



Graduate Catalog, 2004-2005

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UCF Graduate Catalog 2004-2005

World-class research, pioneering partnerships, renowned faculty, and graduate students who enjoy a rich blend of academics, research, culture and fun — this is graduate study at the University of Central Florida in one of the most dynamic metropolitan areas in the United States — Orlando, Florida. Thank you for visiting our online catalog—the definitive source for all things graduate at UCF.

Please select from the menu below to continue:

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The UCF Advantage

Browse through this section to find out why graduate education at UCF provides you a major advantage. Learn about UCF's presence as a major metropolitan university, review our latest stats, and meet a few of our current graduate students and alumni. To begin this presentation, please select a version below:

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UCF Story

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Graduate Education with a Major Advantage

The University of Central Florida is one of the fastest growing metropolitan research universities in the country—and it is located in one of the most dynamic metropolitan areas in the United States—Orlando, Florida. UCF ranks third among Florida's state universities in total enrollment and fourth in graduate enrollment. Total enrollment is expected to reach 48,000 by 2010.

As Central Florida's higher-education partner, UCF plays a major role in the region's fast-paced growth through its community and corporate partnerships; its research programs; and the talents of its 105,000 alumni, 38,000 students, and 4,200 faculty and staff. As a metropolitan research university, UCF is committed to innovative community partnerships, world-class research with local impact, and the integration of technology and learning.

Centers of Excellence

The university's internationally renowned schools, institutes, and centers include the School of Optics/CREOL (Center for Research and Education in Optics and Lasers), the new Rosen School of Hospitality Management, the Institute for Simulation and Training (IST), the Florida Solar Energy Center (FSEC), the National Center for Forensic Science, and the Florida Photonics Center of Excellence.

Pride in Accomplishments

The reputation of any educational institution is best reflected in the accomplishments of its students, faculty, and alumni—and for a university only 40 years old, UCF has moved rapidly from promise to academic prominence.

- A team of engineering students was awarded the Best Engineering Award in a national Department of Energy competition to design and build a low-cost device to convert DC power from a fuel cell to AC power for use in the home.
- For the second straight year, a student computer programming team won the top slot in the Association of Computing Machinery's Southeast programming contest—upholding a 20-year tradition of a UCF team being ranked among the top three in the region.
- School of Optics/CREOL professor Nabeel Riza was the sole winner of the International Commission for Optics Prize—one of the top international awards for scientists under the age of 40.
- The late Jonathan Mednick, a film direction and production assistant professor, posthumously won an Emmy for Outstanding Non-Fiction (Reality) Program for "American High," a PBS television series.
- UCF is the only university in the country offering through the Industrial Engineering Department a master's degree in racecar engine technology (precision engineering) with a focus in high-performance engine optimization. The program received national recognition in *The Wall Street Journal*, *USA Today*, and *Business Week On Line*.
- Since 1985, archaeology professors Arlen and Diane Chase have been uncovering Maya secrets at Caracol, an ancient city located deep in the jungle of Belize. Their work has been featured in *The New York Times*, *USA Today*, and on PBS and provides unsurpassed insight for students enrolled in the Master's in Liberal Studies and the Maya Studies graduate certificate programs.
- Theatre majors Reginald Jernigan, Mareeko Finney, and Mick Chapell won first place, out of 23,000 entries, in the national Arts and Entertainment (A&E) Great American Student Screen Test competition.
- The College of Education boasts a 100 percent employment rate for its graduating students.
- The College of Business Administration is offering a daytime Master of Business Administration program that is focused on honors students who wish to obtain an M.B.A. in one year. Participants in the program will take courses restricted to only those students in this cohort group.

Degrees of Distinction

With more than 1,300 faculty, the university offers 76 bachelor's degrees, 68 master's degrees, three specialist degrees, and 23 doctoral degrees as well as more than 70 graduate certificate programs. The list of prominent alumni gets longer with each graduation ceremony. A sampler of notable alumni includes John Bersia, Pulitzer-Prize winner, Orlando Sentinel; Juanita Black, president, Mental Health Association of Central Florida; Frank Caldeiro, astronaut, NASA; Cari Coats, vice president, Orlando Magic/RDV Sports; D. Lee Constantine, Florida State Senator; Richard Crotty, chairman, Orange County (Fla.) Commissioners; and R. Glenn Hubbard, chair, U.S. Council of Economic Advisors.

International Impact

UCF's growing cadre of international students adds both diversity and global connections to its Central Florida community. More than 130 countries—most notably India, China, Canada, Vietnam, Jamaica, United Kingdom, and Colombia—are represented in the student body, and faculty research is taking place in areas ranging from South America to the Arctic polar ice cap.

UCF has study and research agreements with 98 institutions in 36 countries—providing learning and research opportunities for students and faculty in countries ranging from the Udmurt Republic to South Africa. The university's Eastern Europe Linkage Institute alone maintains educational and research partnerships with 20 institutions in nine countries, including Russia, Ukraine, Slovakia, the Czech Republic, Bulgaria, Lithuania, Romania, Poland, and the United States. The student experience abroad does not stop in the classroom with opportunities available for students to travel internationally.

Strength in Diversity and Inclusiveness

Increasing diversity and inclusiveness is one of the central goals of UCF. The university is particularly proud of an aggressive minority recruitment plan, and minorities now account for nearly 20 percent of the faculty.

The student community includes Hispanics (10.7%), Blacks (7.9%), and Asian/Pacific Islanders (4.8%) and represents 64 of Florida's 67 counties, all 50 states, and 136 countries.

Partnerships and Community Service

One of UCF's main objectives is to be America's partnership university. Hundreds of joint projects are in place with community organizations, government agencies at all levels and corporations—ranging from collaborative research in nanoscience to neighborhood nursing clinics.

Two major partnerships target the region's most prominent business sectors. The new Rosen School of Hospitality Management will increase the university's already significant commitment to the area's tourism and hospitality sector. High-tech interests are being well-served by the Florida High Tech Corridor partnership—an initiative of UCF and the University of South Florida that now embraces nearly 7,000 companies and more than 160,000 employees.

Central Florida's Educational Partner

In addition to its 1,415-acre main campus in Orlando, UCF has area campuses in Daytona Beach, Cocoa, and Clermont; centers in De Land, Palm Bay, Melbourne, Kennedy Space Center, Downtown Orlando, South Orlando, Kirkman Road, and Lake Mary; and instructional sites in Deltona, Flagler, New Smyrna, Osceola, Celebration, Leesburg, Chiefland, Lecanto, and Sumterville give students throughout Central Florida the chance to take classes, pursue degrees, and interact with faculty and staff.

UCF - Under Construction Forever

Major construction projects, totaling more than \$85 million, underway or completed on the main campus, include an addition to the Biology Science Building; Health and Public Affairs (HPA) II, and Engineering II, a 107,000-square-foot, high-tech wireless facility featuring the Harris Corporation Computer Laboratory and two three-story laboratories for simulation and structures; and a student residential village.

A state-of-the-art \$11.5 million, 84,500-square-foot Recreation and Wellness Center opened in January 2002—complete with a three-story cylindrical climbing wall. In 2002, \$34.5 million in new buildings came online, including the Multilingual/Multicultural Center, the Burnett Honors College, and the second phase of the Academic Village Complex.

Wired All the Time

UCF's Virtual Campus is leading the way in the integration of technology, teaching, and learning. Five graduate degree and four certificate programs are available online. Critical student services, such as parking, course registration, and textbook purchases are also available online.

Playing to Win - Everywhere

UCF is the newest member of the Mid-American Conference (MAC) for football—putting the Golden Knights in line for a post-season conference bowl game for the first time in the history of UCF football. The football team plays in the internationally known, 70,000-seat Florida Citrus Bowl. As a member of the Atlantic Sun Conference (formerly Trans America Athletic Conference) for its other major sports teams, UCF continues its winning ways—ranking first or second in the 2000-2001 season in women's track and field; baseball; women's volleyball; men's and women's golf; men's tennis; and women's soccer. The \$3.2 million, 1,600-seat Jay Bergman Field, named for UCF's longtime baseball coach, opened for the 2001 season.

Central Florida - A great place to be

UCF is located 13 miles east of downtown Orlando, 45 miles from the Atlantic Ocean and Cape Kennedy, and 100 miles from Tampa and the Gulf of Mexico. The area boasts world-level shopping and dining, lakes, golf courses, jogging trails, nature preserves, and parks.

The Time is Now

The time is now for UCF—one of the fastest growing, metropolitan research universities in the country and a catalyst for economic development in Central Florida. Significant in size, excellent in academics, and prominent in accomplishments, the University of Central Florida is one of Florida's leading educational assets.

The university's motto, "Reach for the Stars," encourages UCF's students, faculty, staff, and alumni to go beyond the ordinary. As the university continues to grow and thrive, however, reaching for the stars has become business as usual. Making the extraordinary happen is the new expectation for the UCF community.

Grad Facts

[About the University](#)

[About UCF Graduate Students](#)

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About the University

- **Status:** One of 11 of Florida's public universities
- **Location:** In metropolitan Orlando area, 13 miles east of downtown Orlando
- **Carnegie Classification:** Doctoral/Research Universities - Intensive
- **Number of Graduate Programs:** 21 Doctoral, 65 Master's, and 69 Graduate Certificates
- **Overall Student Enrollment in Fall 2002:** 38,598

- **Graduate Enrollment in Fall 2002:** 6,789, including 1,073 doctoral, 4,086 master's, and 1,368 nondegree-seeking students
- **Class Offerings:** Many classes, particularly in Business, Education, and Engineering, are offered at night and at other sites.

About UCF Graduate Students

- **Graduate Student Characteristics, Fall 2002**
 - Doctoral - 57 percent full-time students, 43 percent part-time students
 - Master's - 43 percent full-time students, 57 percent part-time students
 - Gender - 57 percent female, 43 percent male
- **Average Age of Graduate Students:** Approximately 32 years old
- **Ethnicity of Graduate Student Population, Fall 2002**
 - White, Non-Hispanic - 66 percent
 - Black, Non-Hispanic - 7 percent
 - American Indian or Alaskan Native - 0.4 percent
 - Asian or Pacific Islander - 5 percent
 - Hispanic - 9 percent
 - Nonresident Alien - 10 percent
 - Ethnicity not reported - 2 percent

Financial Support for Graduate Students

- Assistantships - 765 students received assistantship support to attend graduate school
- Fellowships - Over 500 students received fellowship support
- Tuition Support - On average, 60 percent of in-state tuition is waived and 50 percent of out-of-state tuition is waived for students on assistantships

Research Activities 2002

UCF is ranked 38th in the nation for the strength of its research and patents by Technology Review, MIT's magazine of innovation.

- Total Research Awards - \$78 million
- Total Federal Awards - \$41 million
- Total State Awards - \$19 million
- Total Private Awards - \$19 million
- Research by Centers and Institutes - \$24.2 million per year
- Patent Applications: 53 applications submitted (10 issued)

UCF Centers and Institutes Research

- Center for Research and Education in Optics and Lasers (CREOL) - \$10.5 million
- Institute for Simulation and Training (IST) - \$5.7 million
- Florida Solar Energy Center (FSEC) - \$10.3 million
- Advanced Materials Processing and Analysis Center (AMPAC) - \$1.2 million
- Center for Transportation (CATTS)
- Biomolecular Science Center - \$648,000

College Research

- Arts and Sciences - \$10.4 million
- Business Administration - \$1.3 million
- Education - \$15.6 million
- Engineering and Computer Science - \$11.1 million
- Health and Public Affairs - \$6.7 million

Profiles

- [Leandro Barreiro](#) - Graduate Student, Master of Science in Nursing
- [Damon Bryant](#) - Graduate Student, Ph.D., Industrial and Organizational Psychology
- [Kevin L. Jackson](#) - President/CEO, Advanced Information Systems Group, Inc. - M.S.Cp.E. Computer Engineering
- [Heidi M. Nadjafi](#) - Chief Financial Officer, APG Behavioral Healthcare, P.A. - M.B.A.
- [Javier Salcedo](#) - Graduate Student, Ph.D., Electrical Engineering
- [Carole Zugazaga](#) - Assistant Professor, Auburn University - Ph.D., Public Affairs

Leandro Barreiro

Graduate Student

Master of Science in Nursing

As a Summer Mentoring Fellowship recipient, Leandro Barreiro used his Hispanic heritage to bridge a culture gap in the international oncology community and has gained ongoing work experience. Barreiro, a master's student in nursing, was immersed in two projects over the summer under the tutelage of Dr. Karen Dow. "One was conducting data quality control checks on a Breast Cancer Quality of Life Study funded by the National Institutes of Health," he said. "The other project was translating (Spanish-to-English) discussions posted on WebONE, a web-based continuing education course for oncology nurses worldwide."

Barreiro said a professor nominated him for the fellowship, "and the next thing I knew, I was awarded the fellowship." The work continues, though the fellowship is over. Barreiro was asked to stay on with the breast cancer study. In addition, Dow is helping Barreiro prepare a manuscript for publication about his work with WebONE. "My mentor was pivotal in guiding me through the process of analytical research and keeping me on task and on schedule," Barreiro said.

Damon Bryant

Graduate Student

Ph.D., Industrial and Organizational Psychology

Damon Bryant is determined to break down barriers. Bryant came to the University of Central Florida to get a doctorate in industrial and organizational psychology in the midst of a successful career. Since arriving at UCF, he has accrued ample accolades, recently outdoing himself by receiving the Harold Gulliksen Psychometric Research Award.

One of only five recipients nationally for the highly competitive award, Bryant has also received a McKnight Doctoral Fellowship, has served as an intern at the Educational Testing Service of Princeton, N.J., and has won the Society for Industrial and Organizational Psychology's Robert Wherry Award for Research.

Receiving the fellowship will help Bryant complete his dissertation, "which involves the use of cognitive psychology and psychometrics to understand the internal dynamics of tests," he says. Upon finishing his

doctorate, Bryant plans to work to help organizations in various sectors make "consistent, accurate and fair decisions based on psychological testing."

Kevin L. Jackson

President/CEO, Advanced Information Systems Group, Inc.

M.S.Cp.E. Computer Engineering

If you've ever wondered about the success of UCF graduates, just ask Kevin Jackson, President and CEO of Advanced Information Systems Group and 1996 "Entrepreneur of the Year" for the state of Florida.

Jackson found that UCF gave him a major advantage because it "gave me a very good foundation to take on the challenges that would come professionally . . . and to know how to solve problems."

Jackson selected UCF because he was impressed with its computer programming team and the large number of awards they had received in competitions with other universities. Jackson said, "UCF is nothing short of amazing. The expansion, the buildings, the technology, the whole gamut is just unbelievable."

As a graduate student at UCF, Jackson had many opportunities to learn new technology and work with state-of-the-art equipment. UCF "is looking toward the future," he says. "We actually worked on designing integrated chips that go on boards . . . a lot of the technology that is used today."

Jackson is not only a UCF advocate, but also an enthusiastic supporter of graduate education in general. Continuing one's education beyond an undergraduate degree is so important, says Jackson, because it is in graduate school that you "learn to *apply* a lot of the things you learned as an undergraduate," he says. "You get a lot of exposure to the things that will really help you in life."

Heidi M. Nadjafi

Chief Financial Officer, APG Behavioral Healthcare, P.A.

M.B.A.

Heidi Nadjafi, Chief Financial Officer of an intensive outpatient mental health treatment center, credits UCF's graduate program for her current success. "Without an MBA I would definitely not be where I am," she says. "You really need a master's if you want to move up the corporate ladder."

Like many working professionals with a family, going back to graduate school wasn't easy for Nadjafi, but she credits the faculty at UCF for helping her achieve her goals. "The professors at UCF gave me so much encouragement," she says. "If you had a problem, you could go talk to them and they would help you along—it was team work." Nadjafi also says the program offered her a like-minded community of peers. She says that the MBA program at UCF gave her the chance to make connections with other students and professionals. "Without a graduate education nowadays you cannot achieve anything," Nadjafi says.

Javier Salcedo

Graduate Student

Ph.D., Electrical Engineering

University of Central Florida doctoral student Javier Salcedo has been named one of two winners worldwide of the IEEE Electron Devices Society Graduate Student Fellowship—a win-win-win situation for Salcedo, the Electrical Engineering program and UCF.

Salcedo received the Institute of Electrical and Electronics Engineers' annual award on December 8 in Washington, D.C. As one of the winners, he received a \$5,000 stipend, his adviser—Dr. Juin J. Liou—received a \$1,000 grant, and the Electrical Engineering Department received a \$1,000 grant. The second winner was from China.

According to Salcedo, for the past five years the award has gone to students from Electrical Engineering programs ranked in the top five worldwide. He said he hopes that receiving the honor will "exalt worldwide the name of our institution."

The award represents the culmination of a dream for Salcedo. "Since this program was established while I was an undergraduate student, I was dreaming I could at least qualify for the competition," Salcedo related. The demands for acceptance into the competition were rigorous, he admitted.

This is not the first honor for the industrious Electrical Engineering student. This year he also has received the IEEE Outstanding Graduate Student Award from the organization's Orlando section, as well as recognition of outstanding achievements from the National Scholar's Honor Society.

Salcedo's research focuses on modeling electro-static discharge (ESD) protection systems for circuits. "The purpose of an ESD protection circuit is to clamp the voltage at the input and output of the integrated circuit in order to prevent damages and ensure reliable performance," he said. Space and parasitic effects present design challenges, Salcedo said, describing the problem as "one of the most important bottlenecks in IC development."

Hoping to pursue applications of ESD devices in very large-scale integrated circuits and microelectromechanical embedded systems, Salcedo plans someday to hold a position at a university or research institution, where he can "bring support to the semiconductor industry."

Salcedo has applied the example of the "tireless spirit of work learned from my family" from childhood, and he said UCF has put him on the path to achieving his goals. "I invite incoming students to be proud of our university, to get the best out of this unique opportunity, and follow with a passion for excellence," recommended Salcedo.

Carole Zugazaga

Doctoral Candidate

Ph.D., Public Affairs

Anticipating being the first graduate from the Ph.D. program in Public Affairs puts no more pressure on Carole Zugazaga than finishing her dissertation, which includes fourteen hypotheses. Zugazaga is writing about the pathways to homelessness and the social support provided to the homeless. And while she is concentrating on finishing her research, she is also packing for her move to Alabama, where she will join the faculty ranks at Auburn University in the Department of Sociology, Anthropology, and Social Work beginning fall 2002. Zugazaga has a major advantage!

While finishing her Master of Social Work degree at UCF, Zugazaga learned about the new Public Affairs Ph.D. program, and she decided to apply. Zugazaga says, "I firmly believe that the Ph.D. program in Public Affairs has provided me with the tools to build a successful academic career. My experience at UCF has been exceptional and I am proud to be one of the first graduates of the program."

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Overview

The University of Central Florida has come a long way since its inception in 1963. It is now a thriving, multi-campus university, with 37,000 students and 94 graduate degree programs and 70 graduate certificate programs. In addition to its physical growth, UCF has become a prominent player in graduate education nationwide, offering innovative corporate partnerships, world-renowned faculty, and cutting-edge research. "About UCF" describes the University and its mission, introduces UCF's campuses, provides an overview

of services and resources available to UCF students, and includes important University notices for all students. In addition, this section describes the people and offices that make up UCF—including university, college, and school administration.

About UCF

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Mission Statement

The University of Central Florida is a public, multi-campus, metropolitan research university, dedicated to serving its surrounding communities with their diverse and expanding populations, technological corridors, and international partners. The mission of the university is to offer high-quality undergraduate and graduate education, student development, and continuing education; to conduct research and creative activities; and to provide services that enhance the intellectual, cultural, environmental, and economic development of the metropolitan region, address national and international issues in key areas, establish UCF as a major presence, and contribute to the global community.

UCF offers undergraduate education rooted in the arts and sciences, providing a broad liberal education while developing competence in fields of special interest. Unique aspects of UCF's approach are its commitment to educate students for a world in which cooperation is as important as competition; in which societal and environmental impacts of new developments are as important as their technical merits; and in which technology, the arts, sciences, humanities, and commerce work together to shape the future.

The complexity of modern society requires comprehensive graduate and professional programs. UCF provides advanced education that matches institutional strengths with evolving regional, state, national, and international needs. It supports these advanced programs by recruiting excellent students, faculty, and staff and by supplying the infrastructure that enables these programs to achieve national prominence.

Basic and applied research, as well as creative activity, are integral parts of a quality education. UCF faculty members are scholar-teachers. As such, they create new knowledge, new points of view, and new means of expression in a broad range of academic, professional, and socially significant areas. Their creativity fosters innovation as they convey their results, methods, values, and expressions to students, colleagues, and the public.

UCF works actively to build partnerships that promote development of central Florida's economy through carefully targeted programs of graduate study and research. The Florida High Tech Corridor Council, whose goal is to attract, retain, and expand high technology investment and jobs, is but the latest example of UCF's collaboration with partners from industry, state and local government, and higher education.

Service to its community is an important extension of the metropolitan mission of the University. Public service is prominent at UCF, and the university develops partnerships with the community to enrich the educational, artistic, cultural, economic, and professional lives of those it serves in central Florida and beyond.

Education is more than classroom experience. UCF students are involved in cooperative research and participate in artistic, social, cultural, political, and athletic activities. UCF provides academic diversity by bringing to its campus national and international leaders who expose students and the community to a wide range of views and issues. UCF achieves cultural diversity by using its multi-campus facilities to serve a diverse population of traditional and nontraditional students from various races, cultures, and nationalities.

UCF is committed to the free expression of ideas, the equality of all people, and the dignity of the individual.

University Accreditation

The University of Central Florida is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (1866 Southern Lane, Decatur, Georgia 30033-4097; Telephone number 404-679-4501) to award master's, specialist, and doctoral degrees. For the purposes of this catalog, "accredited institutions" means those institutions accredited by one of the six U.S. regional associations. The six regional associations are:

- New England Association of Schools and Colleges
- Middle States Association of Colleges and Secondary Schools, Commission on Institutions of Higher Education
- North Central Association of Colleges and Schools, Commission on Colleges and Universities
- Northwest Association of Secondary and Higher Schools, Commission on Higher Schools
- Southern Association of Colleges and Schools
- Western Association of Schools and Colleges, Accrediting Commission for Senior Colleges and Universities and Accrediting Commission for Junior Colleges

In order to enroll in graduate classes, students must have obtained a baccalaureate or higher degree, prior to the start of the term for which the student is admitted, from an institution accredited by one of the above accrediting agencies or from a recognized foreign institution. Students without a baccalaureate or higher degree from an accredited institution (or equivalent) are not admitted to graduate degree programs, graduate certificate programs, or graduate nondegree status.

Recognized institution: An institution in a country outside of the United States that is recognized by that nation's Ministry of Education or similar authority, as a post-secondary, academic-degree-granting institution.

In addition to the regional accreditation agencies, there are a number of scientific, professional, and academic bodies conferring accreditation in specific disciplines. UCF is listed with an "A" rating in the Report of Credit Given by Educational Institutions. The university is accredited by the following agencies on the graduate level:

- Southern Association of Colleges and Schools (SACS)
- International Association for Management Education (AACSB)
- National Council for Accreditation of Teacher Education (NCATE)
- National Association of School Psychologists
- Council for Accreditation of Counseling and Related Educational Programs
- Florida Department of Education
- Council on Academic Accreditation in Audiology and Speech Language Pathology (CAA)
- Council on Social Work Education (CSWE)
- Commission on Accreditation in Physical Therapy Education, American Physical Therapy Association
- National Association of Schools of Music (NASM)
- Accreditation Committee of the Human Factors and Ergonomics Society
- National Association of Schools of Public Affairs
- Commission on Collegiate Nursing Education (CCNE)

Interdisciplinary Studies

The University of Central Florida strives to promote interdisciplinary cooperation across all aspects of the institution in order to create new and innovative partnerships that effectively respond to societal needs and appropriately prepare graduate students for a dynamic work environment. Currently, interdisciplinary graduate studies are offered in biomolecular sciences, computer forensics, gender studies, gerontology, Maya studies, modeling and simulation, optics, and teaching English as a second language.

UCF Campuses

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University of Central Florida

The University of Central Florida is one of the fastest growing, metropolitan research universities in the country, and it is located in Orlando, one of the most dynamic metropolitan areas in the United States. With a total enrollment of more than 42,000, UCF is now one of the largest universities in the nation.

The UCF community includes an international student body, 123,000 alumni, and 8,400 faculty and staff. The university offers 84 bachelor's degrees, 68 master's degrees, three specialist degrees and 23 Ph.D. degrees as well as more than 70 graduate certificate programs. In addition to offering classes on the 1,415-acre main campus in Orlando, UCF's regional campuses serve students throughout an 11-county area in Central Florida. More than 13,000 students are enrolled in online courses.

UCF today is known locally as the university that is "Under Construction Forever." Students and faculty enjoy state-of-the-art wireless classrooms and modern facilities, including a Barnes and Noble Bookstore with a cyber café, and a 185,000-square-foot Student Union with 11 restaurants and seven retail stores. Major construction projects recently completed include the Academic Village Residence Complex; the Progress Energy Student Support/Welcome Center; the four-story UCF Academy for Teaching, Learning and Leadership; the Wayne Densch Sports Center; and the 84,500-square-foot Recreation and Wellness Center. The College of Engineering and Computer Science is adding a third major building to complement its current 107,000-square-foot, high-tech wireless facility, and the new Rosen School of Hospitality Management is housed in a 159,000-square-foot campus on a 20-acre site in the heart of Central Florida's tourist corridor.

UCF is quickly approaching the \$100 million level in research funding from federal, state and private sources. By moving the university from promise to prominence in optics, lasers, photonics, nanoscience, engineering, education, simulation and biomolecular science, UCF researchers are demonstrating that imagination has no limits and anything is possible.

The main campus of UCF is located 13 miles east of the city of Orlando, 45 miles from the Atlantic Ocean and Cape Canaveral, and 100 miles from Tampa and the Gulf of Mexico. The area boasts world-class shopping and dining, lakes, golf courses, jogging trails, nature preserves and theme parks.

Directions to UCF and Campus Map

[Directions to UCF](#)

[Campus Map](#)

Online@UCF

Center for Distributed Learning

Assistant Vice President and Director: Steven E. Sorg

sorg@mail.ucf.edu or call 407-823-4910

Visit our website at <http://online.ucf.edu/>

The UCF Virtual Campus provides opportunities for students to enroll in credit courses and select degree and certificate programs delivered over the Internet. The instructional design of these courses maintains a

high-quality learning environment for nontraditional and campus-based students. The course materials and methods were developed by UCF faculty to maximize the learner's achievement of course and program objectives.

Web-based graduate programs are offered in:

- Criminal Justice (M.S.)
- Industrial Chemistry, Forensic Science Track (M.S.)
- Instructional Technology, Educational Media Track (M.Ed.)
- Vocational Education and Industry Training (M.Ed. and M.A.)
- Instructional Technology, Educational Technology Track (M.A.)
- Nursing (M.S.N.)

Graduate certificates are offered in:

- Nursing and Health Professional Education
- Community College Education
- Nonprofit Management
- Professional Writing
- Instructional/Educational Technology

Online courses are identified in the Class Schedule Search (<http://connect.ucf.edu>) by the Instruction Mode. Use the drop-down list to search for the descriptive value of "World Wide Web (W)." Students who plan to enroll in any course with a web component must have access to the Internet, a web browser such as Internet Explorer, basic web-browsing knowledge, ability to use e-mail, and basic computer skills such as word processing. For additional information, refer to the Learning Online website (<http://learn.ucf.edu>).

