physiological Optics

Credit Hours: 2.00

Lecture Contact Hours: 2.0 Lab Contact Hours: 0.0 **Prerequisite:** Permission of Instructor.

Independent study.

Note: May be repeated for credit.

OPTO 5314 - Optics I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** concurrent enrollment in OPTO 5111.

Propagation of light; reflection and refraction; lenses and prisms; aberrations.

OPTO 5315 - Optics II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** OPTO 5111 and OPTO 5314.

The nature of light, apertures and stops, optical instruments, photometry, dispersion, polarization, interference, diffraction, lasers, and modern optics.

OPTO 5320 - Vision Science I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Monocular sensory aspects of vision including sensitivity to light, color, and spatial vision.

OPTO 5331 - General Pathology & Medicine



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** OPTO 5344.

Fundamental pathological processes; anomalies of cellular function; disorders of organ systems; immunology; and principles of medicine.

OPTO 5334 - Neuroanat and Physio

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** concurrent enrollment in OPTO 5134.

Neuroanatomy and neurophysiology with emphasis on the visual system.

OPTO 5335 - Ocular Anatomy and Physiology

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** OPTO 5133, OPTO 5134, OPTO 5233, and OPTO 5334.

Corequisite: Concurrent enrollment in OPTO 5135.

Gross and microscopic anatomy, physiology and biochemistry of the eye and visual system with its associated circulation and neurology.

OPTO 5344 - Adv Physiol and Molecular Biol

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Advanced human physiology and molecular biology for health care professionals with emphasis on the physiology of major organ systems of the body and the molecular basis for health and disease. This course is specialized for eye-care practitioners and vision scientists.

OPTO 5398 - Spec Prob Phys Optics

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** consent of department chair.

Qualified students with special interests in the sciences may take elective lecture course or independent study in community health optometry; environmental optometry; health sciences; optics; pediatric optometry; primary optometry; rehabilitative optometry; vision sciences. Selection of a problem; study design; collecting and analyzing data; preparation of report. The latter must be completed for credit to be earned. Maximum period, three semesters.

OPTO 6115 - Clinical Integration

Credit Hours: 1.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** OPTO 6291 or permission of instructor.

Corequisite: OPTO 7493

Clinical case-based scenarios used to facilitate classroom activities that emphasize clinical reasoning, prioritized clinical problem solving, doctor-patient communication, inter-professional communication, and self-directed learning. Taught in interactive seminars.

OPTO 6124 - Perception

Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** OPTO 5111, OPTO 5112, OPTO 5114, OPTO 5315, OPTO 5320, OPTO 6163, and OPTO 6363, or permission of instructor.

Development and function of visual perception.

N

Additional Fee Y Fee Type Y

OPTO 6132 - Med Laboratory Proced



Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 Medical laboratory procedures; analysis and interpretation of results.

OPTO 6151 - Pediatric Optometry I Lab

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** concurrent enrollment in OPTO 6351.

Procedures used in the diagnosis and prognosis of non-strabismic binocular anomalies.

OPTO 6153 - Vision Therapy Elective

Credit Hours: 1.00

Lecture Contact Hours: 0.0 Lab Contact Hours: 4.0 **Prerequisite:** Permission of instructor.

Managing patients referred for vision therapy, learning new binocular vision tests, training strategies, prognosis for success, and performing in-office vision therapy.

OPTO 6163 - Primary Opt Lab

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** OPTO 5172, OPTO 5271, OPTO 5272, OPTO 5194

Corequisite: Concurrent enrollment in OPTO 6173.

Laboratory exercises in eye movements, accommodation and convergence relationships, and binocular vision analysis.

OPTO 6170 - Photodocumentation

Credit Hours: 1.00

Lecture Contact Hours: 1.0 Lab Contact Hours: 0.0 **Prerequisite:** By approval of course instructor.

Review of basic principles and materials of photography and their application to ocular documentation, both internal and external.

OPTO 6173 - Clinic Practicum III

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** OPTO 5171, OPTO 5172, OPTO 5271, and OPTO 5272.

Advanced diagnostic and therapeutic techniques. Continued practice in diagnostic and therapeutic techniques used in optometric practice with emphasis on preparation for the Pre-Clinic Credentialing Examination. Vision screenings.

OPTO 6174 - Contact Lens Lab

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** OPTO 6190 and concurrent enrollment in OPTO 6374 and OPTO 6291.

Modification of rigid lenses. Procedures for fitting and dispensing rigid and flexible contact lenses. Introduction to contact lens clinic policies and procedures for follow-up care and record-keeping.

OPTO 6176 - Sports Vision Enhancement

Credit Hours: 1.00

Lecture Contact Hours: 0.0 Lab Contact Hours: 4.0 **Prerequisite:** Permission of instructor.

Testing and training strategies to improve the visual efficiency of athletes.

OPTO 6190 - Ophthalmic Optics Laboratory



Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** OPTO 5194

Corequisite: Concurrent enrollment in OPTO 6311.

Frame selection and ordering, dispensing, spectacle fabrication, and contact lens verification.

OPTO 6219 - Vision Science III

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** OPTO 5172, OPTO 5272, OPTO 5335

Corequisite: Concurrent enrollment in OPTO 6163, OPTO 6173, and OPTO 6363.

Normal and abnormal eye movements, pupil responses, and accommodation.

OPTO 6230 - Contact Lens Pathology

Credit Hours: 2.00

Lecture Contact Hours: 2.0 Lab Contact Hours: 0.0 **Prerequisite:** With instructor approval.

Contact lens-related problems covering symptomology, signs, etiology, histopathology, treatment, and patient management.

OPTO 6231 - Corneal Disease

Credit Hours: 2.00

Lecture Contact Hours: 2.0 Lab Contact Hours: 0.0 **Prerequisite:** Approval of instructor.

Corneal and conjunctival disorders unrelated to contact lens wear. Post-operative care for surgical refractive procedures. Clinical signs, symptoms, histopathology, emphasis on differential diagnosis, treatment and management.

OPTO 6234 - Ocular Pathology I

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** OPTO 5315, OPTO 5171, OPTO 5234, OPTO 5331, and OPTO 5335.

Development of logical diagnostic sequence for patients with disease presentations. Obtaining appropriate problem-focused history. Familiarization with various presentations of ocular disease, learning to isolate specific tissue(s) affected by the disease process, and identifying the main features of the condition. Management or referral of patients will be covered.

OPTO 6235 - Nutrition and the Eye

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 Effects of nutrition on ocular tissue. Cofactors and vitamins as they relate to ocular physiologic pathways. Nutritional therapy for dry eye, glaucoma, ARMD, cataractogenesis.

OPTO 6250 - Decision Making:Optometric Practice

Credit Hours: 2.00

Lecture Contact Hours: 2.0 Lab Contact Hours: 0.0 **Prerequisite:** Consent of instructor.

Application of strategic thinking to optometric diagnosis and management.

Note: Designed for third- and fourth-year students

OPTO 6251 - Spanish for Optometrists

Credit Hours: 2.00

Lecture Contact Hours: 2.0 Lab Contact Hours: 0.0 **Prerequisite:** must be second-, third-, or fourth-year optometry student.

Basic Spanish grammar and general vocabulary of history, equipment and examination procedures for optometry. Practice of Spanish grammatical



structures in conversation for comprehension of questions related to cases, procedures and treatments, and the ability to explain these to the patient.

OPTO 6253 - Practical Pharmacology

Credit Hours: 2.00

Lecture Contact Hours: 2.0 Lab Contact Hours: 0.0 **Prerequisite:** Permission of instructor.

How to make therapeutic decisions in optometric clinical situations based on general pharmacologic principles.

OPTO 6254 - Optometry & Special Needs Children

Credit Hours: 2.00

Lecture Contact Hours: 2.0 Lab Contact Hours: 1.0 **Prerequisite:** Permission of instructor.

Students will increase their understanding about children with special needs in a manner useful for the primary eye care provider. Students will interact with children who have special needs and learn techniques for examining these children.

OPTO 6260 - Orthokeratology

Credit Hours: 2.00

Lecture Contact Hours: 2.0 Lab Contact Hours: 0.0 **Prerequisite:** Consent of instructor.

Designed for third- and fourth-year students. Familiarization with orthokeratology and CKR as alternatives to refractive surgery. Corneal topography, how it is measured and altered will be discussed in detail. Course will include hands-on experience with corneal topographers.

OPTO 6274 - Specialty Contact Lens Workshops

Credit Hours: 2.00

Lecture Contact Hours: 1.0 Lab Contact Hours: 2.0 **Prerequisite:** Permission of instructor.

Hands on contact lens patient care experiences with special lens type including RGP multi-focals, sclerals, hybrids, and specialty soft lenses.

OPTO 6291 - General Clinic II

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 10 **Prerequisite:** OPTO 5331, OPTO 6132, OPTO 6163, OPTO 6173, OPTO 6190, OPTO 6234, OPTO 6311, and OPTO 6363.

Clinical practice in the primary care service. Patient communication and interpersonal relationships. Vision screenings.

OPTO 6311 - Optics III

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** OPTO 5194, OPTO 5314, and OPTO 5315.

Physical and optical characteristics of ophthalmic lenses, including aberrations, lens design, aspherics, materials, impact resistance, and multifocals.

OPTO 6312 - Optics IV

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** OPTO 6311.

Optics of contact lenses, vertical imbalance and its correction, absorptive lenses, prism, anisometropia, and aniseikonia.

OPTO 6333 - Ocular Pharm and Therapeutics



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** OPTO 5234, OPTO 5331, OPTO 5335, OPTO 6234, and OPTO 6434

Corequisite: Concurrent enrollment in OPTO 6335.

Ocular pharmacology and therapeutics, actions of ophthalmic drugs, clinical considerations including indications, contraindications, and side-effects.

OPTO 6335 - Ocular Pathology II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** OPTO 5135, OPTO 5171, OPTO 5234, OPTO 5331, OPTO 5335, OPTO 6173, OPTO 6234, and OPTO 6234

Corequisite: Concurrent enrollment in OPTO 6333.

Etiological, histopathological, clinical presentation, differential diagnosis, treatment and management (medical, surgical, and laser) of diseases of the anterior segment of the eye.

OPTO 6351 - Pediatric Optometry I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** OPTO 5171, OPTO 5172, OPTO 5271, OPTO 5272, OPTO 6219, and OPTO 6363

Corequisite: Concurrent enrollment in OPTO 6151.

Diagnosis and treatment of non-strabismic binocular anomalies.

OPTO 6363 - Primary Optometry

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** OPTO 5172 and OPTO 5272

Corequisite: Concurrent enrollment in OPTO 6163, OPTO 6173, and OPTO 6219.

Understanding of vision analysis data pertaining to binocular vision including: stereopsis, fixation disparity, accommodation and convergence relationships, and binocular refraction.

OPTO 6374 - Contact Lens I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** OPTO 5171, OPTO 5172, OPTO 5272, OPTO 6173, and OPTO 6190

Corequisite: Concurrent enrollment in OPTO 6174.

Effects of contact lenses on corneal physiology, applied optical principles of contact lenses, rigid and flexible contact lens fitting, patient care of lenses, adverse effects of contact lenses.

OPTO 6434 - General Pharmacology

Credit Hours: 4.0

Lecture Contact Hours: 4 Lab Contact Hours: 0 **Prerequisite:** OPTO 5233, OPTO 5331, and OPTO 5334.

General principles of pharmacodynamics, pharmacokinetics, and therapeutics. Fundamental biochemical and cellular sites and mechanisms of action of drugs.

OPTO 7120 - Opt III Rounds/Case Discussn

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** OPTO 6291, OPTO 7493, and OPTO 7494

Corequisite: Concurrent enrollment in OPTO 7495.

Clinical decision making through case discussions. Case presentations and discussions will be used to illustrate and integrate clinical diagnosis and management. Topics include binocular anomalies, refractive problems, low vision, and systemic and ocular pathology.



OPTO 7130 - Laser, Refract & Surg Lab

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** Concurrent enrollment in OPTO 7330.

Hands on learning with several laser and surgical techniques. Lab exercises on appropriate use of Nd:YAG, argon, and Excimer lasers. Both nonliving tissue exercises as well as simulations with living tissue will be offered. Suturing techniques, injection techniques, miscellaneous minor surgical procedures and proper operating room protocol.

OPTO 7131 - Clinical Medicine

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** OPTO 5331, 5383, and OPTO 6434.

Clinical manifestations of common disease processes of the major organ systems. Clinical history, signs, examination and treatment strategies will be covered.

OPTO 7150 - Developmental Optometry

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** OPTO 6151, and OPTO 6351

Corequisite: Concurrent enrollment in OPTO 7493.

Role of the optometrist in diagnosis, remediation, and clinical management of enigmatic learning problems including visual and auditory perception skills, learning disabilities, dyslexia, and minimal brain damage.

OPTO 7152 - Pediatric Optometry II Lab

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** OPTO 6151 and OPTO 6351

Corequisite: Concurrent enrollment in OPTO 7252.

Instrumentation and methods used to diagnose and treat strabismic binocular anomalies and amblyopia.

OPTO 7162 - Vision Rehabilitative Lab

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 2 **Prerequisite:** Concurrent enrollment in OPTO 7262.

Techniques for assisting visually impaired patients including trial frame refraction, fitting bioptic telescope systems, use and verification of telescopic, microscopic, and magnifier systems. Billing codes and strategies for payment from agencies will be discussed.

OPTO 7230 - Glaucoma

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** OPTO 6234, OPTO 6333, OPTO 6335, and OPTO 7493

Corequisite: Concurrent enrollment in OPTO 7336, OPTO 7361, and OPTO 7494.

Review of anatomy and physiology of the eye pertinent to glaucoma mechanisms. Overview of the diagnostic process including photographic analysis, visual fields, gonioscopy, nerve fiber analysis, and patient examination. Secondary glaucomas discussed as they relate to differential diagnosis of primary open angle glaucoma. Treatment strategies for all forms of glaucoma, including acute glaucomas, POAG, and secondary glaucomas. Treatment strategies will include: topical medical, surgical, and systemic approaches, as well as advancements in therapeutic strategies as they occur.

OPTO 7252 - Pediatric Optometry II



Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** OPTO 6151, OPTO 6351, and OPTO 6363

Corequisite: Concurrent enrollment in OPTO 7152.

Diagnosis and treatment strabismic binocular anomalies and amblyopia.

OPTO 7253 - Pediatric Optometry III

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** OPTO 6151, OPTO 6351, OPTO 7152, and OPTO 7252.

Clinical assessment and management of the young patient (birth through preschool) with emphasis on the modification of standard clinical procedures to accommodate the very young patient and how the development of various visual functions impacts treatment and management decisions.

OPTO 7262 - Rehabilitative Optometry

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** OPTO 5314, OPTO 5315, OPTO 6234, and OPTO 6335

Corequisite: Concurrent enrollment in OPTO 7162.

Concepts of management of patients with visual impairment, neurological injuries, and multiple handicaps. Includes examination strategies, the optics of low vision devices, and their use. Also includes the rehabilitation system and referral network.

OPTO 7330 - Lasers, Refract Proced, Surg

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** OPTO 6234, OPTO 6333, OPTO 7230, and OPTO 7336

Corequisite: Concurrent enrollment in OPTO 7130.

Familiarization with ophthalmic laser instrumentation, surgical laser procedures, management of ocular conditions with lasers. Types of ophthalmic lasers, laser-tissue interactions, technical considerations associated with laser surgery, and pre- and post-operative considerations for ocular conditions commonly managed with lasers. Principles of refractive surgery including pre-operative, procedural, and post-operative and complication management of radial keratotomy, lamellar procedures, and laser procedures. Special consideration given to anatomy, wound healing, and wound healing modulators. Role of optometry in refractive surgery. Operating room protocols, injection, and suturing techniques.

OPTO 7336 - Ocular Pathology III

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** OPTO 6234, OPTO 6335, OPTO 5134, and OPTO 5334.

Congenital anomalies and diseases of the posterior segment and optic nerve. Differential diagnosis and interpretation of clinical data.

OPTO 7337 - Ocular Pathology IV

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** OPTO 7336.

Neuro-optometry including the neurological assessment of the eye and visual system. Routine non-invasive assessment of the pupil, diplopia, nerve palsies, transient vision loss, optic nerve, nerve head and visual fields, and diagnostic imaging procedures.

OPTO 7361 - Geriatric Optometry

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** OPTO 5221, OPTO 6234, OPTO 6312, OPTO 6333, OPTO 6335, OPTO 6363

Corequisite: Concurrent enrollment in OPTO 7494.

Psychological, physiological, social, and ocular problems of the elderly. Examination procedures in the care of geriatric patients. Special eye and



vision problems of concern to the elderly patient. Special problems of the institutionalized and bedridden patient. Problems of therapy management and compliance.

OPTO 7375 - Contact Lens II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** OPTO 6174, OPTO 6374

Corequisite: Concurrent enrollment in OPTO 7494.

Advanced contact lens fitting techniques. Special topics in contact lens fitting.

OPTO 7383 - Practice Management I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Beginning a practice. Issues in the analysis, purchase, and sale of an optometric practice. Office design and location. Personnel policies. Legal and financial aspects of various practice modes.

OPTO 7493 - General Clinic IIIA

Credit Hours: 4.0

Lecture Contact Hours: 2 Lab Contact Hours: 12 **Prerequisite:** OPTO 6151, OPTO 6174, OPTO 6291, OPTO 6333, OPTO 6335, OPTO 6351, and OPTO 6374.

Clinical practice under supervision of clinical faculty; emphasis on general care of children and the geriatric population; diagnosis of ocular disease; contact lenses; visual training and dispensing; laboratory in advanced diagnostic techniques.

OPTO 7494 - General Clinic IIIb

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 16 **Prerequisite:** OPTO 7493.

Clinical practice under supervision of clinical faculty; emphasis on general care of children and geriatric population; diagnosis of ocular disease; contact lenses; visual training and dispensing.

OPTO 7495 - General Clinic IIIc

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 16 **Prerequisite:** OPTO 7152, OPTO 7230, OPTO 7336, OPTO 7352, OPTO 7361, OPTO 7375, and OPTO 7494

Corequisite: Concurrent enrollment in OPTO 7120.

Clinical practice under supervision of clinical faculty; emphasis on general care of children and the geriatric population; diagnosis of ocular disease; contact lenses; visual training and dispensing.

OPTO 8338 - Recent Developments/Round

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Recent developments and case presentations with emphasis on integration of knowledge representing the full scope of optometry.

OPTO 8384 - Practice Management II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** OPTO 7383.

Practical applications of practice establishment, development, management, and administration. Specific consideration of day to day operation



consistent with applied economic, business, and professional principles. Application of office design, preparation of business plans, and personnel management.

OPTO 8696 - General Clinic IV

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 30 **Prerequisite:** Completion of all required elements of the first three years of the professional curriculum.

Emphasis on total scope of primary and specialty optometric care.

OPTO 8990 - Community Health Clinic

Credit Hours: 9.0

Lecture Contact Hours: 0 Lab Contact Hours: 40

OPTO 8991 - Community Health Clinic

Credit Hours: 9.0

Lecture Contact Hours: 0 Lab Contact Hours: 40 **Prerequisite:** Completion of all required elements of the first three years of the professional curriculum.

Patient care in clinical facilities external to the campus in hospitals, health centers, prepaid care facilities, private practices, extended care centers, and ambulatory care centers.

OPTO 8992 - Community Health Clinic

Credit Hours: 9.0

Lecture Contact Hours: 0 Lab Contact Hours: 40

OPTO 8993 - Community Health Clinic

Credit Hours: 9.0

Lecture Contact Hours: 0 Lab Contact Hours: 40 **Prerequisite:** Completion of all required elements of the first three years of the professional curriculum.

Patient care provided in medical and surgical eye care settings.

Petroleum Engineering

PETR 6111 - Petroleum Graduate Seminar

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** Petroleum Graduate Standing.
Petroleum Graduate Seminar

PETR 6198 - Research

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** PETR graduate standing.
Independent Study.

PETR 6298 - Research



Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** PETR graduate standing.

Independent Study.

PETR 6302 - Reservoir Engineering II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PETR 6328, 6351, 6362 or BS in Petroleum Engineering and PETR Graduate Standing or Consent of Program.

Capillary pressure; vertical distribution of gas, oil, and water; relative permeability and fractional flow relationships; Buckley-Leverett equation and linear displacement efficiency of gas and water drives: areal and vertical sweep.

PETR 6304 - Core Analysis of Petroleum Formations

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PETR 6304 - Evaluation of Petroleum-Bearing Formations I.

Prerequisite: PETR 6351, 6362, 6364 or BS in Petroleum Engineering and PETR Graduate Standing or Consent of Program.

Characterization of formation by geologic and petrographic examination; by analysis of fluid contexts of cores; and by a suite of well-logging tests and their combined interpretation.

PETR 6308 - Advanced Petroleum Production Operations

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PETR 6304 - Evaluation of Petroleum-Bearing Formations I.

Prerequisite: PETR 6372 and PETR Graduate Standing or Consent of Program.

Advanced topics including diagnostic methods including well testing, production logging, and decline curve analysis. Conformance application. Well stimulation by acid and hydraulic fracturing. Analysis of fracturing tests. Horizontal well performance.

PETR 6310 - Petroleum Production Economics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PETR 6304 - Evaluation of Petroleum-Bearing Formations I.

Prerequisite: PETR 6351, 6362, 6364 or BS in Petroleum Engineering and PETR Graduate Standing or Consent of Program.

Exploring techniques used to find, produce, and process energy discoveries. Ownership, operational decision making, finding and lifting costs, risk assessment and mitigation, reserve accounting, financing, and unconventional hydrocarbons.

PETR 6312 - Well Log Evaluation of Petroleum Formations

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PETR 6312 - Evaluation of Petroleum-Bearing Formations II: Well Logging.

Prerequisite: PETR 6351, 6362, 6364 or BS in Petroleum Engineering and PETR Graduate standing or Consent of Program.

Evaluation of petroleum bearing formations by advanced well logging interpretation and logging tool theory.

PETR 6314 - Pressure Transient Testing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PETR 6312 - Evaluation of Petroleum-Bearing Formations II: Well Logging.

Prerequisite: PETR 6328, 6351, 6362 or BS in Petroleum Engineering, PETR 6372 and PETR Graduate standing or Consent of Program.

Theory and application of pressure transient testing of oil and gas wells for determination of reservoir properties and near-well damage or stimulation.



PETR 6316 - Well Drilling and Completion II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PETR 6312 - Evaluation of Petroleum-Bearing Formations II: Well Logging.

Prerequisite: PETR 6368 and PETR Graduate Standing or Consent of Program.

Principles and procedures for cost effective casing design; materials, design, and procedures for cementing; optimization of weight on bit and RPM for minimum drilling cost and for directional drilling.

PETR 6318 - Horizontal Drilling

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PETR 6368, PETR 6316, Petroleum graduate standing or consent of Petroleum Program.

Principles and procedures for safe and cost-effective drilling of horizontal wells, including well path planning and surveying, ranging, casing wear, and advanced completions techniques for single bore and multilateral wells.

PETR 6320 - Enhanced Oil Recovery Processes I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PETR 6312 - Evaluation of Petroleum-Bearing Formations II: Well Logging.

Prerequisite: PETR 6328, 6351, 6362 or BS in Petroleum Engineering, PETR 6302 and PETR Graduate standing or Consent of Program.

Review of water flood calculation methods, extension to polymer flooding, caustic flooding, and carbonated water flooding. Hydrocarbon miscible flooding and CO flooding, estimation of recovery.

PETR 6322 - Practical Aspects of Integrated Petroleum Reservoir Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Petroleum Engineering graduate standing or by permission of the instructor.

In-depth integrated petroleum reservoir management covering concepts, processes and implementation of reservoir wells. Focus on case studies from onshore and offshore gas fields.

PETR 6325 - Integrated Reservoir Characterization

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PETR 6312 - Evaluation of Petroleum-Bearing Formations II: Well Logging.

Prerequisite: PETR 5361, 5364, or BS in PETR and PETR Graduate standing or Consent of Program.

Mathematical basis and applications of modern reservoir characterization including pixel-based and object-based geostatistical methods to capture the influence of geology on fluid flow and storage.

PETR 6326 - Applied Reservoir Simulation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PETR 6312 - Evaluation of Petroleum-Bearing Formations II: Well Logging.

Prerequisite: PETR 6328, 6351, 6362, 6364 or BS in Petroleum Engineering, PETR 6302 and PETR Graduate Standing or Consent of Program.

A comprehensive study of all aspects of completing a numerical reservoir study. Students will use commercial software to conduct and present their own history-match using a real-world case study.

PETR 6328 - Petroleum Fluid Property & Phase Equilibrium

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PETR 6312 - Evaluation of Petroleum-Bearing Formations II: Well Logging.

Prerequisite: PETR 6351, 6362, 6364 and PETR Graduate standing or Consent of Program.



Volumetric behavior and equation of state representation of petroleum fluids; thermodynamic functions; conditions of phase equilibrium; phase behavior calculations; techniques for phase equilibrium measurements; equation of state tuning; advanced topics.

PETR 6330 - Fundamental of Hydraulic Fracturing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PETR 6312 - Evaluation of Petroleum-Bearing Formations II: Well Logging.

Prerequisite: PETR 6351, 6362, 6364, or BS in PETR. PETR 6314, 6368 and PETR Graduate Standing or Consent of Program.

Reasons for fracturing, fundamentals of fracture initiation and extension, fracture geometry design, proppant transport, and materials and techniques used for industrial fracturing treatments.

PETR 6332 - Deterministic Reserves Estimation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PETR 6332 - Reserves Estimation I.

Prerequisite: PETR 6361, 6362 or BS in Petroleum Engineering and PETR Graduate Standing or Consent of Program.

SPE/PRMS and US/SEC reserves definitions and reporting requirements. Deterministic methods of reserves estimation, including volumetric, analogy, material balance, decline curves, and reservoir simulation. Cash flow analysis and international petroleum contracts.

PETR 6336 - Petroleum Energy Markets

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PETR 6351, 6364 or BS in Petroleum Engineering and PETR Graduate Standing or Consent of Program.

Analysis of the past, present and future Energy Markets combining a business-historical perspective with an engineering-science evaluation.

PETR 6338 - Applied Mathematical Methods in Petroleum Engineering

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Petroleum Engineering graduate standing or by permission of the department.

Graduate level introduction to mathematical methods that petroleum engineers need to understand for dealing with key engineering topics related to their careers. The mathematical concepts include ordinary and partial differential equations, Fourier methods, Laplace transform, numerical methods, applied statistic and Monte Carlo simulation.

PETR 6340 - Unconventional Resource Engineering

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Petroleum Graduate standing or by permission of the department.

Applied resource engineering considering the petroleum system, formation evaluation, well design, evaluation & optimization and midstream & environmental challenges in heavy oil, coal bed methane, tight gas, tight oil and shale gas.

PETR 6350 - Natural Gas Engineering

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PETR 6312 - Evaluation of Petroleum-Bearing Formations II: Well Logging.

Prerequisite: PETR 6328, 6351, 6362 or BS in Petroleum Engineering and PETR Graduate Standing or Consent of Program.

Focuses on natural gas engineering, the situation today and the technologies of tomorrow. Covering the supply of natural gas, including exploration, production, unconventional resources, transportation, processing, conversion and fuel cells.

PETR 6351 - Introduction to Petroleum Engineering



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PETR Graduate Standing or consent of program.

Petroleum origin and migration, major oil and gas fields, drilling and production methods, petroleum composition and phase behavior, reservoir engineering methods of oil resource estimation and optimization.

PETR 6352 - Shale Reservoirs

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PETR graduate standing and PETR 6351, 6328, 6362, 6364 or BS in Petroleum Engineering.

Understand the fundamental differences among the various types of shale reservoirs: Apply basic open hole logs to shale reservoir evaluation, integrate wireline logging data with basic core data in order to assess fundamental, properties influencing shale reservoir productivity, particularly TOC and brittleness.

PETR 6362 - Reservoir Engineering I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PETR 6362 - Methods of Applied Mathematics.

Prerequisite: Credit for or concurrent enrollment in PETR 6351 and PETR Graduate Standing or Consent of Program.

Rock and fluid properties and interactions, P-V-T behavior of crude oil and natural gas, fundamentals of fluids flow through subsurface porous media, and reservoir energy.

PETR 6364 - Origin and Development of Oil and Gas Reservoirs

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PETR 6362 - Methods of Applied Mathematics.

Prerequisite: PETR 6351 and PETR Graduate Standing or Consent of Program.

Major oil provinces of the world reviewed from the standpoints of geologic and depositional environment and of diagenetic changes affecting petroleum entrapment.

PETR 6368 - Well Drilling and Completion I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PETR 6362 - Methods of Applied Mathematics.

Prerequisite: PETR 6351, 6364 or BS in Petroleum Engineering and PETR Graduate Standing or Consent of Program.

Drilling rig design and operation, drilling programs, drill string and bit design, drilling mud composition, properties and functions, casing design and cementing, methods of well completion.

PETR 6372 - Petroleum Production Operations

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PETR 6362 - Methods of Applied Mathematics.

Prerequisite: PETR 6328, 6351, 6364 or BS in Petroleum Engineering and PETR Graduate Standing or Consent of Program.

Subsurface and surface facilities for producing oil and gas, gas-oil and water-oil separation and measuring systems, gathering systems, gas processing facilities, injection systems for gas or water.

PETR 6374 - Artificial Lift

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Petroleum Graduate standing or permission of the Department.



Overview of various artificial lift solutions and production optimization concepts. Focus on each of the following lift methods: Gas lift, Reciprocating Rod Lift, Electrical Submersible Pumping, Progressing Cavity Pumping, Hydraulic Pumping, Plunger and Capillary System.

PETR 6380 - Petroleum Project Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PETR 6380 - Petroleum Project Management.

Prerequisite: PETR 6351, 6362, 6364, or BS in Petroleum Engineering and PETR Graduate Standing or Consent of Program.

Objective is to enable professionals to manage their projects effectively. This course will emphasize practical application, team work, and participation.

PETR 6388 - Petroleum Engr Project

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 Formerly/Same as: PETR 6380 - Petroleum Project Management.

PETR 6397 - Selected Topics

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0

PETR 6398 - Research

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** PETR Graduate Standing.
Independent Study.

PETR 6399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PETR Graduate standing.
Thesis Research.

Y

Additional Fee N Fee Type N

PETR 6498 - Research

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** PETR graduate standing.
Independent Study.

PETR 7302 - Fundamental of Petroleum Mathematical Analysis

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PETR PhD Graduate standing and/or consent of both the instructor and the Director of Petroleum Engineering Graduate Admissions.

Applied mathematics from modeling to numerical solution of linear algebraic systems. Numerical solutions for real-world problems, especially finite difference and finite element discretizations of partial differential equations.

PETR 7304 - Advanced Numerical Analysis



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PETR 7302, PETR PhD Graduate standing and/or consent of both the instructor and the Director of Petroleum Engineering Graduate Admissions

Techniques in mathematical modeling, including partial differential equations, finite-difference and finite element methods for boundary-value problems, initial-value problems, and direct and iterative methods for solving a linear algebraic systems.

PETR 7320 - Fundamentals of Rock Properties

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PETR PhD Graduate standing and/or consent of both the instructor and the Director of Petroleum Engineering Graduate Admissions.

Determination, evaluation and interpretation of petroleum formation properties. Basic physical principles and interpretation of common open hole logging measurements; and basic wireline log evaluations and their integration with core data.

PETR 7322 - Advanced Formation Evaluation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PETR 7320, PETR PhD Graduate standing and/or consent of both the instructor and the Director of Petroleum Engineering Graduate Admissions.

Physics of logging tools and their interaction with subsurface formations. Quantitative interpretation of well logs with correction for tool response and formation properties. Design of tools to optimize formation evaluation.

PETR 7324 - Advanced Geomechanics

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PETR PhD Graduate standing and/or consent of both the instructor and the Chair of Petroleum Engineering.