UCF's virtual campus is supported and facilitated by the Center for Distributed Learning. The Center's mission is to provide support to students, faculty and staff in the development and planning of distributed learning courses and programs. The Center serves as a clearinghouse for processes and resources, providing planning and marketing support for off-campus and distributed learning credit programs. The Center also coordinates the university's standards and accreditation changes resulting from web-based instruction.

UCF Regional Campuses

Vice Provost, UCF Regional Campuses: Michael J. Sweeney

Director, Academic Programs: William J. Wetherell

The University of Central Florida offers a number of programs through the UCF Regional Campuses. Strategically located within an 80-mile radius of the UCF Orlando campus, the 21 nonresidential system partners with six Florida community colleges, fostering seamless and convenient advancement from completion of an A.A. and limited A.S. degrees to upper-level division work on bachelor's, master's and doctoral degrees, as well as certificate programs. Available graduate programs include 16 master's degrees, 11 graduate certificates, and 1 doctoral program offered throughout the Regional Campuses. Each of the UCF colleges is represented within the system. With close proximity to Orlando, resources are available at UCF and the UCF Regional Campuses, such as admissions, registration, financial aid, advising, student clubs and organizations, disability services, veteran's affairs, "Smart Classrooms," libraries, computer labs, and more.

The UCF Regional Campuses serve an 11-county area, including Brevard, Citrus, Flagler, Lake, Levy, Marion, Osceola, Orange, Seminole, Sumter and Volusia counties. UCF Regional Campus locations are comprised of a system of campuses, centers and sites and provide a wide variety of learning styles and schedules. Full-service campuses include several full-time resident faculty and staff, provide extensive student services, and offer full programs and courses on a continuous basis. Centers include full-time resident faculty and staff, offer full programs and courses on a regular basis, and may provide minimal student services. Instructional sites offer full programs or courses on a regular or irregular basis and may have minimal staff.

Admissions, registration, financial assistance and advising professionals are available at the following full-service campuses: UCF at Cocoa, UCF at Daytona Beach, and UCF at South Lake. In addition, advising is available through UCF at Sanford/Lake Mary and UCF at Palm Bay. Times and dates for all courses are listed online prior to registration each term and all registration periods correspond to the overall UCF schedule.

For the most current information on any of the 21 UCF Regional Campus locations and directions to the campuses: www.regionalcampuses.ucf.edu.

For program listings: www.regionalcampuses.ucf.edu/programs.htm

For course listings for the upcoming semester: www.regionalcampuses.ucf.edu/areaclassschedules.html

Eastern Region

- UCF at Daytona Beach (Full-service campus)
- UCF at DeLand
- UCF at Deltona
- UCF at New Smyrna
- UCF at Sanford/Lake Mary
- UCF at Palm Bay

For information about the Eastern Region campuses, call 386-506-4021.

Southern Region

- UCF at Cocoa (Full-service campus)
- UCF at Palm Bay
- UCF at Melbourne
- UCF at Kennedy Space Center

For information about the Southern Region campuses, call 321-433-7800.

Central Region

- UCF Downtown

For information about the Central Region campuses, call 407-317-7700.

Western Region

- UCF at South Lake (Full-service campus)
- UCF at Ocala
- UCF at Leesburg
- UCF at Chiefland
- UCF at Lecanto
- UCF at South Orlando
- UCF at Sumterville
- UCF at MetroWest
- UCF at Osceola
- UCF at Celebration

For information about Western Region campuses, call 352-536-2113.

Student Services and Resources

[Student Services and Resources](#)

Student Services and Resources

Academic Services

Millican Hall 210, (407) 823-2691

This office is responsible for administering state and university academic policies pertaining to academic record changes, curriculum file management, the degree audit program, and university-wide academic policies and graduation requirements. The primary goal of the office is to apply these policies fairly, promptly and evenly according to established guidelines, to provide a prompt response to requests from students, faculty, and staff and to maintain accurate and effective computer records for advisement and graduation certification.

UCF Cocoa and UCF Daytona Campus Life

Interim Director Cocoa: James C. Smith, Jr.

Director Daytona: Diana L. Weidman

The Cocoa Campus Life Office:

Building #3 Room 230 (321-632-1111 ext. 65555)

The Daytona Campus Life Office:

Building #34 Room 202 (386-255-7423)

The Cocoa and Daytona Campus Life offices provide student services at the area campuses including orientation, career advising, veteran affairs, international student services, and accommodations for disabled students. In addition, they provide programs, assistance to clubs and organizations, miscellaneous test information, and work closely with the Student Government Association.

Campus Life

Associate Vice President: Craig E. Ullom, SU 304, (407) 823-2626

The Campus Life unit develops partnerships to provide meaningful programs, quality services, and personal growth opportunities for students in learning environments. Campus Life promotes personal excellence, healthy lifestyles, leadership development, and community responsibility. Departments in Campus Life include: Student Leadership Programs (LEAD Scholars Program, Greek Affairs, Student Activities, United Campus Ministries), Campus Life Facilities (Student Union, Recreation Center, and Intramurals), Student Rights and Responsibilities (Student Conduct, Dispute Resolution, Student Legal Services), Student Health Services, Housing and Residence Life, Off-Campus Student Services (Off-Campus Student Resource Center, Area Campuses). For more information, visit the website at www.campuslife.sdes.ucf.edu/.

Campus Ministries, United

Director: Charmaine Townshend, SRC 172, (407) 823-4293

The United Campus Ministries program is a combined effort of a wide variety of religious persuasions providing students with professional personnel who will encourage spiritual, moral, and social opportunities in a spiritual context within the university community. They offer counseling, scripture study, public lecture and discussion programs, fellowship, recreation, and worship services.

Career Resource Center

Director: Melanie Parker, SRC 185, (407) 823-2361

The Career Resource Center (CRC) provides a broad range of career planning and job search services to UCF students, alumni, and employers. Students beginning studies at UCF are encouraged to start thinking about careers as soon as possible. Career Development Coordinators are available to assist students throughout their college experience. To help students navigate the complexities of the job market, the center conducts weekly career planning mini-classes, sponsors eight career expos and fairs, and hosts several hundred employer recruiting visits each year. The center offers an on-line resume system that can refer resumes to interested employers. Full-time and part-time, and internship job postings are available to students in the CRC library in paper form and on the CRC website at <http://www.crc.ucf.edu/>.

Computer Services and Telecommunications

Director: Robert Yanckello, CSB 305, (407) 823-2711

Computer Services and Telecommunications provides central support services for instruction and research computing, administrative data processing, telecommunications networks, e-mail, telephone, information technology training, user help, and microcomputer technology to the university.

Central instruction and research computing is provided primarily by computers located on the main campus as follows: Novell LAN file servers, Sun Enterprise servers, and other Internet and campus facilities. Public access PC labs are located in Computer Center II (CCII), Classroom Building I (CL1-101), Education (EDU), and the Business Building (BA). UNIX workstations are available in CCII. Macintosh labs are available in CCII and EDU. Public access labs are available to faculty and students. Most labs are open seven days a week with extended hours. The CyberKnight Center is available in CCII to assist students with computer and Internet needs.

Web services are available at connect.ucf.edu for registration, grades, and financial aid information.

Campus information Kiosks are available in several campus buildings for frequently asked questions and individual student record information. Additional information is available on the UCF World Wide Web page <http://www.ucf.edu>. Access to Internet and campus information servers is available to our students through Pegasus accounts provided to all newly enrolled students.

The university also operates a full-service computer store in the Student Union, which provides the UCF community a source for quality computer products and services at competitive prices. The store is an authorized campus re-seller for Dell, Apple, Microsoft, and many other products. Maintenance and training support are also available from the store.

Counseling

Director: Robert Harman, SRC 203, (407) 823-2811

The University of Central Florida Counseling Center is the only campus agency designated to provide psychological services to university enrolled students. The Center is composed of a professional staff of psychologists and mental health counselors, who provide both a confidential atmosphere and a safe environment in which students may explore and resolve issues of concern. The Center maintains and assures confidentiality as provided by law. The Center is open Monday through Friday and operates on an appointment basis. The following counseling services are offered: personal counseling, career counseling, couples/conjoint counseling, and group counseling. For additional information, visit the website at www.counseling.sdes.ucf.edu

Course Development and Web Services

Barbara Truman, Director
LIB 107, (407) 823-3718

Web address: <http://cdws.ucf.edu>

Course Development and Web Services (CDWS) is the primary unit responsible for Web-related services including online courses, www.ucf.edu, WebCT support, and associated professional development, multimedia production, and standards development.

CDWS produces instruction, images, video, interactive courseware, programming, databases, software applications, CD-ROMs, and other digital media applications. Students known as Techrangers are recruited, trained, and certified each semester from a variety of academic programs to work with faculty, departments, and students to create collaborative digital media projects.

Applications created by CDWS include:

- The Pegasus Disc CD-ROM: distributed annually to all incoming students and faculty -- <http://reach.ucf.edu/~coursdev/cdrom/pegasus.htm>
- UCF's Virtual Tour -- <http://www.ucf.edu/vtour>
- IDL6543: faculty development course offered twice each year to build online courses -- <http://reach.ucf.edu/~idl6543>
- WebCT Academy: courses offered year-round to faculty and teaching assistants -- <http://reach.ucf.edu/~webct411>
- Web Development Academy: courses offered for Webmaster support -- <http://reach.ucf.edu/~webdev>
- AskUCF: online database of questions and answers used campus-wide -- <http://ask.ucf.edu>

Special events are held regularly to promote campuswide participation and web-related research and development. For more information about Course Development and Web Services, see our website at <http://cdws.ucf.edu>

Creative School for Children

Director: Dolores Burghard, CSC, (407) 823-2726

The Creative School for Children (Educational Research Center for Child Development) provides an educational program, including kindergarten-first grade, for children two through seven years old. The daily program is planned and conducted by degreed teachers. The program provides a wide variety of experiences in art, music, language, motor skills, science, math, social studies, perceptual development, socialization, and self-discovery. Planned and spontaneous field trips and special family programs are a part of the yearly schedule. Experiences in observation and training in academic areas are also made available to university students. Opportunities for educational research are available to university faculty and graduate students. Hours are 7:45 a.m. -5:15 p.m. Monday through Friday. The school conducts a Summer Recreational Day Camp for elementary school children during the Summer semester.

Dispute Resolution Services

Coordinator: TBA, SRC 153, (407) 823-3477

Dispute Resolution Services enhances the university community by offering mediation training and services directed at resolving interpersonal disputes while promoting individual responsibility. Mediation is a private, voluntary, decision-making process in which one or more impartial persons, the mediator(s), assist people, organizations, and communities in conflict to work toward a variety of goals. This service is available to the university community and is encouraged for those who have been unsuccessful in resolving their differences. Mediation training is conducted once per semester and is offered at two different levels: 1) a basic introduction to conflict resolution skills and mediation techniques session, and 2) as an advanced mediation techniques session. Mediation training and services are provided to students, faculty, and staff at no charge. Dispute Resolution Services also offers educational workshops and outreach programs to foster

understanding and promote harmony within the university community. Learn more by visiting the website at www.drs.sdes.ucf.edu/

Housing and Residence Life

Director: Christi Hartzler, HAB 101, (407) 823-4663

Regularly enrolled single students paying registration fees for a minimum of nine semester hours may apply for assignment to University residence, consisting of residence halls and apartment-style units. However in the residential halls, priority is given to incoming Freshmen who occupy approximately 70 percent of the university's housing capacity and, current residents, who occupy most of the University's remaining spaces. Upper-level single students are given priority for assignment to the University's on-campus apartment-style residential facilities on a space-available basis. There is no on-campus married student housing.

Applications and other information concerning university housing may be obtained by consulting the Department of Housing and Residence Life, P.O. Box 163222, UCF, Orlando FL 32816-0222, (407) 823-4663 and referring to our website <http://www.housing.ucf.edu>.

International Services Center

Director: Dr. Saleha Suleman

CMMS (Building #81), (407) 823-2337

The International Services Center (ISC), a unit of the Division of Graduate Studies, provides assistance and information to the University of Central Florida international community. Its main function is to serve as a unit of advocacy and support, assist in adjusting to a new academic environment and culture, and provide immigration and other advising to prospective, new and currently enrolled international students and scholars at the University of Central Florida. A wide range of special services is offered to help international students and scholars maintain their non-immigrant visa status. This includes issuing necessary USCIS documents to facilitate visa issuance abroad, transfer procedure and employment authorization. Counseling and assistance on personal, financial, academic, and cultural concerns also are given to guide the international students and scholars within the University community. The ISC is committed to providing accurate, updated and timely information on issues and needs pertinent to international students and scholars. Another important role of the Center is to enhance international awareness and cross cultural understanding through educational, cultural and social programs and activities.

Intramural Sports

Associate Director: Jim Wilkening, Recreation and Wellness Center 204, (407) 823-2408

The Intramural Sports program offers the opportunity to participate in more than 40 action-filled team, dual, and individual sports including perennial favorites flag football, basketball, soccer, and floor hockey. Several divisions of competition are offered to accommodate various skill levels.

A unique aspect of the UCF program is referee development in which you will be trained to officiate sports, earn money on campus, and get an opportunity to work in the Orlando community. To sign up as a team or individual, and for more information, visit <http://www.imsports.ucf.edu/>. Get involved and remember to take a little time each day to play.

Multicultural Academic and Support Services (MASS)

Associate Director: Inez M. Ford, MH 145, (407) 823-2716

The Office of Multicultural Academic and Support Services (MASS) provides comprehensive academic support, cultural enrichment, consultation, and referral services that promote the recruitment, admission, retention, and graduation of African American, Hispanic American, Asian American and Native American students. MASS offers personalized advising and support; monitors academic progress; sponsors a six

week summer program, Seizing Opportunities for Achievement and Retention (SOAR); and designs and coordinates cultural and social activities to assist multicultural students in realizing their academic, career and personal goals. MASS serves as the focal point of operations in addressing the specific needs, issues and concerns that confront multicultural students at UCF.

Off-Campus Student Resource Center

Director: Jimmy Watson, HAB 105, (407) 823-6505, www.housing.ucf.edu/ocsrc/home.html

The Off-Campus Student Resource Center (OCSRC) assists students in their search for off-campus housing accommodations. The Center provides listings of off-campus apartments and resources for students needing to find roommates, storage, sublease, transportation, and furniture rental information.

The Off-Campus Student Resource Center also provides UCF students living off-campus with information regarding a variety of on-campus programs and services. The Center fosters a supportive environment for off-campus students by providing an advocacy for resolving problems, "on the spot" or through campus referrals, and exploring other available resources for students. Students are welcome and encouraged to utilize the services offered by the Off-Campus Center, and to become "connected" with the many benefits the campus has to offer.

Office of Instructional Resources

Dr. Ruth Marshall, Director
Classroom Building I, Room 203
(407) 823-2571, Fax: (407) 823-2109
Web address: <http://www.oir.ucf.edu>

The Office of Instructional Resources supports UCF administrators, faculty, and staff with multimedia design and production, digital media, webcasting, video production, audio production, photography, and graphics, and a full range of multimedia classroom support services. OIR manages UCF's interactive video network, which includes seven origination rooms on the main campus and ten receive rooms at branch campus locations. OIR's facilities include the Digital Image Processing Lab (DIPL), located in the Research Pavilion in the Central Florida Research Park. In association with its community partners, DIPL offers UCF faculty access to state-of-the-art digital imaging technologies including digital image processing, digital document scanning, and CD-ROM production. OIR's Faculty Multimedia Center (CL1 202) provides multimedia production, image scanning, slide scanning, CD-ROM production and duplication, graphics for brochures and posters, and training resources for faculty using Macintosh and Windows personal computer systems. OIR's Interactive Video Classroom (CL1 320) is used for videoconferencing and ITV course origination. The room also provides faculty with an excellent location for training in ITV production and delivery skills. OIR also supports over ninety advanced multimedia classrooms located throughout the campus.

The ITV network services several area campus sites, including the UCF Downtown Center, the branch campuses at Brevard and Daytona, and other off-campus instructional sites such as South Orlando, Palm Bay, Valencia Community College's west campus, and Lake Sumter Community College at Clermont; OIR also provides Ku and C-band satellite reception, cable television delivery on the main campus, and ISDN (384K) videoconference and services.

Office of Student Conduct

Coordinator: Victoria Burke, SRC 150, (407) 823-2851

The Office of Student Conduct addresses alleged violations of the Rules of Conduct contained within the student handbook, The Golden Rule. This office is also responsible for advising students of their rights during the Student Conduct Review Process, discipline certification, and student eligibility checks. The Office of Student Conduct annually publishes the student handbook, The Golden Rule, which contains more detailed information on student life. Copies may be obtained in SRC 154, or may be viewed on the web at: www.goldenrule.sdes.ucf.edu.

Office of Student Rights and Responsibilities

Director: Patricia MacKown, SRC 155, (407) 823-6960

By offering a wide range of services designed to assist as well as educate students in resolving their disputes, the Office of Student Rights and Responsibilities (OSRR) combines Student Legal Services, Dispute Resolution Services, and the Office of Student Conduct. OSRR provides a forum that contributes to the individual growth and development of the student's knowledge of community responsibilities, due process, conflict resolution skills, and university student conduct rules. Our resources are more effectively used by combining and referring within the judicial knowledge base that exists within these three services.

Registrar's Office

University Registrar: Dennis J. Dulniak, MH 161, (407) 823-3100

The Registrar's Office, with a commitment to quality service and leading edge technology, provides efficient registration, effectively meets student administrative needs, and ensures a complete enrollment process from registration through graduation. The office maintains the integrity of academic records and coordinates and enforces University policies and procedures campus-wide through cooperation, communication, and leadership. The Registrar's Office is responsible for the management and publication of course offerings, the *Undergraduate Catalog*, *Schedule Web Guide*, and the efficient utilization of classroom resources. For further information, visit the website at <http://registrar.ucf.edu>

Student Activities

Director: Tony Perry, SU 208, (407) 823-6471

The Office of Student Activities provides programs, resources, and services that enhance student life at the university. The office registers over 200 student organizations (student government, academic/preprofessional and honorary, sports clubs, military, religious, special interests, minority/international, and service groups) and advises the Campus Activities Board (CAB), the Consultants for Effective Leadership (CEL), the Diversity Dialogue Consultants (DDC), Volunteer UCF (VUCF), and Emerging Knights (EK). Other programs and services sponsored through this office include the Knights of the Roundtable, Family Weekend, and Senior Salute.

Student Disability Services (SDS)

Director: Philip Kalfin, SRC 132, (407) 823-2371

The Office of Student Disability Services provides information and individualized services consistent with the student's documented disability. Such services may include, but are not limited to, orientation to campus facilities and services, assistance with classroom accommodations, assistance with course registration, disabled parking decals, counseling, and referral to campus and community services for students with disabilities.

To be eligible for disability-related services, individuals must have a documented disability as defined by federal and state laws. Services are available to students whose disabilities include, but are not limited to, hearing impairment, manual dexterity impairment, mobility impairment, specific learning disability (such as dyslexia), speech impairment, visual impairment, or other disabilities requiring administrative or academic accommodations. Individuals seeking services are required to provide documentation from an appropriate health care provider or professional.

If a student needs special admission consideration based on a disability, the student should answer this question on the Application for Admission form and send the requested appropriate documentation to the Admissions Office. Students who have a disability that may require special assistance are requested to voluntarily contact the Office of Student Disability Services. All information is confidential and will be used only to assist the student. Information and assistance are available for faculty members working with students with disabilities. A Telecommunication Device for the Deaf (TDD)/Text Telephone (TTY) is

available for hearing-impaired or speech-impaired persons with TDDs/TTYs to contact the university. Telephone (407) 823-2116, for TDD/TTY calls only.

Student Financial Assistance

Executive Director: Mary H. McKinney, MH 120, (407) 823-2827. For appointment, call (407) 823-5285. The primary role of this office is to provide financial assistance to students and families, allowing them to participate fully in the total educational experience. The office is responsible for coordinating and processing all resources for both undergraduate and graduate students. It also serves as the Undergraduate Student Personnel Office. Students may contact the Office of Student Financial Assistance to receive individual, comprehensive counseling by telephone or to schedule an appointment with a counselor. The office provides a complete line of services regarding financial assistance to all students. For more detailed information, visit our website at: <http://finaid.ucf.edu/>.

Student Government

Director: David L. Pavlonnis, SU 214, (407) 823-2191, Student Government's (SG) purpose is to represent student views on issues affecting UCF and to promote progressive changes that improve campus life. In advocating better communication and understanding among the UCF family, Student Government also provides numerous services which impact student life. These services currently include computer labs, discount tickets to movie theaters and theme parks, free local calling on campus telephones, funding for legal services, recreational services and Campus Activities Board programming. Money allocated by Student Government for these services comes from activity and service fees which students pay during registration. Additionally, UCF clubs and organizations may receive funding for events, projects and travel to conventions. SG coordinates its efforts with the Florida Student Association in lobbying for students' rights on local, state and national government levels.

Student Health Services (SHS)

Director: Robert Faust, SHC, (407) 823-2701. Recognizing the importance of lifestyle in health and the prevention of disease, the Student Health Services combines quality care for illness and accidents with an aggressive health education and lifestyle enhancement program. A Student Wellness Advocate Team (SWAT) enhances the health promotion efforts of the Wellness Center.

The Student Health Center (SHC) is staffed by physicians, advanced registered nurse practitioners, physician assistants, registered nurses, pharmacists, and a full complement of other medical support personnel. Full referral service to Orlando area specialists is established.

Each health fee paying student is entitled to the benefits provided through the Student Health Services and outlined in printed material available in the Student Health Center. Most office consultations and programs are provided without additional costs. Laboratory tests, x-rays, medications, and some supplies require additional but significantly reduced payments which may be made with cash, credit card, personal check, or charged to student's account.

Student Legal Services

Director: Patricia MacKown, SRC 155, (407) 823-2538. Student Legal Services provides students with advice and consultation including court representation in selected areas of law such as landlord/tenant, consumer, simple wills, traffic, and criminal. Each eligible student (an undergraduate or graduate student currently enrolled in UCF) is entitled to consult with a Program Attorney about any legal matter not excluded by program guidelines free of charge. Students in need of legal services should contact Student Legal Services at (407) 823-2538, or Student Resource Center Room 155. This service is by appointment only, and no legal advice is given over the phone.

Student Union and Recreation and Wellness Center

Director: Suzanne Halpin, SU 312, (407) 823-2117

The Student Union is the meeting place on campus and provides the campus community with a variety of meeting places, offices, programs, and services. The Union is home to a great variety of restaurants including Joffrey's Coffee, The Sweet Retreat, Steak Escape and Egg Rolz, Subway, Wendy's, Sbarro, Baja Burrito Kitchen, Mrs. Field's, Pretzel Time, and Wackadoo's Grub and Brew. Retail stores include STA Travel, Park Avenue CD's Jr., Greek Unique, KnightStop Convenience Store, Knightwear, College Optical, and the UCF Computer Store. Other services in the Union are the SGA Ticket Center, U.S. Postal Center, and ATMs from SunTrust, Bank of America, and the UCF Credit Union. For information, phone (407) 823-0001.

The Recreation and Wellness Center (RWC) offers cardiovascular training equipment, weight training equipment, group exercise rooms, basketball courts, an indoor track, sand volleyball courts, a swimming pool, and a climbing wall. The UCF Wellness Center, also housed with RWC, sponsors a wide variety of health-related classes, lessons, and programs throughout the year. Playing fields and tennis courts adjacent to the center are available to students when not in use for scheduled events. The Recreation and Wellness Center is open to all students with a valid UCF ID. Memberships are available for non-students. The RWC staff also operates the Lake Claire recreation area, which is located just north of Greek Row. Lake Claire offers picnic facilities, watercraft, and a nature trail. The facilities can be reserved for group activities by calling Student Union Event Services at 407-823-3677. For information regarding RWC, call 407-823-5011.

Transit Services

Web address: <http://www.ucf.edu/campusmap/busroute/>

Through joint efforts of UCF, LYNX and the University/Alafaya Corridor Transportation Association (UACTA), UCF students, faculty, and staff have a number of transit options. Three bus routes serve UCF from Oviedo, Downtown Orlando, and Valencia Community College East campus. Through the use of these routes, commuters can connect to most anywhere in Greater Orlando. These buses normally operate at 30 to 60 minute intervals. The cost to ride LYNX is \$1.25 per ride. Special passes are available at discounted rates. Route maps may be obtained at the Millican Hall Information Booth or by calling UACTA at 407-658-8492 or LYNX at 407-841-8240.

The Student Transportation Shuttle Service provides transit needs for student communities, as well as traveling through the Research Park area. This service consists of fixed routes operating on 15-minute intervals. All students, faculty, and staff are eligible to ride the shuttle at no per-trip cost. Route maps may be obtained through the Parking Services web page at <http://parking.ucf.edu>.

UCF Alumni Association

Director: Thomas Messina, RP-RVL 301, (407) UCF-ALUM

The University of Central Florida Alumni Association was developed to maintain awareness and support of the university by our alumni. Membership is open to all alumni and friends of the university.

University Bookstore

General Manager: Denise Berrios, P.O. Box 162444, Orlando, FL 32816-2444; (407) 823-2665

The University Bookstore is operated under a contractual agreement with Barnes and Noble. The University Bookstore is located in the John T. Washington Center and is open to the public. In addition to textbooks and school supplies, this facility offers a complete line of UCF insignia clothing and gift items. For more information visit the website at <http://ucf.bkstore.com>

University Libraries

Barry B. Baker, Director
Frank R. Allen, Associate Director for Administrative Services
Margaret K. Scharf, Associate Director for Public Services
LR 512, (407) 823-2564

Librarians: Barbara J. Alderman, Ellen P. Anderson, Buenaventura B. Basco, Penny M. Beile, Linda K. Colding, Eda M. Correa, Michelle M. Foss, J. Richard Gause, Jr., Donna R. Goda, Amy E. Gonzalez, Richard H. Harrison II, Carole S. Hinshaw, Athena R. Hoepfner, Selma K. Jaskowski, Lyn S. Case, Elizabeth E. Killingsworth, Marcus D. Kilman, Allison O. King, Cynthia M. Kisby, Chang C. Lee, Cheryl G. Mahan, Harold D. Mendelsohn, Kimberly K. Montgomery, Jeanne M. Piascik, Meredith C. Semones, Roger D. Simmons, Marilyn R. Snow, Peter Spyers-Duran II, Mem T. Stahley, Carla M. Summers, Linda J. Sutton, Terrie K. Sypolt, Rachel G. Viggiano, Jeannette A. Ward, Jack L. Webb, Milton T. Wolf, Ying Zhang.

The main University Library has a collection of over 1.4 million volumes, including 11,900 serial subscriptions. In addition to bound volumes, the Library owns approximately 2.3 million microforms and 35,000 media titles. UCF is a partial depository for both United States and Florida government publications. The Library is open approximately 103 hours per week including evenings and weekends. Current hours are available on the website: <http://library.ucf.edu/administration/calendar.htm> or by calling (407) 823-2756.

Over 200 computer workstations are available for public use on all floors of the University Library. Included in this total are 20 laptops equipped with wireless cards that can be checked out for use anywhere in the Library building. Patrons who have laptops with wireless cards can also bring their own computers to the Library and connect to the Library's electronic resources and to the Internet from anywhere in the building. The Library also has two classrooms outfitted with 41 computer workstations for hands-on instruction in the use of electronic resources.

WebLUIIS, the Library's web-based catalog, can be accessed from any public or home PC. WebLUIIS also offers a gateway to hundreds of electronic databases, the catalogs of other state university system libraries, and the community college system libraries. For help and advice in the use of the Library and its materials, the Reference Desk is open during most library hours. Librarians are on duty to assist in the use of the online catalog (WebLUIIS), electronic reference sources, and other library collections. Assistance is also available through the Ask a Librarian service, by telephone at (407) 823-2562 or at <http://library.ucf.edu/ASK/>.