Analysis of stress and strain on rock systems containing multiphase fluids. Practical implications of stress-strain analysis on well-bore stability, well drilling rates and direction, seismic wave propagation, and microseismic techniques.

PETR 7340 - Fundamentals of Fluid Flow in Porous Media

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PETR 7302, PETR PhD Graduate standing and/or consent of both the instructor and the Director of Petroleum Engineering Graduate Admissions.

Solution of generalized diffusivity equation. Applications to vertical and horizontal wells with natural and hydraulic fractures, dual permeability reservoirs, and rate and pressure transients. Pseudo function approximations for multiphase flow.

PETR 7342 - Advanced Reservoir Engineering

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PETR PhD Graduate standing and/or consent of both the instructor and the Chair of Petroleum Engineering.

Rock and fluid properties and interactions, P-V-T behavior of crude oil and natural gas, fluids flow through subsurface porous media, and reservoir energy. Solution of generalized diffusivity equation. Applications to vertical and horizontal wells with natural and hydraulic fractures, dual permeability reservoirs, and rate and pressure transients. Pseudo function approximations for multi-phase flow.

PETR 7397 - Selected Topics

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0



PETR 7399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PETR Graduate standing.

N

Additional Fee N Fee Type N

PETR 8198 - Doctoral Research

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** PETR PhD Graduate standing.

PETR 8298 - Doctoral Research

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** PETR PhD Graduate standing.

PETR 8398 - Doctoral Research

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PETR PhD Graduate standing.

PETR 8399 - Doctoral Dissertation

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PETR PhD Graduate standing.

Y

Additional Fee N Fee Type N

PETR 8498 - Doctoral Research

Credit Hours: 4.0

Lecture Contact Hours: 4 Lab Contact Hours: 0 **Prerequisite:** PETR PhD Graduate standing.

PETR 8598 - Doctoral Research

Credit Hours: 5.0

Lecture Contact Hours: 5 Lab Contact Hours: 0 **Prerequisite:** PETR PhD Graduate standing.

PETR 8699 - Doctoral Dissertation

Credit Hours: 6

Lecture Contact Hours: 6 Lab Contact Hours: 0 **Prerequisite:** PETR PhD Graduate standing.

Y

Additional Fee N Fee Type N

PETR 8999 - Doctoral Dissertation

Credit Hours: 9

Lecture Contact Hours: 9 Lab Contact Hours: 0 **Prerequisite:** PETR PhD Graduate standing.



Pharmaceutics

PCEU 6142 - Pharmaceutical Literature Review

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

A review and critical discussion of the recent literature in the pharmaceutics area. Discussions will center on papers dealing with innovative approaches to research problems and on analysis of data used to support project conclusions.

PCEU 6180 - Pharmaceutics Seminar

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0

PCEU 6181 - Pharmaceutics Seminar

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0

PCEU 6198 - Special Problems

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

PCEU 6298 - Special Problems

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

PCEU 6341 - Advanced Pharmacokinetics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

A study of the kinetic processes of drug absorption, distribution, metabolism, and excretion and the application of these concepts to the interpretation of data. Mathematical derivations of the mass balanced relationships involving rate processes and their physiological importance in a biological system are correlated.

PCEU 6342 - Advanced Pharmaceutics I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PCEU 3340 and PCEU 3341 or equivalent, or consent of instructor.

A systematic study of the application of physical chemical principles to the pharmaceutical sciences. Topics include physical pharmacy and conventional dosage forms: Protolytic equilibria, buffers, stability kinetics, enzyme kinetics, drug transport kinetics and theory.

PCEU 6345 - Advanced Pharmaceutics II



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PCEU 3340 and PCEU 3341 or equivalent, or consent of instructor.
A systematic study of the current development of innovative delivery systems. Topics include solid dosage forms, dispersed systems, dermatopharmaceutics, controlled release dosage forms, liposomes, drug targeting delivery and biotechnology-derived products.

PCEU 6346 - Regulatory Affairs

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor
Regulatory affairs in clinical pharmacokinetic evaluation and FDA drug approval.

PCEU 6397 - PCEU Selected Topics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

PCEU 6398 - Special Problems

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

PCEU 6498 - Special Problems

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

PCEU 6698 - Special Problems

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

PCEU 7142 - Pharmaceutical Literature Review

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.
A review and critical discussion of the recent literature in the pharmaceuticals area. Discussions will center on papers dealing with innovative approaches to research problems and on analysis of data used to support project conclusions.

PCEU 7180 - Pharmaceutics Seminar

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0

PCEU 7181 - Pharmaceutics Seminar

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0

PCEU 7340 - Advanced Drug Delivery



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Course examines current practices, novel drug delivery systems under investigation and future directions of drug delivery systems and technology.

PCEU 7355 - Regulatory Affairs

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Regulatory affairs in clinical pharmacokinetic evaluation and FDA drug approval; clinical trial regulation, good laboratory/manufacturing practice, quality control/assurance, new drug applications and evaluating contract analytical labs.

PCEU 8198 - Doctoral Research

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

PCEU 8199 - Dissertation

Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 N

Additional Fee N Fee Type N

PCEU 8298 - Doctoral Research

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

PCEU 8398 - Doctoral Research

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

PCEU 8399 - Doctoral Dissertation

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 Y

Additional Fee Y Fee Type Y

PCEU 8498 - Doctoral Research

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

PCEU 8698 - Doctoral Research

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

PCEU 8699 - Doctoral Dissertation



Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

PCEU 8998 - Doctoral Research

Credit Hours: 9.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

Pharmacology

PCOL 6141 - Pharmacological Liter. Review

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

A critical review of the literature published in pharmacology, including an analysis and appraisal of the selected publications.

PCOL 6142 - Pharmacological Liter. Review

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

A critical review of the literature published in pharmacology, including an analysis and appraisal of the selected publications.

PCOL 6180 - Pharmacology Seminar

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0

PCOL 6181 - Pharmacology Seminar

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0

PCOL 6198 - Special Problems

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

PCOL 6270 - Emerging Technologies for Cancer Drug Discovery and Development

Credit Hours: 2

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Students should have a thorough knowledge of biology, biochemistry, cell biology and chemistry.

This course is for graduate students interested in learning about emerging technologies for cancer drug discovery and development. In addition, many of the topics covered in this course are applicable to the broader context of drug discovery. The course will cover a variety of disciplines and topics important to cancer drug discovery and development. The course will start by covering pharmacology and basic cancer biology. Then the course will transition to introductions to assay design, lead compound identification, medicinal chemistry and pharmaceuticals. Finally, preclinical animal models and clinical assessments will be presented.

N

Additional Fee N Fee Type N



PCOL 6298 - Special Problems

Credit Hours: 2.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 0

PCOL 6340 - Medicinal Chemistry 2

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Consent of instructor.

Principles of medicinal chemistry; survey of current therapeutics, including cholinergic/anticholinergics, sympathomimetics, antifungals, hypertension-diuretics, antihypertensives, antiarrhythmic, and neurotherapeutics.

PCOL 6345 - Drug Design and Discovery

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** None.

Principles of medicinal chemistry and their application to drug discovery will be covered. Foundational topics will initially be presented, followed by a survey of lead compound discovery and optimization strategies.

PCOL 6363 - Advanced Immunopharmacology

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Consent of instructor

Principles of human immunology; immunopathologies and their treatment; immunobiologicals and their production; experimental approaches in immunology.

PCOL 6370 - Advanced Pharmacology I

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 Coverage of basic principles of drug action including in-depth assessments of drugs that influence the central and peripheral nervous systems and effector tissues. Specific emphases are the sites and mechanisms of drug action and current research procedures used to study those actions.

PCOL 6371 - Advanced Pharmacology II

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 An in-depth study of the site and mechanisms of actions of drugs which affect the kidneys, cardiovascular and endocrine systems, as well as current research procedures used to study those actions. Pathophysiologic states which justify the use of these agents are discussed.

PCOL 6398 - Special Problems

Credit Hours: 3.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 0

PCOL 6399 - Masters Thesis

Credit Hours: 3.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 0



PCOL 6462 - Cardiovasc. Renal Pharmacology

Credit Hours: 4.0

Lecture Contact Hours: 4 Lab Contact Hours: 0 A detailed examination of the mechanisms of action of drugs which influence cardiovascular and renal function. Topics include interrelationship between fluid balance and blood pressure, natriuretic factors, contractile mechanisms in myocardium, and vascular smooth muscle.

PCOL 6498 - Special Problems

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

PCOL 7141 - Pharmacological Liter. Review

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

A critical review of the literature published in pharmacology, including an analysis and appraisal of the selected publications.

PCOL 7142 - Pharmacological Lit Review

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

A critical review of the literature published in pharmacology, including an analysis and appraisal of the selected publications.

PCOL 7180 - Pharmacology Seminar

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0

PCOL 7181 - Pharmacology Seminar

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0

PCOL 7260 - Advanced Medicinal Chemistry

Credit Hours: 2.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Drug Design and Discovery (PCOL 6345) and Medicinal Chemistry 2 (PCOL 6340).

Topics include the role of natural products in antibiotic and anti-cancer therapies, NSAIDs for the treatment of inflammation and cardiovascular diseases, protein kinases as therapeutic targets, and new approaches for the treatment of diabetes and drug/alcohol addictions. Emphasis is on current research strategies in these areas, including a survey of current research literature.

PCOL 7330 - Biochemical Pharmacology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

PCOL 7333 - Molecular Pharmacology



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 DNA structure, function and replication. RNA structure, function and translation. Control of replication and translation as sites for drug action. Cloning and PCR techniques, transgenic models to study disease and drug action, methodology and theory of gene therapy.

PCOL 7350 - Cellular Pharmacology I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Drug-receptor theory and analysis, membrane receptors and transporters; their structure, function and regulation as it relates to drug action.

PCOL 7360 - Current Topics in Medicinal Chemistry

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PCOL 6345 Drug Design and Discovery Course and PCOL 6340 Advanced Medicinal Chemistry.

This course will provide in-depth coverage of current topics in medicinal chemistry chosen by the medicinal chemistry faculty. A variety of topics will be covered, including the role of natural products in antibiotic and anti-cancer therapies, NSAIDs for the treatment of inflammation, protein kinases as therapeutic targets, steroid hormones new approaches for the treatment of cancer and chemical modifications of proteins in drug discovery. Emphasis will be placed on current research strategies being pursued in these areas, including a survey of the current research literature.

PCOL 7362 - Neuropharmacology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Physiology and pharmacology of synaptic mechanisms in the central and peripheral nervous system with emphasis on mechanisms of drug and neurotransmitter action.

PCOL 7370 - Scientific Writing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Planning, preparation and evaluation of effective research manuscripts (articles) and grant proposals in the pharmaceutical sciences.

PCOL 7399 - Masters Thesis

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

PCOL 8198 - Doctoral Research

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

PCOL 8199 - Dissertation

Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 N

Additional Fee N Fee Type N

PCOL 8298 - Doctoral Research



Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

PCOL 8398 - Doctoral Research

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

PCOL 8399 - Doctoral Dissertation

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

PCOL 8498 - Doctoral Research

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

PCOL 8698 - Doctoral Research

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

PCOL 8699 - Doctoral Dissertation

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

PCOL 8998 - Doctoral Research

Credit Hours: 9.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

PCOL 8999 - Doctoral Dissertation

Credit Hours: 9.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

Pharmacy Interdepartmental

PHAR 4134 - Medicinal Functional Group Analysis

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** First year standing in college of pharmacy. Laboratories/demonstrations in medicinal chemistry and functional groups.

PHAR 4150 - Pharmacy Skills I



Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 2 **Prerequisite:** First year standing at the College of Pharmacy.

Corequisite: PHAR 4270, PHAR 4330, PHAR 4320, PHAR 4260.

Learning communication skills specific to a health care practice and pharmacy compounding skills.

PHAR 4160 - Fundamentals of Community Pharmacy Practice

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** First year standing in College of Pharmacy.

Corequisite: PHAR 4251

To prepare students with the foundational knowledge needed to provide typical patient care activities in a Class A pharmacy while complying with applicable state and federal rules and laws.

PHAR 4172 - Pharmacy Calculations

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** First year standing in the College of Pharmacy

Pharmacy laboratory/demonstrations in basic pharmaceutical calculations with application to drug delivery and patient care.

PHAR 4200 - Immunology I

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** PHAR 4300

Foundational study of the human immune system and the mechanisms of drugs used to treat its disorders.

PHAR 4221 - Physiology II

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** First year standing in the professional curriculum.

Corequisite: PHAR 4251 Skills Program II.

Principles of human anatomy, physiology and pathophysiology of gastrointestinal, cardiovascular, respiratory and renal systems with emphasis on those systems and disease states commonly encountered in the provision of pharmaceutical care.

PHAR 4251 - Pharmacy Skills Program II

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** First year standing at the College of Pharmacy.

Corequisite: PHAR 4265 , PHAR 4340 , PHAR 4221 , PHAR 4160 .

PHAR 4260 - Pharmacy Management I

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** First year standing in the College of Pharmacy.

Corequisite: PHAR 4250

Examines the laws, roles of medical personnel, and opportunities of pharmacists within the UH health care system.

PHAR 4265 - Patient Assessment

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** First year standing in the College of Pharmacy.

Corequisite: PHAR 4340 , PHAR 4251



The student pharmacist will learn how a pharmacist evaluates patient function and dysfunction through the performance of tests and assessments leading to objective and subjective data.

PHAR 4270 - Pharmacy Practice I

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** First year standing at College of Pharmacy.

Corequisite: PHAR 4150

Analysis and practice of verbal, written, social and behavioral communication strategies that promote effective interpersonal dialog and understanding to advance specific patient care, education, advocacy and interprofessional collaboration goals. Exploration of technology based communication tools and their impact on healthcare delivery, healthcare information, and patient empowerment.

PHAR 4271 - Pharmacy Practice II

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** first-year standing in the College of Pharmacy; PHAR 4270, MATH 2311, Introduction to drug information and literature evaluation.

Identifying, evaluating, and selecting appropriate drug information sources. Reading and basic interpretation of primary literature.

PHAR 4275 - Foundations in Medicinal Chemistry, Microbiology and Receptor Action

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** First year standing in College of Pharmacy. PHAR 4300

PHAR 4280 - Medication/Patient Safety and Informatics

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** First year standing in the College of Pharmacy.

This course is designed to provide students with the knowledge of basic concepts of medication safety, patient safety, quality improvement and informatics to optimize the patient care process.

PHAR 4300 - Biochemistry I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** First year standing in the professional curriculum.

To understand the basic principles of cellular and biochemical basis of metabolism of nutrients including proteins, carbohydrates, lipids and nucleic acids and their relationship with disease states and drug therapy.

PHAR 4301 - Cellular Life Sciences II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** First year standing in the College of Pharmacy PHAR 4300

Foundational study of the human immune system and the mechanisms of drugs used to treat its disorders.

PHAR 4320 - Physiology I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** First year standing in the College of Pharmacy.

Corequisite: PHAR 4250 (formerly PHAR 4150).

Principles of human anatomy and physiology of the nervous systems including fetal physiology; an introduction to neuroanatomy, neurophysiology.



PHAR 4330 - Pharmaceutics I

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** First year standing in College of Pharmacy.

Corequisite: PHAR 4250 (formally PHAR 4150), PHAR 4331

PHAR 4331 - Pharmaceutics II

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** First year standing in the College of Pharmacy. PHAR 4330 , PHAR 4300

Description and use of radiopharmaceuticals, novel dosage forms, biological pharmacotherapeutics, and suppositories.

PHAR 4340 - Non-Prescription Pharmacotherapy & Self Care

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** First year standing in the College of Pharmacy.

Corequisite: PHAR 4265 , PHAR 4251 .

Self-Care is defined as the independent act of preventing, diagnosing, and treating one's own illnesses without seeking the care of a licensed physician by using medications that do not require a prescription. This includes, but is not limited to, general care measures and nonprescription drugs. This course is designed to prepare future pharmacists to assess whether patients are candidates for self-care and to recommend appropriate self-care measures and therapeutic plans for commonly encountered self-manageable conditions.

PHAR 4400 - Cellular Life Sciences I

Credit Hours: 4.0

Lecture Contact Hours: 4 *Lab Contact Hours:* 0 **Prerequisite:** First year standing in the College of Pharmacy.

To describe the basic principles of cellular and biochemical basis of metabolism of nutrients including proteins, carbohydrates, lipids, and nucleic acids and their relationship with disease states and drug therapy.

PHAR 4421 - Organ Systems Life Sciences II

Credit Hours: 4.0

Lecture Contact Hours: 4 *Lab Contact Hours:* 0 **Prerequisite:** First year standing in the College of Pharmacy.

Corequisite: PHAR 4251 .

Principles of human anatomy, physiology and pathophysiology of gastrointestinal, cardiovascular, respiratory and renal systems with emphasis on those systems and disease states commonly encountered in the provision of pharmaceutical care.

PHAR 5111 - Leadership and Interprofessional Competence

Credit Hours: 1.0

Lecture Contact Hours: 1 *Lab Contact Hours:* 0 **Prerequisite:** None.

This course will foster professional self-awareness, capabilities, responsibilities, and leadership. It will also analyze contemporary practice roles, innovative opportunities, and inculcation of professional attitudes, and behaviors in developing interprofessional competence.

PHAR 5155 - Pharmacy Skills Program IV

Credit Hours: 1.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 4 **Prerequisite:** PHAR 5254IPPE I and Professional Development

Exercises in specialized dosage form compounding, dispensing functions to optimize patient care, patient counseling and drug information retrieval/literature evaluation; problem solving integrating clinical physical assessment with clinical and basic pharmaceutical sciences.



PHAR 5158 - Module Related Skills Lab I

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1 **Prerequisite:** Second year standing in the professional program.

Corequisite: PHAR 5224, PHAR 5225, PHAR 5226.

This course will integrate the skills and didactic content in a laboratory environment to promote application in a patient-care setting.

PHAR 5169 - Module Related Skills Lab IV

Credit Hours: 1

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** Third year standing in the professional program.

Corequisite: PHAR 5367, PHAR 5368, PHAR 5269.

This course will integrate the skills and didactic content in a laboratory environment to promote application in a patient-care setting.

N

Additional Fee N Fee Type N

PHAR 5181 - Clinical Seminar

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** Fourth year standing in the College of Pharmacy.

Drug information literature review, analysis of clinical studies, formal presentation, and submission of a publishable-quality written manuscript.

PHAR 5195 - Pharmacy Skills Program III

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1 **Prerequisite:** Second year standing in the professional program.

Corequisite: PHAR 5325.

This skills lab course will cover the knowledge, skills and application of sterile product preparation, and literature evaluation.

PHAR 5197 - Selected Topics in Pharmacy

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** None

Independent study research projects in various area of pharmacy that promote professionalism and educational growth.

PHAR 5198 - Special Problems

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Note:** It should be noted that these courses are graded as S/U (Satisfactory/Unsatisfactory) courses.

PHAR 5203 - Medicinal Chemistry II

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** PHAR 5302.

The chemistry of drugs used for the treatment of infections, cancer, pain, anxiety, convulsions, psychosis, depression, ADHD, obesity, and degenerative diseases.

PHAR 5206 - Pharmacy and Geriatrics

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Third year standing or consent of instructor.



Social, psychological and therapeutic factors involved in geriatric pharmacy practice; the role of the pharmacist in counseling and monitoring the geriatric patient.

PHAR 5207 - Herbal Medicine

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Permission of the instructor.

An elective course integrating clinical and natural therapeutics, medicinal chemistry, pharmacology, and evidence-based therapy for the advanced understanding of medicinal herbs, as well as their scientific concepts.

PHAR 5208 - Infect Disease Pharmacotherapy

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Third year standing in the College of Pharmacy or consent of instructor.

Integration of clinical pharmacological, pharmacokinetic, toxicological and therapeutic properties, antimicro agents and pharmaco-economic principles as they relate to the selection and clinical use of drugs in the treatment of infectious diseases.

PHAR 5209 - Advanced Topics in Infect Dis

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Third year standing in the College of Pharmacy or consent of instructor.

Taking Infectious disease pharmacotherapeutics is strongly encouraged but not required. Integration of advanced concepts using clinical, pharmacological, pharmacokinetic, toxicological, therapeutic and pharmaco-economic principles as they relate to the selection and clinical use of drugs in the compromised host.

PHAR 5210 - Research and Design

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Third year standing in the College of Pharmacy or consent of instructor.

This course will offer the student the ability to describe the decision making process in drug discovery, the stages of drug development and the utility of clinical pharmacology. The course will describe the structure of a research protocol including statistical, response and toxicity criteria. Additionally, the course will explain ICH guidelines and the essential regulatory and ethical issues of clinical research.

PHAR 5211 - Advance Research & Drug Design

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** PHAR 5210, third year standing in the College of Pharmacy or consent of the instructor.

The student will take the information offered in Research and Drug Design and prepare a preclinical project for grant submission determining the hypothesis, rationale, budget, laboratory experiments and submit the proposal for mock IRB approval.

PHAR 5213 - Pharmacy Base Immunizatn Deliv

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Third year standing in the College of Pharmacy or consent of instructor.

Pharmacy based immunization delivery is an innovative and interactive training program that teaches pharmacy students the skills necessary to become a primary source for vaccine information and administration. Students taking the elective learn the basics of immunology and vaccine administration and focus on practice implementation and legal/regulatory issues.

PHAR 5214 - Oncology Pharmacotherapy



Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Third-year standing in the College of Pharmacy or consent of the instructor.
This course details the pharmacology and therapeutics of antineoplastic agents, mechanisms of action, toxicities, mechanisms of resistance and general principles that guide the monitoring of patients receiving chemotherapy.

PHAR 5217 - Pediatric Therapeutics

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Second year standing in the College of Pharmacy
Introduction to pharmacotherapy issues as related to pediatric patients and to the provision of pharmaceutical care to this special population.

PHAR 5218 - Critical Care Therapeutics

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Third year standing in the College of Pharmacy
Introduction to the delivery of pharmaceutical care to patients who are critically ill. Disease states and pharmacotherapeutic management will be presented with an emphasis on the role of pharmacists in initiating, monitoring, and altering drug therapy to achieve optimal clinical outcomes.

PHAR 5219 - Clinical Epidemiology & Evidence Based Medicine

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Third year standing in the College of Pharmacy
Evaluation of statistics, epidemiology, drug information and literature to expand students' ability to find, appraise, and apply clinical evidence to improve the care of patients and populations.

PHAR 5222 - Toxicology

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** PHAR 5403, PHAR 5303 .
Basic toxicology of therapeutic agents, environmental agents, and drug and substance abuse.

PHAR 5223 - Patient Safety

Credit Hours: 2

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Second year standing at UH College of Pharmacy or consent of instructor.
Introduction to Patient Safety and preparation for safe professional pharmacy practice through increasing student knowledge, application and awareness of patient safety principles as it relates to pharmacy practice.

PHAR 5224 - Integrated Renal Module

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Second year standing in the professional program.
Corequisite: PHAR 5158.
This course will help integrate the pathophysiology, medicinal chemistry, pharmacology, toxicology, and therapeutics in the clinical management of common renal diseases.

PHAR 5225 - Integrated Gastrointestinal Module

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Second year standing in the professional program.
Corequisite: PHAR 5158.



This course will help integrate the pathophysiology, medicinal chemistry, pharmacology, toxicology, and therapeutics in the clinical management of common GI diseases/conditions.

PHAR 5226 - Integrated Respiratory Module

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Second year standing in the professional program.

Corequisite: PHAR 5158.

This course will help integrate the pathophysiology, medicinal chemistry, pharmacology, toxicology, and therapeutics in the clinical management of common respiratory diseases.

PHAR 5228 - Integrated Men's and Women's Health Module

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Second year standing in the professional program.

Corequisite: PHAR 5259.

This course will help integrate the pathophysiology, medicinal chemistry, pharmacology, toxicology, and therapeutics in the clinical management of common diseases related to men and women's health.

PHAR 5236 - Integrated Immunology Module

Credit Hours: 2

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Third year standing in the professional curriculum.

Corequisite: PHAR 5268.

This course will help integrate the pathophysiology, medicinal chemistry, pharmacology, toxicology, and therapeutics in the clinical management of common Immunology diseases/conditions.

N

Additional Fee N Fee Type N

PHAR 5254 - Intro Pharmacy Practice Experience I and Professional Development

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 6 **Prerequisite:** Second year standing within the College of Pharmacy.

A structured practice experience introducing basic pharmacy clinical skills in a healthcare setting and professional development seminars.

PHAR 5256 - Pharmacy Skills Program V

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 6 **Prerequisite:** PHAR 5255 .

Therapeutic case studies, journal literature evaluation, and clinical pharmacy practice site experiences.

PHAR 5257 - IPPE II and Professional Development

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 6 **Prerequisite:** Third year standing within the College of Pharmacy

A structured practice experience introducing basic pharmacy clinical skills in a healthcare setting and professional development seminars.

PHAR 5259 - Module Related Skills Lab II

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Second year standing in the professional program.



Corequisite: PHAR 5327, PHAR 5228, PHAR 5329, PHAR 5330.

This course will integrate the skills and didactic content in a laboratory environment to promote application in a patient-care setting.

PHAR 5261 - Pharmacy Management II

Credit Hours: 2.0

Lecture Contact Hours: 2 *Lab Contact Hours:* 0 **Prerequisite:** PHAR 4260. Second year standing in the College of Pharmacy. Accounting principles, financial management, and investment related to community pharmacy practice.

PHAR 5266 - Pharmacy Law

Credit Hours: 2

Lecture Contact Hours: 2 *Lab Contact Hours:* 0 **Prerequisite:** Third year standing in the curriculum.

To understand current legal and ethical issues impacting the practice of pharmacy and to gain a comprehensive understanding of the legal requirements to practice pharmacy in Texas.

N

Additional Fee N **Fee Type** N

PHAR 5268 - Module Related Skills Lab III

Credit Hours: 2

Lecture Contact Hours: 0 *Lab Contact Hours:* 6 **Prerequisite:** Third year standing in the professional program.

Corequisite: PHAR 5335, PHAR 5236, PHAR 5337, PHAR 5338.

This course will integrate the skills and didactic content in a laboratory environment to promote application in a patient-care setting.

Y

Additional Fee N **Fee Type** N

PHAR 5269 - Complex Problems

Credit Hours: 2

Lecture Contact Hours: 2 *Lab Contact Hours:* 0 **Prerequisite:** Third year standing in the curriculum.

Corequisite: PHAR 5169.

This course will incorporate knowledge and skills gained from foundational, clinical, and administrative/ behavioral sciences to promote application in solving complex problems in pharmacy and healthcare.

Y

Additional Fee N **Fee Type** N

PHAR 5270 - Pharmacoeconomics and Hospital Pharmacy Management

Credit Hours: 2.0

Lecture Contact Hours: 2 *Lab Contact Hours:* 0 **Prerequisite:** PHAR 4260 and PHAR 4280.

This course will introduces concepts of health outcomes and pharmacoeconomics to medication decision making and strategic hospital pharmacy management within the health care and medication use systems.

PHAR 5274 - Pharmacy Practice V

Credit Hours: 2.0

Lecture Contact Hours: 2 *Lab Contact Hours:* 0 **Prerequisite:** PHAR 5373.

Knowledge, description, and counseling information concerning durable medical supplies, diagnostic agents, nutritional supplements, and sterile products.



PHAR 5275 - Pharmacy Practice VI

Credit Hours: 2.0

Lecture Contact Hours: 2 *Lab Contact Hours:* 0 **Prerequisite:** Third year standing in the Professional Program.
Development of counseling skills associated with non-prescription drug dispensing and drug information retrieval.

PHAR 5280 - Therapeutics I

Credit Hours: 2.0

Lecture Contact Hours: 2 *Lab Contact Hours:* 0 **Prerequisite:** Second year standing in the College of Pharmacy.

Corequisite: Co-requisites: PHAR 5203, and PHAR 5403.

Requires integration and application of pharmacological and biopharmaceutical principals to the treatment of specific disease states through clinical pharmacy practice and therapeutics.

PHAR 5297 - Selected Topics in Pharmacy

Credit Hours: 2

Lecture Contact Hours: 2 *Lab Contact Hours:* 0 **Prerequisite:** None.

Independent study research projects in various area of pharmacy that promote professionalism and educational growth.

PHAR 5302 - Medicinal Chemistry I

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** PHAR 4421, and PHAR 4401 .

The chemistry of drugs used to modulate the autonomic nervous system, and for the treatment of diseases, including diabetes, thyroid disorders, GI disorders, allergic disorders, asthma, heart disease and to stimulate or antagonize endogenous hormones.

PHAR 5325 - Literature Evaluation/Research Design/Statistics/Epidemiology

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Second Year Standing in the Professional Program.

Corequisite: PHAR 5195 Pharmacy Skills Program III.

This course will instill essential skills to help students analyze, interpret and critically evaluate medical literature and answer patient care or drug related questions.

PHAR 5327 - Integrated Endocrine Module

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Second year standing in the professional program.

Corequisite: PHAR 5259.

This course will help integrate the pathophysiology, medicinal chemistry, pharmacology, toxicology, and therapeutics in the clinical management of common endocrine diseases.

PHAR 5329 - Integrated Cardiovascular I Module

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Second year standing in the professional program.

Corequisite: PHAR 5259.

This course will help integrate the pathophysiology, medicinal chemistry, pharmacology, toxicology and therapeutics in the clinical management of common chronic cardiovascular diseases/conditions.



PHAR 5330 - Integrated Cardiovascular II Module

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Second year standing in the professional program.

Corequisite: PHAR 5259.

This course will help integrate the pathophysiology, medicinal chemistry, pharmacology, toxicology and therapeutics in the clinical management of common acute cardiovascular diseases/conditions.

PHAR 5332 - Pharmacokinetics

Credit Hours: 3.0

Lecture Contact Hours: 3.0 *Lab Contact Hours:* 0.0 **Prerequisite:** PHAR 4330 and PHAR 4331.

The goal of the course is to equip students with the basic understanding of pharmacokinetic principles and their applications in rational use of medications for optimal therapeutic outcomes, in terms of regimen recommendation, therapeutic drug monitoring and regimen modification.

PHAR 5335 - Integrated Neurology Module

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Third year standing in the professional program.

Corequisite: PHAR 5268.

This course will help integrate the pathophysiology, medicinal chemistry, pharmacology, toxicology, and therapeutics in the clinical management of common Neurology diseases/conditions.

N

Additional Fee N Fee Type N

PHAR 5337 - Integrated Infectious Diseases I Module

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Third year standing in the professional curriculum.

Corequisite: PHAR 5268.

This course will help integrate the pathophysiology, medicinal chemistry, pharmacology, toxicology, and therapeutics in the clinical management of common bacterial Infectious diseases/conditions.

N

Additional Fee N Fee Type N

PHAR 5338 - Integrated Infectious Diseases II Module

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Third year standing in the Professional program.

Corequisite: PHAR 5268.

This course will help integrate the pathophysiology, medicinal chemistry, pharmacology, toxicology, and therapeutics in the clinical management of a variety of Infectious diseases/conditions.

N

Additional Fee N Fee Type N

PHAR 5362 - Pharmacy Management III

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** PHAR 4261, Pharmacy Management II.

Principles of personnel management, managed health care, ownership/franchise issues, and government regulations.



PHAR 5367 - Integrated Hematology/Oncology Module

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Third year standing in the professional curriculum.

Corequisite: PHAR 5169.

This course will help integrate the pathophysiology, medicinal chemistry, pharmacology, toxicology, and therapeutics in the clinical management of common hematology/oncology diseases/conditions.

N

Additional Fee N Fee Type N

PHAR 5368 - Integrated Psychiatric Module

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Third year standing in the professional curriculum.

Corequisite: PHAR 5169.

This course will help integrate the pathophysiology, medicinal chemistry, pharmacology, toxicology, and therapeutics in the clinical management of common Psychiatric diseases/conditions.

N

Additional Fee N Fee Type N

PHAR 5371 - Ambulatory Clinical Practice Management

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Third year standing in the curriculum.