The Interlibrary Loan and Document Delivery Services Department (ILL) assists students in obtaining materials not owned by the Library. Most book loans and photocopied materials can be acquired free of charge within two weeks. Request forms are available on the ILL website at <http://library.ucf.edu/ill> or at the ILL Office (Room 221). For more information, call (407) 823-2383 during office hours, or visit the ILL website.

Special services are provided for people with disabilities. By using WebLUIIS, students can determine the availability of books they need and telephone the Library to request that books be retrieved from the shelves and brought to them at the circulation desk. A Kurzweil reading machine is available in the Library for people with visual impairments; students may arrange for instruction in its use. Through the cooperation of the university's Office of Student Disability Services and the Florida Bureau of Blind Services, the library staff will aid disabled students in obtaining special equipment they may need to use library resources.

The Curriculum Materials Center (CMC), a unit of the University Library, is located in the Education Building. The CMC provides representative K-12 curriculum materials for preview, review, analysis, and circulation. The facility serves primarily the students and faculty of the College of Education, however, it is open to all campus faculty, staff, and students. For more information on this center, see the CMC website at <http://library.ucf.edu/CMC> or call (407) 823-2791.

Additional library collections are available at the Brevard Community College-University of Central Florida Joint Use Library in Cocoa and at the Daytona Beach Community College Library in Daytona Beach. At both locations the university works with the local community college to provide complete information services, including materials processing and checkout. Both locations have electronic access to LUIS and to university resources on the web. Courier and intercampus loan services make the main library's collections available to UCF students at all area campus sites. For more information, see the website at <http://library.ucf.edu/BranchCampuses/default.htm>

University Ombuds Office

Director: Victoria Brown, Millican Hall 338F, (407) 823-6440

The Office of the Ombuds Officer provides members of the university community assistance and advice regarding concerns related to the university. These services are available to every member of the university community—students, staff, faculty, and others. Any type of concern may be brought to the attention of this office: academic, financial, housing, consumer, work-related, or personal. The university Ombuds Officer is a neutral facilitator and will listen to your concern, help you explore options, offer suggestions and advice, and assist in the resolution of your concern. Referral and direction to appropriate individuals and offices, and clarification of university policies and procedures are services of the office. All proceedings in individual cases will be held confidential by the Ombuds Officer unless otherwise authorized by the complainant, or otherwise required by applicable law, including without limitation, Chapter 119, Florida Statutes.

UCF Public Safety and Police Department

Chief: Richard P. Turkiewicz

Police Department, UCF, P.O. Box 163550, Orlando, FL 32816-3550; (407) 823-5555,

<http://police.ucf.edu>

Parking Services Web address: <http://parking.ucf.edu>

The UCF Police Department is a full-service law enforcement agency. The Patrol Division consists of police officers providing police services twenty-four hours a day, seven days a week. The officers patrol the campus on foot and in marked patrol cars. They are supplemented by additional police officers patrolling on mountain bikes and motorcycles.

The Investigations Unit consists of detectives that investigate all unsolved criminal cases. The Crime Prevention Unit presents Crime Prevention seminars for property protection and personal safety for the community. The Community-Oriented Policing program (COP) consists of five officers assigned to the UCF Housing areas. These officers work closely with the residents and housing staff in a "partnership" to reduce crimes in these areas. The Student Escort Patrol Service (SEPS) is an evening escort service for all individuals on campus. The Victim Services Unit helps victims with emotional support and practical assistance, informational and referrals, and also provides educational services. Parking Services has the responsibility of maintaining all parking facilities on the UCF campus, selling parking decals, and enforcing parking regulations.

University Writing Center

Director: Dr. Beth Rapp Young, TR MOD 608; (407) 823-2197, www.uwc.ucf.edu

The University Writing Center offers a valuable free resource for graduate students looking for assistance with their writing. Trained graduate consultants at the UWC assist writers with all manner of projects, including course-specific term papers, conference proposals, annotated bibliographies, and GTA application essays. They also work with writers through the entire thesis and dissertation process, providing feedback on planning, research, drafting, and revising. Graduate writers working on longer projects can make a series of appointments to get regular feedback from the same consultant.

In addition, the Graduate Gateway section of the UWC website (reach.ucf.edu/~uwc) offers a useful online library of graduate writing resources, information, and links. An explanation of grant proposals, conference papers, and the stages of a thesis are available, as well as information about resume writing and sample dissertations and theses.

To work with a UWC consultant, we recommend that graduate students make an appointment, either by using our Online Scheduler on our website, stopping by TR MOD 608, or calling 407-823-2197. Writers should bring any notes or drafts, a copy of the assignment (if any), and any relevant textbook or handbook. We also provide a convenient, friendly environment in which to compose, revise, and edit. A library of handbooks, dictionaries, rhetorics, and style books is available for use within the University Writing Center.

Veterans' Affairs, The Office of

Assistant Director: Lorea E. Clark, MH 149, (407) 823-2707

The Office of Veterans' Affairs (OVA) is a center for all veteran students and eligible dependents who are using VA educational benefits to further their education. The office has a professional staff augmented by student veterans to assist in providing information concerning entitlements, filing claims to the Department of Veterans Affairs (DVA), and certifying enrollment at the university. The office also provides counseling for personal and academic concerns, tutorial assistance, and referral to various community agencies.

Veterans and eligible dependents must be certified through the Office of Veterans' Affairs to receive DVA educational benefits. The office monitors the academic progress of all those receiving DVA educational benefits. All veterans and eligible dependents are urged to consult the Office of Veterans' Affairs early in the UCF admissions process.

Administration

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[Division of Graduate Studies](#)
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Vice Povost, Academic Administrative Systems	J. Edward Neighbor
Director, Academic Support Services	Lynn J. Gonzalez

Division of Graduate Studies

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Associate Dean	Ben B. Morgan, Jr.
Assistant Director, Office of Graduate Recruiting	Wendy L. Bolyard
Director, Office of Graduate Admissions and Student Services	Tracy R. Jones
Associate Director, Academic Progress and Completion	Joanne Muratori
Associate Director, Office of Graduate Financial Assistance	Debra Y. Winter

Office of Undergraduate Studies

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Associate Dean	David Dees
Assistant Vice President and Director, Continuing Education	Patrick Wagner
Director, Center for Cooperative Education and Applied Learning	Sheri Dressler
Director, Karen L. Smith Faculty Center for Teaching and Learning	Alison Morrison-Shetlar

Office of Research

Vice President for Research	M. J. Soileau
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Executive Director, Institute for Simulation and Training	Randall Shumaker

Office of University Relations

Vice President for University Relations and Senior Counsel to	Daniel C.
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Director, Counseling	Robert Harman
University Registrar	Dennis J. Dulniak
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Director, University and Affiliated Housing	Christi Hartzler
Assistant Vice President for Student Life and Director, Off-Campus Student Services	Jimmy Watson
Director, United Campus Ministries	Charmaine Townshend
Director, Student Rights and Responsibilities and Legal Services	Patricia A. MacKown
Director, Student Health Services	Robert Faust
Director, Student Government Administrative Services	David L. Pavlonnis
Assistant Vice President for Special Programs	A.J. Range
Assistant Director, Veteran's Affairs	Scott Shorr
Director, Creative School for Children	Dolores Burghard
Director, Student Disability Services	Phillip N. Kalfin
Executive Director, Student Financial Assistance	Mary H. McKinney

Division of Graduate Studies

The Division of Graduate Studies is responsible for providing leadership and vision for graduate education at the University of Central Florida. Program quality, graduate admissions, recruiting, enrollment management, student services and records, policies, appeals, program development and review, benchmarking, and completion of graduate degrees are important concerns of the division.

Working in conjunction with the Faculty Senate Committees and the college and graduate program coordinators, UCF Graduate Studies is responsible for developing university-wide graduate plans and policies, coordinating graduate activities, distributing tuition support and fellowships to the colleges, facilitating the adoption of new graduate programs, coordinating the recruitment of graduate applicants, and admitting graduate students to the university. Students apply to the university through the Office of Graduate Admissions and Student Services. Admissions decisions are made by the colleges, schools and departments. The office also maintains and updates graduate student records indicating the status of students as they progress through their academic programs. Any policy questions about graduate issues should be directed to the Division of Graduate Studies or the Graduate Council. Questions about operational procedures should be directed to individual college or graduate program coordinators or to the Division of Graduate Studies.

Mission Statement

UCF Graduate Studies provides leadership to create high-quality learning environments for graduate students and to achieve the university's goal of international prominence in key areas of graduate studies. Graduate Studies is an advocate for graduate education, working to mobilize and arrange the resources needed for enrollment and program growth. We track and analyze emerging trends and changes in graduate education, both nationally and with our peer institutions and provide support and guidance for interdisciplinary and cooperative programs. We are mindful of the need to retain the academic values of the graduate programs while acting as a partner in the social and economic well being of the community and state.

UCF Graduate Studies collaborates with the faculty to develop policies and best practices that further the high academic standards and excellence of our graduate programs. We are client-centered, focused on providing the information and services that students need to enhance their experience with UCF and that faculty and staff need to effectively carry out their responsibilities to students. Cooperation with colleges, graduate programs, administrative offices, and support services is emphasized to provide an excellent experience for our graduate students from inquiry to graduation.

Through its primary activities, programs and services, UCF Graduate Studies contributes to program development and growth, enrollment management and recruiting, enhanced infrastructure and technological support for our graduate students and programs, and quality student support services for a diverse and talented graduate student population. We are a strong advocate for providing graduate education to persons who are full-time working professionals requiring flexible and relevant advanced education, those who are full-time graduate students being mentored by our graduate faculty, and those who are non-traditional, underrepresented or economically disadvantaged.

Office of Graduate Recruiting

UCF Graduate Studies develops and implements a university recruiting plan. It also provides the colleges and programs with guidance, resources, and assistance in regard to the recruitment of graduate students. The focus of these efforts is to help meet university goals related to enrollment management and the achievement of a diverse and talented graduate student population.

In addition, this office supports the Recruiting Enhancement Program that awards individual graduate programs the opportunity to develop recruiting plans and to implement them.

Office of Graduate Admissions and Student Services

The Office of Admissions and Student Services guides students through the graduate application and admissions processes for students enrolled in graduate degree and certificate programs and students taking graduate courses in a nondegree status.

This office also works with the graduate programs, colleges, and graduate students, and provides academic services to current students from the time they are admitted until they graduate. The mission of our student services is to enhance the quality and visibility of graduate education at UCF and to facilitate the academic success of our graduate students.

Office of Graduate Financial Assistance

Graduate Financial Assistance assists students in applying for fellowships and in identifying other sources of financial support for graduate study. The Office of Graduate Financial Assistance also oversees graduate tuition support and financial processing for fellowships. Questions should be directed to gradfaid@mail.ucf.edu.

Graduate Council

The Graduate Council is a standing committee of the Faculty Senate and reports to the Senate on graduate policy and curriculum matters. The Graduate Council deals with policy issues and standards for the university. New graduate program requests, changes to existing graduate programs, additions, deletions and modifications to graduate courses, and new policies or changes to existing graduate policies are initiated and reviewed by the Graduate Council. New graduate program requests require final approval by the Board of Trustees, and for doctoral programs approval is required from the Board of Governors of the State. The Graduate Council has three subcommittees that examine and formulate policies and procedures, hear petitions for variances from graduate programs, college, or university requirements, and review graduate Course Action Requests, among other matters. Each subcommittee consists of four senate members and at least three non-senate members.

Duties of the Graduate Council

1. Reviews and recommends university-wide graduate policies and standards.
2. Reviews all new proposals for planning and implementation of graduate programs, including deletion of existing programs.
3. Reviews all matters referred by the Graduate Council subcommittees.
4. Transmits its recommendations to the Faculty Senate Steering Committee, which normally submits these recommendations to the Office of Graduate Studies on behalf of the Provost.

Policy and Procedures Subcommittee

1. Examines existing policies and procedures and recommends new policies and procedures with regard to graduate education, including but not limited to policies and procedures affecting admissions, academic progress, and financial support for graduate students.
2. Reviews all matters referred by the Graduate Council.
3. Transmits its recommendations to the Faculty Senate Steering Committee.

Appeals Subcommittee

1. Hears petitions for variances from graduate program, college, or university requirements for graduate nondegree, certificate, or degree program students at the university or applicants to graduate programs. A student petition is considered when the department and college have reviewed the request and denied the petition or when the student is requesting an exception to university policies or regulations. Applicant petitions are considered upon request of the applicant when the program has reviewed an appeal of an admissions decision and denied admission.
2. Recommends approval or denial of appeals or petitions to the Vice Provost and Dean of Graduate Studies, who will notify the student, department, and college of the action.
3. Hears all requests from graduate program coordinators for exceptions to graduate policies and procedures.
4. Reviews nominees for the University Excellence in Graduate Teaching and the University Excellence in Graduate Mentoring Awards and makes recommendations to the Vice President for Academic Affairs.
5. Reviews nominees for the Award for Excellence by a Graduate Teaching Assistant, the Award for Excellence in Graduate Student Teaching, the Award for the Outstanding Master's Thesis, and the Award for the Outstanding Dissertation
6. Monitors graduate program quality and makes recommendations to the Graduate Council.
7. Reviews all matters referred by the Graduate Council.

Course Review and New Programs Subcommittee

1. Reviews curricular issues related to graduate education.
2. Reviews proposals for new graduate programs and deletion of existing programs.
3. Reviews proposals for changes to existing graduate programs (such as hours, thesis/non-thesis options) and makes recommendations to the Vice Provost and Dean of Graduate Studies.
4. Reviews proposals for new tracks or options to existing graduate programs and deletions of tracks or options, and makes recommendations to the Vice Provost and Dean of Graduate Studies.
5. Reviews proposals for new graduate certificate programs and the deletion of existing certificate programs and makes recommendations to the Vice Provost and Dean of Graduate Studies.
6. Reviews all requests for additions, revisions, and deletions of graduate and special topics courses and makes recommendations to the Vice Provost and Dean of Graduate Studies.
7. Reviews all matters referred by the Graduate Council.

College Graduate Coordinators

College graduate coordinators are appointed by the respective college Deans (or Directors of Schools with graduate academic programs) to work with the Division of Graduate Studies. The primary responsibilities of the college graduate coordinators are to identify opportunities for graduate education, communicate the college vision of graduate education to faculty, staff, students, and the university, coordinate and represent college graduate concerns to others, conduct studies that ensure program quality and standards in the college and report this information to the university, assist with program reviews, and prepare an annual report to the Division of Graduate Studies on college graduate activities.

College of Arts and Sciences—Dr. Michael Johnson
College of Business Administration—Dr. Robin Roberts
College of Education—Dr. Michael Hynes
College of Engineering and Computer Science—Dr. Jamal Nayfeh
College of Health and Public Affairs—Dr. Ken Adams
Rosen School of Hospitality Management—Dr. Randall Upchurch
School of Optics—Dr. David Hagan

Graduate Program Coordinators

The graduate program coordinators are appointed by the respective department Chairs (or Directors of other units with graduate academic programs) to work with the college graduate coordinators. Under the direction of their department chair, they are primarily responsible for recruiting graduate students and responding to inquiries; distributing tuition support to individual students; providing for student services such as mentoring, career development opportunities, and student orientations; providing for office space for graduate assistants; informing students and faculty of student completion rates; informing students and faculty of typical financial support available to graduate assistants; ensuring program standards in their department; and preparing an annual report to the college graduate coordinators on their activities.

Colleges and Schools

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[Academic Standards](#)

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[College of Engineering and Computer Science](#)

[College Admission Requirements](#)

[College Degree Requirements](#)

[FEEDS](#)

[College of Health and Public Affairs](#)

[Rosen School of Hospitality Management](#)

[School of Optics](#)

[Interdisciplinary Programs](#)

[Biomolecular Sciences](#)

[Modeling and Simulation](#)

College of Arts and Sciences

The College of Arts and Sciences consists of eighteen academic departments, which offer graduate degrees from sixteen programs: Art, Biology, Chemistry, Communication, English, Foreign Languages and Literatures, Forensic Sciences, History, Liberal Studies, Mathematics, Physics, Political Science, Psychology, Sociology and Anthropology, Statistics, and Theatre. In addition to these departments, the college also supports interdisciplinary programs in Biomolecular Science and Modeling and Simulation. The mission of the Graduate Studies Office in the College of Arts and Sciences is to assist the departments and programs of the college in providing high quality graduate education and achieving international prominence in key areas of graduate study. In providing this assistance, the office serves to coordinate graduate activities among the departments, promote an internationally diverse community of graduate students and faculty, enhance graduate recruitment and retention, and encourage, stimulate, and maintain excellence in scholastic achievement.

The office serves the needs of students by providing friendly, easily accessible support and advisement, and by assisting with record keeping, registration, and graduation. It supports the academic development of students and faculty by providing appropriate resources, encouraging scholarly and creative activities, and promoting quality graduate education and research facilities. It also supports the establishment and development of new and competitive graduate programs by serving as a responsive source of information for students, faculty, and staff, by encouraging increases in the number and quality of graduates, and by serving as a liaison between the programs and the university's Division of Graduate Studies.

The office assists students in matters concerning college and university requirements and procedures. Students should address questions concerning admission materials, acceptance notification, program of study, graduate committee membership, thesis and dissertation approvals, fellowship and financial information, waiver and petition forms, and graduate certifications to their respective department; however these items are processed through this office for all graduate students in the college. Questions concerning university and college graduate policies affecting Arts and Sciences majors should be directed to the

Graduate Studies Office in the College of Arts and Sciences Dean's Office, CAS 190K, or by calling (407) 823-5167.

College Administration

Web address: www.cas.ucf.edu

Graduate web address: www.cas.ucf.edu/graduate

The College of Arts and Sciences Dean's Office consists of the following:

- K. L. Seidel, Dean
- M. Johnson, Assistant Dean for Graduate Studies
- J. McGuire, Associate Dean
- C. Stebbins, Assistant Dean
- J. Fernández, Associate Dean
- L. Brodie, Associate Dean
- C. Bowers, Assistant Dean for Research
- H. Sweet, Associate Dean
- T. Frederick, Associate Dean

Faculty

Art

Web Address: www.art.ucf.edu/

Chair of the Department: Madison Ke Francis

Graduate Program Director: Scott Hall, VAB 105A, (407) 823-0798 E-mail: shall@mail.ucf.edu

Professors: J.J. Chavda, M.F.A.; M.K. Francis, B.F.A.; W. Gaudnek, Ph.D.; D. Haxton, M.F.A.; R.T. Reedy, Ph.D.; R. Rivers, M.F.A.

Associate Professors: C. Abraham, M.F.A.

Assistant Professors: J. Cutler, Ph.D.; M. Gonzalez, Ph.D.; S.F. Hall, M.F.A.; K.B. Haran, M.F.A.; L. Kilmer, M.S.; J.H. Kim, Ph.D.; F. Martin, Ph.D.; R. Sittler, M.F.A.; M.L. Wyatt, M.F.A.

Instructors: H. Abbas, M.F.A.; R. Burkhart, M.F.A.; J. Burrell, M.F.A., L. Cooper, M.F.A., A. Decean, M.F.A., S. Spencer, M.F.A.

Biology

Web address: <http://biology.ucf.edu>

Chair of the Department: David T. Kuhn

Graduate Program Director: John F. Weishampel, BIO 140, (407) 823-6634. E-mail:

jweisham@mail.ucf.edu

Professors Emeritus: L. L. Ellis, Ph.D.; J. L. Koevenig, Ph.D.

Professors: L. M. Ehrhart, Ph.D.; D. T. Kuhn, Ph.D.; A. Morrison-Shetlar, Ph.D.; R. Noss, Ph.D.; J.A. Osborne, Ph.D.; F. F. Snelson, Jr., Ph.D.; I. J. Stout, Ph.D.; H. C. Sweet, Ph.D., Associate Dean College of Arts and Sciences; W. K. Taylor, Ph.D.; G. A. J. Worthy, Ph.D.

Associate Professors: J. Fauth, Ph.D.; D. Jenkins, Ph.D.; R.E. Shetlar, Ph.D.; D. H. Vickers, Ph.D.; L. Von Kalm, Ph.D.; L.J. Walters, Ph.D.; J. F. Weishampel, Ph.D.

Assistant Professors: C. A. Bayer, Ph.D., Research; C. Calestani, Ph.D.; J. Nadeau, Ph.D.; C. L. Parkinson, Ph.D.; P. Quintana-Ascencio, Ph.D.; J. D. Roth, Ph.D., Research; J. M. Waterman, Ph.D.

Visiting Assistant Professor: W. D. Sotero, Ph.D.

Instructors: F.T. Logiudice, M.S.; P. Thomas, M.S.; R. Vajravelu, Ph.D.

Courtesy Appointments: K. S. Beach, Ph.D.; C. B. Cook, Ph.D.; E.J. Chittick, D.V.M.; D.E. DeFreese, Ph.D.; M. Deyrup, Ph.D.; E. S. Dierenfeld, Ph.D.; L.H. Herbst, Ph.D.; S.A. Eckert, Ph.D.; R.O. Flamm, Ph.D.; S. Fullerton, B.S.; P. Klein, Ph.D.; J. Mellen, Ph.D.; E. Menges, Ph.D.; E.M. Norman, Ph.D.; D.K. Odell, Ph.D.; J. Ogden, Ph.D.; P.C.H Pritchard, Ph.D.; C.J. Redburn, Ph.D.; W. Redfoot, M.S.; A. Savage, Ph.D.; M.A. Stamper, D.V.M.; J.S. Stern, Ph.D.; E. Stevens, Ph.D.; E.V. Valdes, Ph.D.; M.T. Walsh, D.V.M.; B.E. Witherington, Ph.D.

Chemistry

Web address: www.cas.ucf.edu/chemistry/

Chair of the Department: Glenn N. Cunningham

Chemistry Graduate Program Director: Kevin D. Belfield, Ph.D., CH 222, (407) 823-1028. E-mail:

kbelfiel@mail.ucf.edu

Web address: www.cas.ucf.edu/chemistry/

Forensic Science Graduate Program Director: Jack Ballantyne, Ph.D., CH 223, (407) 823-0163.

Forensic Science Track E-mail: chemistry@mail.ucf.edu

Web address: <http://reach.ucf.edu/~forensic>

Professors: K.D. Belfield, Ph.D.; C. A. Clausen, Ph.D.; G. N. Cunningham, Ph.D.; B. G. Fookes, Ph.D.; M.D. Hampton, Ph.D.; F. E. Juge, Ph.D., Associate Vice President; B. C. Madsen, Ph.D.; D. H. Miles, Ph.D.; R. Y. Ting, Ph.D.

Associate Professors: J. Ballantyne, Ph.D.; A. Campiglia, Ph.D.; S. R. Elsheimer, Ph.D.; C.L. Geiger, Ph.D.; F.B. Kujawa, Ph.D.; O. Phanstiel, IV, Ph.D.; M.E. Sigman, Ph.D.

Assistant Professors: F.E. Hernandez, Ph.D.; S. Kuebler, Ph.D.; T. Selby, Ph.D.

Computer Forensics Graduate Certificate Program Coordinator: Sheau-Dong Lang, CSB 203, (407) 823-2474. Email: Lang@cs.ucf.edu

Nicholson School of Communication

Web address: www.cas.ucf.edu/communication/

Director of the School: Mary Alice Shaver

Graduate Program Director: Burt Pryor, COMM 248, (407) 823-5670 or (407) 823-4655. Graduate

Program E-mail: apryor@pegasus.cc.ucf.edu or kseitiz@mail.ucf.edu

Professor Emeritus: E. Wycoff, Ph.D.

Professors: R. H. Davis, Ph.D.; F. E. Fedler, Ph.D.; M. D. Meeske, Ph.D.; B. Pryor, Ph.D.; M. Shaver, Ph.D.; R. F. Smith, M.A.; K. P. Taylor, Ph.D.

Associate Professors: G.M. Bagley, M.A.; J. F. Butler, Ph.D.; D.E. DeLorme, Ph.D.; W. J. Hall, Ed.D.; J. Maunez-Cuadra, Ph.D.; J. B. O'Hara, Ph.D.; M. C. Santana, Ph.D.; L. A. Tanzi, Ph.D.

Assistant Professors: R. L. Barfield, Ph.D.; T. Brown, A.B.D.; S. Collins, Ph.D.; R. E. Costain, Ph.D.; F. L. Johnson, M.A.; J. Katt, Ph.D.; S. G. Lawrence, Ph.D.; J. Malala, Ed.D.; M. Rabby, Ph.D.; A.T. Scott, Ph.D.; Y. Yoon, A.B.D.

Instructors: C. Bledsoe, M.A.; R. Brunson, M.A.; L. Mills, M.A.; F. Stansberry, M.A.

Lecturers: M. Betz, M.J.; T.O. Morgan, Ph.D.

English

Web address: www.english.ucf.edu

Interim Chair of the Department: Jose Fernandez

English Graduate Program Director: James Campbell, CNH 405, (407) 823-5254.

Texts and Technology Doctoral Program Coordinator: Craig Saper, CNH405, (407) 823-5329.

English Graduate Programs E-Mail: englgrad@pegasus.cc.ucf.edu

Professional Writing Certificate Program Coordinator: Melody Bowden, CHN 405, (407) 823-6234, E-mail: mardown@pegasus.cc.ucf.edu

Professor Emeritus: R. Adicks, Ph.D.; S.E. Omans, Ph.D.; G. Schiffhorst, Ph.D.

Professors: J. Hemschemeyer, M.A.; D. R. Jones, Ph.D.; P. Murphy, Ph.D.; C. J. Saper, Ph.D.; J. F. Schell, Ph.D., Assistant Vice President and Dean of Undergraduate Studies; K. L. Seidel, Ph.D., Dean College of Arts and Sciences; D. L. Stap, Ph.D.; D. Trouard, Ph.D.

Associate Professors: J.D. Applen, Ph.D.; J. Bartkevicius, Ph.D.; K. L. Bell, Ph.D.; J. Campbell, Ph.D.; P. Dombrowski, Ph.D.; M. Flammia, Ph.D.; S. Hubbard, M.F.A.; M. Kamrath, Ph.D.; I. Lamazares, Ed.D.; J. Leiby, M.F.A.; A. Lillios, Ph.D.; L. Logan, Ph.D.; K. Meehan, Ph.D.; C. Rodríguez Milanés, D.A.; P. J. Rushin, M.A.; E. Smith, Ph.D.; D. Wallace, Ph.D.; B. Young, Ph.D.

Assistant Professors: M. Bowdon, Ph.D.; D. Bowie, Ph.D.; L. Casmier-Paz, Ph.D.; A. Davidson, Ph.D.; A. Grajeda, Ph.D.; A. Jones, Ph.D.; K. Kitalong, Ph.D.; M. Marinara, Ph.D.; B. Mauer, Ph.D.; K. Oliver, Ph.D.; T. Pugh, Ph.D.; L. Roney, Ph.D.; B. Scott, Ph.D.

Visiting Instructors: L. Brodtkin, M.A.; D. Fox, Ph.D.

Foreign Languages and Literatures

Web address: www.cas.ucf.edu/forlang/

Chair of the Department: Consuelo Stebbins

Graduate Program Director, Spanish: Celestino Villanueva, CNH 523, (407) 823-5935.

Spanish Graduate Program E-mail: spangrad@mail.ucf.edu

Graduate Program Director, TESOL: Keith Folse, CNH 523, (407) 823-4555. TESOL Graduate Program E-mail: teslgrad@pegasus.cc.ucf.edu

Professor Emeritus: C. N. Micarelli, Ph.D.