The goal of this course is to provide an overview of Class A pharmacy operations, provide exposure to management principles common to all areas of pharmacy practice and describe acute and ambulatory direct patient care nuances.

N

Additional Fee N Fee Type N

PHAR 5373 - Pharmacy Practice IV

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Integration of the scientific principles of pharmaceuticals and a practical knowledge of pharmacy applied to preparation, compounding, and dispensing of medications. Drug therapy counseling of prescription and nonprescription medication.

PHAR 5374 - Pharmacy Law & Ethics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Third year standing in the College of Pharmacy or consent of the instructor.

The study of federal and state laws, rules, and regulations, and case law which govern and control the practice of pharmacy. The course also includes the ethical implications of modern pharmacy practice.

PHAR 5397 - Selected Topics in Pharmacy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor.

Independent study research projects in various areas of pharmacy that promote professionalism and educational growth.

May be repeated for credit when topics vary.

PHAR 5402 - Pharmacology I



Credit Hours: 4.0

Lecture Contact Hours: 4 Lab Contact Hours: 0 **Prerequisite:** PHAR 4421, and PHAR 4401 .

Study of the mechanism of action of drugs used to modulate the endocrine and autonomic nervous system, and for the treatment of diseases, including allergic disorders, asthma, and heart disease.

PHAR 5403 - Pharmacology II

Credit Hours: 4.0

Lecture Contact Hours: 4 Lab Contact Hours: 0 **Prerequisite:** PHAR 5402.

The mechanism of action of chemotherapeutic drugs used to treat infection and cancer and for the treatment of diseases, including anxiety, convulsions, psychosis, depression, ADHD, obesity, and degenerative diseases.

PHAR 5457 - Institutional Introductory Pharmacy Practice Experience

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 4 **Prerequisite:** Successful completion of all second year courses in the professional curriculum.

The institutional Introductory Pharmacy Practice Experience is a 4 week experience for students to apply and reinforce knowledge, skills and attitudes in a direct patient care institutional setting.

PHAR 5480 - Physical Assessment/Anatomy

Credit Hours: 4.0

Lecture Contact Hours: 4 Lab Contact Hours: 0 **Prerequisite:** PHAR 5703, Pharmacodynamics II, or consent of the instructor.

An in-depth study of human anatomy with applications to the physical diagnostic examinations and gross pathological states as they relate to rational drug prescribing.

PHAR 5493 - Introductory Community Pharmacy

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 12 **Prerequisite:** Successful completion of all first year fall and spring courses in the College of Pharmacy.

The goal of the Community Introductory Pharmacy Practice Experience (IPPE) is to provide opportunities for students to integrate, apply, reinforce the knowledge, skills, attitudes, abilities, and behaviors acquired through didactic education and apply them in direct patient care activities in the community setting. Through the Community IPPE, preceptors facilitate student learning by guiding students in the achievement of course proficiencies, which are designed to make the student competent in all technical and dispensing activities, while also introducing them to higher level patient-oriented practice in a community pharmacy setting. Using the Joint Commission of Pharmacy Practitioners (JCPP) Pharmacist Patient Care Process, students will actively participate in direct patient care, including but not limited to drug distribution process, collaborate with other healthcare professionals in making patient care decisions, and ensure appropriate medication therapy administration process.

PHAR 5581 - Therapeutics II

Credit Hours: 5.0

Lecture Contact Hours: 5 Lab Contact Hours: 0 **Prerequisite:** PHAR 5280

Continuation of Therapeutics I. Requires integration and application of pharmacological and biopharmaceutical principals to the treatment of specific disease states through clinical pharmacy practice and therapeutics.

PHAR 5582 - Therapeutics III

Credit Hours: 5.0

Lecture Contact Hours: 5 Lab Contact Hours: 0 **Prerequisite:** PHAR 5581



A continuation of Therapeutics II. Requires integration and application of pharmacological and biopharmaceutical principals to the treatment of specific disease states through clinical pharmacy practice and therapeutics.

PHAR 5642 - Emergency Medicine

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 18 **Prerequisite:** Fourth year standing in the College of Pharmacy.

A structured pharmacy experience where the student masters skills needed to recommend, initiate or modify therapy in the emergency room, or monitor outcomes for effectiveness and absence of adverse effects.

PHAR 5643 - Neurology

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 18 **Prerequisite:** Fourth year standing in the College of Pharmacy.

A structured pharmacy experience where the student masters skills needed to recommend, initiate or modify therapy for neurological problems, or monitor outcomes for effectiveness and absence of adverse effects.

PHAR 5644 - Ambulatory Care-MTM-Medication Therapy Management

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 18 **Prerequisite:** Fourth year standing in the College of Pharmacy.

To provide experience in collaborative practice provision of direct patient care.

May be repeated up to two times.

PHAR 5645 - Pharmacy Informatics

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 18 **Prerequisite:** Fourth year standing in the College of Pharmacy.

To provide experience in pharmacy practice that deals with the integration of information technology and its applications into the pharmaceutical practice.

May be repeated up to two times.

PHAR 5646 - Medication Safety

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 18 **Prerequisite:** Fourth year standing in the College of Pharmacy.

A structured pharmacy experience in a practice setting focusing on managing medication safety.

May be repeated for credit.

Note: Practicum

PHAR 5658 - Association Management

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 18 **Prerequisite:** Fourth year standing in the College of Pharmacy.

A structured pharmacy experience in an pharmacy professional organization setting focusing on professional organization's role in pharmacy practice.

May be repeated for credit.

Note: Practicum

PHAR 5659 - Specialized/Unique Pharmacy Practice Experience



Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 18 **Prerequisite:** Fourth year standing in College of Pharmacy

A structured pharmacy experience involving problem solving abilities and mastering skills in unique and specialized area such as compounding, long term care setting, durable medical equipment, mail order pharmacy, or infusion pharmacy.

PHAR 5660 - Pharmaceutical Industry

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 18 **Prerequisite:** Fourth year standing in the College of Pharmacy.

A structured pharmacy experience in an industrial pharmacy setting or with an industry medical liaison.

PHAR 5662 - Academic Scholarship

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 18 **Prerequisite:** Fourth year standing in the College of Pharmacy.

A structured pharmacy experience in an academic setting dealing with course development and teaching techniques.

PHAR 5663 - Pharmacy Management

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 18 **Prerequisite:** Fourth year standing in the College of Pharmacy.

A structured pharmacy experience dealing with management issues in pharmacy administration.

PHAR 5664 - Legal & Regulatory Affairs

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 18 **Prerequisite:** Fourth year standing in the College of Pharmacy.

A structured pharmacy experience in a non-profit, for-profit, or governmental setting dealing with legal and regulatory issues related to pharmacy practice.

PHAR 5668 - Managed Care Pharmacy

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 18 **Prerequisite:** Fourth year standing in the College of Pharmacy.

To provide experience in pharmacy practice in a managed care environment.

PHAR 5670 - Community Pharmaceutical Care

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 18 **Prerequisite:** Fourth year standing in the College of Pharmacy.

Advanced clinical pharmacy health care experience in a community pharmacy setting.

PHAR 5672 - Clinical Pharmaceutical Resch

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 18 **Prerequisite:** Fourth year standing in the College of Pharmacy.

An experiential introduction to clinical pharmaceutical research.

PHAR 5673 - Veterinary Pharmaceutical Care



Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 18 **Prerequisite:** Fourth year standing in the College of Pharmacy.
A structured pharmacy experience in a veterinary health care setting dealing with both dispensing and clinical functions.

PHAR 5674 - Nutritional Support

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 18 **Prerequisite:** Fourth year standing in the College of Pharmacy.
A structured pharmacy experience in a practice setting stressing clinical and dispensing functions related to the provision of nutritional support services.

PHAR 5675 - Disease State Management

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 18 **Prerequisite:** Fourth year standing in the College of Pharmacy.
A structured pharmacy experience in a practice setting targeting a specific disease, its complications, and therapeutic management and outcomes.

PHAR 5678 - Transplant Therapeutics

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 18 **Prerequisite:** Fourth-year standing in the College of Pharmacy.
A structured pharmacy experience where the student masters the skills necessary to optimize drug therapy outcomes for patients with transplanted organs.

PHAR 5679 - Women's Health Therapeutics

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 18 **Prerequisite:** Fourth-year standing in the College of Pharmacy.
A structured pharmacy experience where the student masters the skills necessary to optimize drug therapy outcomes for obstetric/gynecology patients.

PHAR 5680 - Oncology

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 18 **Prerequisite:** Fourth year standing in the College of Pharmacy.
A structured pharmacy experience in an institutional setting dealing with oncology patients.

PHAR 5681 - Infectious Diseases

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 18 **Prerequisite:** Fourth year standing in the College of Pharmacy.
A structured pharmacy experience in an institutional setting dealing with patients with infectious diseases.

PHAR 5683 - Cardiology

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 18 **Prerequisite:** Fourth year standing in the College of Pharmacy.
A structured pharmacy experience in an institutional setting dealing with cardiology patients.

PHAR 5685 - Critical Care



Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 18 Fourth year standing in the College of Pharmacy or consent. Clinical pharmacy health care experience with patients in a critical care unit.

PHAR 5686 - Psychiatry

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 18 **Prerequisite:** Fourth year standing in the College of Pharmacy. Clinical pharmacy health care experience with psychiatric patients.

PHAR 5690 - Internal Medicine

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 18 **Prerequisite:** Third year standing in College of Pharmacy. A structured pharmacy experience in hospital pharmacy practice.

PHAR 5691 - Drug Information

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 18 **Prerequisite:** Fourth year standing in the College of Pharmacy or consent of the instructor. A structured pharmacy experience dealing with drug information retrieval, analysis, and subsequent recommendations.

PHAR 5692 - Advanced Hospital Pharmacy

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 18

PHAR 5693 - Advanced Community Pharmacy

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 18

PHAR 5694 - Pediatrics

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 18 **Prerequisite:** Fourth year standing in the College of Pharmacy. A structured pharmacy experience dealing with a pediatric population.

PHAR 5695 - Geriatrics

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 18 **Prerequisite:** Fourth year standing in the College of Pharmacy. A structured pharmacy experience dealing with a geriatric population.

PHAR 5696 - Ambulatory Care - Primary Care

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 18 **Prerequisite:** Fourth year standing in the College of Pharmacy or consent of the instructor. To provide experience in collaborative practice provision of direct patient care.



Pharmacy Leadership and Administration

PHLA 6100 - Leadership Seminar

Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** Consent of Instructor.

This course is designed to develop the students understanding of and capacity for leadership within the pharmacy profession.

N

Additional Fee N Fee Type N

PHLA 6101 - Seminar in Pharmacy Leadership and Administration

Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** Consent of Instructor.

To provide the opportunity to Pharmacy Leadership students to present and study relevant topics in Pharmacy Leadership and Administration.

N

Additional Fee N Fee Type N

PHLA 6313 - Pharmacy Workforce Competency

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of Instructor.

This course is designed to introduce the ideas and processes behind the evaluation/assessment and development of employees capabilities (both application and knowledge based) in the pharmacy setting.

PHLA 6321 - Intro to Hospital and Health System Pharmacy Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PHCA 6321

Prerequisite: Graduate standing or consent of instructor.

Overview of healthcare law, policy, and contemporary topics in hospital and health system management.

Philosophy

PHIL 6198 - Special Problems

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

PHIL 6199 - Thesis

Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 N

Additional Fee N Fee Type N

PHIL 6298 - Special Problems

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0



PHIL 6304 - History of 17th Century Philosophy

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Three semester hours in Philosophy or consent of instructor. Philosophy of the seventeenth century; Descartes, Spinoza, Leibniz, and Locke.

PHIL 6305 - History of 18th Century Philosophy

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Three semester hours in philosophy or consent of instructor. Philosophy of the eighteenth century: Hume, Berkeley, and Kant.

PHIL 6321 - Modal Logic

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** PHIL 2321 or its equivalent. Formalized theories and their properties: consistency, completeness, and decidability.

PHIL 6322 - Logic and Philosophy

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** None. A graduate-level introduction to modern formal logic and some of its philosophical applications.

PHIL 6332 - Philosophy of Language

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Three semester hours in philosophy or consent of instructor. Theories of meaning, truth, and reference; the relationship of language to reality. Works by key figures such as Frege, Russell, Wittgenstein, Quine, Davidson, Fodor, etc.

PHIL 6333 - Metaphysics

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Three semester hours in philosophy or consent of instructor. Theories of being.

PHIL 6334 - Philosophy of Mind

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Six semester hours in philosophy or consent of instructor. The mind body problem, perception, personal identity, consciousness, and freedom.

PHIL 6335 - Theory of Knowledge

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Three semester hours in philosophy or consent of instructor. Theories of knowledge.

PHIL 6343 - Introduction to Cognitive Science



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** 3 semester hours in philosophy or consent of instructor.

Presents the basic topics and concepts of Cognitive Science, including their development over the last fifty years.

PHIL 6344 - Philosophy of Science

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Three semester hours in philosophy or consent of instructor.

The demarcation of science from non-science, scientific method, the nature of explanation, realism vs. anti-realism, induction and abduction.

PHIL 6351 - Contemporary Moral Issues

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Three semester hours in philosophy or consent of instructor.

Philosophical analysis of contemporary issues such as abortion, affirmative action, the treatment of animals, capital punishment, euthanasia, and famine relief.

PHIL 6354 - Medical Ethics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Three semester hours in philosophy or consent of instructor.

Moral problems in the practice of medicine and in the design of health care systems.

PHIL 6356 - Feminist Philosophy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Three semester hours in Philosophy or consent of instructor.

An investigation of the major issues and approaches of feminist philosophy.

PHIL 6358 - Classics in the History of Ethics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Three semester hours in philosophy or consent of instructor.

Analysis of central works in the history of philosophical ethics, by selected authors such as Plato, Aristotle, Hobbes, Butler, Hume, Kant, Mill, and Sidgwick.

PHIL 6375 - Law, Society, and Morality

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Three semester hours in philosophy.

An introduction to philosophy of law. Topics include the nature function, and moral evaluation of sixteenth and seventeenth centuries.

PHIL 6376 - Philosophy and the Scientific Revolution

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Three semester hours in philosophy or consent of instructor.

Philosophical issues at the heart of the scientific revolution of the sixteenth and seventeenth centuries.

PHIL 6382 - History of Medieval Philosophy



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Three semester hours in philosophy or consent of instructor.

This course covers the writings of influential Christian, Jewish and Islamic medieval philosophers on issues like the problem of evil, free will, God's existence, morality and the basis of knowledge.

PHIL 6383 - History of Ancient Philosophy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Three semester hours in philosophy or consent of instructor.

Ancient Greek philosophy from the Pre-Socratics through the Hellenistic period.

PHIL 6386 - History of Nineteenth Century Philosophy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Three semester hours in philosophy or consent of instructor.

Important figures such as Mill, Kierkegaard, Hegel, Marx, Schopenhauer, Nietzsche.

PHIL 6387 - History of American Philosophy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Three semester hours in philosophy or consent of instructor.

American philosophy from Emerson and Thoreau on through pragmatism to the contemporary period.

PHIL 6395 - Seminar Philos Problems

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Seminar Philos Problems

May be repeated for credit with approval of chair.

PHIL 6396 - Seminar in Hist of Phil

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** 15 semester hours in philosophy or approval of chair.

Intensive treatment of a selected movement, system, or topic.

May be repeated for credit with approval of chair.

PHIL 6397 - Selected Topics in Philosophy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or permission of chair.

Selected topics in philosophy, including ethics, logic, metaphysics, and history of philosophy.

Can be repeated for credit with a different topic.

PHIL 6398 - Special Problems

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

PHIL 6399 - Masters Thesis



Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

PHIL 7199 - Thesis

Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 N

Additional Fee N Fee Type N

PHIL 7399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

Physical Education Professional Program

PEP 6198 - Special Problems in Human Performance

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Permission of instructor or faculty advisor.

Independent study of a subject in the area of human performance.

Note: Independent Study

PEP 6304 - Biomechncs-Humn Perform

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** previous course work in kinesiology or biomechanics.

The study of the forces and the effect these forces have on human motion (kinetics and kinematics), with emphasis on athletic skills and callisthenic exercises.

PEP 6305 - Measurmnt Hlt & Phys Educ

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Instruments and techniques of measurement utilized in physical and health education.

PEP 6309 - Policies & Governance of Sport Organizations

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** none.

Examines the goals, structure, membership, policies, practices, and politics of sport organizations. Emphasis will be placed on the Olympic Movement and the American professional and amateur sports.

PEP 6321 - Sport in Cont Society

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Examination of factors influencing sport participation, issues related to the conduct of sports programs, and impact of sport experiences upon values and behavior of participants.



PEP 6322 - Sport Media & Public Relations

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** None.

This course focuses on how the media is managed by entities within the sports industry to garner support, increase spectatorship, and gain public favor.

PEP 6331 - Strength Training Anatomy

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 Overview of basic human anatomy and the specific muscles used for different strength training exercises, as well as the antagonist, and synergistic muscles involved in these exercises.

PEP 6332 - Intro Str/Cond Program Design

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** PEP 6331

Introduction to development of strength gaining programs, weight gaining programs, weight loss programs, and basic sports performance enhancement principles.

PEP 6355 - Promotional Strategies

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 Development of skills and strategies utilized in sport promotion.

PEP 6397 - Selected Topics in Human Perf

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** approval of chair.

Corequisite: Concurrent enrollment of six semester hours is permitted.

Problems and discussion for advanced students. Emphasis on relationship of school and community agencies.

May be repeated for credit when topics vary.

PEP 6398 - Special Problems in Human Performance

Credit Hours: 3.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 0

PEP 6399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 *Lab Contact Hours:* 0 **Prerequisite:** Permission of instructor or faculty advisor.

Master's thesis.

Y

Additional Fee Y Fee Type Y

PEP 7193 - Internship & Practicum

Credit Hours: 1.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 0 **Prerequisite:** approval of chair.

Part- or full-time experience in educational situations under faculty and field representative direction and supervision. Seminars.



PEP 7306 - Adm Princs of Sprts/Exer Prgms

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 The application of fundamental theories and administrative strategies pertaining to the organizational structure, personnel, management, and public relations in sport and exercise programs.

PEP 7307 - Implmtng Leg Strat Sprts/Fit

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 A critical analysis concerning the development and implementation of risk management strategies for sports, health, and fitness programs.

PEP 7308 - Sports Facility Administration

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Theoretical principles and practical application of strategies employed in the administration of sport, exercise, and fitness oriented facilities.

PEP 7309 - Sport Finance

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Fundamental strategies frequently used in financing sport, exercise, and fitness programs. Course may serve as an elective in either the master or doctoral program.

PEP 7326 - Intercollegiate Athletics and Higher Education

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Acceptance into Graduate school.

This course is an examination of the role of intercollegiate athletics in higher education from historical, sociological, economic, and administrative perspectives. Through a variety of critical readings, this course intends to engage the following topics: Historical Overview of Intercollegiate Athletics and Its Governing Bodies, The Mission of Higher Education and Athletic Departments, Title IX legislation and Intercollegiate Athletics, The Organization Structure of Intercollegiate Athletic Departments, Academic Reform and Intercollegiate Athletics, Other Pertinent Topics Relevant to Intercollegiate Athletics.

PEP 7327 - Diversity Issues in Sport and Fitness Administration

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission into Graduate School.

The purpose of this seminar is to provide the student with a broad exposure to research on diversity issues in sport studies literature. Student will undertake a broad review of different research theories and methodologies. Students will review the literature of diversity and sport organizations and critique this literature.

PEP 7393 - Internship & Practicum

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** approval of chair.

Part- or full-time experience in educational situations under faculty and field representative direction and supervision. Seminars.

PEP 7397 - Adv Selected Topic Human Perf



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** approval of department chair.

Corequisite: Concurrent enrollment up to six semester hours is permitted.

For advanced students in master's program and doctoral students.

May be repeated for credit when topics vary.

PEP 7398 - Advanced Special Problems in Human Performance

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** approval of department chair.

For advanced students in master's program and doctoral students.

PEP 7399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Permission of instructor or faculty advisor.

Master's thesis.

Y

Additional Fee Y Fee Type Y

PEP 8199 - Doctoral Dissertation

Credit Hours: 1

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Permission of instructor or faculty advisor.

Doctoral dissertation.

N

Additional Fee Y Fee Type Y

PEP 8303 - HHP Research Seminar

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: HRMA 8331 Integrated Systems Physiology I

Prerequisite: None

Introduction to the theoretical, analytical, and practical tools and materials required for PhD students to appreciate the questions, problems and issues addressed in the major research laboratories of the department.

PEP 8304 - HHP Journal Colloquium

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None

Presentation and discussion of student's ongoing research and relevant articles within individual discipline areas of HHP

May be repeated with approval of advisor.

PEP 8306 - Scientific Inquiry in Hlt Prof

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Instructor Permission

Principles of scientific inquiry as they apply to the conceptualization and implementation of a research framework in the health professional.

PEP 8314 - Doctoral Residency Seminar



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PEP 8306.

Demonstrates applications of principles of scientific inquiry, experimental design, and presentation of research results.

PEP 8323 - Programming & Proposal Writing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Instructor Permission or have completed Ph.D. candidacy paper.

Theory and skills for developing proposals for securing funding from public and private sources in support of 'health-related' programs and research.

PEP 8334 - Applied Regression Methods-HLT

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Doctoral standing or instructor permission.

Applied regression methods in design and analysis of health research; emphasis on practical strategies and techniques.

PEP 8350 - HHP Candidacy Project Research

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 Formerly/Same as: PEP 7397 - Candidacy Project

Prerequisite: Approval of faculty advisor and formation of candidacy project committee.

Development of Ph.D. candidacy project.

PEP 8390 - Contemporary Issues in HHP

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Approval of faculty advisor

Research seminar focused on contemporary issues in health and human performance. Each course will contain unique content, guest lecturers, and topical discussion.

PEP 8399 - Doctoral Dissertation

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Permission of instructor or faculty advisor.

Doctoral dissertation.

Y

Additional Fee Y Fee Type Y

PEP 8699 - Doctoral Dissertation

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Permission of instructor or faculty advisor.

Doctoral dissertation.

Y

Additional Fee Y Fee Type Y

PEP 8999 - Doctoral Dissertation

Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Permission of instructor or faculty advisor.

Doctoral dissertation.



Physiological Optics

PHOP 6X57 - Research Practicum B

Credit Hours: 1.0 - 6.0

Practical training in vision research methods and procedures. Provides current in-depth training on cutting-edge methods and procedures for biological research in vision. Includes training in cell and molecular, biochemical, morphological, and physiological methods and procedures for vision research.

PHOP 6X67 - Research Practicum A

Credit Hours: 1.0 - 6.0

Practical training in vision research methods and procedures. Provides current in-depth training on cutting-edge methods and procedures for assessment of visual optics, and psychophysical research in vision. Includes training in stimulus design and control, psychophysical methods and procedures, and psychophysical and optical image analysis.

PHOP 8X65 - Advanced Topical Seminar in Physiological Optics and Visual Sciences

Credit Hours: 2.0 - 3.0

Reading scientific papers in a topical area of physiological optics and visual sciences; preparing written reviews and making oral presentations; critiquing papers, reviews, and presentations.

PHOP 8X98 - Doctoral Research

Credit Hours: 1.0 - 9.0

Dissertation research.

PHOP 6152 - Basic Physiological Optics and Visual Sciences: Laboratory

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1 Formerly/Same as: PHOP 6152 - Basic Visual Processes Lab.

Prerequisite: Bachelors degree or equivalent.

Corequisite: Corequisite(s): PHOP 6241 and 6242.

Laboratory demonstrations and experiments on the anatomy, biochemistry, molecular biology and physiology of the eye, retina, and visual pathways, and fundamental sensory and motor aspects of monocular and/or binocular vision.

PHOP 6157 - Research Practicum B

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** None.

Practical training in vision research methods and procedures. Provides current in-depth training on methods and procedures for biological research in vision. Includes training in cell and molecular, biochemical, morphological, and physiological methods and procedures for vision research.

May be repeated for credit.

PHOP 6160 - General Seminar Visual Sciences



Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** None.

Reading recent scientific papers in the broad areas of physiological optics and visual sciences; preparing written reviews and making oral presentations; critiquing of papers, reviews, and presentations made by others.

May be repeated for credit.

PHOP 6167 - Research Practicum A

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** None.

Practical training in vision research methods and procedures. Provides current in-depth training on methods and procedures for assessment of visual optics, and psychophysical research in vision. Includes training in stimulus design and control, psychophysical methods and procedures, and psychophysical and optical image analysis.

May be repeated for credit.

PHOP 6198 - Spec Prob-Physio Optics

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1

PHOP 6241 - Vision Science Core-Part 1

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 Fundamental information and concepts on the anatomy, cell and molecular biology, biochemistry and physiology of the eye, retina, and vision related areas of the brain, and fundamental information and concepts on visual optics, and sensory and motor aspects of vision.

PHOP 6242 - Vision Science Core-Part 2

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 Fundamental information and concepts on the anatomy, cell and molecular biology, biochemistry and physiology of the eye, retina, and vision related areas of the brain, and fundamental information and concepts on visual optics, and sensory and motor aspects of vision.

PHOP 6243 - Vision Science Core-Part 3

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 Fundamental information and concepts on the anatomy, cell and molecular biology, biochemistry and physiology of the eye, retina, and vision related areas of the brain, and fundamental information and concepts on visual optics, and sensory and motor aspects of vision.

PHOP 6257 - Research Practicum B

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 6 **Prerequisite:** None.

Practical training in vision research methods and procedures. Provides current in-depth training on methods and procedures for biological research in vision. Includes training in cell and molecular, biochemical, morphological, and physiological methods and procedures for vision research.

May be repeated for credit.

PHOP 6267 - Research Practicum A



Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 6 **Prerequisite:** None.

Practical training in vision research methods and procedures. Provides current in-depth training on methods and procedures for assessment of visual optics, and psychophysical research in vision. Includes training in stimulus design and control, psychophysical methods and procedures, and psychophysical and optical image analysis.

May be repeated for credit.

PHOP 6275 - Professional Development for Vision Scientists

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Bachelor's degree or equivalent.

PHOP 6275, Professional Development for Vision Scientists, is a team-taught course designed to help students become effective, scientific/clinical professionals that are able to assimilate, communicate and teach university-level science. Through didactic teaching and group discussions, students will learn about topics related to the responsible and ethical conduct of basic and clinical science, as well as how to find, critically read, review and summarize literature. A large component of the course will focus on the science of how people learn and discuss basic ideas to effectively teach university-level science. An additional topic emphasized in the course will be fundamental elements of effective communication. Students will be provided with several opportunities to practice and improve their presentation skills throughout the course.

May be repeated for credit.

PHOP 6298 - Spec Prob-Physio Optics

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 2

PHOP 6357 - Research Practicum B

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 9 **Prerequisite:** None.

Practical training in vision research methods and procedures. Provides current in-depth training on methods and procedures for biological research in vision. Includes training in cell and molecular, biochemical, morphological, and physiological methods and procedures for vision research.

May be repeated for credit.

PHOP 6367 - Research Practicum A

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 9 **Prerequisite:** None.

Practical training in vision research methods and procedures. Provides current in-depth training on methods and procedures for assessment of visual optics, and psychophysical research in vision. Includes training in stimulus design and control, psychophysical methods and procedures, and psychophysical and optical image analysis.

May be repeated for credit.

PHOP 6371 - Experimental Design in Visual Sciences

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 2 **Prerequisite:** None.

Consideration of different classical and modern designs for experiments in vision sciences, introduction to statistics, and research proposal development.

PHOP 6372 - Experimental Quantification in Visual Sciences



Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 2 **Prerequisite:** None.

Theory and application of statistics used for experimental design and analysis of data in vision science. Correlation and regression, binomial probability model, sampling distribution, confidence, ANOVA, multiple regressions.

PHOP 6377 - Introduction to Optical Sensing & Biophotonics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Optical imaging techniques for detection of structures and functions of biological tissues, basic physics and engineering of each imaging technique with an emphasis on coherence-domain imaging.

PHOP 6398 - Spec Prob-Physio Optics

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3

PHOP 6457 - Research Practicum B

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 4 **Prerequisite:** Practical training in vision research methods and procedures.

Provides current in-depth training on cutting-edge methods and procedures for biological research in vision. Includes training in cell and molecular, biochemical, morphological, and physiological methods and procedures for vision research.

PHOP 6467 - Research Practicum A

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 4 **Prerequisite:** None.

Practical training in vision research methods and procedures. Provides current in-depth training on cutting-edge methods and procedures for assessment of visual optics, and psychophysical research in vision. Includes training in stimulus design and control, psychophysical methods and procedures, and psychophysical and optical image analysis.

PHOP 6498 - Special Problems in Physiological Optics

Credit Hours: 4

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** None.

Special Problems in Physiological Optics and Vision Science

PHOP 6557 - Research Practicum B

Credit Hours: 5.0

Lecture Contact Hours: 0 Lab Contact Hours: 5 **Prerequisite:** None.

Practical training in vision research methods and procedures. Provides current in-depth training on methods and procedures for biological research in vision. Includes training in cell and molecular, biochemical, morphological, and physiological methods and procedures for vision research.

Note: May be repeated for credit.

PHOP 6567 - Research Practicum A

Credit Hours: 5.0

Lecture Contact Hours: 0 Lab Contact Hours: 5 **Prerequisite:** None.

Practical training in vision research methods and procedures. Provides current in-depth training on methods and procedures for assessment of visual



optics, and psychophysical research in vision. Includes training in stimulus design and control, psychophysical methods and procedures, and psychophysical and optical image analysis.

Note: May be repeated for credit.

PHOP 6598 - Special Problems in Physiological Optics

Credit Hours: 5

Lecture Contact Hours: 0 *Lab Contact Hours:* 0 **Prerequisite:** None.

Special Problems in Physiological Optics and Vision Science

PHOP 6657 - Research Practicum B

Credit Hours: 6.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 18 **Prerequisite:** None.

Practical training in vision research methods and procedures. Provides current in-depth training on methods and procedures for biological research in vision. Includes training in cell and molecular, biochemical, morphological, and physiological methods and procedures for vision research.

May be repeated for credit.

PHOP 6667 - Research Practicum A

Credit Hours: 6.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 18 **Prerequisite:** None.

Practical training in vision research methods and procedures. Provides current in-depth training on methods and procedures for assessment of visual optics, and psychophysical research in vision. Includes training in stimulus design and control, psychophysical methods and procedures, and psychophysical and optical image analysis.

May be repeated for credit.

PHOP 6698 - Special Problems in Physiological Optics

Credit Hours: 6

Lecture Contact Hours: 0 *Lab Contact Hours:* 0 **Prerequisite:** None.

Special Problems in Physiological Optics and Vision Science

PHOP 6767 - Research Practicum A

Credit Hours: 7

Lecture Contact Hours: 0 *Lab Contact Hours:* 7 **Prerequisite:** None.

Practical training in vision research methods and procedures. Provides current in-depth training on methods and procedures for assessment of visual optics, and psychophysical research in vision. Includes training in stimulus design and control, psychophysical methods and procedures, and psychophysical and optical image analysis.

PHOP 6798 - Special Problems in Physiological Optics

Credit Hours: 7

Lecture Contact Hours: 0 *Lab Contact Hours:* 0 **Prerequisite:** None.

Special Problems in Physiological Optics and Vision Science

PHOP 6867 - Research Practicum A

Credit Hours: 8

Lecture Contact Hours: 0 *Lab Contact Hours:* 8 **Prerequisite:** None.



Practical training in vision research methods and procedures. Provides current in-depth training on methods and procedures for assessment of visual optics, and psychophysical research in vision. Includes training in stimulus design and control, psychophysical methods and procedures, and psychophysical and optical image analysis.

PHOP 6957 - Research Practicum B

Credit Hours: 9.0

Lecture Contact Hours: 0 Lab Contact Hours: 9 **Prerequisite:** None

Practical training in vision research methods and procedures. Provides current in-depth training on methods and procedures for biological research in vision. Includes training in cell and molecular, biochemical, morphological, and physiological methods and procedures for vision research. May be repeated.

PHOP 6967 - Research Practicum A

Credit Hours: 9.0

Lecture Contact Hours: 0 Lab Contact Hours: 9

Prerequisite: None

Practical training in vision research methods and procedures. Provides current in-depth training on methods and procedures for assessment of visual optics, and psychophysical research in vision. Includes training in stimulus design and control, psychophysical methods and procedures, and psychophysical and optical image analysis.

May be repeated.

PHOP 6998 - Spec-Prob Physio Optics

Credit Hours: 9.0

Lecture Contact Hours: 0 Lab Contact Hours: 9 **Prerequisite:** None

Special Problems in Physiological Optics and Vision Science
May be repeated.

PHOP 7241 - Pathophysiology of the Anterior and Posterior Segments

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** PHOP 6241, PHOP 6242, PHOP 6243OR (PHOP 6143 and 6152).

This Advanced Module is designed to introduce the first year graduate student to concepts in ocular diseases. Topics will include genetics and pathophysiology of glaucoma, photoreceptor degenerations, dry eye, contact lens effects on the eye and infection/inflammation, new therapeutic approaches and current research topics. The format will be a combination of didactic lectures and student led discussions/presentations of relevant research literature.

PHOP 7242 - Visual Neuroscience

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** PHOP Vision Core courses 6241 and 6242 and 6243 OR (6143 and 6152) in the fall of the first year of the PHOP graduate program.

This module will expose students to advanced topics in the visual neurosciences. Topics covered will include visual processing in the retina, cortex and extracortical areas, dorsal and ventral stream processing, aspects of spatial vision and binocular vision, the oculomotor system and higher order processes such as visual attention and cognition. For each topic, discussion will feature both the normal system and specific diseases whose pathology is related to the nervous system. The format will be didactic lectures from faculty and student-led discussion of relevant literature.

PHOP 7243 - Optics and the Eye



Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** PHOP Vision Core 6241, 6242 and either 6243 OR (6143 + 6152) in Fall of first year PHOP graduate program in the College of Optometry.

An interactive course that introduces students to topics in visual optics, the correction of the eye optical errors and ocular imaging. Discussion of concepts related to visual image quality, accommodation and ideas for its restoration in presbyopic eyes, methods to minimize myopia progression and applications and limitations of technology for aberration measurement and correction in normal and highly aberrated eyes and for ocular imaging. The course will consist of student-led discussions of classic papers that are complimented by didactic lectures and laboratory exercises.

PHOP 7275 - Introduction to Computational Thinking with Python

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Fundamental concepts in computer programming, with a focus on data processing applications using scientific Python. Topics include data structures, control flow, functions and libraries, and basic object-oriented concepts, as well as the use of the NumPy, SciPy, Matplotlib, and Pandas scientific libraries.

PHOP 7276 - MATLAB Programming for Vision Science

Credit Hours: 2.0

Lecture Contact Hours: 1 Lab Contact Hours: 1 **Prerequisite:** An introductory programming course in C++ or another language that teaches basic programming concepts and skills.

Corequisite: Corequisite(s): laboratory research practicum in mentor's lab.

This course teaches MATLAB programming concepts and skills for use in research in vision science. The course has a didactic portion for learning to use MATLAB, and a project portion in which the student works with the help of the instructor(s) to develop a program for his or her own research project to acquire or analyze data, or both.

PHOP 7399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

PHOP 8198 - Doctoral Research

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1

PHOP 8199 - Doctoral Dissertation

Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor.

Doctoral Dissertation.

N

Additional Fee N Fee Type N

PHOP 8298 - Doctoral Research

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 2

PHOP 8299 - Doctoral Dissertation



Credit Hours: 2

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor.

Doctoral Dissertation.

N

Additional Fee N Fee Type N

PHOP 8398 - Doctoral Research

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3

PHOP 8399 - Doctoral Dissertation

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

PHOP 8498 - Doctoral Research

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 4

PHOP 8499 - Doctoral Dissertation

Credit Hours: 4

Lecture Contact Hours: 0 Lab Contact Hours: 12 N

Additional Fee N Fee Type N

PHOP 8598 - Doctoral Research

Credit Hours: 5.0

Lecture Contact Hours: 0 Lab Contact Hours: 5

PHOP 8599 - Doctoral Dissertation

Credit Hours: 5

Lecture Contact Hours: 0 Lab Contact Hours: 15 N

Additional Fee Y Fee Type Y

PHOP 8698 - Doctoral Research

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 6 **Prerequisite:** PHOP 6241 , PHOP 6242 , PHOP 6243 , PHOP 6371 , and PHOP 6372 .

PHOP 8699 - Doctoral Dissertation

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 18 N

Additional Fee N Fee Type N



PHOP 8798 - Doctoral Research

Credit Hours: 7.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 7 **Prerequisite:** PHOP 6241 , PHOP 6242 , PHOP 6243 , PHOP 6371 , and PHOP 6372 .
Doctoral Research in Physiological Optics and Vision Science.

PHOP 8799 - Doctoral Dissertation

Credit Hours: 7

Lecture Contact Hours: 0 *Lab Contact Hours:* 0 **Prerequisite:** None.
Doctoral Dissertation.

Y

Additional Fee N Fee Type N

PHOP 8899 - Doctoral Dissertation

Credit Hours: 8

Lecture Contact Hours: 0 *Lab Contact Hours:* 0 **Prerequisite:** None.
Dissertation.

Y

Additional Fee N Fee Type N

PHOP 8998 - Doctoral Research

Credit Hours: 9.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 9 **Prerequisite:** PHOP 6241, PHOP 6242, PHOP 6243, PHOP 6371, PHOP 6372.
Doctoral Research in Physiological Optics and Vision Science.

May be repeated.

PHOP 8999 - Doctoral Dissertation

Credit Hours: 9

Lecture Contact Hours: 0 *Lab Contact Hours:* 0 N

Additional Fee Y Fee Type Y

Physics

PHYS 6101 - Internship

Credit Hours: 1.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 1 **Prerequisite:** approval of chair.
Curricular Practical Training

PHYS 6198 - Special Problems

Credit Hours: 1.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 0

PHYS 6199 - Thesis



Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 N

Additional Fee N Fee Type N

PHYS 6298 - Special Problems

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

PHYS 6303 - Methods of Mathematical Physics I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 1 **Prerequisite:** MATH 3364.

Complex variables, special functions, linear operators, Green functions, spectral theory, generalized functions, transform theory, boundary-value problems.

Course can be repeated for credit.

PHYS 6304 - Methods of Mathematical Physics II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 1 **Prerequisite:** PHYS 6303 or equivalent.

Applications of mathematics to current problems in physics. Group theory, spectral theory, asymptotic methods, nonlinear equations, differential forms, transform theory, theory of surface, topology of fiber bundles

PHYS 6309 - Advanced Mechanics I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 1 **Prerequisite:** PHYS 3309 and PHYS 4321, or consent of instructor.

Lagrangian dynamics of particles, Hamiltonian mechanics; classical and relativistic fields, elasticity, hydrodynamics, and physics of continuous media.

PHYS 6311 - Advanced Mechanics II: Nonlinear Dynamics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 1 **Prerequisite:** PHYS 6309 or consent of instructor.

Integrable and nonintegrable systems, canonical perturbation theory, adiabatic invariance, Lie transform, invariant tori, mappings, ergodicity, KAM theory, renormalization and universality, chaos, classical and relativistic fields, elasticity, hydrodynamics, and continuous media.

PHYS 6313 - Graduate Laboratory

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** PHYS 6315, PHYS 6316, PHYS 6321, and PHYS 6327.

The course will be a semester long broken into two sections, with each section focusing on a particular area of experimental physics. The students will be divided into two groups, with half starting in one of the two sections, and swapping after the middle of the semester. Students will learn techniques that can be applied to experimental research including: experimental design, apparatus assembly, apparatus operations, data acquisition and analysis, and results reporting.

Note: Enrollment will be limited to 12 students.

PHYS 6315 - Quantum Mechanics I



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 1 **Prerequisite:** PHYS 3315 or consent of instructor.

Wave mechanics, linear vector spaces, quantum dynamics, perturbation theory, scattering, spin, statistics, and symmetry.

PHYS 6316 - Quantum Mechanics II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 1 **Prerequisite:** PHYS 3315 or consent of instructor.

Wave mechanics, linear vector spaces, quantum dynamics, perturbation theory, scattering, spin, statistics, and symmetry.

PHYS 6321 - Electrodynamics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 1 **Prerequisite:** PHYS 4322.

Maxwell's equations and relativity; radiation from moving charges and from macroscopic systems; classical field theory.

PHYS 6327 - Statistical Physics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 1 **Prerequisite:** PHYS 3327, PHYS 4322, PHYS 6315, and PHYS 6309; or consent of instructor.

Classical thermodynamics, development of extremum principles, stability considerations and applications to chemical and phase equilibria; Boltzmann's H-theorem; classical and quantal Gibbs ensembles with applications, diffusion and introductory nonequilibrium statistical mechanics.

PHYS 6328 - Advanced Statistical Mechanics

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 1 **Prerequisite:** PHYS 6327 or instructor's approval.

Non-equilibrium statistical mechanics, phase transition, renormalization group, phase transition, disorder system, pattern formation.

N

Additional Fee N Fee Type N

PHYS 6350 - Computational Physics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 1 **Prerequisite:** Graduate standing in Physics or consent of Chair.

Scientific programming, numerical methods in linear algebra, eigenvalue problems, ODEs, and PDEs: data structures, data analysis, and curve fitting; variational calculations; density functional theory; band structure calculations; molecular dynamics and Monte Carlo simulations; parallel computing.

PHYS 6398 - Special Problems

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

PHYS 6399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

PHYS 6498 - Special Problems



Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

PHYS 6598 - Special Problems

Credit Hours: 5.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

PHYS 6698 - Special Problems

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Must be a graduate student in Physics.
Independent Study

PHYS 6998 - Special Problems

Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Must be a graduate student in Physics.
Independent Study

PHYS 7198 - Master Research

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** PHYS 6303 , PHYS 6315 .
Independent research carried out by a physics master student for a master thesis.

PHYS 7199 - Thesis

Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 N
Additional Fee N Fee Type N

PHYS 7298 - Master Research

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** PHYS 6303 , PHYS 6315 .
Student carries out independent research under the direction of a thesis advisor.

PHYS 7307 - Space & Atmospheric Phy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

PHYS 7308 - Space & Atmospheric Physics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.
Physics of plasmas in space; earth's magnetosphere, planetary magnetospheres, and solar wind magnetosphere interactions.

PHYS 7312 - Modern Optics



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PHYS 3312 or consent of instructor.

Electromagnetic theory, reflection and refraction, interference, Fresnel diffraction, Fraunhofer diffraction, coherence, Fourier optics, holography, anisotropic materials, optical modulation, nonlinear optics.

PHYS 7315 - Quantum Many-Body Theory

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 1 **Prerequisite:** PHYS 6316.

Second quantization, Green functions, Feynman diagrams, and applications to interacting Fermi and Bose systems.

PHYS 7316 - Quantum Field Theory

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 1 **Prerequisite:** PHYS 6316.

Dirac equation, relativistic quantum mechanics, the Lorentz group, quantization of fields, Green functions, perturbation theory, quantum electrodynamics, renormalization, current algebra, the Callan-Symanzik equation, symmetries, gauge fields, applications to elementary particle physics.

PHYS 7322 - Scattering Theory

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

PHYS 7324 - Plasma Physics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

PHYS 7337 - Solid State Physics I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PHYS 3327, PHYS 4337, and PHYS 6315; or consent of instructor.

Periodic structures, lattice dynamics, specific heat, one-electron theory of solids, band structure, electron dynamics.

PHYS 7338 - Solid State Physics II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PHYS 7337.

Transport properties, optical processes, Fermi surfaces of metals, magnetic properties, superconductivity.

PHYS 7339 - Biological Physics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** permission of instructor.

Physical principles underlying the complex phenomena of biological systems: diffusion, dissipation, entropy, energy, molecular machines, cell structures, membrane and nerve impulses.

PHYS 7345 - Ion Beam Modification of Materials



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PHYS 4337 or consent of instructor.

Ion-solid interactions, ion implantation range distribution and radiation damage, implantation in semiconductors, metals, and insulators; radiation effects in superconductors.

PHYS 7347 - High Temp Superconductivity I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PHYS 4337 or consent of instructor.

Synthesis of high temperature superconducting materials, electrical, magnetic, and thermal properties; crystal structure, experimental techniques for characterization of high temperature superconductors.

PHYS 7350 - Advanced Computational Physics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PHYS 6350 or permission of instructor.

Molecular dynamics (MD) and Monte Carlo (MC) simulation in Statistical Physics. Handling data and calculating errors. Cluster algorithms. Histogram methods. Continuous time simulations. Simulations of glassy and disordered systems. Nonequilibrium simulations.

PHYS 7351 - Seismic Physics I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PHYS 6303 or consent of instructor

Wave physics of exploration seismology; Green's theorem; acoustic and elastic Green's functions.

PHYS 7356 - Intro Particle Physics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PHYS 6316 or consent of instructor.

Classification of particles, quantum numbers, conservation laws and their violations, quark model, phenomenology of strong, electromagnetic, and weak interactions.

PHYS 7397 - Selected Topics in Phy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Topics in one of the following fields: nuclear, plasma, cosmic ray, low temperature, and solid-state physics, or astrophysics.

May be repeated with approval of chair.

PHYS 7398 - Master Research

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** PHYS 6303 , PHYS 6315 .

The student will carry out independent research at the master level under the direction of a faculty advisor.

PHYS 7399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y



PHYS 7598 - Master Research

Credit Hours: 5.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 0 **Prerequisite:** PHYS 6303 , PHYS 6315 .

The student will carry out independent research at the Master level under the direction of a faculty advisor.

PHYS 7698 - Master Research

Credit Hours: 6

Lecture Contact Hours: 0 *Lab Contact Hours:* 0 **Prerequisite:** PHYS 6303 and PHYS 6315 .

The student will carry out independent research at the master level under the direction of a faculty advisor.

PHYS 7998 - Master Research

Credit Hours: 9

Lecture Contact Hours: 0 *Lab Contact Hours:* 0 **Prerequisite:** PHYS 6303 and PHYS 6315 .

The student will carry out independent research at the master level under the direction of a faculty advisor.

PHYS 8198 - Doctoral Research

Credit Hours: 1.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 0

PHYS 8199 - Dissertation

Credit Hours: 1

Lecture Contact Hours: 1 *Lab Contact Hours:* 0 N

Additional Fee Y Fee Type Y

PHYS 8298 - Doctoral Research

Credit Hours: 2.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 0

PHYS 8307 - Advanced Space Physics

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Completion of the requirements for candidacy for the Ph.D. in physics, or consent of instructor.

The design of research experiments, spacecraft, and spacecraft missions to study space and atmospheric physics. The evaluation of research results with the aid of examples taken from the current scientific literature.

May be repeated for credit.

PHYS 8398 - Doctoral Research

Credit Hours: 3.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 0

PHYS 8399 - Doctoral Dissertation



Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

PHYS 8498 - Doctoral Research

Credit Hours: 4.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

PHYS 8598 - Doctoral Research

Credit Hours: 5.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

PHYS 8698 - Doctoral Research

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 Prerequisite: None.

The student will carry out independent research at the doctoral level under the direction of a faculty advisor.

PHYS 8699 - Doctoral Dissertation

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

PHYS 8998 - Doctoral Research

Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 0 Prerequisite: None.

The student will carry out independent research at the doctoral level under the direction of a faculty advisor.

PHYS 8999 - Doctoral Dissertation

Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee N Fee Type N

Political Science

POLS 6001 - Math Methods for Political Scientists

Credit Hours: 0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Prerequisite: Graduate standing in Political Science or consent of instructor.

Mathematical tools frequently used in political science: set theory, differential calculus and integration, optimization, linear algebra and probability theory. Prerequisite for advanced statistics and formal theory courses.

Y

Additional Fee N Fee Type N

POLS 6198 - Special Problems



Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

POLS 6298 - Special Problems

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

POLS 6302 - Research Design for Political Scientists

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

This seminar introduces students to the principles of research design in mainstream political science. We begin with some questions in the philosophy of science as they apply to the social sciences. Then we review the purpose of theories, as well as different approaches to generating and evaluating them. Next, we discuss the purpose and form of hypotheses, focusing on how to derive hypotheses from theories; how to develop and implement hypothesis tests; how to treat competing explanations for observed phenomena of interest; how to measure theoretical constructs; and what to do (and not to do) with data. Finally, we explore how different research designs (including the construction of counterfactuals, comparative case studies, quasi-experiments, and experiments) may be used to help researchers make valid causal inferences. The course will introduce students to elementary methods of data analysis, but no knowledge of advanced statistics or econometrics is presupposed.

POLS 6308 - Political Economy

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Political Science or consent of instructor.

Examines the intersections between economics and politics.

N

Additional Fee Y Fee Type Y

POLS 6309 - Survey of Amer Pol Behavior

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in political science or consent of instructor.

Selected major segments of the research literature on American political behavior.

POLS 6311 - Comp Pol Analysis

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

POLS 6312 - Survey of American Institutions and Policy

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Political Science or consent of instructor.

Theoretical and empirical issues in American institutions and policy.

N

Additional Fee Y Fee Type Y

POLS 6313 - Seminar in International Relations

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Political Science or consent of instructor.



Examination of international political systems. Emphasizes changing patterns of international accommodation, competition, and conflict. Examines theories of international politics.

N

Additional Fee Y Fee Type Y

POLS 6314 - Policy Analysis

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Political Science or consent of instructor.

How public policies are decided. Tools for policy decision making. Political, social, and legal determinants of public policy.

N

Additional Fee Y Fee Type Y

POLS 6315 - Health Care Policy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Politics and economics of health and medical care with emphasis on the delivery of services, their quality, distribution, and financing.

POLS 6316 - Social Policy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Study of distributive public policies such as civil rights, income maintenance, and social services at comparative, federal, and state levels.

POLS 6317 - Seminar in Criminal Justice Policy

Credit Hours: 3.0

Lecture Contact Hours: (3-0) Examination of problems and issues in the design, implementation, and evaluation of policies intended to prevent and contain criminal behavior.

POLS 6318 - Immigration Policy

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

On October 12, 2006, the U.S. Census Bureau predicted that five days later at about 7:46 a.m. (EDT) the U.S. population would reach the historic milestone of 300 million. On that daytime, Emanuel Plata, one of "America's 300 millionth baby," was born in Queens. The son of two immigrants from Puebla, Mexico, Emanuel epitomizes the new demographic reality of the nation: a new melting pot that since the 1970s has been seasoned with immigration flows from Latin America and Asia. After the 1965 amendments to the Immigration and Nationality Act, which abolished the quota system of the 1920s, immigration policy put people of all nations on an "equal footing" by eliminating nationality as an admission criterion. In the following decades, the foreign-born population increased considerably after declining since 1910. The Hart-Celler Act, as it was also known at the time, as well as subsequent immigration laws, opened the United States' doors to new waves of immigration from non-traditional European regions. -What immigration policy best serves the U.S. national interest today? -What it will take Congress to discuss and vote a "comprehensive" immigration reform? and what should/could/likely include? Throughout this seminar students will develop their own answers to these questions. The course is interdisciplinary by nature, we will draw on political science, economics, sociology, law and public policy literature in order to understand the complexity of immigration.

POLS 6322 - Seminar in Comparative Elections

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Political Science or consent of instructor.



Examination of problems and issues in the design and function of elections and electoral systems, the behavior of voters, and the role of political parties.

N

Additional Fee Y Fee Type Y

POLS 6323 - Seminar in Comparative Political Parties

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Political Science or consent of instructor.

A comparison of different frameworks and data for understanding the impact and development of political parties, including normative critiques of party democracy.

N

Additional Fee Y Fee Type Y

POLS 6328 - Seminar in the Politics of Modernization

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Examines political systems of modernizing and developing nations.

POLS 6331 - Seminar in Democratization

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Political Science or consent of instructor.

Explores and evaluates a variety of theoretical approaches to understanding institutional and other developments in newly-democratizing countries.

N

Additional Fee N Fee Type N

POLS 6332 - Formal Models in International Relations

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

This course is designed to familiarize students with the recent formal literature in international relations, and to aid them in developing and analyzing their own models. Although we will discuss the model building enterprise, much of the course will revolve around discussion and analysis of works that take a formal approach to international relations. Students will both identify the trends and direction of the current literature and pursue their own topics of interest. During the course, we will conduct brainstorming sessions, in which students can discuss ways to formalize their substantive topics or to extend some of the models that we discuss during class. The course will culminate with research presentations by students, in which they demonstrate an ability to apply the formal modeling enterprise to a substantively interesting topic.

POLS 6340 - Seminar in Ancient and Medieval Political Thought

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Political Science or consent of instructor.

A selective examination of Greek, Roman, and feudal thinking on recurrent problems in political theory.

N

Additional Fee Y Fee Type Y

POLS 6341 - Seminar in Modern Political Thought

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Political Science or consent of instructor.

A selective examination of thinking, from Machiavelli to the present, concerning recurrent problems in political theory.



N

Additional Fee Y Fee Type Y

POLS 6342 - Liberalism and Its Critics

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Political Science or consent of instructor.

Contemporary arguments for and against the liberal tradition: including libertarian, responsible government, communitarian, conservative, and feminist perspectives.

N

Additional Fee N Fee Type N

POLS 6343 - Seminar in Democratic Thought

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Political Science or consent of instructor.

A critical examination of the theoretical foundations for democracy, and its major texts and competing theories. Emphasizes normative and analytical approaches.

N

Additional Fee Y Fee Type Y

POLS 6344 - Dissertation Prospectus

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Political Science or consent of instructor.

Students prepare a plan for dissertation research and complete a working dissertation prospectus.

N

Additional Fee N Fee Type N

POLS 6345 - History of Political Theory

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Political Science or consent of instructor.

A survey of the history of political theory from Plato through John Rawls.

N

Note: May be repeated.

Additional Fee N Fee Type N

POLS 6346 - Social Criticism and Revolution in Political Thought

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Political Science or consent of instructor.

A survey of the origins of social criticism and theories of revolution from the 19th century to the present.

N

Note: May be repeated.

Additional Fee N Fee Type N

POLS 6348 - Contemporary Political Theory

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Political Science or consent of instructor.



Examination of contemporary political theory including post-modernism and the concomitant concerns of the character of modern political theory.
N

Note: Course may be repeated.

Additional Fee Y **Fee Type** Y

POLS 6349 - Seminar in American Political Thought

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing in Political Science or consent of instructor.

The colonial experience, the Revolution, the writing of the Constitution, and experience in living under the Constitution-how each has contributed to American political theory.

N

Additional Fee Y **Fee Type** Y

POLS 6350 - Seminar in Media and Politics

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing in Political Science or consent of instructor.

Examines interactive effect of institutional forces and political actors on mediated political communication and information processing.

N

Additional Fee N **Fee Type** N

POLS 6354 - Seminar in Law and Society

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing in Political Science or consent of instructor.

How the values and behavior of society influence the substance and enforcement of the law and also how the law affects the mores and attitudes of society.

N

Additional Fee Y **Fee Type** Y

POLS 6355 - Seminar in Judicial Process

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing in Political Science or consent of instructor.

Study of judicial recruitment, socialization, and decision-making process. Also, impact and enforcement of judicial decisions.

N

Additional Fee Y **Fee Type** Y

POLS 6356 - Seminar in Constitutional Law

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing in Political Science or consent of instructor.

Study of major Supreme Court decisions interpreting the U.S. Constitution.

N

Additional Fee Y **Fee Type** Y

POLS 6357 - Comparative Judicial Systems

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing in Political Science or consent of instructor.



Surveys the variation of legal systems and courts across the world from a comparative perspective; investigates how constitutions, courts, and other legal actors vary and how these variations affect judicial decisions and law more generally.

N

Additional Fee N Fee Type N

POLS 6359 - Bibliographic Essay

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee N Fee Type N

POLS 6360 - Seminar in State Politics

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Political Science or consent of instructor.

Roles of the legislature and governor; state political parties and elections; state finances and taxation; comparative public policies of the state.

N

Additional Fee Y Fee Type Y

POLS 6363 - Race and Ethnic Politics

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

This course is a systematic examination of the literature on race, ethnicity, and American politics. We begin with the concept of race and how it has been operationalized. We examine the history, political behavior, and representation of African Americans, Asian Americans, and Latinos in the modern political area. We also examine coalition building, citizenship, the role of political parties, and elections mostly in the U.S. context.

POLS 6364 - Seminar in Legislative Process

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Political Science or consent of instructor.

Organization, process, structure, and policy-making functions of Congress.

N

Additional Fee Y Fee Type Y

POLS 6365 - Seminar in Public Opinion

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Political Science or consent of instructor.

Examines influences on public opinion; impact of mass media; role of public opinion in democracy.

N

Additional Fee Y Fee Type Y

POLS 6366 - Seminar in Political Parties

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Political Science or consent of instructor.

History and organization of political parties in the United States; functions of parties for the political system; electoral base of American political parties.

N

Additional Fee Y Fee Type Y



POLS 6367 - Seminar in Electoral Behavior

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing in Political Science or consent of instructor.
Examines determinants of voting decisions; role of elections in democracy.

N

Additional Fee Y **Fee Type** Y

POLS 6368 - Psychological Approaches to Politics

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing in Political Science or consent of instructor.

Surveys the major psychological approaches to study of politics, such as clinical/functional theories and information processing theories, in current political science research.

N

Additional Fee Y **Fee Type** Y

POLS 6369 - Seminar on the Presidency

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing in Political Science or consent of instructor.

Changing concepts of the presidency. The president as chief executive. The president and Congress. The president and public opinion.

N

Additional Fee Y **Fee Type** Y

POLS 6384 - Survey Research Methods

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** POLS 6480 or consent of instructor.

Practical issues of sampling, questionnaire design, interviewing techniques, and supervision are combined with the analysis of survey results and the presentation of data to academic, governmental, and commercial audiences.

N

Additional Fee Y **Fee Type** Y

POLS 6385 - Time Series Methods

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** POLS 6481 or consent of instructor.

Autoregressive and distributed lag models, stochastic regression, univariate and multivariate ARIMA modeling, impact assessment, forecasting.

N

Additional Fee Y **Fee Type** Y

POLS 6386 - Measurement Theory for Political Science

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** POLS 6481 or consent of instructor.

Unobtrusive measurement, scaling models, reliability and validity, factor analysis, analysis of covariance structures.

N

Additional Fee Y **Fee Type** Y

POLS 6387 - Political Inquiry



Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Political Science or consent of instructor.
Applies relevance issues of the philosophy of science to the study of politics. Political science as a science.

N

Additional Fee Y Fee Type Y

POLS 6388 - Causal Inference Methods and Applications

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** POLS 6482 or consent of instructor.
Applies statistical techniques to the analysis of causes and counterfactuals to the formulation and testing of theoretical arguments.

N

Additional Fee Y Fee Type Y

POLS 6389 - Game Theory

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** POLS 6001, Graduate Standing in Political Science, or consent of nstructor.
Public choice models of political decision making, spatial models of elections, theory of public goods, game theory.

N

Additional Fee Y Fee Type Y

POLS 6394 - Seminar: Selected Topics in Political Theory and Methodology

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Political Science or consent of instructor.
Selected Courses in Political Methodology.

Y

Additional Fee N Fee Type N

POLS 6395 - Seminar: Selected Topics in American Politics and Public Policy

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Political Science or consent of instructor.
Selected Topics in American politics and policy.

Y

Additional Fee N Fee Type N

POLS 6396 - Seminar: Selected Topics in Comparative Politics and International Relations

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Political Science or consent of instructor.
Selected Topics in Comparative Politics or International Relations.

Y

Additional Fee N Fee Type N

POLS 6397 - Seminar: Selected Topics in Public Administration and Law

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Political Science or consent of instructor.
Selected Topics in Public Law.



Y

Additional Fee N Fee Type N

POLS 6398 - Special Problems

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

POLS 6399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

POLS 6480 - Quantitative Methods I

Credit Hours: 4

Lecture Contact Hours: 3 Lab Contact Hours: 1 **Prerequisite:** Graduate standing in Political Science or consent of instructor.

First semester of a two-semester sequence on research methods commonly used in political science. Emphasis on issues of descriptive and inferential statistics and bivariate regression.

N

Additional Fee Y Fee Type Y

POLS 6481 - Quantitative Methods II

Credit Hours: 4

Lecture Contact Hours: 3 Lab Contact Hours: 1 **Prerequisite:** POLS 6480 or consent of instructor.

Second course in required methods sequence for political science graduate students. Focus on the general linear model. Topics include multivariate regression, violations of model assumptions, alternative estimators, computer applications.

N

Additional Fee Y Fee Type Y

POLS 6482 - Quantitative Methods III: Maximum Likelihood Estimation

Credit Hours: 4

Lecture Contact Hours: 3 Lab Contact Hours: 1 **Prerequisite:** POLS 6481 or consent of instructor.

Maximum likelihood estimation, generalized linear models, discrete-choice models, event count models, models for event history data, and models for non-random samples.

N

Additional Fee Y Fee Type Y

POLS 7399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee N Fee Type N

POLS 8199 - Dissertation



Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 N

Additional Fee N Fee Type N

POLS 8399 - Doctoral Dissertation

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

POLS 8599 - Doctoral Dissertation

Credit Hours: 5

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Doctoral Dissertation.
Doctoral Dissertation.

Y

Additional Fee N Fee Type N

POLS 8699 - Doctoral Dissertation

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

POLS 8999 - Doctoral Dissertation

Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

Power and Energy Systems

PES 6332 - Smart Grid Systems

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Knowledge of power system, optimization and electricity market.

Basic of Smart Grid, Definition and Applications. Smart switches, Self-healing, Communication Technologies, Two-way Digital Communications Paradigm and Network Architectures, Wireless Standards (Protocols: Zigbee, WiFi, WiMax), Smart metering and Advanced Metering Infrastructure, Local Area Networks: Home network and HEN (home energy management), Wide Area Wireless mesh networking. Cyber Security Challenges. Smart Appliances and load modeling (economic view point). Electric Vehicles and Vehicle-to-Grid Systems. Distribution network reconfiguration and other intelligent distribution control methods.

PES 6336 - High Voltage Electrical Substations Design and Architecture

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: ECE 6381

Prerequisite: Knowledge of low voltage and high voltage design of electrical substation.

Industrial substation configuration and composition; cable and busway system design, installation, protection and testing; switching apparatus fundamentals, types, calculation, design, operation, protection; capacitor switching; surge nature, insulation characteristics; system neutrals; arresters, grounding, static lightning protection; insulation coordination; substation planning, design, construction, automation, operation. HVDC and FACTS.



Psychological, Health, and Learning Sciences

PHLS 6198 - Special Problems

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 Formerly/Same as: EPSY 6198 Special Problems

PHLS 6310 - Intro To Educ Research

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 6310 Introduction to Educational Research

PHLS 6311 - Introduction to Counseling

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

This course aims to provide an accurate picture of the counseling profession in its contemporary environment. Specifically, students will develop their professional identities as clinical mental health counselors by being provided with a history of the profession and the key tenets that shape the perspectives of mental health counselors.

PHLS 6312 - Crisis Counseling

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

This course will educate and train students about the psychosocial aspects of individual and group adjustment to crisis situations/traumatic experiences. Students will learn to provide effective mental health interventions for trauma survivors and their communities.

PHLS 6313 - Professional Orientations & Advanced Ethics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

In this course students will develop knowledge in professional responsibility, codes of ethics, legal aspects of practice, and professional standards.

PHLS 6314 - Helping Relationships

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

This course is designed to deepen students understanding of counseling relationships. Counselors help people in a variety of ways and utilize many techniques and processes to do so. This course will cover many of the common aspects of counseling that will be useful to students as they prepare to enter the workforce.