Professors: M. Del-Rio, Ph.D.; J. B. Fernández, Ph.D., Associate Dean College of Arts and Sciences

Associate Professor: B.H. Decker, Ph.D.; J.C. DiPierro, Ph.D.; H. Lopez-Cruz, Ph.D.; C. Stebbins, Ph.D., Assistant Dean College of Arts and Sciences

Assistant Professors: J. Barberet, Ph.D.; B. Celaya, Ph.D.; L. Ferri, Ph.D.; K. Folse, Ph.D.; K. Gervasi, Ph.D.; G. Haralampieva, Ph.D.; M.A. Leticee, M.A.; A. Negy, Ph.D.; K. Purmensky, Ph.D.; F.M. Talyor, Ph.D.; A. Villanueva, Ph.D.

History

Web address: <http://pegasus.cc.ucf.edu/~history/>

Interim Chair of the Department: Edmund K. Kallina

Graduate Program Coordinator: Hong Zhang, CNH 551, (407) 823-2224. Graduate Program E-mail:

hisgrad@pegasus.cc.ucf.edu

Professors: R. C. Crepeau, Ph.D.; J. B. Fernandez, Ph.D., Associate Dean College of Arts and Sciences; E. F. Kallina, Jr., Ph.D.; S. A. Leckie, Ph.D.; B. F. Pauley, Ph.D.

Professors Emeritus: T. Colbourn, Ph.D.; J. H. Shofner, Ph.D.

Associate Professors: C. E. Adams, Ph.D.; R. J. Beiler, Ph.D.; C. Friend, Ph.D.; F. L. Gordon, Ph.D.; V. White, Ph.D.; H. Zhang, Ph.D.

Assistant Professors: S. P. Adams, Ph.D.; R. Alvarez, Ph.D.; A. Mendoza, Ph.D.; J. S. Perry, Ph.D.; V. Solonari, Ph.D.; N. Stockdale, Ph.D.; E. Walker, Ph.D.

Visiting Assistant Professors: R. Cassanello, Ph.D.; J. Spencer Downing, Ph.D.; Lori C. Walters, Ph.D.

Mathematics

Web address: www.math.ucf.edu/

Chair: M. Zuhair Nashed

Graduate Program Coordinator: Ram Mohapatra, MAP 212, (407) 823-5080. Graduate Program E-mail:

mathgrad@mail.ucf.edu

Professors: L. C. Andrews, Ph.D.; L. H. Armstrong, Ph.D.; J. R. Cannon, Ph.D.; S.R. Choudhury, Ph.D.; M. Ismail, Ph.D.; D. Kaup, Ph.D., Provost's Distinguished Research Professor; X. Li, Ph.D.; P. Mikusinski, Ph.D.; R. N. Mohapatra, Ph.D.; M.Z. Nashed, Ph.D.; G. D. Richardson, Ph.D.; B. K. Shivamoggi, Ph.D.; K. Vajravelu, Ph.D.; J. Yong, Ph.D.

Associate Professors: J. M. Anthony, Ph.D. R. M. Caron, Ph.D.; A. Katsevich, Ph.D.; H. M. Martin, Ph.D.; M. Y. Pensky, Ph.D.; C. P. Rautenstrauch, Ph.D.; J. Ren, Ph.D.; R. S. Rodriguez, Ph.D.; D. K. Rollins, Ph.D.; C.M. Schober, Ph.D.; A. Tovbis, Ph.D.; C.Y. Young, Ph.D.; Y. Zhao, Ph.D.

Assistant Professors: D. Han, Ph.D.; Z. Musslimani, Ph.D.; M-J, Ou, Ph.D.; Y. Qi, Ph.D.; M. Reid, Ph.D.; Q. Sun, Ph.D.

Instructors: L. Dunlop-Pyle, M.S.; B.J. Griffiths, M.A.; P. Higgins, M.S.

Joint Appointees: T. Clarke, Ph.D., Associate Faculty; R. Dutton, Ph.D., Computer Science; L. Hoffman, Ph.D., Statistics; A. J. Kassab, Ph.D., Engineering; D. W. Nicholson, Ph.D., Engineering; R. L. Phillips, Ph.D., Engineering

Physics

Web address: www.physics.ucf.edu

Interim Chair: Ralph Llewellyn

Graduate Program Coordinator: Robert Peale, MAP 310, (407) 823-5208. Graduate Program E-mail: graduate@physics.ucf.edu

Professors: S. K. Bose, Ph.D.; H. Campins, Ph.D.; L. Chow, Ph.D.; R. A. Llewellyn, Ph.D.; W. Luo, Ph.D.; J. E. Neighbor, Ph.D.; R.E. Peale, Ph.D.; H. P. Saha, Ph.D.; B. P. Tonner, Ph.D.

Associate Professors: J. S. Bolemon, Ph.D.; G. Braunstein, Ph.D.; K. Busch, Ph.D.; E. Mucciolo, Ph.D.; M. D. Johnson, Ph.D., Assistant Dean of Graduate Studies College of Arts and Sciences; A. Schulte, Ph.D.

Assistant Professor: A. Bhattacharya, Ph.D.; L. Chernyak, Ph.D.; B.R. Cuenya, Ph.D.; C. Efthimiou, Ph.D.; H. Helge, Ph.D.; V. Kokouline, Ph.D.; J. M. Saul, Ph.D.; P. Schelling, Ph.D.; T.A. Winningham, Ph.D.; L. Woodney, Ph.D.

Visiting Assistant Professor: Archana Dubey, Ph.D.; E. Stepanov, Ph.D.

Adjunct Professors: E. Flitsyan, Ph.D.

Affiliate Faculty: M. Bass, Ph.D., Optics; G. Boreman, Optics; B.H.T. Chai, Ph.D., K. Coffey, MMAE; P. Delfyett, Ph.D., Optics; D. J. Hagan, Ph.D., Optics; M. Hickey, Physics, Embry Riddle Aeronautical University; A. Kar, Ph.D., Optics; P. Kik, Optics; G. Li, Ph.D., Optics; M.C. Richardson, Ph.D., Optics; G. Sellars, Optics; S. Shivamoggi, Ph.D., Mathematics; C. Siders, Optics; W.T. Silfvast, Ph.D., Optics; M.J. Soileau, Ph.D., Optics and Vice President for Research; G.I. Stegeman, Ph.D., Cobb-Hooker Eminent Scholar Chair of Optical and Laser Sciences and Engineering; E.W. Van Stryland, Optics; B. Zel'dovich, Ph.D., Optics

Political Science

Web address: www.cas.ucf.edu/politicalscience/

Chair of the Department: Roger Handberg

Graduate Program Coordinator: Philip Pollock, CNH 408E, (407) 823-2608. E-mail: pollock@pegasus.cc.ucf.edu

Professors: R. Bledsoe, Ph.D. (Emeritus); R. Handberg, Ph.D.; P. H. Pollock, Ph.D.; W. Q. Morales, Ph.D.

Associate Professors: T. S. Fine, Ph.D.; K. Hamann, Ph.D.; A. Jewett, Ph.D.; D. Kiel, Ph.D.; D.N. Lanier, J.D.; J. R. Lilie, Ph.D.; S. A. Lilie, Ph.D. (Emeritus); H. Sadri, Ph.D.; B. Wilson, Ph.D.; M. E. Vittes, Ph.D.

Assistant Professors: C. Dolan, Ph.D.; D. Houghton, Ph.D.; P. Jacques, Ph.D.; B. Jungblut, Ph.D.; B. Kinsey, Ph.D.; J. Knuckey, Ph.D.; S. Reichert, M.A.; S. Schraunfnagel, Ph.D.

Psychology

Web address: www.psych.ucf.edu/

Chair of the Department: Robert Dipboye, Ph.D.

Associate Chair: William Wooten

Clinical Psychology Ph.D. Graduate Program Director: Mark D. Rapport, PH 409J, (407) 823-2974. Clinical Ph.D. Graduate Program E-mail: mrappor@pegasus.cc.ucf.edu

Clinical Psychology M.A. Graduate Program Director: Robert J. Kennerley, DB140-310B (386) 254-4412 ext. 4033. E-mail: rkennerl@mail.ucf.edu. Web address: www.psych.ucf.edu/clinical_ma/program.html

Industrial/Organizational Psychology Ph.D. Graduate Program Director: Barbara Fritzsche Clay, PH 309F, (407) 823-2544. I/O Ph.D. Graduate Program E-mail: iophd@pegasus.cc.ucf.edu

Industrial/Organizational Psychology M.S. Graduate Program Director: William Wooten, PH 302H, (407) 823-3478. I/O M.S. Graduate Program E-mail: iograd@pegasus.cc.ucf.edu

Applied Experimental and Human Factors Psychology Graduate Program Director: Eduardo Salas, PH 314A, (407) 823-2552. E-mail: esalas@pegasus.cc.ucf.edu

Professors: C.A. Bowers, Ph.D., Associate Dean of Research College of Arts and Sciences; W.A. Burroughs, Ph.D.; R.D. Gilson, Ph.D.; T. Hickey, Ph.D., Provost; J.C. Hitt, Ph.D., President; P.A. Hancock, Ph.D., Distinguished Research Professor; J.M. McGuire, Ph.D. Associate Dean College of Arts and Sciences; B.B. Morgan, Jr., Associate Dean Graduate Studies, Ph.D.; R. Pritchard, Ph.D.; M.D. Rapport, Ph.D.; E.J. Rinalducci, Ph.D.; E. Salas, Ph.D., Trustee Chair; E. Stone-Romero, Ph.D.; M.H. Thomas, Ph.D.; R.D. Tucker, Ph.D.; A.Y. Wang, Ph.D., Associate Dean Honors College.

Associate Professors: B.I. Blau, Ph.D.; J.C. Brophy, Ph.D.; M.E. Dunn; S.T. Dunn; R.D. Fisher, Ph.D.; B.A. Fritzsche, Ph.D.; B.J. Jensen, Ph.D., Director Eastern Region Area Campuses; M. Mouloua, Ph.D.; C. Negy, Ph.D.; E.C. Shirkey, Ph.D.; J.A. Smither, Ph.D.; W. Wooten, Ph.D.

Assistant Professors: S. Berman, Ph.D.; K. Jentsch, Ph.D.; M. Lavooy, Ph.D.; M. Newlin, Ph.D.; K. Renk, Ph.D.; V. Sims, Ph.D.; J. L. Weaver, Ph.D.

Associate Scientist and Director, Team Performance Laboratory: F. Jentsch, Ph.D.

Assistant Scientist: S. Fiore, Ph.D.

Instructors: K. Mottarella, Psy.D.; R. J. Kennerley, Ph.D.; M.A. Kennerley, Ph.D.; M. Chin, Ph.D.

Visiting Instructors: W. Borjesson, Ph.D.; S. Simpson, Ph.D.; P. Reynosa, Ph.D.; B. Walker, Ph.D.; S. Whitten, Ph.D.

Sociology and Anthropology

Web address: http://www.cas.ucf.edu/soc_anthro

Chair of the Department: Jay Corzine

Graduate Program Coordinator: John Lynxwiler, PH 409F, (407) 823-2227. E-mail:

jlynxwil@mail.ucf.edu

Professors: A.F. Chase, Ph.D.; D.Z. Chase, Ph.D.; J. Corzine, Ph.D.; D.E. Jones, Ph.D.; L.S. Lieberman, Ph.D., Director Women's Research Center; A.M. Stearman, Ph.D., Dean Burnett Honors College; R.L. Wallace, Ph.D.; J. Wright, Ph.D.

Associate Professors: I.J. Cook, Ph.D.; D.R. Dees, Ph.D., Associate Dean Academic Services; T. Dietz, Ph.D.; D.A. Gay, Ph.D.; L. Huff-Corzine, Ph.D., Assistant Vice President Academic Affairs; J. Jasinski, Ph.D.; J.P. Lynxwiler, Ph.D.; J. Morris, Ph.D.; E. Mustaine, Ph.D.; V. Titterington, Ph.D.; E. Zorn, Ph.D.

Assistant Professors: T. Dupras, Ph.D.; J. Ford, Ph.D.; W. Goldstein, Ph.D.; R. Howard, Ph.D.; B. Marshall, Ph.D.; J. Schultz, Ph.D.; Sikorska-Simmons, Ph.D.; E. Wright II, Ph.D.

Visiting Assistant Professors: T. Matejowski, Ph.D.; N. Savishinsky, Ph.D.

Instructors: L. Moore, M.A.

Statistics and Actuarial Science

Web address: <http://www.cas.ucf.edu/statistics/>

Chair of the Department: Ibrahim Ahmad

Graduate Program Coordinator: James R. Schott, CCII 205, (407) 823-2797. Graduate Program E-mail:

statgrad@pegasus.cc.ucf.edu

Professors: I. A. Ahmad, Ph.D.; M. E. Johnson, Ph.D.; G. D. Richardson, Ph.D.; J. R. Schott, Ph.D.; M. Wang, Ph.D.

Associate Professors: L. L. Hoffman, Ph.D.; D. Nickerson, Ph.D.; M. Pensky, Ph.D.; J. Ren, Ph.D.; N. Uddin, Ph.D.

Assistant Professors: G. Gau, Ph.D.; L. Guo, Ph.D.; Z. Han, Ph.D.; L. Ni, Ph.D.; X. Su, Ph.D.; H. You, Ph.D.; Y. Zhang, Ph.D.

Instructors: C. E. Cutchins, M.S.; S. C. Schott, M.S.; K. Suchora, M.S.

Theatre

Web address: www.theatre.ucf.edu

Interim Chair of the Department: Joseph Rusnock

Assistant Chair: Joseph Rusnock

Graduate Program Coordinator, MA, MFA Acting, MFA Design: Julia Listengarten, UTC 180, (407) 823-3858. *E-mail:* jlisteng@mail.ucf.edu

Graduate Program Director, MFA Musical Theatre: John Bell, UTC 180, (407) 823-3020. *E-mail:* jcbell@mail.ucf.edu

Graduate Program Director, MFA Youth Theatre: Sybil St. Clair, UTC 180, (407) 823-2862. *E-mail:* theatregrad@mail.ucf.edu

Professor: D. W. Seay, Ph.D.

Associate Professors: J. C. Bell, M.F.A.; B.C. Boyd, M.F.A.; M. W. Brotherton, M.F.A.; S.R. Chicurel, D.M.A.; L.M. Harris, M.F.A.; K. H. Ingram, M.F.A.; P. F. Lartonoix, M.F.A.; J. S. Rusnock, M.F.A.; H. Tan, M.F.A.; B.T. Vernon, M.F.A.

Assistant Professors: J. C. Brown, M.F.A.; D. DiCroce, M.F.A.; J. P. Hart, M.F.A.; J. D. Helsinger, M.F.A.; J. Listengarten, Ph.D.; C. Niess, M. F. A.; J. J. Ruscella, M.F.A.; B. Scott, M.F.A.; J.W. Shafer, M.F.A.; S. St. Claire, Ph.D.; K. J. Tollefson, M.F.A.; E. Weaver, M.F.A.; V. Wood, M.F.A.

Assistants in Theatre: R. Blades, M.F.A., F. Matthews, M.S., W. Maxwell, M.F.A., T. Smith, M.F.A., Z. Stribling, M.F.A.

Visiting Professors: H.E. McDonald, M.F.A.

Programs

Doctor of Philosophy

- Biomolecular Sciences
- Chemistry
- Conservation Biology
- Mathematics
- Modeling and Simulation
- Physics
- Psychology—Applied Experimental and Human Factors Psychology Track, Clinical Psychology Track, and Industrial and Organizational Psychology Track
- Texts and Technology

Master of Science

- Biology
- Chemistry, Industrial
- Forensic Science
- Industrial and Organizational Psychology
- Liberal Studies
- Mathematical Science—General and Industrial Mathematics Track
- Modeling and Simulation
- Physics
- Statistical Computing—General, Actuarial Science Track and Data Mining Track

Master of Arts

- Clinical Psychology
- Communication—Interpersonal Track and Mass Communication Track
- English—Creative Writing Track, Literature Track, Technical Writing Track, and Rhetoric and Composition Track
- History—General and Public History Track
- Liberal Studies—General and Maya Studies Track
- Political Science—Environmental Politics Track, International Studies Track, Political Analysis and Policy Track
- Sociology, Applied—General and Domestic Violence Track
- Spanish
- Teaching English to Speakers of Other Languages (TESOL)
- Theatre

Master of Fine Arts

- Computer Art and Design
- Theatre—Acting Track, Design Track, Musical Theatre Track and Youth Theatre Track

Accelerated Undergraduate and Graduate Programs

- History
- Liberal Studies

Graduate Certificates

- Applied Mathematics
- Arts Management
- Computer Forensics
- Conservation Biology
- Contemporary Humanities
- Domestic Violence
- ESOL Endorsement K-12
- Gender Studies
- Maya Studies
- Professional Writing
- SAS Data Mining
- Teaching English as a Foreign Language (TEFL)
- Theoretical and Applied Ethics

General Requirements

The course work and research requirements of the programs are designed with the intent of offering students the opportunity for educational advancement and professional training. A research report, thesis, or dissertation is required in most of the programs and is an option in others. The General Graduate Record Examination is required for admissions consideration in all graduate programs. Admission to graduate programs is based upon university and departmental criteria, which may include factors such as work or internship experience, community service, research interests of prospective students, or personal interviews. The college strongly encourages applications from minority and diverse populations. Race, national origin, and gender are not used in the evaluation of students for admission into graduate and professional programs.

Each department is headed by a chair who reports to the dean of the college. A graduate program director within each department is designated for each graduate program and can provide advice on questions about admission and degree requirements. Consult the individual degree program listings for detailed descriptions of admission requirements, degree requirements, and courses.

College of Business Administration

The College of Business Administration offers seven master's programs and one doctoral program. All graduate programs in business administration are accredited by the Association to Advance Collegiate Schools of Business (AACSB). The seven professional programs leading to the master's degree are: Master of Business Administration, Master of Sport Business Management, Master of Science in Management Information Systems, Master of Science in Accounting, Master of Science in Taxation, Master of Arts in Applied Economics, Master of Science in Management with a track in Human Resources/Change Management. Also offered on the main campus is a full-time Doctor of Philosophy (Ph.D.) in Business Administration.

The mission of the College of Business Administration at the University of Central Florida is to provide quality business education programs, at the undergraduate, graduate, and executive levels, to the citizens of the state of Florida and to selected clientele nationally and internationally. In delivering these programs, the college places primary emphasis on excellent teaching and research with a strong commitment to developing mutually supportive relationships with the business community of Central Florida.

In pursuit of its mission, the College of Business Administration affirms its commitment to the university's focus on excellence and accent on the individual. Furthermore, the college pledges to deliver innovative and progressive programs to its clientele.

College Administration

- T. L. Keon, Dean
- B. Braun, Associate Dean for Administration and Technology
- Robin Roberts, Interim Associate Dean of Graduate Programs
- E. T. Ellis, Associate Dean of Undergraduate Programs

Faculty

School of Accounting

Director of the School: A. J. Judd, Ph.D.

Professors: D. D. Bandy, Ph.D.; R. Roberts, Ph.D., Burnett Eminent Scholar Chair; T. G. Evans, Ph.D.; J. H. Salter III, Ph.D., Ernst and Young Professor

Associate Professors: P. Dwyer, Ph.D.; P. M. Goldwater, Ph.D.; W. L. Johnson, Ph.D.; A. J. Judd, Ph.D.; C. F. Kelliher, Ph.D.; P. B. Roush, Ph.D.; L. J. Savage, Ph.D.; J. K. Welch, Ph.D.

Assistant Professors: D. Bobek, Ph.D.; J. Lacy, Ph.D.; L. Mahoney, Ph.D.

Economics

Chair of the Department: D. A. Hosni, Ph.D.

Professors: M. Caputo, Ph.D.; M. Dickie, Ph.D.; S. Gerking, Ph.D.; G. Harrison, Ph.D.; R. A. Hofler, Ph.D.; W. W. McHone, Ph.D.; J. W. Milon, Ph.D.; E. Rutstrom, Ph.D.

Associate Professors: B. M. Braun, Ph.D.; W. E. Gibbs, Ph.D.; S. Hamilton, Ph.D.; D. A. Hosni, Ph.D.; K. Im, Ph.D.; T. L. Martin, Ph.D.; R. L. Pennington, Ph.D.; M. Soskin, Ph.D.; K. R. White, Ph.D.; J. A. Xander, Ph.D.

Assistant Professors: J. A. Elston, Ph.D.; D. Finnoff, Ph.D.; O. Mikhail, Ph.D.; D. Scrogin, Ph.D.; W. Anton, Ph.D.

Finance

Chair of the Department: A. K. Byrd, Ph.D.

Professors: D. F. Scott, Jr., Ph.D., Phillips-Schenk Chair in American Private Enterprise; S. D. Smith, Ph.D., SunTrust Chair of Banking

Associate Professors: R. Ajayi, Ph.D.; S. M. Atkinson, D.B.A.; S. F. Borde, Ph.D.; A. K. Byrd, Ph.D.; J. M. Cheney, D.B.A.; Y. Choi, Ph.D.; J. H. Gilkeson, Ph.D.; N. K. Modani, Ph.D.; H. Park, Ph.D.; P. Ramanlal, Ph.D.; W. C. Weaver, Ph.D.; A. M. Whyte, Ph.D.; D. Winters, Ph.D.

Assistant Professors: H. Chen, Ph.D.; M. Frye, Ph.D.; R. Ragozzino, Ph.D.; C. Schnitzlein, Ph.D.

Instructors: L. Block, Ph.D.; B. Dalrymple, Ph.D.; P. Greggs, MS, CPA; C. McQuillen, Ph.D.; H. Singer, J.D.

Management

Chair of the Department: F. F. Jones, Ph.D.

Professors: M. Ambrose, Ph.D.; L. W. Fernald, Jr., D.B.A.; R. C. Ford, Ph.D.; R. C. Huseman, Ph.D.; T. L. Keon, Ph.D., Dean of the College of Business Administration; M. Schminke, Ph.D.; D. L. Stone, Ph.D.

Associate Professors: B. Barringer, Ph.D.; W. A. Bogumil, Jr., Ph.D.; J.S. Callahan, Ph.D.; W. G. Callarman, D.B.A.; C. M. Ford, Ph.D.; F. F. Jones, Ph.D.; M. Uhl-Bien, Ph.D.

Assistant Professors: V. Duriau, Ph.D.; M. McDonald, Ph.D.; D. O. Neubaum, Ph.D.

Management Information Systems

Chair of the Department: P. H. Cheney, Ph.D.

Professors: P. H. Cheney, Ph.D.; J. Courtney, Ph.D.; J. Haynes, Ph.D.; J. J. Jiang, Ph.D.; W. Leigh, Ph.D.; C. Saunders, Ph.D.

Associate Professors: S. Goodman, Ph.D.; R. Hightower, Ph.D.; L. West, Ph.D.

Assistant Professors: S. Hornik, Ph.D.; R. Johnson, Ph.D.; K. McNamara, Ph.D.; M. Parikh, Ph.D.; C. VanSlyke, Ph.D.

Instructors: E. Odisho; R. Szymanski; N. Thienel; C. Tidwell

Marketing

Chair of the Department: R. E. Michaels, Ph.D.

Professors: D. L. Davis, D.B.A.; R. E. Michaels, Ph.D.; R. S. Rubin, Ph.D.

Associate Professors: J. Allen, DBA.; R. Desiraju, Ph.D.; J. Ganesh, Ph.D.

Assistant Professors: R. Echambadi, Ph.D.; P. Gupta, Ph.D.; J. Harris, Ph.D.; J. Kim, Ph.D.; K.M. Maryott, Ph.D.; A. Stock, Ph.D.; Y. Whang, Ph.D.; K. Yoon, ABD

Instructor: R. Borrieci, M.B.A.; L. Crowson, M.B.A.; C. Gundy, M.B.A.; N. Howatt, M.S.; A. Jordan, M.B.A.; S. Mayfield-Garcia, M.S.; K Sooder, M.B.A.

Programs

Doctor of Philosophy in Business Administration

- Accounting Track
- Finance Track

- Management Track
- Management Information Systems Track
- Marketing Track

Master of Arts in Applied Economics

Master of Business Administration

- Traditional M.B.A.
- Executive M.B.A. Track
- M.B.A. (1 year, full-time program) Track
- Sport Business Management Track (for students accepted to Master's of Sport Business Management Program only)

Master of Science in Accounting

Master of Science in Management

- Human Resources/Change Management Track

Master of Science in Management Information Systems

Master of Science in Taxation

Master of Sport Business Management

Admission to Master's Programs

Before candidates will be considered for admission, **all** required application documents—application, official transcripts, GMAT test score (or GRE test score for the program in Applied Economics and MS/MIS only), essays, a resume, and three recommendations—must be received in the offices of UCF Graduate Studies by the admission deadline. MSA and MST do not require essays or recommendation letters. Admission to graduate study in the College of Business Administration is open to individuals with a baccalaureate degree in any discipline from a regionally accredited college or university. Thus, all graduate programs are open to graduates in education, engineering, arts, sciences, and other fields as well as business. The college strongly encourages applications from minority and diverse populations. Race, national origin, and gender are not used in the evaluation of students for admission into graduate and professional programs.

Admissions are restricted each semester to individuals showing high promise of success in postgraduate studies. Admission criteria include academic achievement as an upper-division undergraduate student and satisfactory performance on the GMAT (minimum score of 500). For the M.A. in Applied Economics degree and the MS in MIS degree only, scores on either the GRE or GMAT may be submitted. Both GMAT and GRE scores have a limit of 5 years. Other indicators of promise include the applicant's extracurricular activities, work experience and job responsibilities, and leadership experience. Foreign students whose native language is not English are required to achieve a score of at least 233 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL). The Test of Spoken English (TSE) may be required if deemed necessary by faculty recommendation. All foreign transcripts must be evaluated by an acceptable agency for bachelor degree equivalency.

Enrollment in graduate courses in the College of Business Administration is limited to students who have been accepted and classified with regular graduate status in the M.B.A. program (except as stated below), Master of Sport Business Management, M.S. in Management Information Systems, M.S. in Accounting, M.S. in Taxation, M.S. in Management, or M.A. in Applied Economics, and to other students with regular graduate status elsewhere in the university. Graduate-level courses may not be taken unless a student is accepted into a graduate program. Under special circumstances, and with the permission of the Associate Dean for Graduate Studies in the College of Business Administration, up to six (6) hours in one semester may be taken as a non-degree-seeking student (only courses from the M.B.A. professional Core I are allowed). The student must have a 3.2 GPA from an AACSB accredited school, and must take the GMAT during that semester. Registration will occur during add/drop on a space available basis.

An applicant will not be considered for admission to any graduate program until an official score on the GMAT or GRE (and TOEFL, if appropriate) has been received in addition to transcripts showing proof of attainment of the bachelor's degree and transcripts from all colleges attended.

[Application Deadlines](#)

Academic Standards

Regularly admitted graduate students in the College of Business Administration must maintain an overall 3.0 GPA in both their program of study and any graduate or undergraduate foundation core courses. In the event this is not maintained, a graduate student shall be placed in an academic provisional status. If a 3.0 GPA (grades of "B" or better) is then not obtained in the subsequent nine semester hours of course work, the graduate student will be disqualified from the program. Students in all graduate programs must achieve a minimum grade of "C" in all foundation and professional core courses. Further, if graduate students accumulate grades of "C" or lower or unresolved "I" grades in more than three foundation core courses, they will be disqualified from the program. If graduate students accumulate more than six hours of "C" or lower and/or unresolved "I" grades on course work in the professional core, then they will be disqualified from the graduate program. Grade forgiveness policy does not apply to any courses (graduate or undergraduate) taken by graduate students in the College of Business Administration.

College of Education

Graduate programs in the College of Education are provided for students who have completed at least baccalaureate degrees. Both degree and non-degree programs may be planned for people in education-related positions in social and government agencies, business and industry, as well as for professional educators in private and public schools. Master of Education and Master of Arts degrees are awarded in many fields. Education Specialist degrees are offered in School Psychology, Curriculum and Instruction, and Educational Leadership. Doctor of Education degrees are available in Educational Leadership and Curriculum/Instruction. The Doctor of Philosophy in Education is available with six tracks: Counselor Education, Elementary Education, Exceptional Education, Exercise Physiology, Instructional Technology, and Mathematics Education. All programs in the College of Education are accredited by NCATE (National Council for the Accreditation of Teacher Education). The School Psychology program is accredited by the National Association of School Psychologists (NASP/NCATE), and Exceptional Student Education is accredited by the Council for Exceptional Education.

College Administration

Sandra L. Robinson, Dean

Jennifer M. Platt, Associate Dean

Michael C. Hynes, Associate Dean

Suzanne M. Martin, Assistant Dean

Helen Stewart-Dunham, Brevard Campus Coordinator, (407) 632-1111, ext. 65533

Jessica Jelks-Cook, Daytona Beach Campus Coordinator, (904) 255-7423, ext. 4042

Ivy Johnson, Lake/Sumter Campus Coordinator, (352) 243-5722 ext. 2171787-3747, ext. 633

Faculty

Educational Studies

Chair of the Department: K. L. Biraimah, Ph.D.

Assistant to the Chair: T. T. Crouse, Ed.D.

Professors: K. L. Biraimah, Ph.D.; Ph.D.; M. L. Kysilka, Ph.D.; M.S. Lue, Ph.D.

Associate Professors: K. W. Allen, Ph.D.; S. L. Hiatt, Ph.D.; L. C. Holt, Ed.D.; C. J. Hutchinson, Ed.D.; J. S. Kaplan, Ph.D.; A. J. Miller, Ed.D.; T.J. Sullivan, Ed.D.; A. T. Wood, Ph.D.

Assistant Professors: D. Boote, Ph.D.; S. Condly, Ph.D.; J. Deets, Ph.D.; R.S. Hewitt, Ph.D.

Associate Graduate Faculty, Florida Gulf Coast University: D. A. Pataniczek, Ph.D.; C. M. Hewitt-Gervais, Ph.D.

Associate Graduate Faculty: E. Short, Ph.D., Professor Emeritus, The Pennsylvania State University

Educational Research, Technology and Leadership

Chair of the Department: J. W. Cornett, Ph.D.

Assistant to the Chair: TBA

Professors: W. C. Bozeman, Ph.D.; J. W. Cornett, Ph.D.; C. D. Dziuban, Ph.D.; M. H. Hopkins, Ed.D.; R. R. Lange, Ph.D.; G. W. Orwig, Ed.D.; G. Pawlas, Ph.D.; S. L. Robinson, Ph.D., Dean.

Associate Professors: R. Evans, Ed.D.; G. Gunter, Ph.D.; J. House, Ph.D.; D. Magann, Ed.D.; B. Murray, Ph.D.; K. Murray, J.D., Ph.D.; R. Paugh, Ed.D.; G. Pawlas, Ph.D.; S. E. Sorg, Ph.D.; L. Tubbs, Ed.D.; L. Witta, Ph.D.

Assistant Professors: R. Taylor, Ph.D.; S. Sivo, Ph.D.; T. Wallace, Ph.D.

Associate Graduate Faculty, Florida Gulf Coast University: C. F. Carter, Ed.D.; T. C. Valesky, Ed.D.

Associate Faculty: L. Baldwin, Ph.D.; M. Mongelli, Ed.D.; G. Perreault, M.Ed.; R. Westrick, Ed.D.

Child, Family and Community Sciences

Chair of the Department: W. Wienke, Ed.D.

Assistant to the Chair: M. McClain, Ed.D.

Professors: T. Angelopoulos, Ph.D.; S. M. Martin, Ph.D., Assistant Dean; J. M. Platt, Ed.D., Associate Dean; E. H. Robinson, Ph.D.; R. Spina, Ph.D.; W. Wienke, Ed.D.; M. Young, Ph.D.

Associate Professors: T. Angelopoulos, Ph.D.; C. R. Balado, Ed.D.; L. Cross, Ph.D.; L. Hartle, Ph.D.

Assistant Professors: M. Blanes, Ph.D.; M. Casado, Ph.D.; A. Daire, Ph.D.; O. Edwards, Ed.D.; D. Ezell, Ph.D.; B. G. Hayes, Ph.D.; R. Hines, Ph.D.; D. Fuller, Ph.D.; D. Jones, Ph.D.; L. Jones, Ph.D.; M. Little, Ph.D.; J. Manning, Ed.D.; K. Miller, Ed.D.; V. Mumford, Ed.D.; S. Pankaskie, Ph.D.; G. Taub, Ph.D.; D. Woodson, Ph.D.

Associate Graduate Faculty, Florida Gulf Coast University: V. J. Dimidjian, Ph.D.; L. Golian, Ed.D.; M. S. Green, Ed.D.; M. Issacs, Ph.D.

Teaching and Learning Principles

Chair of the Department: Robert Williams, Ed.D. (Interim Chair)

Assistant to the Chair: Lance Tomei, Ed.D.

Professors: D. Baumbach, Ed.D.; T. Blair, Ph.D.; D. K. Brumbaugh, Ed.D.; M. C. Hynes, Ph.D., Associate Dean, Director of Lockheed Martin/UCF Academy; A. R. Joels, Ph.D.; M. J. Palmer, Ed.D.; F. Rohter, Ph.D.

Associate Professors: J. H. Armstrong, Ed.D.; T. Brewer, Ph.D.; D. J. Camp, Ph.D.; P. Crawford, Ph.D.; J. Dixon, Ph.D., Associate Director of Lockheed Martin/UCF Academy; R. M. Everett, Ph.D.; D. W. Gurney, Ph.D.; P. Higginbotham, Ed.D.; L. R. Hudson, Ph.D.; J. Lee, Ph.D.; D. Mitchell, Ed.D.; S. E. Ortiz, Ed.D.; S. Roberts, Ed.D.; M. K. Romjue, Ph.D.; B. W. Siebert, Ph.D.; A. Sweeney, Ph.D.; K. Verkler, Ph.D.; G. West, Ph.D.; K. Williams, Ph.D.;

Assistant Professors: R. DuVall, Ph.D.; W. Gaudelli, Ed.D.; B. Jeanpierre, Ph.D., Associate Director of Lockheed Martin/UCF Academy; D. Ousley, Ph.D.; V. Zygouris-Coe, Ph.D.

Associate Graduate Faculty, Florida Gulf Coast University: C.W. Engle, Ed.D.; S.C. Mayberry, Ed.D.

Associate Graduate Faculty, College of Arts and Sciences: J. Saul, Ph.D.

Associate Graduate Faculty, College of Engineering and Computer Science: L. Chew, Ph.D.; S. Durrance, Ph.D.

Programs

Doctoral Degrees

- Curriculum and Instruction (Ed.D.)
- Educational Leadership (Ed.D.)
- Education (Ph.D.)—Tracks: Counselor Education, Elementary Education, Exceptional Education, Exercise Physiology, Instructional Technology, and Mathematics Education

Education Specialist Degrees

- Curriculum and Instruction
- Educational Leadership
- School Psychology—Tracks: School Counseling and School Psychology

Master's Degrees

- Art Education
- Counselor Education—Tracks: Mental Health Counseling and School Counseling
- Curriculum and Instruction
- Early Childhood Education
- Educational Leadership—General and Student Personnel Administration in Higher Education Track
- Elementary Education—General as well as Primary and Mathematics Education Tracks
- English Language Arts Education
- Exceptional Education—Track: Varying Exceptionalities
- Instructional Technology—Tracks: Educational Media (Online Program), Educational Technology, and Instructional Systems
- Mathematics Education
- Music Education
- Physical Education—Tracks: Career Enhancement, Exercise Physiology and Wellness, and Teaching Physical Education
- Reading Education
- Science Education—General as well as Biology, Chemistry, and Physics Tracks
- Social Science Education
- Vocational Education

Graduate Certificates

- Career Counseling
- Coaching
- Community College Education
- Foreign Language Education
- Gifted Education
- Health and Wellness
- Initial Teacher Professional Preparation
- Instructional/Educational Technology
- Marriage and Family Therapy
- Middle Level Education
- Play Therapy
- Pre-Kindergarten Handicapped Endorsement
- Professoriate
- Reading Education
- Special Education
- Sports Leadership
- Teaching Excellence
- Teaching Writing K-12
- Urban Education
- World Studies Education

Doctoral Programs

The College of Education offers the Ph.D. in Education with tracks in Counselor Education, Elementary Education, Exceptional Education, Exercise Physiology, Instructional Technology, and Mathematics Education. The Ph.D. in Education is a research-oriented degree appropriate for educators from school districts, businesses, industry, educational agencies, and other educational settings who need a strong research base in their careers. It is the intent of this program to be interdisciplinary, allowing flexibility for students who will work in research clusters and learning communities with faculty on education-related research. Programs of study can be designed for those educators who seek teacher education positions in a research university or a research-oriented education position in business and industry. (Please note that the previously offered Ph.D. in Curriculum and Instruction Program has been discontinued.)

Doctor of Education (Ed.D.) programs are offered in two areas. One is Educational Leadership for students who are interested in management and leadership positions in educational organizations. Professional experience and potential are important considerations for admission to the Educational Leadership Program. The second is Curriculum and Instruction, designed for those interested in teaching in a college of education, teaching a content field at the community college level, becoming a school district leader in curriculum and instruction, or performing instructional design tasks in military or business settings.

The Curriculum and Instruction as well as the Educational Leadership doctoral programs (Ed.D) are offered on the main campus and selected off-campus sites. There is a collaborative effort between UCF and Florida Gulf Coast University in Fort Myers to serve the educational community in southwest Florida. Likewise, to serve the Daytona Beach community, the programs are offered through the UCF campus at Daytona Beach Community College.

Admission Policy

Each doctoral program in the College of Education has specific application deadlines. Refer to the program descriptions for these dates. Completed files must be on campus by February 15 for fall admission and fellowship screening. Admitted students may begin course work during the first new semester after admission. There is a special December 20 deadline for applicants to the doctoral program offered for residents of southwest Florida at Florida Gulf Coast University. New admissions for the Daytona program are accepted for specially announced dates only (call 904-259-4460 for more information about this program). The college strongly encourages applications from minority and diverse populations. Race,

national origin, and gender are not used in the evaluation of students for admission into graduate and professional programs.

Application

Completed application files must include: a completed UCF graduate application form, including transcripts from all previously attended post-secondary schools, three letters of recommendation (should include those that will provide professional and academic information), a professional resume, and a statement of professional goals. Other information may be requested after the file is started. An interview is normally requested of applicants as part of the review process. Admission decisions are made based on the total of information provided to the admission committee.

Admission Requirements

Applicants must qualify for graduate admission to the university. The requirements include:

- An undergraduate GPA of 3.0 (on a 4.0 scale) on the last 60 attempted semesters hours
- A master's degree from an accredited institution
- A minimum score of 1000 on the General Graduate Record Examination (verbal/ quantitative scores combined)
- A score of 220 (computer-based test or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) if the applicant is an international student

Additionally, applicants for the doctoral degrees in the College of Education must

- Have completed at least three years of full-time teaching or comparable experience; and
- Be recommended for admission by the appropriate doctoral program admission committee. (Recommendations are based on compatibility of the applicant's goal statements and the particular doctoral program, the strength of the recommendation letters, the applicant's past record of professional accomplishments, the applicant's apparent potential for academic success, and the applicant's perceived potential for professional success.)

NOTE: These programs are competitive and meeting minimum university requirements does not guarantee admission. Those applicants who do not meet admission criteria may appeal to the College of Education Graduate Standards and Curriculum Committee for consideration. For those who do not meet the GRE requirement, a second score is required, and one of the two scores must be 940 or higher for consideration for admission. Admittance in one doctoral program does not guarantee admittance in another. Each doctoral program reserves the right to review the applicant's files and interview applicants for admission.

[Application Deadlines](#)

Transfer Credit

The number of transfer credit hours applied to the course requirements for a doctoral degree may not exceed 30 semester hours. Transfer credit may include only graduate hours awarded by an accredited institution toward a master's degree and post-master's degree work. The transfer credit allowed will be determined on a case-by-case basis by the graduate adviser and graduate program director. Post-master's degree credit taken at UCF prior to admission to the program is considered to be transfer credit.

Financial Support

Students interested in financial support through Education fellowship programs must have completed application files by December 20. Fellowships are typically awarded in the previous spring for students enrolling for the first time in the fall semester of the next academic year. Graduate assistantships may be granted for those who apply by February 20 for the following academic year.

Continuous Attendance

Graduation policy allows students to fulfill degree requirements as listed in the UCF graduate catalog in force during the student's most recent period of continuous attendance. Because students must occasionally interrupt their attendance for a brief period, they will be considered to have interrupted their attendance only if the interruption is for more than two major consecutive terms (fall and spring or spring and fall), including summer unless working on the dissertation. Doctoral students working on the dissertation must be continuously enrolled in at least four credit hours of dissertation research every semester until successfully defended. Under these circumstances, students will lose the option of fulfilling degree requirements under earlier catalogs. To avoid problems associated with maintaining graduate status, doctoral students are encouraged to enroll each semester, including summers.

Residency Requirement

Each student shall complete at least two contiguous resident semesters in full-time graduate student status. "Full-time" for doctoral programs in Education is defined as being enrolled for a minimum of nine hours per semester.

Admission to Candidacy

Before students can enroll in dissertation hours, they must apply for admission to candidacy. To be eligible for candidacy, students must have completed all degree course requirements, passed all candidacy examinations, and successfully presented a dissertation prospectus to their committee.

Status as Candidate

Students must continue to enroll for at least four semester hours of dissertation credit each semester after attaining candidacy status until the oral defense of the dissertation has been successful. Post-candidacy enrollment is allowed for a maximum of four years, subject to the seven-year time limitation.

Time Limitation

A student has seven years from the date of admission to the doctoral program to complete the dissertation. If the seven-year limit is exceeded, the candidacy examinations as well as course work may need to be repeated.

Dissertation

Dissertations are required in all doctoral programs. College of Education candidates will follow the APA (American Psychological Association) guidelines.

Education Specialist Programs

Education Specialist (Ed.S.) degree programs are offered in three areas: Curriculum and Instruction, for persons in teaching and other instruction/training leadership positions; Educational Leadership, for those

who are interested in decision-making positions in educational organizations; and School Psychology, for students preparing to enter the specialized fields of School Psychology or School Counseling. Because the courses of the Ed.S. degree may differ from those of the Ed.D., credit earned in an Ed.S. degree program may not be automatically transferable to a doctoral degree program. When a recipient of an Ed.S. degree is accepted for a doctoral program, the respective doctoral advisory committee will determine the amount of applicable credit earned in the Ed.S. for the doctoral program. In any case, 30 semester hours is the maximum amount of credit transferable to a doctoral program of study.

Admission Requirements

Admission to the Education Specialist program requires:

- A master's degree from a regionally accredited institution (except in the case of School Psychology, which does not require a master's degree but does have other admission requirements) AND
- A combined score of 1000 (verbal and quantitative sections of the General Graduate Record Examination) AND
- A minimum score of 220 (computer-based test or equivalent score on the paper-based test) on the Test of English as a Foreign Language if the applicant is an international student AND
- Other criteria as required by the respective degree program area AND
- A recommendation from the respective advanced graduate program admission committee.

NOTE: Those applicants who do not meet the admission criteria may appeal to the respective program admission committee for consideration. A second GRE score is required, and at least one of the scores must exceed 900 for review by these committees.

[Application Deadlines](#)

Degree Requirements

A program of study (i.e., required course work) will be specified by the student's program area and approved by the College of Education. In addition, the student must

- Complete course requirements for the Ed.S. degree (36 hours beyond the master's);
- Complete a course of study that includes a minimum of 12 semester hours in the specialization area, 6 graduate-level hours in research/statistics, and additional requirements that are specified by the program area;
- Maintain an overall 3.0 GPA on all graduate work attempted;
- Pass all required examinations; and
- Satisfy all other academic standards that apply to master's students. (These standards must be met or exceeded by specialist students.)

Transfer of Credit

A maximum of 9 semester hours earned in a master's degree may be applied to the program of study. Graduate program coordinators or program specialization advisers, with approval of the Dean of the College of Education, make transfer credit decisions.

Students entering the School Psychology program from the baccalaureate level may transfer in a maximum of 9 semester hours of graduate credit earned subsequently at an accredited institution of higher education. Courses taken as an undergraduate student may not be used for transfer unless the credit was graduate level and not a part of the undergraduate degree program.

Time Limit and Continuous Attendance

The student has seven years from the date of admission to the Education Specialist degree to complete the program. No courses taken since the entry date may be older than 7 years and be used in the program. The college reserves the right to revert the status of students who do not maintain continuous enrollment to non-degree-seeking. Students who are reverted to non-degree-seeking status must petition to be reinstated to the program.

Examinations

There are appropriate culminating academic experiences for each of the program areas. The specific program area requirements are listed under the program descriptions.

Master's Programs

Programs are offered in a wide variety of areas within the general field of education. Master of Education programs are open only to qualified students who have completed a baccalaureate degree and have completed course work for regular Florida State Teaching Certification. This degree is appropriate for the practicing educator who wishes to update and extend knowledge of their present teaching field. Master of Arts programs leading to initial certification are open to qualified individuals who are seeking both a master's degree and a new teaching certification or to qualified students seeking a master's degree in a field not requiring state teaching certification. Students who are presently teaching with a valid Florida Teaching Certificate may add a teaching field to their certificate by completing a Master of Arts degree. Those students without previous certification and who are seeking initial certification in a teaching area may be required by the program area to complete an internship to complete the state-approved program. M.A. candidates must complete a portfolio as part of the requirements of an internship. NOTE: All Master of Arts programs at UCF leading to initial certification are state-approved programs. Completion of the prescribed program results in the affixing of a state-approved program stamp to the transcript. This stamp ensures that certification will be issued by the Florida Department of Education in the indicated area. Failure to complete the prescribed state-approved program through petitions, waivers, or unauthorized course substitutions will be cause to not affix the stamp of approval on the transcript. While the student may graduate with a Master of Arts, a transcript without the stamp will be evaluated for certification on a course-by-course basis. UCF and the College of Education do not guarantee that any non-stamped program transcript will lead to certification by the Florida Department of Education.

Admission

The Graduate Record Examination (GRE) is required of all graduate students. Minimal requirements for admission are (1) a grade point average (GPA) of 3.0 for the last 60 attempted semester hours of undergraduate study and a minimum score of at least 840 on the verbal-quantitative sections of the GRE or (2) a GPA of less than 3.0 combined with a GRE of 1000 or above. A score of 220 (computer-based test or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required if the applicant is an international student. In addition, a student seeking a Master of Education degree must show evidence that all course work has been completed for the basic bachelor's level state of Florida teaching certificate. Master of Arts programs, available in some specialties, may be planned without the student's having previously completed certification courses. Specific graduate programs within the College of Education may use socioeconomic status, commitment to work in low income neighborhoods, evidence of community or volunteer work, family educational background, first generation in college, overcoming hardships, or personal interviews as additional criteria for admission. The college strongly encourages applications from minority and diverse populations. Race, national origin, and gender are not used in the evaluation of students for admission into graduate and professional programs.

Restricted Admission

The College of Education has a separate restricted application process for those students who do not present at least a 3.0 grade point average in their last 60 attempted semester hours of undergraduate course work AND at least a score of 1000 on the combined verbal-quantitative sections of the Graduate Record Examination. The restricted deadline is earlier in the semester for all programs with the exception of School Psychology, Counselor Education, and the doctoral programs. To be considered for restricted admission in the College of Education, students must file an application for restricted status in the Education Student Services Office (ED 109; 823-3723) upon being denied regular admission. Department committees make recommendations to the College Graduate Standards and Curriculum Committee. The following criteria are applied in evaluating applications:

- Ranking of undergraduate 60-hour grade point average
- Ranking of GRE score
- Contribution, current and projected, to the profession
- Number of years of professional experience
- Number of non-degree-seeking hours taken
- Grade point average on any non-degree-seeking work
- Recommendations by college faculty and other professionals.

Restricted students who do not maintain a 3.0 GPA during their first nine hours of enrollment will be reverted to non-degree-seeking status. Those who are accepted as restricted students by one program are not accepted into another, but must reapply for restricted admittance into another program.

[Application Deadlines](#)

Program of Study

Students are officially assigned formal academic advisers upon admission to a College of Education graduate degree program. It is the student's responsibility to seek advisement and finalize a program of study early in the degree program. Students are advised to file a program of study within the first nine hours of their graduate study. The acceptability and application of non-degree/transfer hours toward a degree is contingent upon the recommendation of the academic adviser and is approved only after a program of study has been officially filed through all university channels.

Academic advisers are not assigned to individuals admitted as non-degree-seeking students. Non-degree-seeking students may seek information and general advisement in the Education Student Services Office (ED 109; 823-3723). Non-degree-seeking students seeking certification in the state of Florida and who have been initially certified elsewhere are not eligible for financial assistance from the university. In general, non-degree-seeking students cannot receive financial assistance unless enrolled for at least half-time and they have not previously been certified. Students should check their specific circumstances with the Office of Student Financial Assistance.

Performance Standards

Minimum university-wide standards and regulations are applicable in addition to the specific College of Education requirements and regulations described in this section. A "B" (3.0 GPA) must be maintained on all graduate work and no more than six hours of "C" may be earned and applied to the degree program. Unresolved "I" (incomplete) grades must be resolved according to university guidelines. In addition to the minimum university standards, College of Education students must maintain at least a 2.5 GPA in all co-requisite work prescribed in concert with a graduate degree program.

Students whose grade point average on degree work falls below 3.0 will be placed on academic provisional status for a nine semester-hour period of enrollment. During this time, the GPA must reach or exceed the 3.0 minimum to remain in the program. Only one academic provisional period is permitted, and no transfer credit may be applied.

Culminating Experience

Prior to graduation, all students are required to successfully complete an academic culminating experience, which is planned and evaluated by each student's program area. Comprehensive examinations are the most common form of culminating experience. Failure on a comprehensive examination requires re-enrollment and reexamination during a subsequent semester. Students are required to be enrolled during the semester in which they take examinations to satisfy this requirement and must be enrolled the term they plan to graduate.

Thesis, Research Report, and Non-thesis Options

In most programs, master's degree students in education, with adviser consultation, may select one of three options: Thesis, a research paper with a formal faculty committee and defense; Research Report, a research paper supervised by the student's adviser; or the non-thesis option, course substitution for the research papers. Both the thesis and research report options result in programs with a minimum of 33 semester hours. In the non-thesis option the courses selected must be approved in advance by the student's adviser and result in a program of at least 36 semester hours. For specific options within programs, please consult the graduate program director for the degree sought.

College of Engineering and Computer Science

The College of Engineering and Computer Science offers graduate programs leading to Master of Science and Doctor of Philosophy degrees. Each department within the college offers options for specialized education.

The College of Engineering and Computer Science has the following departments with graduate programs:

- Civil and Environmental Engineering
- School of Computer Science
- Computer Science
- Computer Engineering
- Electrical Engineering
- Industrial Engineering and Management Systems
- Mechanical, Materials, and Aerospace Engineering

College Administration

Neal Gallagher, Ph.D., Dean

Kien Hua, Ph.D., Interim Associate Dean for Research

Ron Dutton, Ph.D., Interim Director for the School of Computer Science

J. Nayfeh, Ph.D., Associate Dean for Academic Affairs

J. Liou, Ph.D., Interim Assistant Dean

Faculty

Department of Civil and Environmental Engineering

Interim Chair of the Department: D.R. Reinhart

Graduate Program Director: Dr. C. D. Cooper, (407)-823-2841. E-mail: go_ucf@mail.ucf.edu

Professors: H. M. Al-Deek, Ph.D., P.E.; C. D. Cooper, Ph.D., P.E.; S. S. Kuo, Ph.D., P.E.; A. E. Radwan Ph.D., P.E.; D. R. Reinhart, Ph.D., P.E., Associate Dean; J. S. Taylor, Ph.D., P.E.; M. P. Wanielist, Ph.D., P.E.; R. L. Wayson, Ph.D., P.E., G. Yeh, Ph.D.

Associate Professors: M. A. Aty, Ph.D., P.E.; M. B. Chopra, Ph.D., P.E.; J. D. Dietz, Ph.D., P.E.; S.C. Hagen, Ph.D.; F. N. Nnadi, Ph.D., P.E.; A. Oloufa, Ph.D., P.E.; U. O. Onyemelukwe, Ph.D., P.E.; A. A. Randall, Ph.D., P.E.

Assistant Professors: N. Catbas, Ph.D.; L. Zhao, Ph.D.

School of Computer Science

Interim Director of the School: Ron Dutton, CSB 263, (407) 823-2920. Email: dutton@cs.ucf.edu

Computer Science Graduate Coordinator: Charles Hughes, CSB 206, (407) 823-2762. E-mail: ceh@cs.ucf.edu

Professors: M. A. Bassiouni, Ph.D.; R. C. Brigham, Ph.D.; N. Deo, Ph.D., Millican Endowed Chair in Computer Science; R. D. Dutton, Ph.D.; T.J. Frederick; F. Gomez, Ph.D.; R. K. Guha, Ph.D.; K. Hua, Ph.D.; C. E. Hughes, Ph.D.; D. Marinescu, Ph.D.; J. M. Moshell, Ph.D.; A. Mukherjee, Ph.D.; M. A. Shah, Ph.D.

Associate Professors: M. Heinrich, Ph.D.; S. D. Lang, Ph.D.; J. Leeson, Ph.D.; N. da Vitoria Lobo, Ph.D.; A. Orooji, Ph.D.; S. Pattanaik, Ph.D.; D. A. Workman, Ph.D.

Assistant Professors: H. Foroosh, Ph.D.; J. Lee, Ph.D.; C. Lisetti, Ph.D.; E. Reinhard, Ph.D.; A. Wu, Ph.D.; H. Zhou, Ph.D.

Lecturer: A. Guha, M.S.; M. Llewellyn, Ph.D.; E. Montagne, M.S.

Department of Electrical and Computer Engineering

Interim Chair: I. Batarseh

Computer Engineering Program Director: Christian S. Bauer, ENGR 407C, (407) 823-2236. E-mail: csb@engr.ucf.edu

Electrical Engineering Program Director: Zhihua Qu, ENGR 446, (407) 823-5976. E-mail: qu@pegasus.cc.ucf.edu

Computer and Electrical Engineering Graduate Coordinator: Michael Georgiopoulos, ENGR 407B, (407) 823-5338. E-mail: michaelg@mail.ucf.edu

Professors: I. Batarseh, Ph.D., Interim Chair; C. S. Bauer, Ph.D.; B. Deloach, Ph.D.; A. J. Gonzalez, Ph.D.; M. Georgiopoulos, Ph.D.; L.W. Jones, Ph.D.; J. J. Liou, Ph.D.; D. C. Malocha, Ph.D., P.E.; W. B. Mikhael, Ph.D.; R. L. Phillips, Ph.D.; Z. Qu, Ph.D.; P. F. Wahid, Ph.D.; J. S. Yuan, Ph.D.