PHLS 6315 - Career Counseling

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 6315 Career Counseling

PHLS 6320 - Sexual Counseling

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 6320 Sexual Counseling



PHLS 6322 - Dimensions in Women's Health

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: HLT 6322 Dimensions in Women's Health

PHLS 6323 - Psychopathology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

This course will explore criteria of psychiatric diagnoses, use of the current Diagnostic and Statistical Manual of Mental Disorders and theories of psychopathology. The course will also include basic knowledge of types of psychopharmacological medications.

PHLS 6324 - Addictions Counseling

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

This course will provide students with an understanding of theories and techniques of drug and alcohol counseling including sources of help and information, assessment, and program planning.

PHLS 6325 - Theories of Counseling

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 6325 Theories of Counseling

PHLS 6330 - Human Growth-Developmnt

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 6330 Human Growth and Development

PHLS 6335 - Intro To Grp Couns Thry

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 6335 Introduction to Group Counseling

PHLS 6340 - Prin of Human Learning

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 6340 Principles of Human Learning

PHLS 6343 - Ethical Legal Issues in Counsl

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 6343 Ethical and Legal Issues in Counseling

PHLS 6345 - Atypical Growth & Behavior

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 6345 Atypical Growth & Behavior

PHLS 6352 - Assessmnt in Educ Psych



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 6352 Assessment in Educational Psychology

PHLS 6370 - Intro To Cross-Cultural Cslng

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 6370 Introduction to Cross-Cultural Counseling

PHLS 6391 - Counseling Methods and Techniques

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Simulation and laboratory experience with techniques and processes of interviewing and counseling.

PHLS 6393 - Practicum

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 6393 Practicum

PHLS 6394 - Field Work in Hlth Ed

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

PHLS 6395 - Field Work in Hlth Ed

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

PHLS 6397 - Selected Topics

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0

PHLS 6398 - Special Problems

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 Formerly/Same as: EPSY 6398 Special Problems

PHLS 6399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

PHLS 7192 - Internship & Practicum

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0



PHLS 7193 - Internship and Practicum

Credit Hours: 1.0

Lecture Contact Hours: 0 *Lab Contact Hours:* 1 Formerly/Same as: EPSY 7193 Internship and Practicum

PHLS 7199 - Thesis

Credit Hours: 1

Lecture Contact Hours: 1 *Lab Contact Hours:* 0 N

Additional Fee Y Fee Type Y

PHLS 7300 - Program Evaluation in Health

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 Formerly/Same as: HLT 7300 Program Evaluation in Health

PHLS 7301 - Practicum

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 Formerly/Same as: PHLS 7100

Prerequisite: None.

This course is designed to prepare the student in the practical application and integration of the principles and methods of counseling. Students will work with clients under the supervision of both the faculty instructor and an approved, licensed site supervisor to develop basic counseling skills and integrate professional knowledge.

PHLS 7302 - Internship I

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 Formerly/Same as: PHLS 7200

Prerequisite: PHLS 7301 Practicum.

This course is designed to further develop skills acquired in Practicum. Students will work with clients under the supervision of both the faculty instructor and an approved, licensed site supervisor. Students may enroll in this course after successful completion of Practicum in Counseling.

PHLS 7303 - Internship II

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 Formerly/Same as: PHLS 7201

Prerequisite: PHLS 7302.

This course is designed to further develop skills acquired in Internship I. Students will work with clients under the supervision of both the faculty instructor and an approved, licensed site supervisor. Students may enroll in this course after successful completion of Internship I.

PHLS 7306 - Health Disparities

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0

PHLS 7317 - Cognitive and Affective Bases of Behavior

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing in APA accredited doctoral program or consent of instructor.

Clinical and research considerations in the cognitive and affective bases of behavior.



PHLS 7318 - Child Psychopathology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in APA accredited doctoral program or consent of instructor. Clinical and research considerations in assessment of child and adolescent psychopathology.

PHLS 7324 - Cancer Education

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: HLT 7324 Cancer Prevention: the Educator's Role

PHLS 7325 - Cross-Cultural Aspects of Health

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

An examination of cross-cultural influences on the health problems, medical practices, and use of health services within ethnic minority communities.

PHLS 7326 - Counseling in the Schools

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 7326 Counseling in the Schools

PHLS 7327 - Counseling Children

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 7327 Counseling Children

PHLS 7329 - Counseling Women

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 7329 Counseling Women

PHLS 7330 - Adv Thrys of Counseling

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 7330 Advanced theories of Counseling

PHLS 7375 - Intro To Family Counsl

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 7375 Introduction to Family Counseling

PHLS 7377 - Child and Adolescent Psychopathology and Well-Being

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Students should have completed graduate coursework in assessment and measurement (e.g., PHLS 8300 , Advanced Educational & Psychological Measurement).

Course content addresses developmental risk and resilience, socio cultural influences on mental health, traditional diagnostic approaches



(particularly the Diagnostic and Statistical Manual of the American Psychiatric Association), and positive psychology and the dual-factor model of mental health.

PHLS 7390 - School-based LSSP Internship

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** Successful completion of two semesters of the school psychology practicum (PHLS 7393).

Two semesters of this course are designed to meet the 600 school-based hours requirement required by the National Association of School Psychologists, as well as the Texas requirement for becoming a Licensed Specialist in School Psychology (LSSP). Students will complete school-based services under the supervision of a licensed school psychologist (about 16 hours per week) in a public school and attend supervision with a UH School Psychology faculty member and peers about 6 hours per month.

Y

Additional Fee N Fee Type N

PHLS 7393 - Internship and Practicum

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 7393 Internship and Practicum

PHLS 7398 - Candidacy Research

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 Formerly/Same as: EPSY 7398 Candidacy Research

Prerequisite: Graduate standing in EPSY doctoral program and consent of instructor.

PHLS 7399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

PHLS 8193 - Internship in Psychology

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1 **Prerequisite:** Consent of instructor, completion of all coursework.

Supervised internship, final full-time culminating practice experience in applied psychology Ph.D.

PHLS 8198 - Special Problems

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 Formerly/Same as: EPSY 8198 Special Problems

Prerequisite: Graduate status, approval of instructor and chair.

Individual study of areas; requirements jointly established by staff and student.

PHLS 8199 - Dissertation

Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y



PHLS 8241 - Professional Seminar in School Psychology

Credit Hours: 2.0

Lecture Contact Hours: 2 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing in APA accredited doctoral program or consent of instructor. Relevant professional issues, research, and ethical considerations in school psychology.

PHLS 8300 - Advanced Educational & Psychological Measurement

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 Formerly/Same as: EPSY 8300 Advanced Educational and Psychological Measurement

Prerequisite: Graduate status and EPSY 8319, EPSY 8322, and EPSY 8324; or consent of instructor.

Advanced measurement in educational and psychological research. Advanced topics: scaling, test/survey construction, reliability, validity, classical test theory, factor analysis, item response theory and differential item functioning.

PHLS 8302 - Research Methods in Psychological and Educational Research

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Admission to doctoral program; EPSY 7322 or equivalent or consent of instructor.

Introduction to conducting scientific research. Topics include experimental, quasi-experimental, and correlational research designs, sampling methods, reliability, validity, survey research, mixed-methods research, ethical aspects, and research report writing.

PHLS 8305 - Supervision in Counseling

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 Formerly/Same as: EPSY 8305 Supervision in Counseling

PHLS 8306 - Health Psychology Research, Prevention, & Interventions

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 Formerly/Same as: EPSY 8306 Health Psychology Research, Prevention, & Interventions

Prerequisite: None

Introduction to the field of health psychology, with a emphasis on research, prevention, and interventions focused on biological, environmental, and cultural determinants of the development and progression of health disorders.

PHLS 8307 - Health Disparities

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 Formerly/Same as: EPSY 8307 Health Disparities

Prerequisite: None

Introduction to biopsychosocial mechanisms that attempt to explain the etiology of known physical and mental health disparities, with a particular emphasis on seminal and cutting edge research and prevention efforts.

PHLS 8308 - Stress and Drug Abuse: Research & Health Outcomes

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 Formerly/Same as: EPSY 8308 Stress and Drug Abuse: Research & Health Outcomes

Prerequisite: None

Introduction to the fundamentals of the human stress response and its relationship to drug use with a particular emphasis on seminal and cutting edge research involving human and animal studies.

PHLS 8309 - Gene by Environment (GxE) Determinants of Health



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 8309 Gene by Environment (GxE) Determinants of Health

Prerequisite: None

Introduction to biopsychosocial determinants of health, with a particular emphasis on seminal and cutting edge research involving gene by environment interactions in understanding health outcomes in human and animal studies

PHLS 8310 - Psychology of Learning in STEM

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate status.

The purpose of this seminar style course is to introduce students to a range of theories and research on cognitive, affective, motivational, and social processes that influence learning in science, technology, engineering, and mathematics (STEM). Students will read and discuss articles describing theories and research on math and science learning from an educational psychology perspective. Individually, students will focus on a STEM domain and evaluate theory and research on the role of specific psychological processes in learning and achievement within the selected STEM domain.

PHLS 8311 - Educational Disparities and Social Injustice

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate status.

This course is an introductory survey course of issues pertaining to educational disparities and social injustice (primarily in the United States). In this course, students will be encouraged to think critically and expansively about the social world and the conditions of humanity. This course is designed to enable students to develop an understanding of the theoretical, social, and historical roots of various educational disparities and social injustice issues from multiple perspectives (e.g., education, public health, psychology, sociology), make connections, and to critically assess strategies for bringing about social change. Students will learn about historical and contemporary issues and empirical data at global, national, and regional/local levels. Moreover, by building personal awareness around their own biography, students will better understand how to identify and address educational disparities, and create a more equitable and just educational system for all students. Throughout the course, students will gain a better understanding of interventions to promote equity and social justice through a combination of readings, lectures, reflection papers, student presentations, class discussions, in-class exercises, and research assignments.

PHLS 8319 - Inferential Statistics in Psychological and Educational Research

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 8319 Inferential Statistics in Psychological and Educational Research

Prerequisite: Graduate status and EPSY 7322 or equivalent; or consent of instructor.

Statistical inference, including probability, sampling, hypothesis testing, confidence intervals, power, t-test, one-way analysis of variance, contingency tables, correlation, simple linear regression.

PHLS 8320 - Statistical Survival Analysis

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PHLS 8319 AND PHLS 8322 OR equivalents.

Survival analysis is a statistical method to analyze time-to-event (e.g., survival time until death). In this course, the following topics will be examined: event occurrence and time-to-event, survival function, hazard function, parametric survival models, non-parametric survival models, the log-rank test, the accelerated failure time model, Cox model, discrete-time analysis, multilevel survival models, and survival mediation.

PHLS 8321 - Structural Equation Modeling in Psychological and Educational Research

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 8321 Structural Equation Modeling in Psychological and Educational Research

Prerequisite: Graduate status and EPSY 8319, EPSY 8322, and EPSY 8324 or consent of instructor.



the application of structural equation models to educational research. Topics include path analysis, confirmatory factor analysis, structural regression models, and latent growth curve models, and related topics.

PHLS 8322 - Intermediate Statistical Analysis in Psychological and Educational Research

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 8322 Intermediate Statistical Analysis in Psychological and Educational Research

Prerequisite: Graduate status and EPSY 8319 or consent of instructor.

the application of basic and more advanced analysis of variance designs as well as multiple linear regression to educational research.

PHLS 8324 - Multivariate Analysis in Psychological and Educational Research

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 8324 Multivariate Analysis in Psychological and Educational Research

Prerequisite: Graduate status and EPSY 8319 and EPSY 8322; or consent of instructor.

Understanding multivariate procedures and their applications to educational research; includes canonical correlation, discriminant analysis, multivariate analysis of variance, and related topics.

PHLS 8327 - Longitudinal Data Analysis in Psy/Educ Research

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 8327 Measuring Change and Analyzing Repeated-Measures Experimental Designs in Educational Research

Prerequisite: Graduate status and EPSY 8319, EPSY 8322, and EPSY 8324; or consent of instructor.

Statistical approaches for studying change in psychology and education. Topics include residual change, difference scores, structural invariance, latent growth curve modeling, event-history analysis, and latent transition analysis.

PHLS 8328 - Hierarchical Linear Modeling in Psychological & Educational Research

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 8328 Special Problems

Prerequisite: EPSY 8324, EPSY 8322, and EPSY 8319, or equivalent

Introduction to the application of hierarchical linear modeling. Student will obtain hands-on experiences with statistical analyses of national large-scale data set.

PHLS 8329 - Moderation and Mediation Analysis in Psychological and Educational Research

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate Status; PHLS 8319 Inferential Statistics; PHLS 8322 Intermediate Statistics; or consent of instructor.

This course will cover the questions that moderation and mediation analysis can answer, and the underlying principles and the practical applications of these methods. Students will learn how to implement various moderation and mediation analysis procedures using a variety of software packages, including SPSS, SAS, and Mplus.

PHLS 8333 - Theories of Human Development

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 8333 theories of Human Development

PHLS 8334 - Research Counseling Psychology



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 8334 Research in Counseling Psychology

PHLS 8335 - Sem-Adv Top-Human Development

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 8335 Seminar on Advanced Topics in Human Development

PHLS 8337 - Multicul Iss Coun Psych

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 8337 Multicultural Issues in Counseling Psychology

PHLS 8339 - Sem in Career Coun

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 8339 Seminar in Career Counseling

PHLS 8341 - Professional Seminar

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 8341 Professional Seminar

PHLS 8342 - Seminar Learning Theories

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 8342 Seminar in Learning theory

PHLS 8344 - Biogl Basis Bhvr-Counsl

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 8344 Biological Basis of Behavior-Counseling

PHLS 8345 - Adult Cognition and Learning

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to graduate program.

The course provides both a theoretical understanding of adults and how they learn, the change process, and the research literature related to professional development and changes in mindset.

PHLS 8346 - Pediatric Psychopharmacology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 8346 Pediatric Psychopharmacology

Prerequisite: EPSY 8344.

Current developments, issues and controversies related to the prescription of psychoactive medications to children and adolescents will be reviewed, with an emphasis on balanced assessment of risks and benefit.

PHLS 8347 - Assessment of Cognitive Abilities



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 8347 Assessment of Cognitive Abilities

Prerequisite: Admission to Counseling or School Ph.D. Program, consent of instructor.

This course is designed to provide entry-level competence in the administration, scoring, and interpretation of assessment instruments used to measure cognitive abilities.

PHLS 8348 - Evidence-Based Practice

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 8348 Evidence-Based Practice with Children and Adolescents

Prerequisite: Consent of Instructor

This course offers training in evidence-based pediatric psychological assessment and intervention practices for internalizing, externalizing and autism-spectrum disorders.

PHLS 8349 - Advanced Psyc Assessment II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 8349 Advanced Psychological Assessment II

PHLS 8350 - Educational Psychology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 8350 Educational Psychology

PHLS 8351 - Hist & Philosophy of Psyc Syst

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 8351 History and Philosophy of Psychological Systems

PHLS 8352 - Social Psychological Processes

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 8352 Social Psychological Processes

PHLS 8353 - Historical & Philosophical Foundations of Educational Psychology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 8353 Historical and Philosophical Foundations of Educational Psychology

Prerequisite: Graduate standing in EPSY-ID Ph.D. program or Permission of Instructor.

Analysis of major themes in history and philosophy of educational psychology, including consideration of major historical figures, theories, concepts, and systems.

PHLS 8357 - Clinical Interventions in Counseling Psychology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 8357 Clinical Interventions in Counseling Psychology

Prerequisite: Permission of instructor

This course is designed to introduce counseling psychology students to a wide variety of clinical interventions with particular emphasis on assessing when to use them and evaluating their effectiveness.

PHLS 8361 - Ecological-Behavioral Interventions



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 8361 Ecological-Behavioral Interventions

Prerequisite: Admission to School Psychology Ph.D. or consent of instructor.

Reviews principles of interventions and from an ecological and applied behavior analytic perspective for children, adolescents, and adults. Emphasis on behaviorism, functional assessment, functional analysis, and Positive Behavior Support.

PHLS 8362 - Innovative Academic Assessment & Intervention: RTI

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 8362 Innovative Academic Assessment and Intervention: RTI

Prerequisite: Admission to School Psychology Ph.D. or consent of instructor.

Focuses on assessment and direct intervention of academic skills utilizing a data-driven problem-solving orientation. Includes a review of a Response-to-Intervention model as well as Curriculum-Based measurement.

PHLS 8363 - Research in School Psychology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 8363 Research in School Psychology

Prerequisite: Admission to School Psychology Ph.D. or consent of instructor.

This course is designed to increase student's competence in designing, conducting, evaluating, and publishing research in the area of school psychology

PHLS 8364 - Professional Practice in Psyc: Ethics, Law, & Professional Issues

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 8364 Professional Practice in Psychology: Ethics, Law, and Professional Issues

Prerequisite: Admission to School Psychology Ph.D. or consent of instructor.

Reviews ethical, legal, and professional issues relevant to the professional practice of psychology, research, and teaching; Reviews licensure/credentialing exams, government/professional organizations, and managed care issues.

PHLS 8366 - Assessment of Child & Adolescent Affect, Behavior, and Personality

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 8366 Assessment of Child & Adolescent Affect, Behavior, and Personality

Prerequisite: None

Provides entry-level skills in the evidence-based assessment of emotional and behavioral issues with children and adolescents. Emphasizing test selection, administration, and scoring/interpretation. Explores best practice and diversity issues in assessment.

PHLS 8367 - Behavioral Consultation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: EPSY 8367 Behavioral Consultation

Prerequisite: Admission to School Psychology Ph.D

This course is intended to provide an introduction to the theory and practice of consultation, with an emphasis on behavioral consultation and the interpersonal processes that influence its effectiveness.

PHLS 8381 - Community-based Program Evaluation

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Completion of introductory graduate statistics and research methods (e.g., PHLS 8319 ,



Inferential Statistics in Psychological & Educational Research; EDRS 8380 , Research Methods in Education I) .

This seminar class with field experiences teaches planning and implementing evaluation processes, learning of key evaluation skills, establishing focus with client, posing evaluation questions, overview of methods to collect data, and designing evaluations for internal validity, data aggregation. Also covered are contents of an evaluation plan and contracting for evaluations.

PHLS 8393 - Doctoral Practicum in Psy

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** Consent of Instructor.

Supervised advanced field experiences in educational psychology.

PHLS 8394 - University Teach Pract in Epsy

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 Formerly/Same as: EPSY 8394 University Teaching Practicum in EPSY

PHLS 8397 - Selected Topics

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0

PHLS 8398 - Special Problems

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 Formerly/Same as: EPSY 8398 Special Problems

PHLS 8399 - Doctoral Dissertation

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

PHLS 8699 - Doctoral Dissertation

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

PHLS 8999 - Doctoral Dissertation

Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

Psychology

PSYC 6198 - Special Problems



Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** approval of chair.
Individual student projects carried out in conjunction with a faculty member.

PSYC 6298 - Special Problems

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** approval of chair.
Individual student projects carried out in conjunction with a faculty member.

PSYC 6300 - Stat for Psy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing or consent of instructor.
The origins of inferential statistics. Emphasis is placed on understanding the uses of statistical concepts in psychological research.

PSYC 6301 - Psychological Theory His/Sys

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing or consent of instructor.
Principal themes in history of science, history and systems (paradigms) of psychology, philosophy of science and epistemology.

PSYC 6302 - Experimental Dsgn

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing or consent of instructor.
Review of basic principles of design and design models. Concentration on multivariate factorial designs, both parametric and nonparametric, including analysis of variance, covariance, Latin and Greco-Latin squares, and trend analysis.

PSYC 6303 - Foundation-Clinical Interven I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing or consent of instructor.
History and scope of clinical interventions; major theoretical models.

PSYC 6304 - Fndtns-Dev Psy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing or approval of program director.
An advanced introduction to basic concepts, current issues, and applications of developmental psychology.

PSYC 6306 - Fndatns-Cogntve Psy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing or approval of program director.
An advanced introduction to basic concepts current issues, and applications of cognitive psychology. Areas represented are information processing, language, judgment, memory, and thinking.

PSYC 6308 - Foundations of Neuropsychology



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 An introduction to the nomenclature, theory and concepts of normal and abnormal brain development, brain functioning, and neuroanatomy.

PSYC 6316 - Interventions-Clinical Psyc II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PSYC 6303 and consent of instructor.
Problem-specific techniques and therapeutic strategies based on functional analytic and cognitive-behavioral perspectives.

PSYC 6317 - Psychopathology I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing and consent of instructor.
Major theoretical formulations associated with functional disorders.

PSYC 6332 - Cognitive Disorders & Lifespan Neuropsychology: Assessment/Applications I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PSYC 6308 and consent of instructor.
The study of cognitive and behavioral concomitants of structures and systems of the central nervous system. This section emphasizes principles, models, and approaches to assessment and treatment.

PSYC 6334 - Foundations of Health Psychology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor
An introduction to classic and current theory, research, and methodology in Health Psychology.

PSYC 6336 - Directed Research in Social Psychology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing and instructor approval.
Individual student research conducted under the supervision of a faculty member.

PSYC 6337 - Grant Writing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing or consent of instructor.
Skills, strategies, and procedures for securing research funding with emphasis on National Institute of Health (NIH). Learn to write grants and demonstrate knowledge of the grant writing and reviewing process.

PSYC 6338 - Fndtns of Social Psyc

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.
An advanced introduction to the basic concepts, current issues, and applications of social psychology.

PSYC 6339 - Human Motivation



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing or permission of instructor.

Explores recent social psychological research and theory on human motivation as it relates to a wide range of outcomes including mental and physical health.

PSYC 6343 - Psychopharmacology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in psychology and consent of instructor.

Electrical activity of the brain and synaptic transmitter systems. Manipulation by endogenous and exogenous chemicals and drugs, and their operation in various brain pathologies.

PSYC 6344 - Functional Neuroanatomy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Anatomy and function of major structures and circuits of the mammalian central nervous system in health and disease. Gross structure and function of the spinal cord and spinal nerves, brainstem and cranial nerves, cerebellum and cerebrum are emphasized.

PSYC 6351 - Research Methods-I/O

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Designed to provide experience in the process of research in industrial/organizational psychology. Students evaluate research in terms of conceptualization, hypothesis generation, design, the use of statistics, and conclusions. Students design and evaluate proposals.

PSYC 6352 - Directed Research in Industrial/Organizational Psychology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing and instructor approval.

Individual student research conducted under the supervision of a faculty member.

PSYC 6356 - Clinical Assessment I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing and consent of instructor.

Test standards, the history of assessment, basic measurement theory, dependability of data, models of prediction, decision theory, Cognitive Assessment.

PSYC 6357 - Clinical Assessment II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PSYC 6356 and consent of instructor. Enrollment limited.

Required for clinical psychology concentration. Rationale, administration, scoring, and interpretation of basic, personality and behavioral assessment instruments.

PSYC 6358 - Directed Research in Neuropsychology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing and instructor approval.

Individual student research conducted under the supervision of a faculty member.



PSYC 6359 - Directed Research in Clinical Psychology

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** graduate standing and instructor approval.
Individual student research conducted under the supervision of a faculty member.

PSYC 6365 - Directed Research in Developmental, Cognitive, & Behavioral Neuroscience

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing and instructor approval.
Individual student research conducted under the supervision of a faculty member.

PSYC 6370 - Fndtns-Indstrl Org Psyc

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** consent of instructor.

Survey of the major content areas of I-O psychology as well as the relevant journals, the roles played by I-O psychologists, and the major ethical issues.

PSYC 6371 - Seminar Personnel Psy

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** consent of instructor.

Theory and application of principles of individual differences and psychological measurement to the study of behavior in organizational settings. Applied emphasis is on employee selection and development.

PSYC 6379 - Occupational Health Psychology

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing in psychology or consent of instructor.

Review of the major theories and empirical research showing the effects of the work environment on employees' health and well being. Primary emphasis on development and maintenance of healthy people within healthy organizations focusing on prevention of illness, disease, health problems and injuries in the work environment. Topics include occupational safety and health hazards, organization of work factors and their relation to employee safety and health, safety climate and training, the etiology of job stress and burnouts, work-place, health promotion programs and the role of employee assistance programs, the interface of work and non-work factors in maintaining occupational health, and epidemiological and other research and measurement issues.

PSYC 6380 - Pers Relationships:Theory Res

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0

PSYC 6381 - Soci Psychlgcl Mtholgy

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** consent of instructor.

Various methodological orientations pertaining to experimental and quasi-experimental research in the social sciences.

PSYC 6389 - Hist & Theory Soc Psyc



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in psychology or consent of instructor.
Survey of major historical and theoretical antecedents of modern social psychology.

PSYC 6392 - Intervention Practicum

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** None.

Supervised field work in clinical psychology. Enrollment limited.

Y

Note: May be repeated for credit.

Additional Fee Y **Fee Type** Y

PSYC 6393 - Clinical Research Practicum

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 N

Additional Fee Y **Fee Type** Y

PSYC 6394 - Sel Topics-Social Psychology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

In-depth coverage of special topics in social psychology.

May be repeated when topics vary.

PSYC 6397 - Sel Top in Psychology

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 Y

Additional Fee N **Fee Type** N

PSYC 6398 - Special Problems

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** approval of chair.

Individual student projects carried out in conjunction with a faculty member.

PSYC 6399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y **Fee Type** Y

PSYC 6498 - Special Problems

Credit Hours: 4.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** approval of chair.

Individual student projects carried out in conjunction with a faculty member.

PSYC 6598 - Special Problems



Credit Hours: 5.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** approval of chair.

Individual student projects carried out in conjunction with a faculty member.

PSYC 7305 - Structural Equations

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PSYC 6300 and PSYC 6302 or consent of instructor.

Estimation, testing, and assessment of fit using LISREL are examined for path analytic, confirmatory factor, and latent variable models.

PSYC 7306 - Advanced Statistics: Multilevel Modeling

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PSYC 6300 and PSYC 6302 or consent of instructor.

The course will introduce analysis of dependent data (e.g., students within classrooms) from a multilevel, latent variable modeling perspective.

Software to be used include SAS Proc Mixed, Mplus, and HLM.

PSYC 7307 - Applied Psychological Measurement

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PSYC 6300, 6302 and one other graduate level quantitative methods course.

The course focuses on psychometric theory and application for scale development and evaluation. Topics include classical test theory, scale development, and item response theory methods for psychological measurement.

PSYC 7329 - Seminar in Clinical Psy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 May be repeated.

PSYC 7338 - Cognitive Disorders & Lifespan Neuropsychology: Assessment/Applications II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PSYC 6332 and consent of instructor.

The study of cognitive and behavioral concomitants of structures and systems of the central nervous system. This section emphasizes neurocognitive modules (e.g., memory, visual-perception, attention) and their clinical applications.

PSYC 7339 - Cognitive Disorders & Lifespan Neuropsychology: Assessment/Applications III

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PSYC 7338 and consent of instructor.

The study of cognitive and behavioral concomitants of structures and systems of the central nervous system. This section emphasizes particular disorders, syndromes, and techniques and their clinical application.

PSYC 7342 - Bio Bases of Behav

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in psychology or consent of instructor.

The biological, neurological and physiological aspects of behavior as they are relevant to psychology.

PSYC 7345 - Psych Methods



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing in psychology and PSYC 6300 and PSYC 6302, or consent of instructor.

Techniques used to generate research ideas and the use of experimental and quasi-experimental designs to test these ideas.

PSYC 7360 - Seminar in Training

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Training needs-analysis, development of training programs, evaluation of training outcomes.

PSYC 7362 - Interviewing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing or consent of instructor.

Review and analysis of research literature: emphasis on relationship of issues in selection to issues in training and identification of research needs.

PSYC 7363 - Organizational Psychology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing or consent of instructor.

Review and analysis of research methodologies and theories related to social processes in organizations.

PSYC 7364 - Legal Issues

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing or consent of instructor.

Analysis of legal issues including those raised by the American Psychological Association and Society of Industrial/Organizational Psychology Testing Guidelines.

PSYC 7390 - Clin Neuropsychology Practicum

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** Consent of program director.

Practicum in clinical neuropsychology.

Y

Note: May be repeated.

Additional Fee Y **Fee Type** Y

PSYC 7392 - Psychology Practicum

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 N

Additional Fee Y **Fee Type** Y

PSYC 7393 - Field Practicum in Psychology

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 N

Additional Fee Y **Fee Type** Y



PSYC 7394 - Sel Topics-Clinical Psychology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Topics relevant to central processing of information, e.g., localization and hemispheric functioning, predictability and control of stressors, state dependent learning, brain models of memory, motivational, and cognitive processing.

May be repeated for a maximum of nine semester hours.

PSYC 7395 - Topics On Clinical Rsch

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

In-depth review of the principles of counseling youth, with particular emphasis on empirically supported treatments (ESTs).

PSYC 7396 - Sel Top in Quant Mthds

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PSYC 6300 or consent of instructor.

Examples of topics are factor analysis, test theory, Bayesian methods, and computer simulation.

May be repeated for credit when topics vary.

PSYC 7397 - Selected Topics in Psychology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor.

May be repeated when topics vary.

Note: May be repeated when topics vary.

PSYC 7398 - Statistics in Psychology Practicum

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** Permission of the instructor.

This applied data analysis practicum will provide students with practical experience in the application of the statistical methods to research problems in which they are currently engaged, including but not limited to, thesis and dissertation projects.

Y

Note: Can be repeated for credit.

Additional Fee N **Fee Type** N

PSYC 7399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y **Fee Type** Y

PSYC 8121 - Clinical Psychology Internship

Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 N

Additional Fee Y **Fee Type** Y

PSYC 8190 - Clinical Neuropsych Internship



Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** Consent of program director.
Internship in clinical neuropsychology.

Y

Note: May be repeated (three terms required for completion of the program requirement).

Additional Fee Y **Fee Type** Y

PSYC 8199 - Doctoral Dissertation

Credit Hours: 1

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y **Fee Type** Y

PSYC 8299 - Doctoral Dissertation

Credit Hours: 2

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee N **Fee Type** N

PSYC 8321 - Clinical Psyc Internship

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 N

Additional Fee Y **Fee Type** Y

PSYC 8330 - Cognitive Neuroscience

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing and instructor approval.

Examination of the neurological basis of cognition. Material is drawn from research in psychology, clinical neurology, and the neurosciences. Topics covered include memory, language, perception and attention.

PSYC 8390 - Clinical Neuropsych Internship

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 N

Additional Fee Y **Fee Type** Y

PSYC 8392 - Advanced Clinical Practicum

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 N

Additional Fee Y **Fee Type** Y

PSYC 8393 - Sel Top-Indstrl/Org Psy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor.

Sel Top-InDissertationrl/Org Psy

May be repeated for a maximum of nine Seminarester hours with approval of chair.



PSYC 8395 - Tops in Neuropsych

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Tops in Neuropsych

May be repeated when topics vary.

PSYC 8397 - Selected Topics in Psychology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PSYC 6308 and consent of instructor.

The clinical and experimental literature on various memory disorders having structural or functional etiologies and their rehabilitation.

PSYC 8399 - Doctoral Dissertation

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

PSYC 8690 - Clinical Neuropsych Internship

Credit Hours: 6

Lecture Contact Hours: 3 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

PSYC 8699 - Doctoral Dissertation

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

PSYC 8999 - Doctoral Dissertation

Credit Hours: 9

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

Public Administration

PUBL 6310 - Administrative Theory

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None

Strategies and techniques for managing public organizations from the perspectives of various administrative theories and organizational models; case studies used to apply theory.

PUBL 6311 - Public Administration and Policy Implementation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None



Effects of economic incentives on voters, government officials, economy and markets; analysis of situations where private markets fail to be efficient; applications to government policies at federal and local levels; analysis of tax system and interaction among federal, state and local governments.

PUBL 6312 - Public Finance

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None

Effects of economic incentives on voters, government officials, economy and markets; analysis of situations where private markets fail to be efficient; applications to government policies at federal and local levels; analysis of tax system and interaction among federal, state and local governments.

PUBL 6313 - Fundamentals of Policy Analysis

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None

How public policies are decided; tools for policy decision making; political, social, and legal determinants of public policy.

PUBL 6321 - Seminar in Urban Politics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None

How local government copes with social and economic problems in overlapping, metropolitan government environments, the complexity of urbanization, and other government agencies.

PUBL 6325 - Capstone Problem Project

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Intensive study of significant policy issue student's choice. Students formulates and analyzes real issue of public policy and make independent and specific recommendations about the issues.

N

Additional Fee Y Fee Type Y

PUBL 6342 - Budgeting For Public Agencies

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Introduces students to politics, basic concepts, theories, and practices involved in public budgeting process.

PUBL 6343 - GIS for Urban Applications

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Introduces students to the applications of geographic information systems (GIS) for urban decision makers in the fields of urban geography, urban planning, public health, environmental assessment, hazard and emergency management.

PUBL 6346 - Seminar in Emergency Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None

Policies and programs of public and private sector including natural and technological disasters and terrorism.

PUBL 6347 - Seminar in Health Care Policy



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

Formerly/Same as: PUBL 6347 - Seminar in Regulatory Process.

PUBL 6395 - Selected Topics: Public Administration and Policy Analysis Topic: Healthcare Policy Analysis

Cross-Listed As: POLS 6315

Prerequisite: None.

Politics and economics of health and medical care with emphasis on the delivery of services, their quality, and distribution and financing.

Note: Seminar.

PUBL 6349 - Seminar in Non-Profit Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PUBL 6395 Selected Topics: Public Administration and Policy Analysis Topic:

Nonprofit Organizational Management

Prerequisite: None

Facilitate an understanding of non-governmental service/advocacy organizations, or "nonprofit organizations", and the management and leadership skills required to effectively organize, maintain, and grow them.

PUBL 6350 - Public Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** none.

Lecture and seminar on developing knowledge and skills to effectively manage in public organizations.

PUBL 6398 - Special Probs Publ Adm/Policy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Independent study in public administration or public policy.

May be repeated for credit.

PUBL 6410 - Quantitative Methods I

Credit Hours: 4.0

Lecture Contact Hours: 3 Lab Contact Hours: 1 **Prerequisite:** None

First semester of a two-semester sequence on research methods commonly used in political science and public administration. Emphasis on issues of research design, descriptive and inferential statistics, and bivariate regression.

PUBL 6415 - Decision Science for Public Affairs

Credit Hours: 4.0

Lecture Contact Hours: 3 Lab Contact Hours: 1 Introduces management science approach to problem solving in order to support management, planning, and decision making, and evaluation in the public and non-profit sector, including decision analysis, simulation, and forecasting.

Public Policy

POLC 6198 - Special Problems

Credit Hours: 1.00

Lecture Contact Hours: 0.0 Lab Contact Hours: 0.0 **Prerequisite:** Graduate standing or consent of graduate faculty advisor.



Individual study or projects on an arranged basis under faculty sponsorship.

Note: May be repeated for credit.

POLC 6310 - Administrative Theory

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** Graduate standing or consent of graduate faculty advisor.

Strategies and techniques for managing public organizations from the perspectives of various administrative theories and organizational models; uses case studies to apply theory.

POLC 6311 - Leadership and Professional Development

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of graduate faculty advisor.

An introduction to policy process and public policy careers, with special emphasis on leadership, teamwork, and organizational dynamics. Professional skill development will also be emphasized.

POLC 6312 - Public Finance

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** Graduate standing or consent of graduate faculty advisor.

Effects of economic incentives on voters, government officials, economy, and markets. Analysis of situations where private markets fail to be efficient. Applications to government policies at federal and local levels, including welfare, insurance, health care, policing, roads, and Social Security. Analysis of tax system and interaction among federal, state, and local governments.

POLC 6313 - Policy Analysis I: Microeconomics

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** Graduate standing or consent of graduate faculty advisor.

Overview of microeconomic tools to measure and weigh the gains and losses from any public policy, including consumers' choices, firms' decisions, supply and demand framework, market equilibrium, allocative and productive efficiency, property rights, externalities and market failures, and public choices and public goods.

POLC 6314 - Policy Research Methods I: Introduction to Statistics

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** Graduate standing or consent of graduate faculty advisor.

Provides a basic understanding of statistical analysis for policy research, introduces basic statistical techniques and statistical software packages. Introduces research design and discusses the ethics of quantitative policy research.

POLC 6315 - Policy Research Methods II: Multivariate Analysis

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** POLC 6314 and/or consent of graduate faculty advisor.

Reviews more advanced statistical concepts and tools used to study the association between variables. Introduces students to regression analysis and explores its uses in policy analysis.

POLC 6316 - Policy Research Methods III: Advanced Quantitative Modeling

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** POLC 6314, POLC 6315, and/or consent of graduate faculty advisor.



Focuses on time series, panel data, and other more advanced statistical concepts and tools used to study the association between variables and systems of variables.

POLC 6317 - Public Policy Capstone

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** POLC 6314, POLC 6315, POLC 6316, and/or consent of graduate faculty advisor.

The capstone course for the Master of Public Policy program. Places an emphasis on a collaborative group project that incorporates the knowledge and skills learned throughout the entire program curricula, including data fusion, data visualization, spatial statistical analysis, and linkages between visualization and statistical analysis.

POLC 6320 - Policy Analysis II: Political Analysis

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of graduate faculty advisor.

Introduction to analytical models of politics applied to such topics as collective action, majority rule, coalition formation, and the functioning of government.

POLC 6330 - Philosophy and Public Policy I

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** Graduate standing or consent of graduate faculty advisor.

Evaluating value claims in policy with regard to political theory; normative, ethical, and political goals of policy; and applied ethics on issues of environment, punishment, inequality, gender, race, and research ethics.

POLC 6331 - Philosophy and Public Policy II

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** Graduate standing or consent of graduate faculty advisor.

Philosophical and critical examination of the value commitments behind different policy proposals. Comparative study of conservative, liberal, and other policy proposals in areas such as education, health care, social security, and income support.

POLC 6342 - Political Economy and Ethics of the Market Processes

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** Graduate standing or consent of graduate faculty advisor.

Explores the relation between citizens and market processes in basic market mechanism concepts, the role of government in market processes, and the ethics and morality in market processes.

POLC 6352 - Quantitative Methods and Applications

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** Graduate standing or consent of graduate faculty advisor.

Overview of three quantitative tools for policy analysis: benefit-cost analysis, economic impact analysis, and analysis of government data sources. Benefit-cost analysis applies microeconomics to decisions about public projects. Economic impact analysis uses input-output models to analyze national and regional economies. Analysis of government data sources is an introduction to the use of Census and other data for the purposes of demographic analysis and economic forecasting.

POLC 6370 - Family Policy: Theory and Research



Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** Graduate standing or consent of graduate faculty advisor.

This course provides a theoretical and empirical introduction to current research on the family. Students will be introduced to current philosophical debates about parental rights, children's rights, and family justice, and explore in detail empirical research on the impact of different family policies, including paid parenting leaves, cash and tax subsidies for families with young children, flexible scheduling laws, and publicly-supported childcare, on children and parents.

POLC 6391 - Public Policy Internship

Credit Hours: 3.00

Lecture Contact Hours: 0.0 Lab Contact Hours: 3.0 **Prerequisite:** Graduate standing or consent of graduate faculty advisor.

Work experience in selected private industry, nonprofit, federal, state, and local government offices under faculty and field representative direction and supervision.

POLC 6397 - Selected Topics in Public Policy

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** Graduate standing or consent of graduate faculty advisor.

Selected topics in public policy.

Note: May be repeated for credit when topics vary.

POLC 6398 - Special Problems

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** Graduate standing or consent of graduate faculty advisor.

Independent graduate-level study focused on special research project.

Note: May be repeated for credit.

POLC 6399 - Thesis

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** Graduate standing or consent of graduate faculty advisor.

Secondary Education

SEDE 6301 - Trds and Mtds/Sec Soc Sci

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 9 Field-based course that introduces placement of content, coordination with other subjects, and integrated activities; materials and methods of instruction.

SEDE 7335 - Literature for Adolescents

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: SEDE 6335 Literature for Adolescents

Prerequisite: None.

Emphasis upon selection, criteria for evaluation, and guidance of reading interests for 12- to 16-year-olds.

SEDE 7340 - Reading in Middle and Secondary



Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 Formerly/Same as: SEDE 6340 Reading in Middle and Secondary Schools

Prerequisite: None

Examines research methods and content-area strategies for reading instruction in the middle and secondary schools.

Social Work

SOCW 6201 - Foundations of the Social Work Profession

Credit Hours: 2.0

Lecture Contact Hours: 2 *Lab Contact Hours:* 0 **Prerequisite:** Admission to GCSW

History, mission, values and ethics of the social work profession.

SOCW 6202 - Social Work Practice

Credit Hours: 2.0

Lecture Contact Hours: 2 *Lab Contact Hours:* 0 **Prerequisite:** Admission to GCSW

Fundamentals of social work practice skills from micro to macro.

SOCW 6203 - Social Welfare Policies and Services

Credit Hours: 2.0

Lecture Contact Hours: 2 *Lab Contact Hours:* 0 **Prerequisite:** Admission to GCSW

Historical and current social welfare policies; implications for social service delivery.

SOCW 6204 - HBSE: Social Work Perspectives

Credit Hours: 2.0

Lecture Contact Hours: 2 *Lab Contact Hours:* 0 **Prerequisite:** Admission to GCSW

Human behavior theory in the context of social environment, including how race/ethnicity, gender and other variable impact optimal functioning.

SOCW 6293 - Field Practicum I - Foundation

Credit Hours: 2

Lecture Contact Hours: 0 *Lab Contact Hours:* 2 **Prerequisite:** Admission to the GCSW.

Supervised foundation field practicum in an approved agency; requires a minimum of 200 clock hours.

N

Additional Fee Y Fee Type Y

SOCW 6294 - Field Practicum II

Credit Hours: 2

Lecture Contact Hours: 0 *Lab Contact Hours:* 2 **Prerequisite:** Successful completion of foundation Field Practicum I.

Supervised field practicum in an approved agency; requires a minimum of 200 clock hours.

N

Additional Fee Y Fee Type Y

SOCW 6304 - Women's Issues



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 An examination of selected social, political, and economic issues pertaining to women in American society. Particular attention is given to social policy and practice implications.

SOCW 6305 - Research & Knowledge Building for Social Work Practice

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to GCSW

Skills in research and knowledge building strategies for use in social work practice, including practice evaluation.

SOCW 6306 - Social Work Practice Skills

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to GCSW

Development of practice skills and self-awareness; discussion of entry into field practicum, including problem solving around common issues.

SOCW 6307 - Social Work Policy in the Social Environment

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to the GCSW.

Examining social welfare policy within the broader social, political, and economic context.

N

Additional Fee N Fee Type N

SOCW 6308 - Human Diversity and Human Development

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to the GCSW.

Fundamentals of social work practice skills from micro to macro.

N

Additional Fee N Fee Type N

SOCW 6354 - Managing Human Services Orgs

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of the foundation curriculum, or consent of instructor.

Theories, skills, and methods for effective planning and managing in human services organizations.

SOCW 6392 - Field Practicum

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** consent of adviser.

Supervised field experience in an approved social work setting.

SOCW 7191 - Field Practicum Elective I

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** SOCW 6293, SOCW 6294 or advisor approval.

Elective field practicum (120 clock hours) in an approved affiliated agency.

SOCW 7198 - Special Problems



Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Prerequisites: 31 hours in social work, consent of instructor, and advisor's approval.

SOCW 7290 - Adv Practicum II in Pol Sw

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** consent of advisor.
Supervised field experiences in an approved political social work setting.

SOCW 7297 - Selected Topics in Social Work

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor.
Topics will vary; may be taken more than once.

SOCW 7301 - Confronting Oppression and Injustice

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of MSW foundation.
Theories and practice models related to social, economic, and political injustice with attention to persons and groups affected by oppression.

SOCW 7303 - Child Abuse and Neglect

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of the MSW foundation.
Critical analysis of the etiologies, effects, clinical assessment and treatment strategies of child abuse and neglect.

SOCW 7304 - Brief Targeted Interventions: Brief Dynamic & Solution Focused

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of MSW Foundation.
Provides theoretical content to gain knowledge and develop advanced clinical skills in the application of Brief Dynamic Theory and Solution-Focused Therapy.

SOCW 7305 - Evaluation of SW Practice

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of the MSW foundation.
Quantitative and qualitative methods to analyze clinical, administrative, program, and policy data for practice evaluation.

SOCW 7306 - Building Financial Capacity with Vulnerable Populations

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** Successful completion of MSW foundation.
This course builds students' professional capacity to work with individuals, families, communities, financial institutions, and policymakers to improve the financial capability of vulnerable low and moderate income populations.

SOCW 7308 - Self-Examination of Life Foundations



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor

Examines how lifespan development and issues affect work with clients and colleagues, particularly in professional social work practice in child welfare and family services. Emphasizes professional practice with diverse families.

SOCW 7309 - Contemporary Issues in Mental Health

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of MSW foundation.

Analysis of the social, cultural and political issues that shape and define mental health, mental illness, and public mental health policy.

SOCW 7310 - Program Planning & Evaluation

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of foundation.

Quantitative and qualitative methods to conduct program planning and evaluation; techniques in developing, monitoring and evaluating social service programs.

N

Additional Fee Y Fee Type Y

SOCW 7312 - Advanced Clinical Practice: Suicide Assessment and Treatment

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of Foundation.

Provides theoretical content and empirically supported knowledge to develop evidence-based clinical skills in the risk identification, assessment, and treatment of suicide behavior across the life spectrum and within the larger social, racial, economic environment

N

Additional Fee Y Fee Type Y

SOCW 7314 - Historical/Social Policy Res

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** SOCW 6361 and 31 hours in social work or the consent of the instructor.

Examination and application of historical research methods as they relate to knowledge generation for social work practice, social policy formulation, and implementation.

SOCW 7315 - Substance Abuse & Pharmacology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of MSW foundation.

Examines the biological and behavioral mechanisms of substance use, abuse, and dependence.

SOCW 7316 - Clinical Social Work Practice with Latinos

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of MSW foundation.

This course focuses on development of awareness, knowledge, understanding, and culturally competent skills for clinical social work practices with Latinos and Latinas.

SOCW 7318 - Cognitive Behavioral Interventions: Motivational Interviewing and Cognitive-Behavioral Theory



Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Foundation.

Provides theoretical content to gain knowledge and develop advanced clinical skills in the application of Motivational Interviewing and Cognitive-Behavioral Theory

SOCW 7319 - Administrative Practice in Social Work

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of the MSW foundation.

Develop knowledge and skills necessary for administrative practice in social work.

SOCW 7320 - Empowerment

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of foundation curriculum or consent of instructor.

Methods and skills for building collaborative alliance with client/community systems to increase access to and control of needed resources. Emancipatory interventions and multicultural practice are emphasized.

SOCW 7321 - Multi-Cultural Practice

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of foundation curriculum or consent of instructor.

Methods and skills for effective practice in oppressed urban communities or with multicultural constituencies such as African Americans, Hispanics, Asian Americans, gay men, lesbian women, and the poor.

SOCW 7323 - Organizational Behavior & Change

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of foundation curriculum or consent of instructor.

Examines organizational group behavior in Human Service Organizations (HSO). Focuses on developing assessment, interactional, and organizational skills to improve organizational effectiveness.

SOCW 7324 - Clinical Applications of DSM in Social Work

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of the MSW foundation.

Development of assessment and diagnostic skills, and critical analysis of social work clinical applications based on the DSM IV-TR.

SOCW 7325 - Assessment in Social Work Practice

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of the MSW foundation.

Knowledge and skills for assessment of clients at the individual, group, family, organizational and community levels.

SOCW 7326 - Disparities in Health in America: Working Toward Social Justice

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of the MSW foundation.

Presents a comprehensive bio- psychosocial approach for understanding and addressing health disparities in America.

SOCW 7329 - Social Policy Advocacy



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of the MSW foundation.

Provides an understanding of political systems and teaches the skills to affect policy in the legislative as well as administrative arenas.

SOCW 7330 - Fiscal Managmnt&Budgtng

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of foundation curriculum or consent of instructor.

Discussion, analysis, and implementation of financing and budgeting theories and techniques applicable to planning, operating, and developing social services.

SOCW 7333 - Bioethics:Thry & Appl for Sw

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

SOCW 7334 - Dynamics of Leadership in Social Work

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of the MSW foundation.

Examines the key components for developing the effective practice of leadership in human service agencies and programs. Focuses on leadership for administrative practices.

SOCW 7335 - Strategies for Community Development

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of the MSW foundation.

Knowledge and skills in community development, social planning, and building healthy communities.

SOCW 7336 - Issues in Aging

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** SOCW 6323 and 31 hours in social work or consent of instructor.

Interdisciplinary focus on normal aging, and the biological, psychological, and sociological explanations of aging. Theoretically oriented with attention given to implications for social work intervention with older adults.

SOCW 7339 - Professional Grant Writing for Social Work

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of the MSW foundation.

Skills and knowledge in grant writing program planning and service delivery will include completion of proposal for funding.

SOCW 7340 - Clinical Practice with Child

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of the MSW foundation.

Focus on intervention strategies for practice with children and adolescents. Includes explorations of problems common to these client groups.

SOCW 7344 - Family Violence



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of foundation curriculum or consent of instructor. Focuses on major theories of family violence and their practice implications. Emphasis is on developing practice skills in work with adult and child victims/survivors and with perpetrators.

SOCW 7347 - Social Work Practice & Interventions in Schools

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of the MSW foundation. Focuses on three areas of social work practice and interventions in schools: student behavior issues, special education, and the coordination of services between schools and communities.

SOCW 7350 - Minority Males in TX Criminal Justice System

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of the MSW foundation. Examines the oppression of minority males in the United States with emphasis on their over-representation in the criminal justice system.

SOCW 7352 - Social Work with Latino Immigrants

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of the MSW foundation. Knowledge and skills for social work and advocacy with Latino and other immigrants.

SOCW 7354 - Spirituality and Aging

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of foundation curriculum or consent of instructor. Theories, skills and methods for effective planning and managing in human service organizations.

SOCW 7356 - Groups in Clinical Settings

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of the MSW foundation. Theories and concepts of therapeutic interventions with small groups emphasizing roles and skills of social workers in various mental health settings.

SOCW 7360 - International Social Work: A Comparative Approach

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of the MSW foundation. Comparative study of policies and practices in other countries and the United States, through study abroad.

SOCW 7361 - Clinical Social Work Practice with Elders

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of the MSW foundation. Knowledge and skills for professional social work practices with elders.

SOCW 7365 - Crisis Intervention



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of foundation curriculum or consent of instructor.

Provides theoretical and substantive content that will enable students to gain knowledge, understanding, and skill in relation to crisis intervention in social work practice.

SOCW 7366 - Grief/Bereave Therapy

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of foundation curriculum or consent of instructor.

Stages of grief and bereavement with a variety of social treatment interventions to assist the bereaved client in dealing with the grieving process.

SOCW 7367 - Advanced Social Policy Analysis

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of the MSW foundation

Provides knowledge of comparative social welfare systems and policies, the impact of policy on clients and communities, and the skills of policy analysis.

SOCW 7368 - Trauma Treatment for Children and Adolescents

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of foundation curriculum

This course will introduce students to the core concepts (general theory and foundational knowledge), which informs evidence-based assessment and intervention with traumatized children and adolescents. Trauma is broadly defined, and includes children and adolescents exposed to traumatic events including, but not limited to natural disasters, war, abuse and neglect, medical trauma and witnessing interpersonal crime (e.g. domestic violence) and other traumatic events. This course will highlight the role of development, culture and empirical evidence in trauma-specific interventions with children, adolescents and their families. It will address the level of functioning of primary care giving environments and assess the capacity of the community to facilitate restorative processes.

SOCW 7371 - Trauma and Social Work Practice

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Completion of foundation.

Frameworks and skills for understanding types, history, and impact of trauma on individuals, family, and community.

SOCW 7372 - Global Social Justice

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of foundation curriculum.

Analysis of international political economy and human rights issues; rights and responsibilities of global citizenship; and understanding of activism strategies and skills for achieving social justice goals. Includes study of power and oppression as fundamental to understanding global social justice issues in a social work context.

N

Additional Fee Y Fee Type Y

SOCW 7373 - Human Sexuality & Sw

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Successful completion of foundation curriculum or consent of instructor.

Examines human sexuality from an integrated practice perspective and includes content relevant to children and families, aging, health, mental health, and political social work.



SOCW 7374 - Mediation for Social Workers

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of foundation curriculum or consent of instructor. Concepts regarding conflict and conflict resolution with emphasis on teaching a generic mediation model applicable to social work practice.

SOCW 7376 - Social Work with LGBTQ Communities

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of MSW foundation.

This course outlines knowledge and specific skill sets related to effective social work practice with individuals who may identify as Lesbian, Gay, Bisexual, Transgender or Queer (LGBTQ). Knowledge for social work with Lesbian, Gay, Bisexual, Transgender or Queer (LGBTQ) communities.

SOCW 7377 - Drugs in Society

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of foundation curriculum or consent of instructor.

Examines current bio-psycho-social problems of alcohol and drug use, abuse, and addiction with focus on historical antecedents, pharmacological action, and factors associated with alcohol and drug taking behavior. Implications for policy and social work practice are emphasized.

SOCW 7378 - Behavioral Health for Social Work Practice in Integrated Healthcare

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Successful completion of MSW foundation.

Provides knowledge and skills for social work practice in integrated health settings. A framework for integrated service delivery for mental health, substance abuse and medical conditions is described.

SOCW 7384 - Field Practicum III - Clinical Practice

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** Successful completion of FP I & FP II.

Supervised internship in approved agency; requires a minimum of 250 clock hours.

N

Additional Fee Y Fee Type Y

SOCW 7385 - Field Practicum IV- Clinical Practice

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** Successful completion of SOCW 7384.

Supervised advanced clinical practice field practicum in an approved agency; requires a minimum of 250 clock hours.

N

Additional Fee Y Fee Type Y

SOCW 7388 - Field Practicum III- Macro Practice

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** Successful completion of Field Practicum I and II.

Supervised advanced clinical practice field practicum in an approved agency; requires a minimum of 250 clock hours.

N

Additional Fee Y Fee Type Y



SOCW 7389 - Field Practicum IV- Macro Practice

Credit Hours: 3

Lecture Contact Hours: 0 *Lab Contact Hours:* 3 **Prerequisite:** Successful completion of SOCW 7388.

Supervised advanced macro practice field practicum in an approved agency; requires a minimum of 250 clock hours.

N

Additional Fee Y **Fee Type** Y

SOCW 7391 - Field Practicum Elective

Credit Hours: 3

Lecture Contact Hours: 0 *Lab Contact Hours:* 3 **Prerequisite:** Successful completion of Field Practicum I - Foundation.

Supervised field practicum in an approved agency; requires a minimum of 250 clock hours.

N

Additional Fee Y **Fee Type** Y

SOCW 7397 - Selected Topics in Social Work

Credit Hours: 3.00

Lecture Contact Hours: 3.0 *Lab Contact Hours:* 0.0 **Prerequisite:** Consent of instructor.

Topics will vary; may be taken more than once.

SOCW 8199 - Dissertation

Credit Hours: 1

Lecture Contact Hours: 1 *Lab Contact Hours:* 0 N

Additional Fee N **Fee Type** N

SOCW 8303 - Teaching Internship III

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Doctoral standing or permission from the instructor.

Practice teaching methods and skills with 45 hours teaching practice not limited to classroom teaching.

Course can be repeated for credit.

SOCW 8304 - Research Internship IV

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Doctoral standing or permission from the instructor.

Prepares doctoral students for research experiences by applying an internship experience with an established faculty member.

Course can be repeated for credit.

SOCW 8311 - Research Methods I: Introduction to Research on Evidence-Based Social Work

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Doctoral standing or permission from the instructor.

This course examines the range of designs and methods involved in formulating and conducting social research, with an emphasis on the development of knowledge essential for utilizing and building the empirical knowledge base for evidence-based social work.

SOCW 8322 - Research Methods II: Applied Quantitative Research on Evidence-Based Social Work



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** SOCW 8311 and SOCW 8424 or permission from instructor.

Building upon the fundamentals learned in the first research course (Research Methods I), This Seminar emphasizes the application of this knowledge to specific research topic and providing and receiving critical appraisals of each others assignments.

SOCW 8323 - Research Methods III: Qualitative Research for Evidence-Based Social Work

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Doctoral standing or permission from instructor.

Examines the range of methods involved in formulating and conducting qualitative social research, with an emphasis on building empirical knowledge for evidence-based social work.

SOCW 8325 - Applied Multivariate Statistics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** SOCW 8397: Biostatistics and doctoral standing or permission from the instructor.

Emphasizes the use of the Statistics Package for Social Sciences (SPSS) in applied social work research.

SOCW 8327 - Grant Writing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Doctoral standing or permission from the instructor.

Prepares doctoral students for identifying, planning, collaborating, writing, budgeting, submitting, tracking, revising and managing grants.

SOCW 8333 - Social Science Theories

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** doctoral standing.

Social science theories and the conceptual frameworks that undergird contemporary social work literature, or which hold strong potential for enhancing social work practice theory or social policy formulations that contribute to institutional change and social justice.

SOCW 8334 - Social Policy Analysis

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** doctoral standing.

Examines the present state of knowledge-with particular reference to issues and problems-in social welfare policy. Designed to aid students to develop a research focus and to formulate research questions in social welfare policy. Also stressed are the skills to formulate policy hypotheses and disseminate the results of an empirical policy study.

SOCW 8335 - Teaching in Higher Education

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Doctoral standing or permission from the instructor.

Prepares doctoral students for teaching in higher education by applying theories in instructional design and analyzing and pedagogical perspectives and teaching issues relevant to curriculum development.

SOCW 8336 - Research Internship I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Doctoral standing or permission from the instructor.



Prepares doctoral students for research experiences by applying an internship experience with an established faculty member.
Course can be repeated for credit.

SOCW 8338 - Integrative Doctoral Seminar

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Doctoral standing or permission from the instructor.

Integration of knowledge and skills to promote the academic and scholarly development of advanced doctoral students, with the input of the instructor and peers.

SOCW 8343 - Data Software and Analysis

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** SOCW 8425.

This course will focus on how to utilize SPSS and other computer software programs for research in social work and social sciences.

SOCW 8395 - Pre-Dissertation Research

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** doctoral standing in social work and the completion of required and elective coursework.

Focus on pre-dissertation research including refining research skills, defining an appropriate dissertation topic, and developing a successful dissertation proposal. Students may repeat this course as they move toward an approved dissertation proposal.

SOCW 8397 - Selected Topics in Social Work

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0

SOCW 8398 - Independent Study

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Doctoral standing and consent of instructor.

Allow students to pursue specialized learning through work with individual faculty.

SOCW 8399 - Dissertation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

SOCW 8424 - Statistics and Data Analysis I

Credit Hours: 4.0

Lecture Contact Hours: 3 Lab Contact Hours: 1 **Prerequisite:** Doctoral standing or permission from the instructor.

Explores the application of descriptive and inferential statistics in social and behavioral sciences research via a weekly 3-hour lecture and 1-hour computer lab.

SOCW 8425 - Statistics and Data Analysis II



Credit Hours: 4.0

Lecture Contact Hours: 3 Lab Contact Hours: 1 **Prerequisite:** SOWC 8424 or permission from instructor.

Explores the application of multivariate statistics in social and behavioral sciences research via a weekly 3-hour lecture and 1-hour computer lab.

SOCW 8695 - Pre-Dissertation Research

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Doctoral standing in social work and successful completion of all required coursework.

This course provides opportunities to continue preparation for qualifying paper, the identification of a dissertation topic and methodology, and/or the dissertation proposal.

N

Additional Fee N Fee Type N

SOCW 8697 - Selected Topics in Social Work

Credit Hours: 6.00

Lecture Contact Hours: 6.0 Lab Contact Hours: 0.0 **Prerequisite:** Pre-Dissertation Research. Doctoral standing in social work.

Note: Course may be repeated for credit when topics vary.

SOCW 8699 - Dissertation

Credit Hours: 6.0

Lecture Contact Hours: 6 Lab Contact Hours: 0

SOCW 8995 - Pre-Dissertation Research

Credit Hours: 9.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Doctoral standing in social work and successful completion of all required coursework.

Focuses on preparation for qualifying paper or development of the dissertation proposal and preparation for the dissertation proposal defense.

Note: Course may be repeated for credit.

SOCW 8999 - Dissertation

Credit Hours: 9

Lecture Contact Hours: 3 Lab Contact Hours: 0 N

Note: Course may be repeated for credit.

Additional Fee Y Fee Type Y

Sociology

SOC 6199 - Thesis

Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 N

Additional Fee N Fee Type N

SOC 6300 - Sem-Sociological Theory

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** SOC 3300 or equivalent.



Required of all M.A. candidates. Focus is upon theory construction and the analysis of central concepts of sociology, their historical development, and current application from a diversity of sociological paradigms.

SOC 6302 - Research and Writing in the Social Sciences

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate status in sociology or consent of instructor.

Focusing on current issues and controversies in the social sciences in both theoretical and applied areas.

Note: Required of all M.A. candidates.

SOC 6304 - Social Statistics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** sociology graduate status or consent of instructor.

Required of all M.A. candidates. Statistical procedures in social sciences; descriptive and inferential statistics. Introduction to multiple regression.

SOC 6306 - Sem in Quant Methods

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor or SOC 6304 or its equivalent.

Required of all M.A. candidates. Methods of gathering sociological data, with emphasis on sample surveys: operationalization of theoretical variables (reliability and validity), research design, measurement; evaluation and policy research.

SOC 6311 - Qualitative Soc Methods

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate status in sociology or consent of instructor.

(Required of all M.A. candidates.) Experience in participant-observation, interviewing, urban ethnography, and other field-research skills, with emphasis on computer applications.

SOC 6312 - Sem Work & Occupations

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate status in sociology or consent of instructor.

Labor force trends, analysis of occupational structure and occupational groups, occupational socialization, careers, subjective responses to work, work and family.

SOC 6321 - Sem in Sociology of Culture

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate status in sociology or consent of instructor.

Analysis of culture as the source of social meanings; the relationship between culture and key social institutions, including the family, the economy, and medicine.

SOC 6325 - Seminar in Race and Ethnic Relations

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Approval of graduate advisor, graduate or Postbaccalaureate status.

An examination of the social and cultural processes that produce, reinforce, or alter racial and ethnic categories and systems of stratification.

SOC 6330 - Sem Social Psychology



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** approval of graduate advisor, graduate or Postbaccalaureate status.

Emphasis on the imposition of social structure upon the individual and the group. Diverse theoretical orientations are adopted and applied to research data.

SOC 6341 - Sem in Formal Organizations

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate status in sociology or consent of instructor.

Focuses on concepts and methods in the study of formal organizations including authority structures, communication systems, worker commitment, interorganizational linkages, impact of technology, and multiorganizational settings in the delivery of services.

SOC 6350 - Sociology of the Body

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or approval of the graduate advisor.

Examination of key theoretical perspectives, including social constructivist interpretations, on the social body; assessment of the empirical literature, including research on body work, embodied resistance, and medicalization.

SOC 6351 - Seminar in Social Stratification and Mobility

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** approval of graduate advisor, graduate or Postbaccalaureate status.

In-depth analysis of stratification theories and issues. Topics include characteristics of social classes; social mobility, policies, and class; and classes in comparative perspective.

SOC 6352 - Seminar in Population

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** approval of graduate advisor, graduate or Postbaccalaureate status.

Analysis of basic processes affecting population characteristics. Topics include fertility, migration, mobility, and population characteristics of developed and underdeveloped countries.