Associate Professors: M. Abdel-Aty, Ph.D.; R. DeMara, Ph.D.; T. Kasparis, Ph.D.; H. I. Klee, Ph.D.; B. E. Petrasko, D. Eng.; S. M. Richie, Ph.D.; K. B. Sundaram, Ph.D.; L. Wei, Ph.D.

Assistant Professors: J. Berrios, Ph.D.; L. Boloni, Ph.D.; M. Chatterjee, Ph.D.; A. Ejnoui, Ph.D.; F. Gonzalez, Ph.D.; M. G. Haralambous, D. Sc., P.E.; T. Kocak, Ph.D.; G. Schiavone, Ph.D.; D. Turgut, Ph.D.; A. Weeks, Ph.D.; T. Wu, Ph.D.

Department of Industrial Engineering and Management Systems

Chair of the Department: L. Crumpton-Young

Graduate Program Director: A. Elshennawy, EN2 312C, (407) 823-5742. E-mail: ahmade@mail.ucf.edu

Professors: L. Crumpton-Young, Ph.D., Y. A. Hosni, Ph.D., P.E.; L.C. Malone, Ph.D.; C.H. Reilly, Ph.D.; G.F. Schrader, Ph.D., P.E., Professor Emeritus; K.M. Stanney, Ph.D.; G.E. Whitehouse, Ph.D., P.E., University Distinguished Professor and Provost Emeritus

Associate Professors: R.L. Armacost, D.Sc.; A.K. Elshennawy, Ph.D.; R.L. Hoekstra, Ph.D.; T.G. Kotnour, Ph.D.; D.Kulonda, Ph.D.; G.C.H. Lee, Ph.D., P.E.; P.R. McCauley-Bell, Ph.D.; M.Mollaghasemi, Ph.D.;

M.A. Mullens, Ph.D.; J.J.A. Pet-Armacost, Ph.D.; M.D. Proctor, Ph.D.; L.Rabelo, Ph.D.; J.A. Sepúlveda, Ph.D., P.E.; K.E. Williams, Ph.D.

Assistant Professors: Renee Butler, Ph.D.; Christopher Geiger, Ph.D.; William J. Thompson, Ph.D.. P.E.

Instructor: Edward Hampton, M.S.

Department of Mechanical, Materials and Aerospace Engineering

Chair of the Department: R. Kumar

Associate Chair of the Department: R.H. Chen

Graduate Program Director: R.H. Chen, ENGR 307, (407) 823-3402. E-mail: chenrh@mail.ucf.edu

Professors: P.J. Bishop, Ph.D., P.E., Vice Provost and Dean of Graduate Studies; L. C. Chow, Ph.D.; V. H. Desai, Ph.D., P.E.; L. A. Giannuzzi, Ph.D.; A. J. Kassab, Ph.D.; R. Kumar, Ph.D., Chair; O. Ilegbusi, Ph.D.; F. A. Moslehy, Ph.D., P.E.; J. Nayfeh, Ph.D., Associate Dean; D. W. Nicholson, Ph.D.

Associate Professors: R. H. Chen, Ph.D.; L. Chew, Ph.D.; T. Conway, Ph.D.; S. T. Durrance, Ph.D.; J. Fang, Ph.D.; A. H. Hagedoorn, Ph.D., P.E.; R. W. Johnson, Ph.D., P.E.; J. Kapat, Sc.D.; A. Kar, Ph.D.; K. C. Lin, Ph.D., P.E.; A. Minardi, Ph.D.; S. Seal, Ph.D.; C. Suryanarayana, Ph.D.; A. Wang, Ph.D.

Assistant Professors: L. An, Ph.D.; Q. Chen, Ph.D.; H. Cho, Ph.D.; K. Coffey, Ph.D.; S. Kalita, Ph.D.; C. Klemenz, Ph.D.; A. Leonessa, Ph.D.; E. Peterson, Ph.D.; Y. Sohn, Ph.D.; R. Vaidyanathan, Ph.D.; F. Xu, Ph.D.

Emeritus Professors: E. R. Hosler, Ph.D., P.E.; J. D. McBrayer, Sc.D., P.E.; W. F. Smith, Sc.D., P.E.

Visiting Assistant Professors: C. Ham, Ph.D.

Joint Appointees: K.D. Belfield, Ph.D., Department of Chemistry; K. A. Cerqua-Richardson, Ph.D., School of Optics; M. B. Chopra, Ph.D., Department of Civil and Environmental Engineering; N. S. Dhere, Ph.D., Florida Solar Energy Center; A. Kar, Ph.D., School of Optics; W. Luo, Physics, D.C. Malocha, Ph.D., School of Electrical Engineering and Computer Science; N. Misconi, Engineering Technology; K.V. Sundaram, School of Electrical Engineering and Computer Science; R. Y. Ting, Ph.D., AMPAC; K. Vajravelu, Ph.D., Department of Mathematics

Research Faculty: J. Bindell, Ph.D., Cilent Semiconductor; R. Irwin, Ph.D., Cilent Semiconductor; F. Stevie, M.S., Cilent Semiconductor; N. Dhere, Ph.D.; R. Zarda, Ph.D., Lockheed-Martin Missiles and Fire Control

Degree Programs

Doctor of Philosophy

- Civil Engineering
- Computer Engineering
- Computer Science
- Electrical Engineering
- Environmental Engineering
- Industrial Engineering
- Materials Science and Engineering
- Mechanical Engineering
- Modeling and Simulation

Master of Science (M.S.)

- Engineering Management Track
- Environmental Engineering Sciences Track
- Human Engineering/Ergonomics Track
- Interactive Simulation and Training Systems Track

- Manufacturing Systems Engineering Track
- Operations Research Track
- Quality Engineering Track
- Simulation Modeling and Analysis Track
- Structures and Foundations Engineering Track
- Transportation Systems Engineering Track
- Water Resources Engineering Track

Master of Science in Computer Science (M.S.)

Master of Science in Aerospace Engineering (M.S.A.E.)

- Space Systems Design and Engineering Track
- Thermofluid Aerodynamic Systems Design and Engineering Track

Master of Science in Civil Engineering (M.S.C.E.)

- Structural and Geotechnical Engineering Track
- Transportation Engineering Track
- Water Resources Engineering Track

Master of Science in Computer Engineering (M.S.Cp.E.)

- Computer Architecture Track
- Digital Systems Track
- Intelligent Systems Track
- Software Engineering Track

Master of Science in Electrical Engineering (M.S.E.E.)

- Communication Track
- Controls/Power Track
- Digital Signal Processing Track
- Electromagnetics Track
- Electronics/Power Electronics Track
- Electro-optics Track
- Solid State and Microelectronics Track
- VLSI Design Track

Master of Science in Environmental Engineering (M.S.Env.E.)

Master of Science in Industrial Engineering (M.S.I.E.)

Master of Science in Materials Science and Engineering (M.S.M.S.E.)

Master of Science in Mechanical Engineering (M.S.M.E.)

- Computer-Aided Mechanical Engineering Track

- Mechanical Engineering Systems Track
- Mechanical Systems Track
- Miniature Engineering Systems Track
- Professional Track
- Thermofluids Track

Graduate Certificates

Civil Engineering

- Structural Engineering
- Surface Water Modeling
- Transportation Engineering

Electrical Engineering

- Communications Systems
- Electronic Circuits

Environmental Engineering

- Wastewater Treatment

Industrial Engineering and Management Systems

- Applied Operations Research
- Design for Usability
- Industrial Ergonomics and Safety
- Project Engineering
- Quality Assurance
- Systems Simulation for Engineers
- Training Simulation

Mechanical, Materials, and Aerospace Engineering

- CAD/CAM Technology
- HVAC Engineering
- Materials Failure Analysis

College Admission Requirements

The College of Engineering and Computer Science requires that you fill out a pre-application form (www.graduate.cecs.ucf.edu) before you complete the application for graduate admission. Based upon the pre-application information, selected students will be invited to submit the university's online application for admission to graduate study. For these selected students, the College of Engineering and Computer Science will pay all application and processing fees.

In addition to meeting the minimum university admission requirements, each applicant is required to satisfy college and department admission requirements. Specific department requirements are listed in respective

departmental sections. Meeting the minimum admissions requirements does not automatically guarantee admission, as enrollment may be restricted by limited college or department resources. Supplemental information such as research/goal statements, resumes, work or internship experience may be considered by the graduate program directors in making admissions decisions. The college strongly encourages applications from minority and diverse populations, however race, national origin, and gender are not used in the evaluation of students for admission into graduate and professional programs.

[Application Deadlines](#)

Master's Programs Admission Requirements

- A minimum GPA of 3.0 or better during the last two years (60 hours) of attempted undergraduate degree work or a score of at least 1000 on the combined verbal and quantitative sections of the Graduate Record Exam (GRE).
- Applicants for master's programs must have bachelor's degrees and must present baccalaureate degree credentials appropriate to the specialized area of study that may include mathematics through differential equations for most programs. Consult with your program catalog description for specific math requirements.
- International students, except those who are from countries where English is the only official language or those who have earned a degree from an accredited American college or university, are required to submit a score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language.

Doctoral Programs Admission Requirements

- Each applicant is expected to meet the departmental admission requirements, including submission of an application for graduate admission with resume, goals statement, and three letters of recommendation.
- On the decision of the department's graduate admissions committee, selected outstanding applicants may be considered for direct entrance to the doctoral program from the bachelor's degree. Students selected for this are expected to meet and exceed all master's program admission requirements. These applicants must successfully complete the Ph.D. Qualifying Examination by the term in which they complete the thirtieth hour of graduate course work.
- International students, except those who are from countries where English is the only official language or those who have earned a degree from an accredited American college or university, are required to submit a score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL).

College Degree Requirements

Master's Degree Requirements, Thesis Option

- A minimum of thirty semester hours of approved course work including six hours of thesis credits is required.
- No more than six hours of thesis credits will be applied toward degree requirements.
- Continued enrollment in one hour of thesis once six hours of thesis credits have been completed and all course work has been satisfied, and until the final thesis has been received by the Division of Graduate Studies.
- At least 15 credit hours must be from 6000-level courses (except for Computer Science).
- A maximum of 9 semester hours of graduate credit may be transferred into the program from UCF non-degree-seeking status or regionally accredited institutions. Only grades of "B-" or better can be transferred.

- A maximum of 6 credits of 4000-level courses may be applied toward a master's degree. No 3000-level courses are acceptable.
- A maximum of 6 semester hours of Independent Study may be used toward the degree. Directed research credits may not be applied toward the degree.
- A minimum "B" (3.0) average must be maintained in the program of study and no more than two C+, C, and C- grades are allowed.
- A written thesis and final oral defense are required.

Master's Thesis Committee

- The Dean, through the Chairs, is responsible for committee formation, additions, and deletions. The thesis committee will consist of a minimum of three members. All committee members should hold a doctoral degree and be in fields related to the thesis topic. At least two members must be department faculty (one to serve as chair). Off-campus experts, joint faculty members, adjunct faculty, and other university faculty members may serve as the third person in the committee. Program areas may further specify committee membership. The Division of Graduate Studies reserves the right to review appointments to advisory committees, place a representative on any advisory committee, or appoint a co-adviser.
- In unusual cases, with approval from the department Chair, two professors may chair the committee jointly. Joint faculty members may serve as committee chairs, but off-campus experts and adjunct faculty may not serve as committee chairs. Particular programs may have more stringent requirements.
- All members vote on acceptance or rejection of the thesis proposal and the final thesis. The thesis proposal and final thesis must be approved by a majority of the advisory committee

Master's Degree Requirements, Non-Thesis Option

Most departments within the College of Engineering and Computer Science offer a 36 semester hour, non-thesis option intended primarily for part-time students. The program requirements are the same as for the thesis option except that the thesis requirement is replaced by 12 credit hours of course work. An end-of-program comprehensive examination, oral or written, is required.

Doctoral Degree Requirements

- The Civil and Environmental Engineering and Industrial Engineering Management Systems programs require a minimum of 81 semester hours beyond the baccalaureate degree, including 24 semester hours of dissertation credits.
- The Mechanical, Materials and Aerospace Engineering and School of Electrical Engineering and Computer Science programs require a minimum of 72 semester hours beyond the baccalaureate degree, including 15 semester hours of dissertation credits.
- Continued enrollment in three credit hours of Dissertation (XXX 7980) once the course work requirements and minimum hours of dissertation are satisfied.
- At least 6 semester hours of course work taken at UCF must be outside the student's area of specialization (except Computer Science), and no more than a combined total of 12 hours of independent study and/or directed research may be used to satisfy degree requirements.
- Up to 36 semester hours of credit, including a maximum of 6 credits of thesis, may be transferred into the doctoral program. The transfer credits may consist of a maximum of 6 hours of 4000-level work, no 3000-level courses, and no courses with grades less than "B-".
- A minimum "B" (3.0) average must be maintained in the program of study and no more than two "C" (C+, C, C-) grades are allowed.
- The student must successfully complete a Ph.D. Qualifying Examination conducted by the department. A student is normally given only one opportunity to pass the examination, but a

second attempt may be approved by the department. The examination is normally taken within the first year of study beyond the master's degree.

- A written dissertation and final oral defense are required.

Doctoral Dissertation Committee

- The Dean, through the Chairs, is responsible for committee formation, additions, and deletions. The doctoral committee must consist of a minimum of five members: three must be faculty members from within the student's department, and one must be at large from outside the department or school. The committee Chair must be a member of the department graduate faculty approved to direct dissertations. Joint faculty members may serve as department-faculty committee members. Adjunct faculty and off-campus experts may serve as the outside-the-department person in the committee. Program areas may further specify committee membership. The Division of Graduate Studies reserves the right to review appointments to advisory committees, place a representative on any advisory committee, or appoint a co-adviser.
- In unusual cases, with approval from the program Chair, two professors may chair the committee jointly. Joint faculty members may serve as committee co-chairs, but off-campus experts and adjunct faculty may not serve as committee co-chairs. Particular programs may have more stringent requirements.
- All members vote on acceptance or rejection of the dissertation proposal and the final dissertation. The dissertation proposal and final dissertation must be approved by a majority of the advisory committee.

Accelerated Undergraduate and Graduate Program

Some College of Engineering and Computer Science departments offer an integrated BS/MS degree program that allows students of high academic standing to complete an MS degree at an accelerated pace. The generic rule for students in this program is that they will be allowed to use nine hours of intermediate level (5000-level) graduate courses with a grade of "B-" or higher toward fulfillment of both the BS and MS degree requirements. Interested students should contact the department Assistant Chair or Graduate Coordinator if they have questions about this program.

Florida Engineering Education Delivery System

Florida Engineering Education Delivery System (FEEDS) is a Florida statewide system whereby graduate-level engineering and computer science courses are delivered via videotape to cooperating university centers and selected industrial sites. Most graduate courses offered each semester are available through FEEDS. A student taking courses through FEEDS must meet the same requirements as a student on campus and will earn the same credit as if attending on campus. Courses delivered by the system may contribute to graduate degrees in engineering.

An off-campus student in industry need not be enrolled in a graduate degree program in order to take a FEEDS course. Such students should apply online for non-degree-seeking status. However, students who intend to seek admission to a graduate program should be aware that no more than 9 credit hours of courses may be transferred from non-degree-seeking status into a degree-seeking program. Certain courses may have the requirement that the student come to the main campus for exams or laboratory participation. For information concerning FEEDS, consult the UCF-FEEDS catalog (published each semester) or contact the Director of UCF-FEEDS at (407) 823-2481.

College of Health and Public Affairs

The College of Health and Public Affairs offers twelve graduate programs:

- Master of Arts in Communicative Disorders
- Master of Science in Criminal Justice
- Master of Science in Health Sciences: Health Services Administration
- Master of Science in Molecular Biology and Microbiology
- Master of Science in Nursing
- Master of Science in Physical Therapy
- Master of Nonprofit Management
- Master of Public Administration
- Master of Social Work
- Doctor of Philosophy in Biomolecular Sciences*
- Doctor of Philosophy in Nursing
- Doctor of Philosophy in Public Affairs

* Offered jointly with the College of Arts and Sciences

The college strives to provide graduate education that exceeds national standards while meeting the research and service needs of the local community. Departments and schools within the college provide professional education, emphasizing the relationship between policy, practice and the importance of research. By focusing on the development of critical thinking and problem-solving skills, students receive an education that prepares them for a lifetime of professional and personal achievement. The college strongly encourages applications from minority and diverse populations. Race, national origin and gender are not used in the evaluation of students for admission into graduate and professional programs.

College Administration

B. R. McCarthy, Ph.D., Dean
 J. E. Dorner, M.N., Associate Dean
 K. Adams, Ph.D., Associate Dean
 R. Kirby, J.D., Assistant Dean
 M. Rogers, Assistant Dean
 S. Holmes, Associate Dean

Faculty

Communicative Disorders

Chair of the Department: R. J. Lieberman, Ph.D.

Professors: C. Nye, Ph.D.; D. L. Ratusnik, Ph.D.; J. Ryalls, Ph.D.; W. Secord, Ph.D.

Associate Professors: A.E. Brice, Ph.D.; C. Carson, Ph.D.; T. A. Mullin, Ph.D.; K. Rivers, Ph.D.; M. Vanryckeghem, Ph.D.

Assistant Professors: B. Hoffman-Ruddy, Ph.D.; J. Kent-Walsh, Ph.D.; J. Schwartz; H. A. Utt, Ph.D.

Instructors: J. Di Napoli, M.A.; G. Drelinger, M.S.; S. Eidson, MS; Charlotte Harvey, Ed.D.; R. Hawkins, MS; A. Mulcahy, MA; C. Parsons, M.A.; J. Whiteside, Ph.D.

Criminal Justice and Legal Studies

Chair of the Department: B. J. McCarthy, Ph.D., Professor

Professors: B. R. McCarthy, Ph.D., Dean; B. Bohm, Ph.D.; D. Fabianic, Ph.D.; R. Surette, Ph.D.

Associate Professors: C. Bast, J.D.; P. Griset, Ph.D.; M. Lanier, Ph.D.; S. Mahan, Ph.D.; L. Ross, Ph.D.; J. Sanborn, Ph.D.

Assistant Professors: B. Applegate, Ph.D.; S. Holmes, Ph.D.; K. Lucken, Ph.D.; K. M. Reynolds, Ph.D.; D. Slaughter, J.D.; R. Watkins
LS Internship Coordinator: K. Cook, J.D., Instructor
CJ Internship Coordinator: M. Eastep, M.S., Instructor
Instructors: J. Flagg, J.D.; J. Randall, M.S.

Health Professions

Chair of the Department: Diane M. Jacobs, Ph.D., Professor
Professors: M. Fottler, Ph.D.; A. Liberman, Ph.D.
Associate Professors: S. Douglass, M.S.; T. Edwards, Ed.D., RT(R); E. Hamby, D.B.A., P.T.; J. S. Lytle, M.S., M.P.H.; T. S. Mendenhall, Ph.D., M.B.A.; T. Rotarius, Ph.D., M.B.A.; L. T. Worrell, M.P.H.; G. Smith, P.T., Ph.D.
Assistant Professors: S. Harp, P.T., Ph.D.; J. Ludy, Ed.D.; D. Oetjen, Ph.D.; D. Segal, Ph.D.; A. Trujillo, Ph.D.; L. Unruh, R.N., Ph.D.
Instructors: A. Bertetta, M.A.; D. Cassidy, M.S., A.T.C.; T. Falen, M.S.; S. Gosnell, M.S., R.T., (R) (CT) (AM) (MR); J. Holder, M.S., P.T.; P. Meli, M.S., R.H.I.A.; R. Wagner, P.T.; P. Welker, M.A., RT(R) (CT)
Visiting Instructors: D. Malvey, Ph.D.; M. McDonough, M.S., R.R.T.
Executive in Residence: C. Pierce, M.G.A.

Molecular Biology and Microbiology

Chair of the Department: P.E. Kolattukudy, Ph.D., Professor and Director, Biomolecular Science Center
Professors: H. Daniell, Ph.D.; R. N. Gennaro, Ph.D.; D. Jacobs, Ph.D.; G. Lopez, Ph.D.; M. Muller, Ph.D.; M. J. Sweeney, Ph.D.; R. S. White, Ph.D.
Associate Professors: K. Chai, Ph.D.; D. Chakrabarti, Ph.D.; R. Chakrabarti, Ph.D.; C. Fernandez-Valle, Ph.D.; S. Naser, Ph.D.; T. Zervos, Ph.D.
Assistant Professors: A. Cole, Ph.D.; B. Rzigalinski, Ph.D.; W. Self, Ph.D.
Instructors: K. Blaney, M.S.; D. F. Hitchcock, M.S.
Joint Faculty: A. Khaled, Ph.D.; S. Tatulian, Ph.D.

School of Nursing

Director: Jean D. Leuner, Ph.D., RN, Professor
Professors: A. Bushy, Ph.D., RN, CS, FAAN; K. Dennis, Ph.D., RN, FAAN; K. Dow, Ph.D., RN, FAAN; M. L. Sole, Ph.D., RN, CCNS, FAAN; D. Wink, Ed.D., ARNP
Associate Professors: E. J. Brown, Ph.D., RN, CS; J. Dorner, M.N., RN, Associate Dean; J. Byers, Ph.D., RN; L. Holcomb, DSN, RN, ARNP; E. Kiehl, Ph.D., ARNP; J. Kijek, Ph.D., RN; J. Ruland, Ed.D., RN; F. Smith, Ed.D., RN; V. Browne-Krimsley, Ed.D., RN
Assistant Professors: H.S. Chen, Ph.D., RN; M. Covelli, Ph.D., RN; J. Gichia, Ph.D., CNM, RN; L. Henning, Ed.D., RN; J. Peterson, Ph.D., RN
Visiting Associate Professor: J. Ruland, Ed.D., RN
visiting Assistant Professors: P. Desmaris, Ph.D., MSN; B. Mayer, Ph.D., ARNP; N. Rudner, DrPH, MPH, MSN
Instructors: M.L. Brunell, MSN, RN; E. Hoyt, MSN, RN; P. Lafferty, MSN, RN; P. Leli, M.S.N., RN; S. Pelliccio, MSN, RN; K. Savitz, ARNP, MSN; Lisa Smith, MSN, RN; Lynn Smith, MSN, ARNP; M. Stickney, Ed.D., MSN
Visiting Instructors: S. Greeno, MSN, RN; G. Hagerstrom, MSN, RN; P. Hazelwood-Wiese, MSN, ARNP; B. Lange, MSN, RN; S. Rogers, MSN, RN; K. Saenz, Ph.D., CPNP, MSN, MPH; V. Scott, MSN, RN

Public Administration

Chair: M. Van Wart, Ph.D., Professor

Professors: P. W. Colby, Ph.D.; K.T. Liou, Director of Public Administration; E. Berman, Ph.D. (Graduate Program Director)

Associate Professors: J. D. Jurie, Ph.D.; W. C. Lawther, Ph.D.; X. Wang, Ph.D.

Assistant Professors: M.A. Feldheim, Ph.D.; N. Kapucu, Ph.D.; R. Korosec, Ph.D. (Undergraduate Program Coordinator)

Instructor: M. Rogers, M.P.A. (Assistant Dean)

Public Affairs—Ph.D. Program

Director: E. M. Abel, Ph.D.

Chairs: B. J. McCarthy, Ph.D., Professor; D.M. Jacobs, Ph.D., Professor; J.D. Leuner, Ph.D., Professor; P. Maiden, Ph.D., Associate Professor (Acting Chair); M. Van Wart, Ph.D., Professor

Professors: K. Adams, Ph.D.; E. Berman, Ph.D.; S. Dziegielewski, Ph.D.; M. Fottler, Ph.D.; S. Holmes, Ph.D.; A. Liberman, Ph.D.; K.T. Liou, D.P.A.; L. Maritn, Ph.D.; R. Surette, Ph.D.; M. Van Hook, Ph.D.; T. Wan, Ph.D.

Associate Professors: B. Applegate, Ph.D.; E.J. Brown, Ph.D.; J. Byers, Ph.D.; W.C. Lawther, Ph.D.; K. Reynolds, Ph.D.; X. Wang, Ph.D.

Assistant Professors: M.A. Feldman, Ph.D.; R. Korosec, Ph.D.; A. Trujillo, Ph.D.

School of Social Work

Director: R. Paul Maiden, Ph.D.

Professors: S. Dziegielewski, Ph.D.; M. Van Hook, Ph.D.

Associate Professors: E. M. Abel, Ph.D., Director of Public Affairs Doctoral Program; C. Green, Ph.D.; A. Leon, Ph.D.

Assistant Professors: J. Allgood, Ph.D.; D. Gammonley, Ph.D.; B. Turnage, Ph.D.

Instructors: L. Davis, M.S.W.; G. Jacinto, M.S.W. (M.S.W. Program Coordinator); R. Kohn, M.S.W., (B.S.W. Program Coordinator); C. Massey, M.S.W., (Field Education Coordinator)

Programs

Doctor of Philosophy in Biomolecular Sciences

Areas of emphasis: Basic Biomolecular Sciences, Applied Biomolecular Sciences

Doctor of Philosophy in Nursing

Doctor of Philosophy in Public Affairs

Tracks: Criminal Justice, Health Services, Public Administration, and Social Work

Master of Nonprofit Management

Master of Science

- Criminal Justice
- Health Sciences: Health Services Administration
- Molecular Biology and Microbiology
- Physical Therapy

Master of Science in Nursing

- Adult, Clinical, Family, or Pediatric Nurse Practitioner Track
- Leadership and Management Track

Master of Arts in Communicative Disorders

Master of Public Administration

Master of Social Work

Graduate Certificates

- Addictions
- Adult, Family, or Pediatric Nurse Practitioner (post-master's)
- Aging Studies
- Child Language Disorders
- Children's Services
- Corrections Leadership
- Crime Analysis
- Juvenile Justice Leadership
- Marriage and Family Therapy
- Medical Speech-Language Pathology
- Multicultural/Multilingual Speech-Language Pathology
- Nonprofit Management
- Nursing and Health Professional Education
- Police Leadership
- Public Administration
- School Social Work
- Social Work Administration
- Urban and Regional Planning
- Victim Assistance

Rosen School of Hospitality Management

The hospitality industry currently represents the second largest employer in the United States and is the major part of the rapidly growing services sector of the economy. Because of its unique location in the premier tourist destination in the world, the Rosen School of Hospitality Management is ideally situated to prepare students for managerial careers in the hospitality industry. Whether the student is interested in entering lodging, food service, travel and tourism, financial management and technology, theme parks, vacation ownership resorts, or conventions and destination services management, the Orlando and Central Florida area offers extraordinary opportunities. It is the destination for over 42 million tourists each year, has over 400 hotels with 112,000 rooms, 4,000 restaurants, and 75 theme parks and attractions. The industry employs a half million people in the State of Florida and many are in the Central Florida area. The educational mission of the School is to provide students with the knowledge, skills, and ability to identify opportunities and challenges in the hospitality industry, and to apply creative decision techniques in responding to those opportunities.

The degree is designed to prepare students for a broad range of managerial roles across the hospitality industry. It provides both academic preparation and "hands-on" experiences that students will need to enter

and succeed in a hospitality management career. Students also have the opportunity to experience the work world in hospitality through extensive contact with leading hospitality managers in the Central Florida area. The School also houses the Dick Pope Sr. Institute for Tourism Studies, which was created and funded by the travel and tourism industry in Central Florida. The Institute conducts research and gathers information that helps the entire Orlando area hospitality industry better understand and serve its many guests from around the world.

The Center for Multi-Unit Restaurant Management and the Darden Eminent Scholar Chair in Restaurant Management provides a unique focus in the curriculum on corporate restaurant management. Students have access through the Center to leading restaurant industry executives. This academic unit is an integral part of the Rosen School of Hospitality Management.