SOC 6360 - Soc of Urban Education

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing.

Issues confronting urban public schools, including desegregation, student achievement, teacher morale, and drop-out and turnover behaviors.

SOC 6363 - Seminar in Sociology of Deviance

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing or approval of graduate advisor.

Review and critique of current theoretical explanations and significant empirical research on deviance.

SOC 6371 - Seminar in the Family

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** approval of graduate advisor, graduate or Postbaccalaureate status.

Current theory and research in marriage and family; cross-cultural perspective on family variation and change; contemporary issues in marriage and family relations.



SOC 6375 - Seminar in Sociology of Law

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Approval of graduate advisor, graduate or Postbaccalaureate status. Examination of social factors affecting the law, legal institutions, and legal actors. Applies sociological theories toward understanding how the law is created, legal functions, and how individuals understand the law.

SOC 6380 - Seminar in Medical Sociology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate status in sociology, psychology, anthropology, or social work, or consent of instructor. Social factors in the etiology, development, and response to illness and disease; emphasis on health and illness behavior and the nature of health care providers.

SOC 6390 - Seminar in Sociology of Gender

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate status in sociology and approval of graduate advisor. Examination of the social and cultural structures and process that create, maintain and change gender stratification systems.

SOC 6391 - Seminar in Sexuality & Society

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Approval of graduate advisor, graduate or Postbaccalaureate status. Examination of social factors affecting human sexuality, including behaviors, identities, desires, and related inequalities.

SOC 6397 - Selected Topics in Sociology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate status in sociology or the approval of graduate advisor. Topics to be announced each Semester. May be repeated for credit as topics change.

SOC 6398 - Special Problems

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

SOC 6399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N
Additional Fee Y Fee Type Y

SOC 7199 - Thesis

Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 N
Additional Fee N Fee Type N



SOC 7395 - Internship in Sociology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** approval of graduate advisor, graduate standing in sociology. 12 graduate hours (including SOC 6300 and SOC 6305).

Combines formal sociological training, theoretical and empirical, with action-oriented programs and agencies in the community; requires practical and research experience in a field placement.

SOC 7396 - Internship in Sociology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** approval of graduate advisor, graduate standing in sociology. 12 graduate hours (including SOC 6300 and SOC 6305).

Combines formal sociological training, theoretical and empirical, with action-oriented programs and agencies in the community; requires practical and research experience in a field placement.

SOC 7399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

Space Architecture

SPAC 6201 - Man Systems Integration

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 Formerly/Same as: ARCH 6201 Man Systems Integration I

Prerequisite: Graduate standing in Space Architecture or consent of instructor

This course introduces the theory, requirements and design concepts for structures and systems in extreme and special environments, including outer space and relevant to studio (SPAC6401)

SPAC 6203 - Spacecraft/Habitat Design

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 Formerly/Same as: ARCH 6203 Spacecraft/Habitat Design I

Prerequisite: Graduate standing in Space Architecture or consent of instructor

This course introduces habitability requirements and conceptual ideas for human surviving in extreme locations on Earth and in outer space through literature overview, research and analysis relevant to studio (SPAC 6403).

SPAC 6298 - Special Problems

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** None.

Each student is responsible for selecting a topic of research. The summary of the research conducted during the semester should be part of graduate students' Master thesis or their Master studio project.

SPAC 6398 - Special Problems



Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** None.

Each student is responsible for selecting a topic of research. The summary of the research conducted during the semester should be part of graduate students' Master thesis or their Master studio project.

SPAC 6401 - Space Systems Tech Studio

Credit Hours: 4.0

Lecture Contact Hours: 2 Lab Contact Hours: 6 Formerly/Same as: ARCH 6401 Space Systems Tech Studio I

Prerequisite: Graduate standing in Space Architecture or consent of instructor; concurrent enrollment in SPAC 6201

Understanding of space structures and systems through design, research, and analysis of specific projects. Included are manned system design, space structures and facilities, lunar/planetary exploration and terrestrial applications.

Course can be repeated for credit.

SPAC 6403 - Mission Planning and Analysis

Credit Hours: 4.0

Lecture Contact Hours: 2 Lab Contact Hours: 6 Formerly/Same as: ARCH 6403 Mission Planning/Analysis I

Prerequisite: Graduate standing in Space Architecture or consent of instructor; concurrent enrollment in SPAC 6201.

Attaining a good overall understanding of space mission planning through analysis of mission objectives and goals and applying it to programming, design, and research of specific projects.

SPAC 6405 - Advanced Design and Analysis

Credit Hours: 4.0

Lecture Contact Hours: 2 Lab Contact Hours: 6 Formerly/Same as: ARCH 6405 Advanced Design and Analysis

Prerequisite: SPAC 6401 and SPAC 6403.

Continuation of design and research work developed in SPAC 6401 and SPAC 6403. Advanced design of habitable facilities in space.

SPAC 7410 - Master's Project: Space Architecture

Credit Hours: 4.0

Lecture Contact Hours: 2 Lab Contact Hours: 6 **Prerequisite:** Graduate standing Space Architecture or consent of instructor.

Students may undertake an independent final design project directed toward adding to the general body of knowledge in space architecture, with approval of the Director of the program.

Spanish

SPAN 6198 - Special Problems

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

SPAN 6199 - Thesis

Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 N

Additional Fee N **Fee Type** N

SPAN 6298 - Special Problems



Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

SPAN 6305 - Teaching Spanish for Acquisition

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Required of all teaching assistants and highly recommended to all graduate students. An introduction to different methodologies for teaching Spanish as a second language.

SPAN 6308 - Introduction to Spanish Linguistics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.
An introduction to the field of Spanish linguistics.

SPAN 6310 - US Latinx Literature for Children and YA

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** BA in Spanish or Linguistics.

To introduce US Latinx literature for children and young adults written in Spanish and/or English and learn about the state of the field, publishing, who decides what books are placed in the hands of young readers and what is at stake when decisions are made without being aware of cultural and language needs.

SPAN 6320 - Research in Spanish Second Language Acquisition

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

An introduction to the field of language acquisition theories and research with a focus on the acquisition of Spanish as a second language.

SPAN 6330 - Language Variation and Change

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate status.

Linguistic and social phenomena that motivate variation and change in Spanish.

SPAN 6331 - Historical Grammar

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

SPAN 6333 - 19Th Century Span Lit

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

SPAN 6335 - Golden Age Drama

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor.

Social meaning and artistic values of significant works of the sixteenth and seventeenth centuries.



SPAN 6344 - US Hispanic Literature

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing.

Survey of the major literary works of Mexican-American, Puerto Rican, Cuban-American, and other U.S. Hispanic writers, past and present.

SPAN 6345 - Las Mujeres Reescriben America

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Students will be considering how a variety of U.S. women writers of Latin American descent (U.S. Latinas) "write" America. They, too, are Americans but their experiences, marginalized as women, as Latinas, and sometimes by class or sexuality, marks them as outside of the dominant notion of what America is and who counts as American. The writings of these women creatively reimagine an America that reflects brown bodies and faces, painting a very different picture of the U.S.

SPAN 6352 - Sociolinguistic Aspects of U.S. Spanish

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

The course offers students a first approach to the knowledge of basic linguistic concepts as applied to the study of the live varieties of the Spanish language spoken in the United States. The course consists of a discussion of several linguistic and social aspects of Spanish in the United States by means of lectures and fieldwork in the Spanish-speaking communities of Texas. Presentations of selected readings will be required.

SPAN 6353 - Spanish-English Contrastive Analysis

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

This course consists of the systematic study of parallel structures from Spanish and English to identify their differences and similarities. The goal is to apply findings in this area to facilitate the learning of Spanish in an environment in which students deal with two languages in their everyday life. A critical examination of different methodologies, theories, and principles related to the teaching of Spanish as a second language is also part of the larger discussion during the semester, which will allow students to get familiar with the current literature on Spanish Linguistics and second language acquisition. Contrastive analysis of live discourse from real situations is expected from students.

SPAN 6354 - Spanish Phonetics and Phonetic Variation

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Articulatory descriptions of sounds, phonetic transcription of Spanish, phonetic theory as it relates to language variation and change.

SPAN 6355 - Spanish Phonology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Sound system and prosodic features of modern Spanish; phonological theories and their application to Spanish.

SPAN 6356 - Spanish Syntax

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Spanish syntax as exemplifying language universals: grammatical relations, word order, transitivity, causative constructions, relative clauses.

SPAN 6358 - Spanish Sociolinguistics



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Sociolinguistic principles and patterns as illustrated in Spanish.

SPAN 6366 - Span-Am Lit To 1830

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

SPAN 6368 - Span-Am Modernism

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** SPAN 3321 and SPAN 3322.

Study of foreign influences. The distinctive characteristics of the movement; contributions of major authors.

SPAN 6370 - Research Methods

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing.

Methods of bibliographical and field research, use of technology, techniques of documentation, analytical taxonomies, and the establishment of acceptable evidence in research.

SPAN 6375 - Mdrn Spa-Amer Narr 1950

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Evolution of writers' central themes from the environmental to the existential.

SPAN 6379 - Spa-Am Nrrtv 1950/Prsnt

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing.

The principal manifestations of thought and the interrelationship between certain themes and techniques in the development of the contemporary narrative in Spanish America.

SPAN 6382 - Golden Age Prose

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

SPAN 6385 - Cntmpry Spa-Amer Poetry

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

SPAN 6386 - Contemporary Span Fictn

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing or consent of instructor.

Readings in twentieth century Spanish fiction, emphasizing the major trends in modern Spanish narrative.

SPAN 6389 - Methods of Teaching Spanish Heritage Learners



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: SPAN 6389 - Teaching Spanish to Native Speakers.

Prerequisite: Graduate standing or consent of instructor.

Heritage language education with an emphasis on teaching Spanish to the English/Spanish bilingual students of Hispanic heritage.

Note: Seminar.

SPAN 6390 - Research in Heritage Language Education

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

An introduction to the field of heritage language research with a focus on Spanish as a heritage language in the United States.

Note: Seminar.

SPAN 6392 - Reading Spanish for Non-Majors I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or approval of chair.

Reading knowledge of Spanish as a research tool. Accelerated study and analysis of grammar and linguistic structures of Spanish scholarly and scientific literature.

SPAN 6394 - Topics-Teaching Spanish

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** SPAN 4371 or equivalent or consent of instructor.

Varying topics such as techniques of teaching grammar, conversation, composition, and writing.

May be repeated once for credit with approval of chair.

SPAN 6395 - Topics-Lang&Linguistics

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0

SPAN 6397 - Topics in Span-Amer Lit

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0

SPAN 6398 - Spanish Phonetics & Phonology

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0

SPAN 6399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

SPAN 7198 - Reading & Research



Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** approval of graduate advisor in Spanish.
Instructor-supervised independent study in subjects not normally or not often included in the regular course offerings.

SPAN 7298 - Reading & Research

Credit Hours: 2.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** approval of graduate advisor in Spanish.
Instructor-supervised independent study in subjects not normally or not often included in the regular course offerings.

SPAN 7301 - Methods Hisp Lit & Lang

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Presentation of research issues with critical, methodological, and bibliographical resources. Includes a historical overview of field.

SPAN 7302 - Adv Research & Writing Seminar

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Use of bibliographic resources and various methods of research in preparing scholarly books and articles.

SPAN 7304 - Critical Theory

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing or consent of instructor.
Analysis of main concepts shaping contemporary approaches to literature.

SPAN 7391 - Sel Topics Spanish Amer Lit

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0

SPAN 7393 - Sel Tops Meth Span Linguistics

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0

SPAN 7394 - Sel Topics Span Literature

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 One selected topic (such as El Cid, Cervantes, the Generation of the '98, the Theater of Garcia Lorca) is explored in depth.
Course may be repeated for credit when the topic varies.

SPAN 7395 - Sel Topics in US Hispanic Lit

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 One selected topic (such as Bilingual Literature, Nuyorican Literature, Chicano Literature, Ethnic



Autobiography, U.S. Hispanic Theatre) is explored in depth.
May be repeated for credit when the topic varies.

SPAN 7396 - Selected Topics Hist Hispanic Ideas

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** none

One selected topics (such as Spain and European Culture, European Thought in Latin America, the Development of Hispanic Nationalism in the U.S.) is explored in depth with emphasis on ideological currents.

May be repeated for credit when topic varies

SPAN 7398 - Reading & Research

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** approval of graduate advisor in Spanish.

Instructor-supervised independent study in subjects not normally or not often included in the regular course offerings.

SPAN 7399 - Masters Thesis

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3

SPAN 7698 - Reading & Research

Credit Hours: 6.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** approval of graduate advisor in Spanish.

Instructor-supervised independent study in subjects not normally or not often included in the regular course offerings.

SPAN 8199 - Dissertation

Credit Hours: 1

Lecture Contact Hours: 1 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

SPAN 8399 - Dissertation

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

SPAN 8699 - Dissertation

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

Speech Communication

SPCM 6399 - Masters Thesis



Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

SPCM 7399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

Subsea Engineering

FINA 7A34 - Mergers & Acquisitions II

Credit Hours: 1.5

Lecture Contact Hours: 1.5 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and FINA 7A33.

This is the second of two half-semester courses part of a semester-long sequence on mergers and acquisitions (M&As). The course emphasizes financial engineering in M&A deals, and the valuation of price-protection mechanisms (e.g., floors, caps and collars) using options valuation techniques. The course also covers exit and restructuring strategies like divestitures and spin-offs, and introduces students to real options valuation.

N

Additional Fee N Fee Type N

FINA 7A41 - Fixed Income II

Credit Hours: 1.5

Lecture Contact Hours: 1.5 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and FINA 7A40.

This course covers models and techniques to price interest rate derivatives and securitized products. This will include basics of interest rate futures and options; modeling techniques such as Vasicek and Black, Derman, Toy and the basics of securitization with a focus on Mortgage Backed Securities (MBS).

N

Additional Fee N Fee Type N

FINA 7A97 - Selected Topics in Finance

Credit Hours: 1.5

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Y

Note: May be repeated when topics vary.

Additional Fee N Fee Type N

FINA 7381 - Principles of Real Estate

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and FINA 6A35 or FINA 6335.

Introductory course covering all major aspects of real property and estate business, including land title and ownership interests, title, encumbrances and title insurance policies, surveys, laws and regulations controlling real estate, development and construction, financing of real estate, roles and responsibilities of participants in real estate development and related topics.

N

Additional Fee N Fee Type N

SUBS 6305 - Mathematics for Subsea Engineers



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of the instructor.

SUBS 6305 Mathematics for Subsea Engineers is a graduate mathematics course for subsea engineers covering ordinary differential equations, Laplace Transforms, Fourier series, linear systems analysis, partial differential equations, analytical and computational solutions to PDEs and linear algebra.

SUBS 6310 - Flow Assurance

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of course instructor.

The course emphasizes the understanding of basic sciences, engineering and flow assurance principals, and its application to the assessment, prevention and remediation of low assurance problems in subsea systems.

SUBS 6320 - Riser Design

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of course instructor.

This class provides a thorough study of the analysis of riser systems including global riser analysis methods, strength capacity calculations, fatigue life estimation, pipe mechanics, ocean environment loading, vessel dynamics, and vortex induced vibration.

SUBS 6330 - Pipeline Design

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of course instructor.

This class will address all the design stages of an analytical approach to subsea pipeline design including pipeline sizing and material grade selection based on analyses of stress, hydrodynamic stability, span, thermal insulation, corrosion and stability coating.

SUBS 6340 - Subsea Process and Artificial Lift

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of Program Director.

The course focuses on the evolving field of subsea processing in conjunction with more conventional artificial life methods, such as water injection, gas injection, and gas lift.

SUBS 6350 - Subsea Controls and System Engineering

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of Program Director.

Subsea control systems hardware and software with the general operations of the subsea control system and its role in the reliable and safe operation of the entire subsea production system.

SUBS 6351 - Design of Subsea Blowout Preventers

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of Program Director.

This course focuses on the design of subsea blowout preventers for ultra-deepwater conditions and its role in the reliable and safe operation of subsea production systems.

SUBS 6360 - Subsea Materials and Corrosion



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of course instructor.

The course focuses on preventing the corrosion and hydrogen embrittlement of materials exposed to hydrocarbons and sea water in oil and gas operations.

SUBS 6370 - Computational Methods & Design Experiments

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** MECE 6341(or equivalent) or consent of the instructor.

The course provides an overview of subsea systems Structural FEA, Thermal FEA, Computational Fluid Dynamics, and Design of Experiments. Subsea systems simulations are inherently multi-physics involving mechanical, thermal, fluid and their interactions.

SUBS 6380 - Subsea Systems

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None

This course will provide an in-depth look at the myriad aspects of Subsea Systems and students will learn how hydrocarbons are retrieved from subsea wells and how they are directed to the surface.

SUBS 6397 - Selected Topics

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of course instructor.

Selected Topics course to introduce new Subsea Engineering courses within the graduate curriculum.

Y

Additional Fee Y Fee Type Y

Supply Chain and Logistics Technology

SCLT 6314 - Measurement and Evaluation of Supply Chain Operations

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Supply Chain and Logistics Technology and TEPM 6301 or consent of instructor.

Assessment techniques, performance analysis, cost/trade off evaluations and other methods to optimize Supply Chain Operations.

May be repeated for credit.

SCLT 6316 - Global Supply Chain Logistics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Supply Chain and Logistics Technology and TEPM 6301 or consent of instructor.

Understanding the role of strategic planning to optimize supply chain activities. Planning methods, implementation techniques, process factors, outcome interpretation, and other activities necessary to achieve optimum results.

May be repeated for credit.

SCLT 6318 - Supply Chain Strategies

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Supply Chain and Logistics Technology or consent of graduate faculty advisor.



Understanding the role of strategic planning to optimize supply chain activities. Planning methods, implementation techniques, process factors, outcome interpretation, and other activities necessary to achieve optimal results.
May be repeated for credit.

SCLT 6320 - Procurement Strategies

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in Supply Chain and Logistics Technology or consent of instructor. Technological and functional trends in supply chain procurement operations. Domestic and international buying strategies to identify vendors and facilitators for enhanced movement of information and products through the supply chain.
May be repeated for credit.

SCLT 6396 - Internship in Logistics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** At least 12 credit hours in the MS/TPM program and prior written approval of the graduate faculty advisor.
Logistics internship in a public or private organization.

SCLT 6397 - Selected Topics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of the graduate faculty advisor.
May be repeated for credit when topics vary.
Note: May be repeated for credit when topics vary.

SCLT 6399 - Master's Thesis

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Permission of the graduate faculty advisor.
Master's thesis.
Y
Additional Fee N Fee Type N

Supply Chain Management

MIS 7373 - Business Applications of Database Management Systems I

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.
Concepts and methods associated with definition, creation, and management of data bases for business applications.
N
Additional Fee Y Fee Type Y

MIS 8399 - Doctoral Dissertation in Management Information Systems

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.
N
Additional Fee Y Fee Type Y



SCM 6A01 - Supply Chain Management Concepts

Credit Hours: 1.5

Lecture Contact Hours: 1.5 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Application of operations management concepts and techniques to business problems in both manufacturing and service organizations. Demand forecasting, aggregate production planning, distribution and manufacturing inventory management, facility location and layout, materials management, work force and production scheduling, quality management, service sector operations, and international operations.

SCM 7A01 - Project Management

Credit Hours: 1.5

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and SCM 6A01 or equivalent.

Planning and execution of large-scale programs and projects. Topics include organizational structure, work breakdown, activity scheduling, resource allocation, performance measurement, and project management tools.

N

Additional Fee N Fee Type N

SCM 7A97 - Selected Topics in Supply Chain Management

Credit Hours: 1.5

Lecture Contact Hours: 1.5 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

May be repeated when topics vary.

SCM 6301 - Supply Chain Management Foundations

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Overview of supply chain management foundations including supply chain strategy, sourcing and procurement, distribution, logistics, operations management, sustainability, and risk management. Focus on conceptualizing, modeling and solving common supply chain problems.

SCM 6398 - Special Problems in Supply Chain Management

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and approval of instructor and chair.

SCM 7320 - Supply Chain Analytics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and SCM 6301 or SCM 6A01.

Modeling and simulation applications for supply chains. Topics include mathematical programming, Monte Carlo and discrete event simulation, resource allocation, network design, simulating discrete and continuous processes, conducting simulation studies and interpreting results.

SCM 7325 - Process Analysis and Design

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and SCM 6A01 or equivalent.

Concepts, issues and techniques used to plan, analyze, design and control processes in production, service and logistics systems. Sample topics include process types, process analysis techniques, quality management, lean processes, service lines and sustainability.

N

Additional Fee N Fee Type N



SCM 7330 - Demand and Supply Integration

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing and SCM 6301or SCM 6A01.

Detailed examination of the strategies and techniques used to achieve demand and supply integration across the supply chain. Topics include Demand Management, Forecasting and Planning for Medium and Long-Term Demand, Inventory Management, Revenue Management, Sales and Operations Planning, Master Production Scheduling, and Material Requirements Planning.

SCM 7335 - Logistics Management

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing and SCM 6A01 or equivalent.

Infrastructure and planning techniques for moving, storing and distributing goods and services on a global scale. Sample topics are customer service management, transportation, vehicle routing, distribution, e-commerce, network design, forecasting, inventory, logistics technologies, change management, and emerging logistics trends.

N

Additional Fee N **Fee Type** N

SCM 7350 - Strategic Supply Management

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing and SCM 6301or SCM 6A01.

Current issues, opportunities, strategies, techniques and developments in purchasing and supply management. Topics include: structuring purchasing organizations, make-or-buy decisions, global sourcing, supplier selection, contracting, negotiation, and legal and ethical issues.

SCM 7362 - Logistics Management and Systems

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** graduate standing and approval of chair.

Logistics, its economic base, and components.

SCM 7380 - Analytics and Enterprise Operations

Credit Hours: 3

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing, SCM 6A01 or SCM 6301, or approval of instructor.

Application of enterprise resource planning systems to execute supply chain business processes and the payment-to-cash cycle. Business intelligence applications include dashboards, behavior modeling, and predictive analytics.

N

Additional Fee Y **Fee Type** Y

SCM 7384 - Supply Chain Management Internship

Credit Hours: 3

Lecture Contact Hours: 0 *Lab Contact Hours:* 3 **Prerequisite:** Graduate standing and SCM 6A01 or equivalent.

A practicum in supply chain management.

N

Additional Fee Y **Fee Type** Y

SCM 7385 - Supply Chain Corporate Projects



Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing, SCM 6A01 or equivalent, and approval by instructor.

Team-based analyses and management of an actual SCM corporate project. Common topics include problem definition and scope, project scheduling and management, report writing and presentation, implementation, risk management, managing the client and change management.

N

Additional Fee Y Fee Type Y

SCM 7390 - Global Supply Chain Strategy

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing, SCM 6301 or equivalent.

Study of key issues associated with the long-term design and operation of the firm's sourcing, production, delivery and return systems. Selected topics include resource acquisition, allocation and execution, resilience, strategic fit, sustainability, new product development, governance, change management and supply chain impacts on financial performance among others.

N

Additional Fee N Fee Type N

SCM 7397 - Selected Topics in Supply Chain Management

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and approval of chair or program director.

Y

Note: May be repeated when topics vary.

Additional Fee Y Fee Type Y

SCM 8396 - Research Practicum

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** Graduate standing and approval of instructor.

Supervised research in supply chain management.

SCM 8397 - Selected Topics in Supply Chain Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and approval of chair

May be repeated for credit when topics vary

SCM 8399 - Dissertation

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Y

Additional Fee Y Fee Type Y

SCM 8699 - Dissertation

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Graduate standing.

Y

Additional Fee Y Fee Type Y



SCM 8999 - Dissertation

Credit Hours: 9

Lecture Contact Hours: 0 *Lab Contact Hours:* 0 **Prerequisite:** Graduate standing.

Y

Additional Fee Y Fee Type Y

Systems Analysis, Evaluation, and Research

SAER 8320 - Ethnog Mthds Educ

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** EPSY 8310.

Data collection, techniques of analysis, and ethical issues involved in using ethnographic methods in educational research.

SAER 8321 - Survey Mthds in Educ

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** SAER 7381 or EPSY 8310.

Techniques of sampling, data collection, and analysis used in educational surveys.

SAER 8370 - Program Eval Research

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** EDRS 8380 and EDRS 8381, post master's standing, or consent of instructor.

Methods related to planning and implementing evaluation of educational programs. National standards are examined for assessing the quality of evaluations relative to utility, feasibility, propriety, and accuracy.

SAER 8388 - Sem-Res Ed Ldshp Pol St

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 Development and analysis of dissertation research proposals in educational leadership and cultural studies, including concepts and techniques of research, problem identification, hypothesis development, data gathering and analysis, and proposal and report writing.

Technology

TECH 6360 - Exp Design & Data Analysis

Credit Hours: 3.0

Lecture Contact Hours: 3 *Lab Contact Hours:* 0 **Prerequisite:** MATH 1432, TMTH 3360 or equivalent.

Standard experimental design and the corresponding data analysis techniques. Application of the computer for data analysis tools including standard statistics application programs. Emphasis on interpretation of data sets resulting from experimentation in the fields of electronics, manufacturing, and construction management.

Technology Leadership and Supervision

TELS 5363 - Fundamental Written Communications



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Approval of department chair.

Provides a mechanism to permit graduate students to manage leveling requirements in their degree plan. For leveling use only, credit cannot be earned toward the degree plan.

Technology Project Management

TEPM 6198 - Special Problems

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0

TEPM 6301 - Project Management Principles

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Overview of project management for technology-oriented initiatives. The basic tools of project management, including work breakdown structure, scheduling, budgeting, contracting, earned value analysis, and risk management, and other elements.

TEPM 6302 - Leadership and Team Building

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of the instructor.

Dynamics of project leadership from the individual, team, and organizational perspective in achieving improved performance in the information- or technology-based workplace.

TEPM 6303 - Risk Assessment in Project Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** TEPM 6301 or consent of the instructor.

Overview of the basic components of risk as they pertain to technical projects: risk identification, risk impact analysis, risk response planning, mitigating risk, and risk management techniques.

TEPM 6304 - Quality Improvement in Project Management

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** College of Technology student; TMTH 3360: Applied Technical Statistics or equivalent.

Conducting quality management projects in production and service operations. Concepts, methodologies, and statistical analysis tools of quality improvement, including quality theory, standards, design, control, and assurance.

N

Note: Laptop required.

Additional Fee Y Fee Type Y

TEPM 6305 - Project Manager Tools

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** TEPM 6301 or consent of the instructor.

Understanding the technology and methodology that supports project management activities.

TEPM 6306 - Project Management Office



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** TEPM 6301 or consent of graduate faculty advisor.
Defining needs and requirements to formulate and maintain a PMO, including its purpose, structure, and resources.

TEPM 6307 - Advanced Project Management

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** TEPM 6301 or consent of the instructor.
This course focuses on advanced project management concepts and prepares the student for PMP or CAPM certification.

TEPM 6308 - Project Procurement Practices

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** TEPM 6301 or consent of the instructor.
Procurement and contract management processes.

TEPM 6391 - Project Management Seminar

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** TEPM 6301 or consent of the graduate faculty advisor.
Students demonstrate their ability to complete a major project that identifies and resolves an important technology or technology leadership issues.

TEPM 6395 - Integration Project

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** EPM 6391 or permission of the graduate faculty advisor.
Students demonstrate their ability to structure and complete an integrative project that draws upon the skills developed in the project management common core courses and the student's specialization.
Note: Students report the results of their efforts in written and oral form.

TEPM 6396 - Project Management Internship

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** Graduate standing or consent of the instructor.
Work experience directly involved in leading projects in information- or technology-based organizations.

TEPM 6397 - Selected Topics

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and consent of instructor.
Selected independent studies.
May be repeated for credit when topics vary.
Note: May be repeated for credit when topics vary.

TEPM 6398 - Special Problems

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing and consent of the graduate faculty advisor.
Special Problems. Individual projects under faculty sponsorship.



Theatre

THEA 6171 - Techniques and Styles

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** Acceptance to the Design and Technology MFA Program.

Variable topics course to cover different techniques and processes used in production of costumes for live performance and theatre. May be repeated for credit when content changes.

THEA 6180 - Applying Methods Acting/Voice

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1 **Prerequisite:** THEA 6280, THEA 6281, and consent of instructor.

Practicum-based study in application of principles and methods examined in Acting and Voice pedagogy courses, evaluated through submission of process-based portfolio, applying concepts to the secondary classroom, and rehearsal setting.

THEA 6181 - Applying Methods Design/Dramaturgy

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1 **Prerequisite:** THEA 6381, THEA 6382, and consent of instructor.

Practicum-based study in application of principles and methods examined in Design and Dramaturgy pedagogy courses, evaluated through submission of process-based portfolio, applying concepts to the secondary classroom, and rehearsal setting.

THEA 6182 - Applying Methods Lighting/Costume Design

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1 **Prerequisite:** THEA 6383, and consent of the instructor.

Practicum-based study in application of principles and methods examined in Costume and Lighting pedagogy courses, evaluated through submission of process-based portfolio, applying concepts to the secondary classroom, and rehearsal setting.

THEA 6183 - Applying Methods Program Management

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1 **Prerequisite:** THEA 6284, Admission to Summer MA program and consent of instructor

Practicum-based study in application of principles and methods examined in Program Management course, evaluated through submission of process-based portfolio, applying concepts to the secondary classroom and rehearsal setting.

THEA 6184 - Applying Methods in Directing/Styles

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 1 **Prerequisite:** THEA 6287, and THEA 6384 or THEA 6387

Practicum-based study in application of principles and methods examined in Directing/Acting Styles pedagogy course, evaluated through submission of process-based portfolio, applying concepts to the secondary classroom and rehearsal setting.

THEA 6185 - Scenic Methods & Materials

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 **Prerequisite:** Acceptance to Graduate Design and Technology Track.

Fundamentals of material selection, manipulation, and fabrication tools and techniques. May be repeated for credit when content changes.



THEA 6198 - Independent Study

Credit Hours: 1.00

Lecture Contact Hours: 0.0 Lab Contact Hours: 0.0 **Prerequisite:** Consent of instructor.
Independent Study in Theater.

THEA 6280 - The teaching of Acting

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Admission to Summer MA program and consent of the instructor.
Survey course of actor training methods and approaches to the teaching of acting.

THEA 6281 - The teaching of Voice

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Admission to the Summer MA program and consent of the instructor.
Methods and approaches for teaching voice to the secondary student.

THEA 6282 - Field Work in Applied Performance London

Credit Hours: 2.0

Lecture Contact Hours: 1 Lab Contact Hours: 1 **Prerequisite:** Admission to the Summer MA program and consent of the instructor.
Experiential field work in professional setting, applying performance techniques and evaluating live performance.

THEA 6284 - Program Management

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Admission to the Summer MA program and consent of the instructor.
Exploration of management of theatre programs at the secondary level, including program development, box office, and funding.

THEA 6285 - Field Work in Applied Performance Study New York

Credit Hours: 2.0

Lecture Contact Hours: 1 Lab Contact Hours: 1 **Prerequisite:** Admission to the Summer MA program and consent of the instructor.
Experiential field work in professional seeing in New York and evaluating live performance

THEA 6286 - Field Work in Applied Performance Chicago

Credit Hours: 2.0

Lecture Contact Hours: 1 Lab Contact Hours: 1 **Prerequisite:** Admission to the Summer MA program and consent of the instructor.
Experiential professional field work and evaluating live performance in Chicago.

THEA 6287 - Acting Styles

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 **Prerequisite:** Prerequisite(s): THEA 6280, THEA 6281, consent of instructor.
Exploration of various styles of acting and development of style throughout history from Greek to present.

THEA 6294 - Design and Production Studio



Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0 Formerly/Same as: THEA 6394 - Stage Design Studio.

Prerequisite: Acceptance to Graduate Design and Technology Track.

Problems in the theory of scenic design, costume design, lighting design and theatre technology.

May be repeated for credit as content changes.

THEA 6297 - Selected Topics

Credit Hours: 2.0

Lecture Contact Hours: 2 Lab Contact Hours: 0

THEA 6298 - Independent Study

Credit Hours: 2.00

Lecture Contact Hours: 0.0 Lab Contact Hours: 0.0 **Prerequisite:** Consent of instructor.

Independent Study in Theater.

THEA 6301 - Acting

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** approval of director of graduate studies.

Work on complex roles; analysis and development of character in relation to the text in monologues and scene work.

THEA 6302 - Stage Machinery

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Acceptance to Graduate Design and Technology Track.

Fundamental theory and techniques applied to mechanical, pneumatic and hydraulic theatrical automation.

THEA 6303 - Scenic Structures

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Acceptance to Graduate Design and Technology Track.

Fundamental theory and techniques of statics applied to the design of theatrical scenery.

THEA 6304 - Mask Theory and Practice

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: THEA 6304 - Mask Practicum.

Prerequisite: Acceptance to Graduate Design and Technology Track.

Fundamentals of mask theory, design, and construction for theatre and live performance.

THEA 6306 - Rigging

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Acceptance to Graduate Design and Technology Track.

Fundamental theory and techniques applied to static and dynamic theatrical rigging.

THEA 6307 - Theatrical Project Planning



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Acceptance to Graduate Design and Technology Track.

Fundamental theory and techniques in project planning, budget estimating, and labor estimating applied to managing theatrical productions.

THEA 6309 - CAD I for Theatre Design

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: THEA 6390 - Technical Drawing.

Prerequisite: Acceptance to Graduate Design and Technology Track.

Fundamentals of technical drafting for the theatre utilizing AutoCAD.

THEA 6310 - CAD II for Theatre Design

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Acceptance to Graduate Design and Technology Track.

Advanced 2D technical drafting and 3D modeling for the theatre utilizing AutoCAD and Autodesk Inventor.

THEA 6315 - Fabric Dyeing and Painting

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Acceptance to Graduate Design and Technology Track.

Fundamentals of dye and painting techniques for textiles used in theatre and live performance.

THEA 6323 - Dramaturgy for the 21st Century

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: THEA 6323: Advanced Costume Design and Production.

Prerequisite: Consent of the instructor.

Examination of the historical emergence and development of the Dramaturg as an institutional force for change, the critical and theatrical principles governing the profession and their practical application.

THEA 6324 - Landscape of Theatre Scholarship

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor

Guided introduction to academic theatre conferences and journals; students explore current issues and debates in theatre scholarship and create submission-ready abstracts of their own work.

THEA 6327 - Digital Rendering Techniques

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Acceptance into the Graduate Design and Technology Track.

Fundamentals of digital drawing and rendering for theatrical designers.

THEA 6328 - Color Theory for Theatrical Designers

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Acceptance into the Graduate Design and Technology Track.

Fundamentals of color theory as used in scenic design, costume design, lighting design and theatre technology.

THEA 6329 - Digital Media Arts



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Acceptance into the Graduate Design and Technology Track.

The theory and practice of creating and executing digital media for live performances.

THEA 6335 - Scenery/Lighting Design

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** approval of director of graduate studies in theatre.

Creative function of the scene and lighting designer in preparing visual elements of theatrical production.

May be repeated for credit.

THEA 6336 - Technical Production

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** approval of director of graduate studies in theatre.

Visual elements (scenic, costume, and lighting design) in a production as approached by the designer, director, and actor.

THEA 6342 - Drawing and Rendering

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Acceptance into the Graduate Design and Technology Track.

Fundamentals of drawing and rendering for theatrical designers.

THEA 6349 - Scenic Design II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** THEA 3385 or consent of instructor.

Basic techniques incorporated into a comprehensive approach to scene design with assignments in the conceptual analysis and fulfillment of projects covering a wide variety of genres.

THEA 6353 - Scenic, Costume, & Lighting Design I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: THEA 6353 - Scenic Design.

Prerequisite: Acceptance into the Graduate Design and Technology Track.

The theory, practice, and history of scenic, costume, and lighting design with emphasis on development and communication of ideas, script analysis, visual research, and design concepts.

THEA 6354 - Scenic, Costume, & Lighting Design II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: THEA 6354 - Advanced Scenic Design.

Prerequisite: Acceptance into the Graduate Design and Technology Track.

Implementation of design concepts; practice in problem-solving, and use of two-dimensional and three-dimensional presentation techniques in theatrical design.

THEA 6356 - Tailoring Techniques for Menswear I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Acceptance to the Design and Technology Track.



Through the implementation of tailoring techniques to acquire skills to execute men's clothing for the stage. Part I focuses on the inner structure and finish details of menswear.

THEA 6358 - Tailoring Techniques for Menswear II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Acceptance to the Graduate Design and Technology Track.

Through the implementation of tailoring techniques to acquire skills in order to execute men's clothing for the stage. Part II focuses on drafting and the completion of tailored garments.

THEA 6359 - Flat Patterning

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Acceptance into the Graduate Design and Technology Track.

Acquiring patterning skills through flat drafting techniques to produce costumes for the theatre.

THEA 6362 - Dramatic Theory & Criticism

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** approval of director of graduate studies in theatre.

History of major creative and critical theories of dramaturgy from the Greeks to the present.

THEA 6368 - Costume Draping

Credit Hours: 3.0

Lecture Contact Hours: 2 Lab Contact Hours: 2 Formerly/Same as: THEA 6368: Costume Design for Dance.

Prerequisite: Consent of the instructor.

Practical skills and techniques required to create a theatrical costume using fabric as a sculptural, plastic art paradigm.

THEA 6372 - Playwriting Workshop

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 May be repeated for credit.

THEA 6373 - Period Costume Construction I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: THEA 6373 - Costume Construction.

Prerequisite: Acceptance into the Graduate Design and Technology Track.

The implementation of historical research in the patterning and construction process of garments from past eras. Part I focuses on undergarments/understructure.

THEA 6377 - Draping for Theatrical Costumes

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 Formerly/Same as: THEA 6377 - Costume Draping.

Prerequisite: Acceptance into the Graduate Design and Technology Track.

Acquiring patterning skills through draping techniques to produce costumes for theatrical productions.

THEA 6379 - Period Costume Construction II



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: THEA 6379 - Costume Construction II.

Prerequisite: Acceptance into the Graduate Design and Technology Track.

Implementation of historical costume research in the patterning and physical construction of garments from past eras. Part two focuses on the outer structure of historical garments.

THEA 6381 - Scenic Design for the High School Director

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to the Summer MA program and consent of the instructor.

Analysis and approaches to designing scenery in collaboration with the directoral team. Includes basic rendering and model building skills.

THEA 6382 - Dramaturgy for High School Director

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to the Summer MA program and consent of the instructor.

Survey of the fundamental aspects of dramatic structure and theatrical genres exploring diagnostic tools for better understanding how a given play accomplishes its theatrical goals.

THEA 6383 - Lighting/Costume Design for High School Director

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to the Summer MA program and consent of the instructor.

Analysis and approaches to designing lighting and costuming in collaboration with the directoral team. Includes basic rendering and building skills.

THEA 6384 - Directing

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to the Summer MA program and consent of the instructor.

Survey course exploring approaches to the directoral process.

THEA 6385 - Technical Direction/Shop Maintenance

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to the Summer MA program and consent of the instructor.

Exploration of Technical Direction and safe effective maintenance of facilities and equipment.

THEA 6386 - Drama in Context

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to the Summer MA program and consent of the instructor.

An exploration of approaches to playscripts from various theatrical periods, styles and genres explored from the perspective of the director and dramaturg.

THEA 6389 - Textile & Couture Techniques

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Acceptance into the Design and Technology Track.

Fundamentals of fiber materials combined with couture construction techniques to fabricate costumes for theatrical productions.

THEA 6396 - Selected Topics Theatre



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** approval of director of graduate studies in theatre.

Will be identified by a specific title each time it is offered.

May be repeated for credit when topics vary.

THEA 6397 - Sel Prds-His of Theatre

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** approval of director of graduate studies in Theatre.

A specified period in Theatre history (Greek-Roman; Medieval; Renaissance) with emphasis on methodology and comparative studies.

May be repeated for credit with approval of chair.

THEA 6398 - Independent Study

Credit Hours: 3.00

Lecture Contact Hours: 0.0 Lab Contact Hours: 0.0 **Prerequisite:** Consent of instructor.

Independent study in Theater.

THEA 6399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

THEA 7000 - Workshop on Instruction in the University Classroom

Credit Hours: 0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** All graduate students who will be a Teaching Fellow, or an Instructor of Record who will be the lead instructor for a course section under the supervision of a faculty member, are required to complete this training course.

Graduate TF/TA appointees will demonstrate understanding concerning appropriate behavior and communication in dealing with students; demonstrate familiarity with the University of Houston Academic Honesty Policy and its application to classroom instruction; discuss implementation and enforcement challenges pertaining to the Federal Educational Rights and Privacy Act (FERPA) and educational privacy in general; discuss, identify, and propose solutions to ethical problems of instruction, including matters concerning grading, academic honesty, and behavior; engage and become familiar with the pedagogical literature in their discipline; gain knowledge of best practices for teaching and learning in their discipline, equipping them to lead their own class section, including classroom management, syllabi, assessments, rubrics, and the like.

Students must complete all components of the training seminar to receive credit for satisfactory completion. Course meetings occur prior to the start of the semester. Additional meetings will be arranged at first class meeting.

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THEA 7141 - Graduate Directing/Designer Collaboration

Credit Hours: 1.0

Lecture Contact Hours: 1 Lab Contact Hours: 0 Formerly/Same as: THEA 7341 - Direct/Design Collaboration I

Prerequisite: Acceptance into the Graduate Design and Technology Track.

Elements of design, history of collaborative partnerships.

May be repeated for credit as content changes.

THEA 7211 - Graduate Movement I



Credit Hours: 2.0

Lecture Contact Hours: 1 Lab Contact Hours: 1 **Prerequisite:** graduate standing in Acting MFA track.
Stage combat.

THEA 7212 - Graduate Movement II

Credit Hours: 2.0

Lecture Contact Hours: 1 Lab Contact Hours: 1 **Prerequisite:** THEA 7211.
Advanced stage combat.

THEA 7214 - Graduate Movement IV

Credit Hours: 2.0

Lecture Contact Hours: 1 Lab Contact Hours: 1 **Prerequisite:** THEA 7213 .
Advanced physical theatre.

THEA 7221 - Graduate Voice I

Credit Hours: 2.0

Lecture Contact Hours: 1 Lab Contact Hours: 1 **Prerequisite:** graduate standing in the MFA Acting Track.
Introduction to leading voice pedagogies, including Linklater, Berry, Rodenberg.

THEA 7222 - Graduate Voice II

Credit Hours: 2.0

Lecture Contact Hours: 1 Lab Contact Hours: 1 **Prerequisite:** THEA 7221.
Intermediate study in theatre voice pedagogies, including Linklater, Berry, Rodenberg.

THEA 7251 - Graduate Speech I

Credit Hours: 2.0

Lecture Contact Hours: 1 Lab Contact Hours: 1 **Prerequisite:** Graduate standing in MFA Acting Track.
Introduction to major speech pedagogies, identification and management of habitual speech.

THEA 7252 - Graduate Speech II

Credit Hours: 2.0

Lecture Contact Hours: 1 Lab Contact Hours: 1 **Prerequisite:** THEA 7251.
Intermediate work in major speech pedagogies, Standard British dialect.

THEA 7302 - Graduate Acting II

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** THEA 6301.
Continuation of acting progression, focusing on Action/Objective and Characterization using techniques developed by Stanislavski, Hagen, Lewis, Meisner, Adler, Strassberg, Bogard and Suzuki.

THEA 7303 - Graduate Acting III



Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** THEA 7302.

Continuation of acting progression, focusing on language plays (Shakespeare, Moliere).

THEA 7304 - Graduate Acting IV

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** THEA 7303.

Continuation of acting progression, focusing on plays of heightened theatricality (Shakespeare, Greeks, Comedy).

THEA 7305 - Graduate Acting Creative Project

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** THEA 7303.

Research, rehearsal and performance of a major role.

THEA 7313 - Graduate Movement III

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** THEA 7312

Acting and character analysis through physical exploration, mask work and movement analysis principles.

THEA 7314 - Graduate Movement IV

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** THEA 7314

Study of Physical Theatre and the use of movement exploration and innovation, leading toward public performances of solo and ensemble works. Emphasis to understand, utilize and manipulate a creative process.

THEA 7322 - Graduate Voice/Speech II

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** THEA 7321 .

Advanced voice and speech training, including articulation, phonetics and dialects.

THEA 7323 - Graduate Voice/Speech III

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** THEA 7322.

Advanced voice and speech training, including work in verse, heightened language, rhetoric and dialects.

THEA 7324 - Graduate Voice/Speech IV

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** THEA 7323.

Advanced voice and speech training in dialects.

THEA 7335 - Graduate Directing Creative Project



Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** THEA 7334 .

Research, design development, rehearsal and presentation of a mainstage production.

THEA 7351 - Scenic Design I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** consent of instructor

The theory, practice, and history of scenic design with emphasis on the development and communication of ideas, script analysis, visual research, and design concepts.

THEA 7352 - Scenic Design II

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** THEA 7351 or consent of instructor

Implementation of design concepts; practice in problem-solving, and use of two-dimensional and three-dimensional presentation techniques.

THEA 7353 - Period Styles

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** Consent of instructor

Established an in depth working knowledge and vocabulary of the significant periods in architecture, decorative arts, and clothing as they are used in and apply to theatrical design.

THEA 7355 - Design Portfolio

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** THEA 7351, THEA 7361 and THEA 7371

Integration, consolidation, and coordination of previous design work in scenic, costume, and/or lighting design to achieve professional presentation standards. Prepares student to meet professional expectations in portfolio presentation.

THEA 7361 - Lighting Design I

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** Consent of instructor

The theory, practice, and history of lighting design with emphasis on the development and communication of ideas, script analysis, visual research, and design concepts.

THEA 7362 - Lighting Design II

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** THEA 7361 or consent of instructor

Implementation of lighting ideas, practice in the translation of ideas into actual designs, light plots, paperwork, use of equipment and the exploration of lighting styles.

THEA 7371 - Costume Design I

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor

The theory, practice and history of costume design with emphasis on the development and communication of ideas, script analysis, visual research, and design concepts.



THEA 7372 - Costume Design II

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** THEA 7371

Implementation of design concepts; practice in problem-solving, and development of presentation techniques.

THEA 7399 - Masters Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 N

Additional Fee Y Fee Type Y

Women's, Gender, & Sexuality Studies

WGSS 6301 - Feminist Theory & Methodology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

WGSS 6394 - Sel Topics in Women's Studies

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 Formerly/Same as: WOST 6394 Sel Topics in Women's Studies

WGSS 6398 - Special Probs in Women's Study

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 Formerly/Same as: WOST 6398 Special Problems

World Cultures and Literatures

WCL 6198 - Special Problems

Credit Hours: 1.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** graduate status or consent of instructor.

Independent graduate-level study focused on special research projects.

WCL 6301 - Methods in Linguistic Anthropology

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing or PB status.

Explores the multiple methodologies for researching language as a mode of communication and interaction within the field of linguistic anthropology.

WCL 6305 - Fifth-Century Athens: Readings in Intellectual, Literary, and Political History

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Overview of intellectual trends and political history of fifth-century BCE Athens. Topics include the



development of Democracy, birth of tragedy, Persian Wars, Athenian Empire, court system, Peloponnesian Wars, and death of Socrates. Taught in English.

WCL 6330 - Translation Studies

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Investigates major concepts in translation theory, history of translation, and contemporary, interdisciplinary translation studies scholarship within their historical and cultural contexts. Case studies of texts from different traditions of thought, world regions, and periods and/or individual translation projects.

WCL 6351 - Frames of Modernity

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate or Postbaccalaureate status.

Advanced view of major theoretical trends in Western Culture from the French Revolution to World War II. Non-Western cultural areas are also addressed through presentations by specialists.

WCL 6352 - Postmodernity & Globalization

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate or Postbaccalaureate status.

Advanced view of the major theoretical trend in contemporary World Cultures from the end of WWII to the present time.

WCL 6353 - Frames of Modernity III: Classics and Modernity

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 An exploration of the use of ancient Greek and Roman concepts by modern and postmodern thinkers, artists, and authors. Taught in English.

WCL 6354 - Studies in Global Cinema

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Advanced approach to artistic and cultural aspects of world cinema. Analysis of directors, trends, and critical literature in world cinema. Taught in English.

WCL 6355 - Utopias and Dystopias

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Utopian and dystopian literatures and cinema from different traditions of thought and world regions. Taught in English.

WCL 6356 - Studies in World Film and Film Theory

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or P.B.

Analysis of films and genres (documentary, drama, comedy) produced in different parts of the world in the light of the theoretical literature that those films have originated in terms of aesthetics, identity, stylistic appropriation, colonialism/postcolonialism, cultural difference, and hermeneutics.

WCL 6357 - Studies in National and Transnational Cinema



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or P.B.

How cinematic schools, trends, and genres being developed in a national and/or culturally homogeneous context become transnational and affect the production and reception of films elsewhere, thereby showing how film can move back and forth between local and global.

WCL 6358 - Studies in Asian Cinema

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or P.B.

Analysis of Asian national and transnational cinematic schools, genres and trends, from Mid-Asia to East-Asia, also in their impact on Western cinema.

WCL 6359 - World Film, Gender, and Sexuality

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or P.B.

How issues of gender and sexuality have been addressed in Western and non-Western cinema and how they have been theoretically framed according to the different hermeneutics of gender theory, LGBTQ studies, psychoanalysis, embodiment, and postcolonial studies.

WCL 6362 - Latin American & Latino Literatures

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Works of Latino Literature in English and Latin American Literature in translation in relation to other U.S. and worldwide literary works as well as different theoretical frames.

WCL 6363 - Drama of North-Central Europe

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 A historical and critical analysis of European theater from the eighteenth to the twentieth centuries. Readings include dramas and theoretical essays as a means for understanding and representing cultural norms.

WCL 6364 - Holocaust Representations

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Comparative analysis of representations and conceptualizations of the Holocaust in literature, autobiography, film, architecture, and art. Taught in English.

WCL 6365 - World Documentary Film

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing or post-baccalaureate status.

Explores the history, theory, and evolution of documentary film in a global perspective, and through the examination of significant filmmakers from all parts of the world.

WCL 6366 - Latin American & Latino Film Studies

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Latin American and Latino films and film industries: telenovelas and TV documentaries. Issues regarding immigration, urban/rural, ethnic, gender and class, border and transnational, poverty, violence, and aesthetics. Taught in English.

WCL 6370 - Comparative Epic



Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Examination of epic poetry from ancient Greece and Rome with a comparative approach drawing on other cultures, which may include the ancient Near East, the Hebrew Bible, medieval Europe, and/or modern oral epic traditions. Taught in English.

WCL 6373 - Introduction to Second Language Acquisition

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Completion of B.A. or equivalent.

Second Language Acquisition theories via examining critical issues such as learning processes, comprehensible input, and learning through interactions, authentic materials, and task-based instruction. The course introduces research-based language instruction and helps students understand the theoretical background of interactive teaching approaches.

WCL 6379 - Critical Theory & Globalization

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Intense study of critical theory in light of globalization, migration shifts, and late capitalism.

WCL 6380 - Jewish Expulsion From Spain

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** graduate standing.

Study of events leading to the expulsion of Jews from Spain in 1492 and its consequences.

WCL 6385 - Sem in Latin American-Latino Cultural Studies

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Theoretical backgrounds, key themes and debates over Latin American/ Latino cultural processes. Modernity/postmodernity, coloniality/postcoloniality, globalization, urban, border, transnational, ethnic, gender and subalternist perspectives. In English.

WCL 6395 - Sexuality in Latino Culture

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 Sexual relationships in Latino culture and literature: gender theory, art, politics, everyday life.

Theoretical and transnational perspectives.

WCL 6397 - Selected Topics in WCL

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Advanced topics in cultural and literary theory, criticism, and history; major trends in postmodernity and globalization.

May be repeated for credit when topics vary.

WCL 6398 - Special Problems

Credit Hours: 3.0

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** graduate status or consent of instructor.

Independent graduate-level study focused on special research projects.

WCL 6399 - Master's Thesis



Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing in WCL.

Master's Thesis.

Y

Note: May be repeated for credit.

Additional Fee N Fee Type N

Special Populations

PHLS 8369 - Program Evaluation

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** PHLS 8300 Advanced Educational and Psychological Measurement or equivalent (to be determined by instructor).

Program evaluation class covers planning and implementing evaluation process, learning of key evaluation skills, stakeholder engagement, identifying key evaluation questions, establishing focus with client, posing evaluation questions, overview of methods to collect data, designing logic models; performance assessment skills, designing for internal validity, data aggregation, contents of evaluation plan, contracting for evaluation.

N

Additional Fee N Fee Type N

SPEC 6327 - Introduction to Educational and Psychological Measurement

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 Formerly/Same as: ELCS 6327

Prerequisite: None.

A survey of research based approaches to educational measurement and assessment to include measurement and scaling, reliability and validity, and traditional and alternatives assessment methods.

SPEC 6340 - Learning and Education Sciences

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: ELCS 6340 Learning and Education Sciences

Prerequisite: None.

An introduction to the learning process; principles considered include acquisition and transfer, retention, motivation, and mediation and the relation to the school environment.

SPEC 6349 - Introduction to the Education of Students with Gifts and Talents

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: CUIN 6349 Intro To Edu/Gift & Tal

Prerequisite: None.

Perspectives and identification of instructional approaches in the education of students with gifts and talents.

SPEC 6350 - Nature of Needs of Students with Gifts and Talents

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: CUIN 6350 Nature and Needs of Gifted/Talented Students

Prerequisite: SPEC 6349.

Course introduces students to issues surrounding identification of students with high ability. The aim is to help prepare teachers (and parents) to better understand, work with, and advocate for children and teens with high ability.



SPEC 6353 - Technology in Special Populations

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PHLS 6353 Technology in Special Populations

Prerequisite: SPEC 6360 .

Knowledge and skills of professionals working in special education to support students with special needs with classroom technology and assistive technology.

SPEC 6360 - Individuals with Disabilities

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PHLS 6360 Individuals with Disabilities

Prerequisite: None.

Provides an overview of disabilities and disability law for educational and professional settings. Characteristics, assessments, eligibility requirements, interventions, and services for individuals with disabilities.

SPEC 6361 - Behavior: Interventions

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** Admission to the master's degree program or the graduate certification program.

A process approach to behavioral planning for individuals and groups. Extensive use of case studies to address needs of diverse populations.

SPEC 6362 - Behavior: Evidence-Based Decisions

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** None.

Behavioral observation, assessment, data collection tools, interventions, and evidenced-based decisions are presented and practiced. Theory and principles of behavioral analysis in a variety of school and professional settings.

SPEC 6363 - Instructional Interventions

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** Admission to the master's degree program or the graduate certification program.

Process approach to instructional planning for individuals/groups with learning difficulties. Overview of ARD process, IEP development, and designing explicit instruction with extensive use of case studies to address diverse learners.

SPEC 6365 - Data-Based Individualization of Instruction

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** None.

Examination and application of evidence-based instructional strategies for addressing the learning needs of students with disabilities. Specifically, the course focuses on data-based individualization of intervention in the areas of reading, written language, and mathematics. Tools for progress monitoring and making educational decisions are discussed.

SPEC 6367 - Special Education for School Leaders

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to MEd in Administration & Supervision, M.Ed. in Special Populations (Special Education Supervision emphasis), or Principal certification program, or consent of instructor.

Examine and discuss the functions and underlying principles of the administration of special education services in the public school setting. The role of the administrator in the development of IEPs, student placement, student discipline, child find, fiscal management, transportation, and legal



implications of decisions.

N

Additional Fee N Fee Type N

SPEC 6390 - Supervised Experience in Special Education

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PHLS 6390 Supervised Experience in Special Education

Prerequisite: Admission to the master's degree program or the graduate certification program and consent of instructor.

Internship experience using a case study approach to assessment, programming and delivery of services for students with disabilities.

SPEC 6393 - Internship & Practicum

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** Consent of instructor.

Internship & Practicum

SPEC 6395 - Clinical Teaching I

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 12 Formerly/Same as: ELCS 6395 Clinical Teaching I

Prerequisite: Admission to Teacher Education program and approval of advisor.

Supervised observation and student teaching in general and/or special education assignments.

SPEC 6397 - Selected Topics

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Selected Topics

SPEC 7340 - Assessment of Academic Achievement

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PHLS 7340 Assessment of Academic Achievement

Prerequisite: Approved course in measurement.

Standardized, norm-referenced assessment of academic achievement, including test administration, scoring, interpretation, report writing, and linking results to interventions.

SPEC 7341 - Assessment of Learning Difficulties

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PHLS 7341 Assessment of Learning Difficulties

Prerequisite: Approved course in measurement.

Characteristics of learning difficulties; assessment and linking assessment to intervention. A study of legal issues related to assessment and eligibility.

SPEC 7343 - Psychological Processes of Reading

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PHLS 7343 Psychological Processes of Reading

Prerequisite: None.



Students learn the research and theories related to the process of reading with an emphasis on the cognitive, linguistic, and perceptual aspects as related to growth and development.

SPEC 7391 - Collaborative Consultation and Coaching

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PHLS 7391 Collaborative Consultation and Coaching

Prerequisite: Admission to graduate/certification program in special populations.

Collaborative consultation and coaching is applied within the context of effective schools research. Focus on effective tools for working with parents, teachers, administrators, and other education professionals within the community to support student success.

SPEC 7392 - Assessment of Intellectual Abilities

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PHLS 7392 Assessment of Intellectual Abilities

Prerequisite: SPEC 7340 and SPEC 7341.

Standardized, norm-referenced assessment of intellectual/cognitive abilities, including test administration, scoring, interpretation, report writing, and linking results to interventions. This course also reviews determination of learning disabilities.

SPEC 7393 - Internship & Practicum

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** Consent of instructor.

Internship & Practicum

SPEC 7394 - Educational Diagnostician Internship I

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** Consent of instructor.

Corequisite: SPEC 7340 or SPEC 7392 if not previously completed.

This course is required for Educational Diagnostician certification and addresses TAC 239.83. Standards Required for the Educational Diagnostician Certificate. A maximum of 60 hours may be obtained. Primary activities for Internship I should include observations, file reviews, professional development, and work on the portfolio. Interns may administer, score, and interpret norm-referenced tests once they have reached proficiency on the specified instrument in either SPEC 7340 or SPEC 7392.

N

Additional Fee N Fee Type N

SPEC 7395 - Educational Diagnostician Internship II

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** SPEC 7394 and consent of instructor.

This course is required for Educational Diagnostician certification and addresses TAC 239.83. Standards Required for the Educational Diagnostician Certificate. A minimum of 100 hours may be obtained. Primary activities for Internship II should include administration, scoring, and interpretation of norm-referenced tests.

N

Additional Fee N Fee Type N

SPEC 8298 - Special Problems



Credit Hours: 2

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** None.

Special Problems

SPEC 8341 - Seminar in Learning Science

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Admission to doctoral program.

Students apply major issues from learning theories and development to problems of practice.

SPEC 8360 - Instructional Problems in Special Populations

Credit Hours: 3.00

Lecture Contact Hours: 3.0 Lab Contact Hours: 0.0 **Prerequisite:** None.

Advanced study of instructional problems/issues for special populations.

SPEC 8365 - Administration and Supervision of Special Education

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PHLS 8365 Administration and Supervision of Special Education

Prerequisite: Admission to graduate program.

The course provides a policy and theoretical understanding of supervision models, the research literature related to educational supervision, and application of supervision in diverse educational contexts.

SPEC 8375 - Research for Special Populations

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PHLS 8375 Research in Special Education

Prerequisite: Admissions to Doctoral Program.

Advanced course of the application of research in Special Populations.

SPEC 8376 - Research Methods for Low Incidence Populations

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: PHLS 8376 Research Methods for Low Incidence Populations

Prerequisite: Admission in Doctoral Program.

Describes and applies single case research procedures for use in clinical and educational settings with low incidence populations. Various design options, assessment procedures, data evaluation procedures, and social validity issues are covered.

SPEC 8391 - Leadership Coaching

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Leadership Coaching prepares personnel who lead teams to engage in collaborative consultation and coaching from an Improvement Science perspective. To that end, context, content, practices, processes, measures, and support for consultation and coaching in educational arenas are addressed. Analyses of research literature is conducted to determine the quality of the knowledge base and experiential opportunities help participants to enhance their skills.

N

Additional Fee N Fee Type N

SPEC 8394 - University Teaching Practicum in Special Populations



Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 3 **Prerequisite:** Consent of instructor.

Teaching practicum provides the opportunity develop and advance competencies for teaching in higher education. Relate course content to real-life settings and situations, thereby strengthening and deepening learning as well as providing opportunities to explore teaching as a profession before committing to a career. The experience assists in developing a network of professional contacts and possible mentors while providing practical experience. Finally, the practicum serves to evaluate professionalism and potential as a future teacher.

SPEC 8395 - Doctoral Thesis

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Consent of advisor.

Doctoral Thesis

SPEC 8397 - Selected Topics

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

Selected Topics

SPEC 8398 - Special Problems

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** None.

Special Problems

SPEC 8399 - Dissertation

Credit Hours: 3

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor.

Dissertation.

Y

Additional Fee N Fee Type N

SPEC 8695 - Doctoral Thesis

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Consent of advisor.

Doctoral Thesis.

Y

Additional Fee N Fee Type N

SPEC 8699 - Dissertation

Credit Hours: 6

Lecture Contact Hours: 0 Lab Contact Hours: 0 **Prerequisite:** Consent of instructor.

Dissertation.

Y

Additional Fee N Fee Type N

Engineering Management



IEEM 6330 - Managing Engineering Functions

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate Standing.

Introduction to systems engineering and management and steps required for systematic transition from an engineer to engineer manager. It covers the fundamental steps within engineering management functions including organization, supervision, cost analysis, planning and control of engineering projects. Case studies will be utilized.

IEEM 6331 - Quantitative Methods for Engineering Management

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate Standing.

Application of mathematical and stochastic methods to analyze and assist in decision making for complex problems. The course discusses tools and techniques for solving managerial decision problems of a quantitative nature.

IEEM 6335 - Engineering Management of Organizations

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 Formerly/Same as: INDE 6335 Egr Administration

Prerequisite: Graduate Standing.

Scientific management relating to functioning and operation of engineering activities within the framework of the organization. Problems and cases with emphasis on human relations.

IEEM 6360 - Data Analytics for Engr. Mgt

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** None.

As the pace of business continues to accelerate, forward-looking engineering managers are beginning to realize that leveraging analytics in their daily work will help them make better decisions and increase their confidence in those decisions. This course helps the engineering managers understanding the fundamentals of data analytics and in turn making them more effective in managing their engineering teams. It covers overview of data analytics and sources of data for business, engineering, and management, descriptive analytics, diagnostic analytics, predictive analytics, prescriptive analytics, optimization, simulation, and artificial intelligence.

Y

Additional Fee N Fee Type N

Global Climate, Energy & Environment

GCEE 6310 - Global Climate: Energy, Environment, and Economy

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or approval of instructor.

The course provides comprehensive information about the status of the environment in the context of climate patterns.

GCEE 6320 - Global Climate: Physical Models

Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

The course provides scientific analysis of global climate patterns using mathematical and statistical models.

GCEE 6330 - Global Climate: Economic Models



Credit Hours: 3

Lecture Contact Hours: 3 Lab Contact Hours: 0 **Prerequisite:** Graduate standing or consent of instructor.

Prerequisite(s): Graduate standing or consent of instructor. The course provides an analysis of climate patterns based on economic conditions in the world.



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Fall 2011 - Summer 2012
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