School Administration

- Abraham Pizam, Dean. Rosen School of Hospitality Management, 9907 Universal Blvd, Suite 231H, Orlando FL 32819, (407) 903-8900
- Stephen LeBruto, Associate Dean. Rosen School of Hospitality Management, 9907 Universal Blvd, Suite 231F, Orlando FL 32819, (407) 903-8015

Faculty

- Robert A. Ashley, M.S., C.E.C., C.C.E., F.M.P.
- Deborah Breiter, Ph.D.
- Po-Ju Chen, Ph.D.
- Tico Croes, Ph.D.
- Duncan R. Dickson, M.S.
- Robin DiPietro, Ph.D.
- William Fisher, Ph.D.
- Frank Juge, Ph.D.
- Tammie Kaufman, Ph.D.
- Rosemarie Krebs, J.D.
- Stephen Lebruto, Ed.D.
- Ady Milman, Ph.D.
- Christopher Muller, Ph.D.
- Kevin Murphy, M.S.
- Peter R. Ricci, M.S., C.H.A.
- Paul Rompf, Ph.D.
- Mary Jo Ross, M.A.
- Denver E. Severt, Ph.D.
- Dana V. Tesone, Ph.D.
- Randall S. Upchurch, Ph.D.
- Raymond Wang, Ph.D.

Distinctive Benefits

- Access to the many hospitality organizations that serve one of the premier tourist destinations in the world.
- Extensive ties with the top leadership of the Orlando area hospitality industry.
- Scholarships made available through the generous support of the industry.
- A faculty committed to continuously improving their knowledge of the hospitality industry as well as their ability to teach that knowledge to their students.

- Work experience that provides students with "hands-on" experiences in the hospitality industry.
- Outstanding opportunities for internships.
- A modern food production laboratory and teaching restaurant completely equipped to provide students with experience in food preparation.
- American Resort Development Association (ARDA) Professorship of Resort Development.
- Central Florida Hotel and Lodging Association (CFHLA) Professorship of Convention and Conference Management.
- Hospitality Financial and Technology Professionals (HFTP) Professorship of Hospitality Financial Management and Technology.

School of Optics

UCF's School of Optics is one of the world's leading graduate institutions in optics and photonics education and research. The School offers a comprehensive interdisciplinary graduate program covering all aspects of optics, photonics, and lasers leading to master's and doctoral degrees in Optics. The Center for Research and Education in Optics and Lasers (CREOL) is integrated into the school as its research arm. The School has twenty-four full time faculty members and more than one hundred graduate students. It is housed in a state-of-the-art 82,000-sq. ft. building dedicated to optics research and education.

Faculty members from the School of Optics are also the primary resource for the optical physics option in the M.S. and Ph.D. program in Physics and the electro-optics option in the M.S. and Ph.D. programs in Electrical Engineering. These two option programs are offered in partnership with academic departments. The faculty participate in undergraduate and graduate teaching in the Physics, Electrical Engineering and Computer Science (EECS), Mechanical, Materials, and Aerospace Engineering (MMAE), and Chemistry Departments.

School Administration

Eric W. Van Stryland, Professor and Director. CREOL 206, (407) 823-6834. E-mail: director@creol.ucf.edu

David J. Hagan, Associate Professor and Associate Director for Academic Programs, CREOL 208, (407) 823-6817. E-mail: dhagan@creol.ucf.edu

Web address: www.creol.ucf.edu

Faculty

- Michael Bass, Professor of Optics, Physics and EECS
- Glenn Boreman, Professor of Optics and EECS
- Bruce Chai, Professor of Optics, Physics and EECS and MMAE
- Demetrios N. Christodoulides, PREP Professor of Optics
- Peter Delfyett, Professor of Optics, EECS and Physics
- Luis Elias, Professor of Optics and Physics
- M. G. "Jim" Moharam, Professor of Optics and EECS
- Martin Richardson, Professor of Optics, Physics and EECS
- Nabeel Riza, Professor of Optics and EECS
- George Stegeman, Cobb Family Chair and Professor of Optics, Physics and EECS
- William Silfvast, Professor of Optics, Physics and EECS
- M. J. Soileau, Professor of Optics, EECS and Physics and VP for Research
- Eric Van Stryland, Professor of Optics, Physics and EECS
- Boris Zel'dovich, Professor of Optics and Physics
- Emil Wolf, Provost's Distinguished Professor of Optics

- Shin-Tson Wu, Provost's Distinguished Professor of Optics
- David Hagan, Associate Professor of Optics, Physics and EECS
- James Harvey, Associate Professor of Optics and EECS
- Guifang Li, Associate Professor of Optics, Physics and EECS
- Patrick LiKamWa, Associate Professor of Optics and EECS
- Aravinda Kar, Associate Professor of Optics and MMAE
- Kathleen Richardson, Associate Professor of Optics, Chemistry and MMAE
- Jannick Rolland, Associate Professor of Optics, EECS and Computer Science
- Aristide Dogariu, Associate Professor of Optics
- Eric G. Johnson, Assistant Professor of Optics
- Craig Siders, Assistant Professor of Optics

Research Faculty

- Leonid Glebov, Associate Research Scientist
- Hans Jenssen, Senior Research Scientist

Joint Appointees

- Larry Andrews, Professor of Mathematics, EECS and Optics
- Kevin Belfield, Associate Professor of Chemistry and Optics
- Luis Chow, Professor of MMAE and Optics
- Robert Peale, Associate Professor of Physics, EECS, and Optics
- Ronald Phillips, Professor of EECS, Mathematics and Optics
- Mubarak Shah, Professor of Computer Science and Optics
- Alfonse Shulte, Associate Professor of Physics and Optics

Programs

The School of Optics offers master's (M.S.) and doctoral (Ph.D.) degree programs in optics for qualified applicants holding undergraduate degrees in optics, engineering, physics, or closely related fields. The School offers more than twenty-five graduate courses in optics, with courses ranging from optical science to optical engineering. Thesis and dissertation research span the spectrum from basic science to prototype development. Current research areas include: linear and nonlinear guided-wave optics and devices, high speed photonic telecommunications, solid state laser development, nonlinear optics, laser-induced damage, quantum-well optoelectronics, photonic information processing, infrared systems, optical diagnostics, optical system design, image analysis, virtual reality, medical imaging, diffractive optics, optical crystal growth and characterization, high intensity lasers, x-ray optics, EUV sources, optical glasses, laser materials processing, free-electron lasers, and light matter interaction. These research programs are supported by research grants and contracts from numerous federal and state agencies and industry.

Fellowships and Research Assistantships

School of Optics/CREOL Fellowships, Litton Fellowships, NSF IGERT Fellowships, and graduate research assistantships, as well as other university awards, are available to qualified students. The stipend ranges from \$17,000 to \$25,000 per calendar year. Full tuition (both resident and nonresident portions), estimated at \$13,500 per year, is provided for students receiving graduate fellowships and research assistantships. Applications received after February 1st may not be considered. For more information about financial support available for graduate students, contact the School of Optics (gradprog@mail.ucf.edu) or www.creol.ucf.edu/) and UCF Graduate Studies (gradfaid@mail.ucf.edu or www.graduate.ucf.edu)

Interdisciplinary Programs

Biomolecular Sciences

Faculty:

- Jack Ballantyne, Chemistry
- Kevin D. Belfield, Chemistry
- Karl X. Chai, Molecular Biology and Microbiology
- Debopam Chakrabarti, Molecular Biology and Microbiology
- Ratna Chakrabarti, Molecular Biology and Microbiology
- Cristina Calestani, Biology
- Alexander Cole, Biomolecular Science Center and Molecular Biology and Microbiology
- Henry Daniell, Molecular Biology and Microbiology
- Cristina Fernandez-Valle, Molecular Biology and Microbiology
- Peixuan Guo, Biomolecular Science Center
- Annette Khaled, Biomolecular Science Center
- Pappachan E. Kolattukudy, Biomolecular Science Center and Molecular Biology and Microbiology
- Mark Muller, Biomolecular Science Center and Molecular and Microbiology
- Jeanette Nadeau, Biology
- Saleh A. Naser, Molecular Biology and Microbiology
- Christopher L. Parkinson, Biology
- Otto Phanstiel, Chemistry
- Thomas L. Selby, Chemistry
- William Self, Biomolecular Science Center and Molecular and Microbiology
- Kiminobu Sugaya, Biomolecular Science Center
- Suren A. Tatulian, Biomolecular Science Center
- Kenneth Teter, Biomolecular Science Center and Molecular Biology and Microbiology
- Laurie von Kalm, Biology
- Wen Jin Wu, Biomolecular Science Center
- Antonis S. Zervos, Biomolecular Science Center and Molecular Biology and Microbiology

Modeling and Simulation

Faculty:

- Mohamed A. Abdel-Aty, Civil and Environmental Engineering
- Ibrahim Ahmad, Statistics and Actuarial Science
- Haitham M. Al-Deek, Civil and Environmental Engineering
- Robert Armacost, Industrial Engineering and Management Systems
- Christian Bauer, Electrical and Computer Engineering
- Joseph S. Berrios, Electrical and Computer Engineering
- Clint Bowers, Psychology
- Shawn Burke, Institute for Simulation and Training
- John R. Cannon, Mathematics
- Jan Cannon Bowers, Institute for Simulation and Training
- Robert C. Brigham, Mathematics
- S. Roy Choudhury, Mathematics

- Thomas Clarke, Institute for Simulation and Training
- C. David Cooper, Civil and Environmental Engineering
- Lesia Crumpton-Young, Industrial Engineering and Management Systems
- Steve Fiore, Psychology and the Institute for Simulation and Training
- Erol Gelenbe, Electrical Engineering and Computer Science
- Michael Georgiopoulos, Electrical and Computer Engineering
- Ian Gibson, Digital Media
- Richard Gilson, Psychology
- Avelino A. Gonzalez, Electrical and Computer Engineering
- Peter Hancock, Psychology
- Ronald Hofer, Institute for Simulation and Training
- Lorrie L. Hoffman, Statistics and Actuarial Science
- Charles Hughes, Computer Science
- Bala Jaganathan, Institute for Simulation and Training
- Mortaza Jamshidian, Statistics and Actuarial Science
- Mark E. Johnson, Statistics and Actuarial Science
- Michael Johnson, Physics
- David Kaup, Mathematics and the Institute for Simulation and Training
- Robert Kenny, Digital Media
- J. Peter Kincaid, Institute for Simulation and Training
- Harold Klee, Electrical Engineering and Computer Science
- Dennis Kolunda, Industrial Engineering and Management Systems
- Sheau-Dong Lang, Computer Science
- Xin Li, Mathematics
- Kuo-Chi (Kurt) Lin, Institute for Simulation & Training
- Mansooreh Mollaghasemi, Industrial Engineering and Management Systems
- J. Michael Moshell, Digital Media and Computer Graphics
- Mustapha Mouloua, Psychology
- Swami Muthusamy, Florida Solar Energy Center
- Harley Myler
- David M. Nickerson, Statistics and Actuarial Science
- Gary Orwig, Education
- Marianna Pensky, Mathematics and Statistics and Actuarial Science
- Julia Pet-Armacost, Industrial Engineering and Management Systems
- Michael Proctor, Industrial Engineering and Management Systems
- Essam Radwan, Civil and Environmental Engineering
- Charles Reilly, Industrial Engineering and Management Systems
- Edward Rinalducci, Psychology
- Jannick Rolland, Center for Research and Education in Optics and Lasers and Engineering and Computer Science
- David Rollins, Mathematics
- Eduardo Salas, Psychology and the Institute for Simulation and Training
- Guy Schiavone, Computer Engineering and the Institute for Simulation and Training
- James R. Schott, Statistics and Actuarial Science
- Jose Sepulveda, Industrial Engineering and Management Systems
- Randall Shumaker, Institute for Simulation and Training
- Valerie Sims, Psychology
- Janan Smither, Psychology
- Kay Stanney, Industrial Engineering and Management Systems
- Chris Stapleton, Institute for Simulation and Training
- Xiaogang Su, Statistics and Actuarial Science
- William Thompson, Industrial Engineering and Management Systems
- Alex Tovbis, Mathematics

- Nizam Uddin, Statistics and Actuarial Science
- Morgan C. Wang, Statistics and Actuarial Science
- John Weishampel, Biology
- Gary Whitehouse, Industrial Engineering and Management Systems
- Kent Williams, Industrial Engineering and Management Systems
- Jeff Wirth, Digital Media
- Huaxin You, Statistics and Actuarial Science
- Ying Zhang, Statistics and Actuarial Science

Special Academic Programs

[Center for Applied Human Factors in Aviation \(CAHFA\)](#)

[Center for Cooperative Education and Applied Learning](#)

[Center for Economic Education](#)

[Dick Pope, Sr. Institute for Tourism Studies](#)

[Division of Continuing Education](#)

[Executive Development Center](#)

[Florida Institute of Government at the University of Central Florida](#)

[Florida Space Institute \(FSI\)](#)

[Institute of Statistics and Data Mining](#)

[Small Business Development Center \(SBDC\)](#)

[Small Business Institute](#)

Center for Applied Human Factors in Aviation (CAHFA)

Dr. Mustapha Mouloua, Director
Phone 407-823-2910

The Center for Applied Human Factors in Aviation (CAHFA) has as its mission the enhancement of safety in the nation's airspace system through applied human factors research, systems design, and training strategies. Chartered in 1990, CAHFA is a research consortium established between UCF and Charter partner Embry-Riddle Aeronautical University, Daytona Beach, Florida. CAHFA's professional staff maintains offices on both campuses. The complimentary strengths of the two universities are combined to create a research resource that is without peer for solving aeronautical human factors problems. CAHFA research initiatives are targeted to significantly reduce human factors related accidents and incidents by determining the efficacy of and by developing strategies for achieving improvements in human performance.

Center for Cooperative Education and Applied Learning

Sheri Dressler, Director
PH 208
Phone 407-823-2667

The Center for Cooperative Education and Applied Learning develops and supports experiential learning opportunities for students to provide real-world work experience for UCF students. This usually takes the form of Cooperative Education experiences and internships. Cooperative Education (Co-op) is an academic program and an integral part of the curriculum at UCF, available to students on all campuses in all colleges. The mission of the program is: 1) to provide a means for students to develop academic, professional, and personal competencies through experiential learning experiences; and 2) to create meaningful and productive educational partnerships with academic departments and employers locally, nationally, and internationally.

Co-op students participate for multiple terms in structured, progressively responsible, paid work assignments in industry, that are structured for learning and directly related to their major or career goal. They alternate periods of work and study, either by alternating full-time semesters of work and school, or

working part time while studying full time. Co-op provides a means for students to test career goals, improve academic performance, apply classroom content in real-world settings, develop discipline-related personal and professional skills, generate income, and increase prospects for full-time employment upon graduation.

The Center for Cooperative Education and Applied Learning also supports internships in collaboration with academic departments. Internships are major-related work experiences that provide similar benefits to co-op opportunities, but generally are one term in length and occur toward the end of a student's academic program.

To allow for multiple semester participation, students should apply as early as possible in their program of study. For both co-op and internship assignments, students may apply at any time during the year, but should make an effort to apply one semester before they want to participate to allow time to obtain an appropriate learning opportunity.

Center for Economic Education

Robert L. Pennington, Director

BA2-303E

Phone 407-823-2870

The Center for Economic Education strives to increase public knowledge of economic principles and their applications in daily life. Researchers at the Center develop, collect, and distribute economic educational materials. They also consult with and provide instruction to area schools (K-12), community colleges, and community organizations. Instruction focuses on the principles of economics and their use in making rational economic decisions. Affiliated with the National Council on Economic Education, the Center also conducts research in economic education.

Dick Pope, Sr. Institute for Tourism Studies

Abraham Pizam, Director

Phone 407-903-8010

The mission of the Dick Pope Sr. Institute for Tourism Studies is to improve the quality of the tourism product and increase the benefits of tourism for the industry, the state, and the local community. To this end the Institute is involved in a variety of research projects and educational programs.

The Institute's research includes the collection, development, and dissemination of information relevant to the tourism and hospitality industry in the areas of marketing, consumer behavior and visitor satisfaction, feasibility, economic, motivation, and forecasting. Some of the Institute's patrons include tourism promotion agencies at the state and local levels; tourism development commissions; professional associations; and private enterprises such as attractions, hotels, motels, food-service establishments, ground and air transportation companies, travel agencies and tour operators, and other related businesses. The Institute devotes significant efforts to educating the public about the tourism industry in Florida and internationally, and about its contribution to the social and economic welfare of the general public.

Division of Continuing Education

J. Patrick Wagner, AVP/Director

Phone (407) 882-0260; Fax (407) 882-0266

The Division of Continuing Education is the unit within Academic Affairs that coordinates, in collaboration with the colleges, all UCF continuing education activity. Programs include nonfundable credit courses and an array of noncredit programs including conferences, institutes, short courses, workshops, seminars, and camps. Many of these programs are awarded Continuing Education Units (CEUs), when managed through the Division.

Off-Campus College Credit Programs

Phone (407) 882-0241; Fax (407) 882-0250

Web address: www.ce.ucf.edu/

This unit of the Division of Continuing Education provides support for UCF's colleges and academic departments that schedule courses and degree programs off campus at various area businesses and governmental agencies. Registration may be conducted on-site or via the Web for convenience of the participants. Registration for off-campus or open enrollment courses does not constitute admission to the university. Students interested in applying such courses as credit toward graduate certificate or degree programs must complete application for admission to the university as a nondegree (postbaccalaureate) or regular, degree-seeking student. These applications are available online at www.graduate.ucf.edu.

Center for Multilingual Multicultural Studies

Myrna Creasman, Director, (407) 823-5515

Using contemporary teaching methodology and computer-assisted instruction, the Center for Multilingual Multicultural Studies provides English language instruction for international students. Four levels of instruction are offered which range from beginning to advanced, and special attention is given to preparing students for academic course work in their specialized fields of study. Full-time students enrolled at the advanced level may elect to take courses as non-degree-seeking students while enrolled in the Intensive English program. Students are required to take an entry placement test to determine their level of proficiency. Student (F-1) visas are extended to qualified applicants. The Center also offers English for Special Purposes for international business personnel.

Executive Development Center

Director: Kay Mittnik, Ph.D.

Phone 407-823-2446

The University of Central Florida College of Business Administration is proud to serve as a partner in executive education to the local, state, national, and international business communities. The Executive Development Center was established to provide leading executive education programs to both individuals and organizations.

The Center helps professionals from all industries become more dynamic leaders, more effective managers, and more valuable team members. Corporations benefit from participating in executive education programs by developing more productive and resourceful workforces that can meet the challenges of today's changing marketplace and tomorrow's opportunities. The Center serves as a valuable resource in executive training and development by offering programs that address critical issues for managers and business leaders. These programs are offered in a variety of formats suitable for any individual or corporation through:

- Conference services
- Customized corporate programs
- Executive MBA Program
- Public enrollment programs

The UCF Executive Development Center has a strong commitment to the business community. Both small and large organizations find our programs to be contemporary, challenging, and effective.

Florida Institute of Government at the University of Central Florida

Marilyn Crotty, Director

Phone 407-317-7745; Fax 407-317-7750

The Institute of Government, an affiliate of the Florida Institute of Government, is part of the College of Health and Public Affairs and provides training and technical assistance to state and local government, governmental associations, and non-profit organizations. Training workshops, certification programs, conferences, seminars, applied research projects, citizen surveys, strategic planning, and organizational development programs are among the services offered by the Institute.

Florida Space Institute (FSI)

Ron Phillips

FSI, Kennedy Space Center, FL 32899

Phone 321-452-9834; Fax 321-452-4842

E-mail: fsiccas@mail.ucf.edu

Web Address <http://fsi.ucf.edu>

The Florida Space Institute (FSI) offers a unique approach to space education and research. Recognizing the substantial investment in launch facilities and human resources in Central Florida, the proposal to form a center that would merge industry, education, and research in a real-world environment became a reality. Created by a formal agreement among the following institutional partners: Brevard Community College, Embry Riddle Aeronautical University, Florida Institute of Technology, NASA-sponsored Florida Space Grant Consortium, Florida Space Authority (FSA), and the University of Central Florida, FSI brings a permanent academic presence to the space center. As the "gateway to the universe" FSI provides space education and research to undergraduate and graduate students at the USAF Cape Canaveral Air Station. FSI research involves undergraduate and graduate students in real space problems within the existing space industry environment of the space center. This environment permits students and faculty to interact with space center engineers and to use the facilities of the space center. FSI research projects are primarily conducted in its facilities at the Cape Canaveral Air Force Station. Other facilities at KSC are used as needed and which are made available. Research projects conducted by the FSI university/college partners on their respective campuses are considered "normal" proprietary projects of that particular university/college even though the project may be space related.

Institute of Statistics and Data Mining

I. Ahmad, Director

Phone 407-823-2289

The Institute of Statistics and Data Mining provides statistical consulting support to graduate students, staff and faculty members in all stages of their research projects. The Institute's services include, but are not limited to, design of experiments and surveys, determination of sample sizes, formulation of hypotheses, selection of appropriate analysis using a variety of software packages, interpretation and evaluation of statistical results, preparation of statistical reports, and writing statistical methods and data analyses sections of research grant proposals as well as data management through the data mining lab. The Institute's faculty members are available to work as co-investigators or statistical consultants into clients' grant proposals. The Institute also provides statistical support to various government agencies and private organizations. For a brief description of consulting activities of the Institute and research expertise of faculty members, please visit (<http://www.cas.ucf.edu/statistics/consulting/institute.htm>) The Institute offers one free consulting session to Ph.D. graduate students. The consulting service is available to faculty members working on funded projects for a modest fee. Professor Ibrahim A. Ahmad (iahmad@mail.ucf.edu), Chairman of the Statistics Department, is the Director of the Institute. However, other faculty members from the Department of Statistics and Actuarial Science are available for assisting clients.

Institute for Technical Documentation

Karla Saari Kitalong, Director
CNH 307E
Phone 407-823-6257

The Institute for Technical Documentation offers a variety of services for client companies, including developing original technical documentation, translating documentation written in other languages, and providing seminars to assist clients in writing their own documentation. The Institute also provides seminars on writing more effective e-mail, memos, letters, policies and procedures, manuals, and reports. Experienced faculty, established facilities, and strong rapport with local industry enable the Institute to assist in a wide variety of documentation projects and seminars.

International Studies and Programs

Mathilda E. Harris, Director
Phone 407-882-2300; Fax 407-275-4386
Research Pavilion, Suite 263, P.O. Box 163105, Orlando, FL 32816-3105
Web address: www.international.ucf.edu

Three of the University of Central Florida's five international goals are: 1) to achieve international prominence in key programs of graduate study and research; 2) to provide international focus to our curricula and research programs; 3) to become more inclusive and diverse. UCF offers a variety of programs that support these goals by educating students for global competence via internationalized courses, language offerings, internships and work experiences in internationally related areas. UCF also offers many types of study-abroad programs that meet the general education requirements and the needs of majors in all colleges. The ultimate goal of global education is to create a trans-national understanding of the social economic, cultural, environmental and political realities of the 21st Century. The Office of International Studies (OIS) is a University level office that serves as a clearinghouse for all international programs and coordinates such programs within the University. The mission of the OIS is to create an environment that facilitates the identification, development, promotion, coordination, and support of high quality international activities related to the academic mission of UCF. The on-going development of the international dimension at UCF will be realized through the implementation of goals and objectives related to the curriculum, faculty development, policies and planning, academic support, students, the community, funding, and external agencies.

Small Business Development Center (SBDC)

Aloyse T. Polfer, Director
University Tech Center, Suite 300, 12565 Research Parkway
Phone 407-823-5554

The Small Business Development Center (SBDC) is part of a statewide organization designed to promote economic development by responding to the needs of the small business community. The SBDC, as part of the College of Business Administration at the University of Central Florida, is responsible for a geographic area including Orange, Osceola, Lake, Citrus, Volusia, Flagler, and Sumter counties. Regional centers located at Daytona Beach Community College, Brevard Community College, and Seminole Community College assist small business in those areas. Assistance is provided through workshops and individual counseling in the following areas:

- Personnel
- Bookkeeping
- Business Tax
- Franchising
- Marketing
- Sources of Financing
- Product Innovation
- Business Plan Development

Additional programs provide assistance to clients in the areas of government contracting, energy conservation, and international trade.

Small Business Institute

Lloyd W. Fernald Jr., Director
Phone 407-823-5725

Business schools have for some years been interested in getting students out of the classroom and involved with real business problems rather than "textbook" situations. By sponsoring the Small Business Institute program, the University of Central Florida does not only satisfy this need, but at the same time provides free professional help to small businesses in need of managerial guidance.

The SBI program uses a team of senior-level undergraduate or graduate-level students who, under faculty supervision, provide management counseling and technical assistance to small business clients. Examples of these services are: general management audits, development of business plans, establishment of accounting systems, design of inventory systems, cost analysis, pricing strategies, and evaluation of alternative markets.

The major objective of the College of Business Administration at the University of Central Florida is to educate men and women for positions of productive responsibility in business and the professions. UCF's Small Business Institute program stresses analytic ability and the student's learning skills in recognizing and coping with change. The Small Business Institute program at the same time provides on-the-job experience and sound academic training for the student.

University Notices

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Administrative Procedures Act Policy Statement

The University of Central Florida, under applicable rules of the Administrative Procedures Act, may change any of the announcements, information, policies, rules, regulations, or procedures set forth in this *Graduate Catalog*. The *Graduate Catalog* is published once a year and cannot always reflect new and modified regulations. Statements in this *Graduate Catalog* may not be regarded in the nature of binding obligations on the institution or the State of Florida. While every effort will be made to accommodate the curricular needs of students, limited resources may prevent the university from offering all required courses in each semester or in day and evening sections.

Students will be held accountable for the requirements, policies, and procedures described in this *Graduate Catalog*. Additional information or clarification of any policy or procedure may be obtained from the specified office.

Sexual Harassment Policy

The University of Central Florida values diversity in the campus community. Accordingly, discrimination on the basis of race, sex, national origin, religion, age, disability, marital status, parental status, or veteran's status is prohibited.

Sexual harassment, a form of sex discrimination, is defined as unwelcome sexual advances, requests for sexual favors, or verbal or physical conduct of a sexual nature when:

- Submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment or enrollment
- Submission to or rejection of such conduct by an individual is used as the basis for employment or enrollment decisions affecting such individual; or
- Such conduct has the purpose or effect of substantially interfering with an individual's work performance or enrollment, or creating an intimidating, hostile, or offensive working or academic environment.

Sexual harassment is strictly prohibited. Occurrences will be dealt with in accordance with the guidelines above and University rules. Employees, students, or applicants for employment or admission may obtain further information on this policy, including grievance procedures, from the Equity Coordinator. The Director of the Office of Equal Opportunity and Affirmative Action Programs is the campus Equity Coordinator responsible for concerns in all areas of discrimination. The office is located on the main campus, in Millican Hall 330, Orlando, FL 32816-0030. The phone number is 407-UCF-1EEO. Policies and guidelines are available online at <http://pegasus.cc.ucf.edu/~eoo/>.

Drug-Free Workplace/Drug-Free Schools Policy Statement

Standards of conduct and disciplinary sanctions will be imposed for the unlawful possession, misuse or distribution of illicit drugs and alcohol by UCF students and employees on UCF property or as part of any of its activities. The unlawful manufacture, distribution, dispensation, possession or misuse of a controlled substance, prescription medication or the unlawful possession and use of alcohol is harmful and prohibited in and on UCF owned and controlled property or as part of any of its activities. Any UCF employee or student determined to have violated this policy shall be subject to disciplinary action for misconduct, action which may include termination/expulsion and referral for prosecution. No employee/student is to report to work/class or attend any University activity while under the influence of illegal drugs or alcohol. Violation of these policies by an employee/student will be reason for evaluation/treatment for drug/alcohol disorder and/or for disciplinary action up to and including termination/expulsion and/or referral for prosecution consistent with local, state and federal law.

Academic Behavior Standards

The University of Central Florida is committed to a policy of honesty in academic affairs. Examples of conduct for which students may be subject to academic and/or disciplinary penalties including expulsion are:

- Cheating, whereby non-permissible written, visual, or oral assistance including that obtained from another student is utilized on examinations, course assignments, or projects. The unauthorized possession or use of examination or course related material may also constitute cheating.
- Plagiarism, whereby another's work is deliberately used or appropriated without any indication of the source, thereby attempting to convey the impression that such work is the student's own. Any student failing to properly credit ideas or materials taken from another has plagiarized.

NOTE: A student who has assisted another in any of the aforementioned breach of standards shall be considered equally culpable. In cases of cheating or plagiarism, the instructor may take appropriate academic action ranging from loss of credit for a specific assignment, examination, or project to removal from the course with a grade of "F." Additionally, the instructor may request disciplinary action through the Office of Student Rights and Responsibilities as outlined in *The Golden Rule*.

Student Use of Technology

The University of Central Florida expects all students to have ready access to a personal computer and software appropriate to his or her field of study. Students can meet this expectation by purchasing or leasing a computer, sharing a computer with family or roommates, or using a UCF computer lab. All UCF students should expect to use a personal computer in many university activities, including course work, accessing library information, registering for classes, and e-mailing correspondence to instructors or fellow students. In addition, many UCF courses require the use of the Internet. The University of Central Florida has developed one of the nation's most advanced campus technology environments, and all UCF students are provided free e-mail accounts and Internet access. Students wishing to acquire a personal computer are strongly advised to consider a laptop equipped with a wireless networking card. Recommended configurations can be found on the university's website at www.cstore.ucf.edu/standards.htm

Student Responsibility for University Communication

To communicate in a more expedient manner, UCF uses e-mail as the primary means of notifying students of important University business and information dealing with registration, deadlines, financial assistance, scholarships, tuition and fees, etc.

To avoid missing important communications from the University, students must ensure that the University has an up-to-date "preferred" e-mail address, as well as both permanent and mailing (local) addresses. It is critical that students maintain and regularly check their preferred e-mail account for official announcements and notifications. Communications sent to an address on record will be deemed adequate notice. The University does not accept responsibility if official communication is rejected or fails to reach a student who has not notified the university of a change of preferred e-mail or postal mailing address. Please ensure that your preferred e-mail address, as well as your permanent and mailing (local) addresses and telephone number, are current with the University at all times. Students can update their contact information online at <http://connect.ucf.edu>

About the Graduate Catalog

The Graduate Catalog is published by the Division of Graduate Studies and is the authoritative source for information regarding UCF graduate degree and certificate programs, admission requirements, and graduate policies and procedures for the academic year of publication. Beginning with the 2002-2003 Graduate Catalog, the catalog is published solely online and the online version is the official source of graduate information.

Graduate Catalog Revision

In collaboration with the colleges and schools, the Division of Graduate Studies revises the catalog each year and in May or June publishes the new catalog for the coming academic year (e.g., the 2004-2005 graduate catalog applies to Summer 2004, Fall 2004, and Spring 2005). The Admission, Policies, Degree Programs, Certificate Programs, and Courses sections are considered the UCF graduate curriculum record and are archived as published for each academic year. These sections serve as key resources throughout a student's graduate study.

As new degree and certificate programs are approved, they will be added to the current graduate catalog. Each addition will include a statement at the beginning of the program information describing the effective date of the new program or program change and the date that the program information was added to the online catalog. Other sections of the catalog may be updated throughout the year to add or refresh information, including The UCF Advantage, About UCF, Registration, and Financial Information. Check the What's New section for important additions to the catalog during the academic year.

Archiving of the Graduate Catalog

The Division of Graduate Studies (www.graduate.ucf.edu) and UCF Home (www.ucf.edu/catalog) provide public access to archived copies of the online graduate catalog.

Research

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Overview

Research is big business at the University of Central Florida. With funding increasing and expected to reach \$100 million by 2010, you can imagine the possibilities. As Orlando's metropolitan university, the research at UCF benefits the entire region, but many projects have a much broader scope. UCF has several nationally and internationally recognized research institutes and a technology incubator to provide a means for UCF to transfer technology from the research laboratory to the marketplace. The Central Florida Research Park, located adjacent to the UCF Orlando campus, is a hotbed for sponsored research, internships, and employment opportunities for UCF students and graduates.

UCF Research

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Research Strengths

As a leading metropolitan research university, UCF has built research strengths in a variety of areas including education, photonics, engineering, simulation, computer science, alternative energy, and the emerging areas of nanoscience and life sciences, in order to become a catalyst for the region's high-tech development. A strong spirit of collaboration has made UCF an attractive partner for many Central Florida high-tech businesses that, in turn, have provided UCF students with real-world experiences.

"Industry-university partnerships are the key to the creation and growth of knowledge-based, wealth producing, and high-tech businesses," says M. J. Soileau, UCF vice president for research.

Research and Employment Opportunities

Students can find research and employment opportunities through UCF or many of the 7,500 high-tech companies doing business in the Central Florida High-Tech Corridor. As one of the region's largest high-tech employers, UCF employs hundreds of B.S. through Ph.D. scientists and engineers. Sponsored research activities result in millions of new dollars for the local economy (\$89 million in extramural research funding in 2003) and helps attract, retain and grow high-tech companies in the region. Through UCF's highly successful Technology Incubator, graduate students can work with start-up companies or bring their own innovations to market.

Students are the foundation of UCF's commitment to enhancing Central Florida's high-tech base. By focusing on providing the best undergraduate education in Florida, particularly in science and engineering; investing in selected areas of research and graduate studies; and attracting leading students and scholars to UCF's research centers of excellence (in optics and photonics, materials science and engineering, computer science and engineering, simulation and training, biomolecular sciences, alternative energy, etc.), UCF aims to take technology to the next level of knowledge and application. Research teams of faculty, students, and research staff generate the kind of "disruptive technology" that results in new products, new companies, and highly trained new research scientists.

Student Success

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Overview

What would inspire a graduate entering the marketplace with a bachelor's degree to return to school to pursue a master's degree? Why would a successful professional with years of experience in her field add to her load to pursue her doctorate? Because they recognize, like about 6,000 other University of Central Florida graduate students, the major advantage of advanced studies through UCF.

They are people of vision, with talents waiting to be developed, with goals to achieve. Where some see limits, they see possibilities. Where some see problems, they see potential solutions. UCF embraces their vision, empowers them to break down boundaries and propels them toward a future filled with innovation. With 22 doctoral programs, 67 master's programs and 69 graduate certificate programs UCF graduate students have the distinction of being affiliated with an internationally respected institution. It's the UCF major advantage.

Daniel Agliata

Graduate Student

Ph.D., Clinical Psychology

Daniel Agliata, a University of Central Florida graduate student in clinical psychology, is a bona fide people person. His passion for people's well-being is the cornerstone of his recently published paper about the effects of media on males' body image and mood.

"I have a natural drive for others around me to be happy and feel emotionally and physically healthy," says Agliata. "In addition, a Ph.D. in psychology will provide me the skills necessary to succeed in many settings, including academia, research and clinical work."

Agliata recently received a travel award allowing him to present his paper, co-authored by Stacey Tantleff-Dunn, Ph.D., at the Academy for Eating Disorders 2003 International Conference in Denver, Colorado.

The support of the UCF community — along with that of his wife, Allison — help Agliata press on. "After completion of my internship and defense of my dissertation, I hope to work in a hospital-type setting, specializing in assessment and treatment," Agliata shares.

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Yaela Dahan

Graduate Student

M.A., Instructional Technology: Instructional Systems

It's said that you can't teach an old dog new tricks. But can you teach adult students new approaches to learning? That is the focus of the research conducted by University of Central Florida master's student Yaela Dahan, who just presented her findings in a poster session at the 14th Annual Conference for Teaching and Learning in Jacksonville.

Dahan, who is studying instructional design, has researched how adults can shift their approach to learning from one that is teacher-focused to one that is learner-focused. Her research, based on the ARCS Motivation Theory – attention, relevance, confidence and satisfaction – could benefit Dahan's contemporaries.

"Introduced to training while working in human resources, I saw how the instructional design program would help me better connect to the learners and increase their level of understanding," says Dahan, who received a travel award, along with funding from the Student Government Association and the UCF Chapter of the Association for Educational Communications and Technology to help her attend the conference.

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Kimberly Daniels

Graduate Student [graduating spring 2003]

M.A., Applied Sociology

If you ever felt as if you bear the brunt of household responsibilities, University of Central Florida master's student Kimberly Daniels may know why. Daniels, an Applied Sociology major, has researched the relationship between economic dependency and household labor in marriage. She recently presented her findings at a Southern Sociological Society conference in New Orleans.

"The experience was great," says Daniels, who received a travel award and funding from the Sociology Department. Daniels and several faculty and students from her program "were able to present our research projects and receive feedback, to learn about current research being conducted in our areas of interest by other members of the Southern Sociological Society, as well as interact with faculty and students from other universities."

Daniels, who starts work on her doctorate in the fall, is thankful for the training and support she has received at UCF. "I have learned so much in the past two years, and the faculty in the Sociology Department . . . are exceptional," she relates.

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Patrick Fleming

Doctoral Student

Ph.D., Texts and Technology

Patrick Fleming could be a prototype for a modern-day superstudent: A self-described "knowledge and experience eclectic," there is little that the University of Central Florida doctoral student hasn't done – and done well. Add to the list yet another coup in the form of a summer fellowship at Washington State University.

Forty-six doctoral candidates have participated in the program, established in 1993 to mentor minority doctoral candidates preparing for university-level careers in teaching, research and service. Fleming plans to begin work on his dissertation in disability and digital media while at WSU. "Among the key questions which this work should address is, how digital media, in all its forms, is accessible to those of us with various disabilities." Fleming – "dissertation willing," he says – will be one of the first graduates in UCF's Texts and Technology Program in spring 2004. "My life as a graduate student has been a once-in-a-lifetime opportunity," says Fleming.

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Jared Iacovelli

Graduate Student

M.S., Molecular Biology and Microbiology

UCF graduate student Jared Iacovelli, a travel award winner, met one of his heroes - Nobel Prize winner and neuroscientist Dr. H. Robert Horvitz – while attending the 32nd annual Society for Neuroscience conference. Iacovelli attended the meeting along with instructor Dr. Cristina Fernandez-Valle and fellow student Sandra Geden to present his paper in molecular biology.

"Attending this meeting was a wonderful experience, as I was able to share my research with others and listen to several influential speakers in the field of neuroscience," Iacovelli said. The molecular and microbiology student decided to pursue a master's degree with a higher goal in mind – "so I could gain research experience before enrolling in a Ph.D. program" in neuroscience.

Despite the challenges a graduate student faces, Iacovelli is upbeat about his UCF experience. "My overall experience as a graduate student at UCF is good," he says.

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Irina Ionescu

Graduate Student

Ph.D., Mechanical Engineering

University of Central Florida travel award winner Irina Ionescu's greatest wish is about to become reality: "My dearest dream is to see as much of the world as I can," shares the doctoral student in Mechanical, Materials and Aerospace Engineering. Ionescu will travel to Romania to present her paper detailing solid modeling and finite element analysis of human bones.

The Seminar on Biomechanical Research at the University Politehnica Bucharest will mark the beginning of a partnership between the Bucharest institution and Ionescu's department. Dr. Ted Conway, Ionescu's co-adviser, will accompany her to the seminar. She also will present her work in Cracow, Poland, and Nantes, France.

"I was happy when I was told I got the travel award," Ionescu recalls. "Graduate Studies helped me a lot." A doctoral degree represents "my parents' dream and my wish," Ionescu says. After graduation, "I hope to get a post-doctoral position in my field," she says.

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Andreas Marpaung

Doctoral Student

Ph.D., Computer Science

UCF doctoral student and travel award winner Andreas Marpaung did more than present a paper recently at a prestigious multimedia conference in France: He provided the entertainment. That came in the form of a robot, Lola, the product of Marpaung's research in UCF's Affective Social Computing Laboratory under the supervision of Dr. Christine Lisetti, who also attended the conference.

"As an entertainer robot, Lola has the capability to dance for the audiences, greet another person by name and show her emotions based on her progress in doing tasks," Marpaung explains. Lola's ability to emote "gave me a chance to show that emotion plays an important role" in human-robot interaction, he adds. Inspired by the conference, he hopes to use the next year of his studies polishing his dissertation and publishing more research papers. His career goal: "Working in a research company or teaching at the university level."

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Fatma Nasoz

Doctoral Student

Ph.D., Computer Science

You could say Fatma Nasoz possesses a drive to excel. Nasoz, a University of Central Florida travel award winner and doctoral student, presented her research at the Association for Computing Machinery Multimedia Conference in France. Nasoz's paper focuses on recognizing human emotions to develop car interfaces to enhance driver safety. The computer science student is applying multimedia technologies to future cars.

Nasoz attended the conference – a gathering for representatives of top universities and companies from around the world – with three other doctoral students, as well as Dr. Christine Lisetti. Dr. Lisetti supervises UCF's Affective Social Computing Laboratory, where Nasoz conducts her research.

"The field I am doing my research on is relatively new in computer science," Nasoz relates. "It is different in the way it also takes into account the human side of human-machine interactions by recognizing and responding to users' emotions."

Fired up from her recent success, she looks ahead toward her dissertation, as well as her eventual goal of conducting research and teaching in her homeland of Turkey.

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Reid Oetjen

Doctoral Student

Ph.D., Public Affairs

Reid Oetjen, a UCF doctoral student in the College of Health and Public Affairs, is the kind of guy the public wants to see succeed. A travel award winner, Oetjen recently presented a paper advocating patients' rights to privacy in waiting rooms. Attending the Medical Group Management Association's conference in Las Vegas, Nevada, allowed the Ph.D. student "to network as well as learn about the latest trends in the healthcare industry as it pertains to physician practices."

Oetjen's research is one more step toward his goal: "to fulfill my dream of teaching at the college level."

Oetjen's next hurdle is his dissertation, "which will explore the utilization of emergency departments."

His studies at UCF have been a highlight in Oetjen's life. "I am so excited by the growth of the campus, as well as the growing reputation of the university as one of the finest learning centers in the United States," he says.

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Janet Tinoco

Doctoral Student*Ph.D., Business Administration*

UCF doctoral student Janet Tinoco wanted more. With about 20 years in defense technology as an engineer and technical manager, she received a master's in international business to augment her management skills. But Tinoco didn't stop there. "I wanted to pursue a Ph.D. and combine my engineering background and management experience with a doctorate in marketing," Tinoco relates.

Now Tinoco, a UCF travel award winner whose paper about export sales, co-authored with Dr. Chris White at UCF, was presented in San Diego at an American Marketing Association conference, is reaping the rewards. Tinoco's research was named best paper in its category, a moment shared with several UCF faculty members who also attended the conference.

Once her studies are complete, Tinoco plans to focus on high-technology marketing strategy. For now, Tinoco enjoys the challenges of completing her doctorate. "It's harder than I thought," she admits, "but I am never bored!"

[top](#)**Hong Yang****Graduate Student***Ph.D., Electrical Engineering*

Do not adjust your radio dial. Just let Hong Yang have a look at it.

Yang, a University of Central Florida doctoral student with a passion for electrical engineering, has won accolades for his knowledge of integrated circuits. He will travel to Philadelphia on behalf of co-authors Wade Smith and Jiann S. Yuan to present their paper linking gate oxide breakdown with decreased output power and poorer efficiency in certain circuits.

The 2003 Radio Frequency Integrated Circuits Symposium, scheduled for June, is the "leading one of its kind," according to Yang, who received a travel award allowing him to present his work.

Whether he remains in the United States upon graduation or returns to the People's Republic of China, Yang will always treasure his experience as a UCF graduate student. "Studying at UCF is a wonderful experience and memory in my lifetime," relates Yang.

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Faculty Highlights

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Overview

For a university to soar to international prominence in teaching and research, one element is essential: dedicated faculty members at the forefront of their fields. University of Central Florida graduate faculty are dedicated to excellence in teaching and research, as well as service. They believe in partnerships - partnerships with graduate students to help them reach the next echelon academically and professionally, and partnerships with the community.

The ripple effect of UCF's dedicated faculty is widespread, from Florida's classrooms to the world's battlefields, from Central Florida's attractions to the very air we breathe. Through the Provost's Research Enhancement Program, more than a dozen world-class researchers from a variety of disciplines have been hired.

Without the dedication of people like Sandra Robinson, dean of the College of Education, Florida's commitment to literacy might flounder. Without the drive of researchers like Ali Raissi, environmental problems might go unresolved. Without the innovation of professors like Peter Delfyett, the gap between the capacity to transmit and receive data might not be bridged.

Drawing on such strength, diversity, and inspiration, graduate students can proceed confidently toward the future with purpose and perspective, knowing UCF's gifted faculty stand behind and beside them all the way.

Henry Daniell

Professor and Trustee Chair, Molecular Biology and Microbiology

Dr. Henry Daniell and his team of 15 graduate students have a simple yet complex mission: To save the world, and to do it economically.

Daniell is a University of Central Florida professor and Trustee Chair of molecular biology and microbiology. He also is a cofounder of Chlorogen Inc., the first UCF biotechnology company and the first company in which the university has equity.

Chlorogen uses a patented chloroplast technology to develop plant-made proteins and antibodies for use in producing drugs such as interferon and vaccines against such diseases as the plague, anthrax and hepatitis C. Largely using tobacco leaves, which Daniell has called "the fruit fly of plant research," the research team has developed a way of producing large quantities of affordable pharmaceutical proteins.

How affordable? According to Daniell, a four-month treatment for hepatitis C typically costs \$26,000—a hardship for the 40 million Americans who lack insurance, along with the 800 million people worldwide infected with the disease, most of whom earn less than \$1 a day, Daniell said. By contrast, treatment derived from chloroplast technology would cost about \$100.

Among other innovations from Daniell's think tank are edible cholera vaccines grown within carrots, insectresistant plants, high-energy crops that produce polymers, drought-resistant crops, and plants whose genes are coded to break down heavy concentrations of mercury.

The research has attracted the attention and support of the Department of Homeland Security, the National Institutes of Health, the Department of Energy and the U.S. Department of Agriculture. According to Daniell, "students are trained in every facet of life sciences" through their funded research positions, including gene cloning, recombinant DNA, vaccine development, working with plants and animal testing. Brandy DeCosa, who graduated with a Master of Science in Molecular Biology and Microbiology, credits her work under Daniell to her success as a forensic technologist for the Florida Department of Law Enforcement. Fellow graduates have gotten positions with top biotechnology companies, research institutions and the NIH.

"The various molecular techniques and instrumentation that I studied in Dr. Daniell's lab are similar to what I perform or use now," DeCosa said. "Also, I did extensive public speaking in graduate school presenting my research, which allows me to present detailed data to fellow scientists or the general public. This exposure will be invaluable to me when I testify my forensic findings in court to a jury in the future." With papers published in leading journals such as *Science News*, *Nature Biotechnology* and *Scientific American*, Daniell's students are not only gaining exposure for their groundbreaking research but also for their futures as researchers.

Andrew Devine, a master's student in molecular biology, is co-authoring with Daniell a chapter for a book titled *Plastids*, to be published in 2004. Having worked in collaboration with DuPont Chemical Co., Devine's work with chloroplast genetic engineering is leading him toward pursuing a Ph.D. at UCF.

"My experience in Dr. Daniell's lab has prepared me for not just work in the scientific field but also how to deal with everyday situations that everyone, at some time or another, must face," Devine said.

The job offers already are coming in for Oscar Ruiz, a Ph.D. candidate in biomolecular sciences. "I have to say that my mentor, Dr. Daniell, is very supportive and helpful, and that the environment in the laboratory is one of friendship and collaboration, which facilitates work in the lab," said Ruiz, who has conducted research in collaboration with Dow Agrosiences.

Ruiz's credits include a paper published in *Plant Physiology*, and a book chapter, written with his mentor, that focuses on methods in molecular biology. He is primary or secondary author of several other papers under review.

The success of Daniell's students results in additional notoriety and publicity in local and national media, including CNN.com, The New York Times and Central Florida Business. Such notoriety and publicity makes it easier to recruit topquality students for Daniell's lab.

"Knowing they are producing some of the top research in the country and are published in leading journals, they get the self-confidence that they can compete with students from Harvard and Yale," said Daniell.

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Peter Delfyett

Professor, School of Optics/CREOL

University of Central Florida researcher Peter Delfyett is shedding light on the telecommunications and semiconductor industries.

A partnership between UCF School of Optics/CREOL and the business community has resulted in a breakthrough in optical transmission: the world's fastest laser, breaking the 1 terra per second mark.

"Many times there are various technical solutions to problems. But the one that actually gets used and makes the company the most money is not the technology that works best, but the one that works as well as the others and is 10 times cheaper," asserts Delfyett.

Industry representatives echo Delfyett's confidence that his technology will bridge the gap between the capacity to transmit and receive data. "This accomplishment is a giant leap, not only for the field of phototonics but also in how it will impact the future of computing and information systems," says Jeff Saunders, president of Schwartz Electro-Optics in Orlando.

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Karen Dow

Professor, Nursing

It could be called "Survivor," and the money pot is comparable. Dr. Karen Dow's work, however, is infinitely more important than staying on the island. Dow, a professor in the School of Nursing, has garnered more than \$1 million in research funds?making her a member of the coveted UCF Millionaires Club?for her research on women's health, primarily focusing on breast cancer patients. Her work provides support and information to women in their most difficult trials, as well as advancing the education of their caregivers.

Her graduate students work with her in "nearly every phase: data integrity, safety and monitoring, monthly research team meetings, suggestions," she said. Dow's research is web-based, providing information about fertility after breast cancer for young breast cancer survivors, as well as introducing innovative technologies in oncology nursing in a multiplicity of cultures.

Because the research addresses various disciplines?nursing, technology and statistical analysis, for example?Dow draws students from different disciplines. Leandro Barreiro, a master's student in Nursing, works with the Breast Cancer Quality of Life Study and WebONE.

The National Institutes of Health-funded study, according to Barreiro, "is a quasi-experimental study aimed at measuring the effects of educational interventions about cancer management provided by the research nurses on the quality of life of female breast cancer patients."

His work with the study has involved "inputting data into the statistical database and checking the data entered by others." For WebONE, an online continuing cancer education course for oncology nurses worldwide, Barreiro has translated Spanish discussion messages into English and has "analyzed the content of those discussion messages to look for trends," he said.

Besides helping Barreiro prepare a paper about his findings for submission in a cancer nursing journal, Barreiro credits Dow with "guiding me through the process of analytical research."

"The work I have done as a graduate assistant has helped me improve my research skills in the areas of data management, critical thinking, literature searches and technical writing for publication," Barreiro said.

A graduate research assistant working under Dow?Sreeramen Ramaswamysanthanam?is a master's student in Industrial Engineering. "I work on transforming data from hard copies into a statistically analyzable format," he said. "I load it onto statistical software packages and perform quality control on the data. Later, I provide the statistician with data for analysis."

Ramaswamysanthanam also monitors and analyzes the web oncology course, collecting information about its overall impact upon its international audience. "It helps us gain insight into cancer research and application of quality control techniques that I have learned during my graduate education at UCF," the engineering student said, adding that he expects to publish a couple of papers soon as a result of his research.

Dow looks at the human side of her work. "The significance of my research is that I am working in women's health research," Dow said. "My work stands out because it involves human research focusing on women's needs. I think, too, that I have been a voice for cancer survivors nationally, having provided testimony and research expertise on national panels."

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Peter Hancock

Professor, Applied Experimental and Human Factors Psychology

With U.S. forces engaged in Afghanistan and Iraq and increased storminess in the world's political climate, technology and military preparedness have taken on increased importance in our nation's defense. UCF researcher Peter Hancock is using computer simulations to model battlefield stress and develop strategies to reduce wartime casualties.

With a \$5 million grant from the Department of Defense, Hancock is studying ways to understand and overcome the effects of battlefield stress on decision-making. A Provost's Distinguished Research Professor in human factors research, Hancock conducts his studies through the Department of Psychology and the Institute for Simulation and Training.

Hancock's research focuses on a Catch-22 of modern warfare: The very technology designed to equip soldiers for more effective combat can also be a source of stress. His project, Operating Performance Under Stress, is the first behavioral Multidisciplinary University Research Initiative that the U.S. Army has ever funded. Among Hancock's findings is that a soldier's spatio-temporal perception narrows under stress. "Soldiers today are not facing traditional situations," Hancock said. "In the old days you could prepare for a basic mission. Modern soldiers are inundated with information. They operate in highly technical situations."

Soldiers today sport headsets with visors, carry miniature computers, and use global positioning systems. Hancock's team is studying how the technology can be more user-friendly and how it can aid, not detract from, the decision-making process. Identification Friend or Foe technology, for example, can recognize friendly forces and thus eliminate casualties from friendly fire. Eventually it may result in the development of weapons that will specifically target enemy forces. Hancock's team hopes to use its findings to develop visual display units to aid in training and, ultimately, a greater understanding of how technology can be used to save lives.

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Danny Parker

Research Associate, Florida Solar Energy Center

UCF is proud to boast of its first commercially available product, the Gossamer Wind™ ceiling fan, developed by Danny Parker of UCF's Solar Energy Center. The fans, which are aerodynamically designed, have blades modeled after aircraft propellers, and can move up to 40 percent more air than standard flat-blade models. This new blade design allows for a smaller fan motor, which not only reduces the ceiling fan's energy use by 50 percent, but also cuts noise and wobble. The Gossamer Wind™ also features a fluorescent lamp that reduces both energy use and heat output, temperature-activated controls, and a motion sensor control, all of which have helped it become the first ceiling fan to earn the EPA's Energy Star designation for energy efficiency. The Gossamer Wind™ is available at Home Depot stores nationwide under the Hampton Bay label.

UCF's Office of Technology Transfer assists the UCF community in the development of intellectual property assets, in turn licensing them to the commercial sector, which leads to a return on investment for the university. Technology Transfer, a division of the Office of Research (OOR), is UCF's clearinghouse for all patent, copyright, trademark, and trade secrets at the university. OOR also represents UCF in all matters of intellectual property management affecting relations with government, industry, and the public sector.

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Dianna Stone

Professor, Management

University of Central Florida professor Dianna Stone in the College of Business Administration would like business to facilitate the inclusion of outgroup members, especially members of different cultures, racial minorities, and people with disabilities.

"I have always been interested in the inclusion of outgroup members in organizations and the fair treatment of individuals in our society," Stone says. "As a result, I have studied stigmas and unfair discrimination in organizations – especially issues of race and disabilities – throughout my career."

Her tireless efforts in fairness issues have earned Stone countless accolades, including being named "One of the Top Ten Women in Orlando" in 2002. She also has received the coveted Lyman Porter Research Award.

The impact of Stone's research is being felt in management. "In particular, my work on the fair treatment of employees with disabilities has been used by a number of private sector organizations and human service agencies," the professor relates.

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Cynthia Young

Associate Professor, Mathematics

UCF's emerging role as a research epicenter, particularly in technology, has acted as a magnet for students worldwide, attracting and equipping them for positions of significance in their fields.

Associate Professor of Mathematics Dr. Cynthia Young says of her research students, "They are the project. I just steer the ship." Young and her "crew" are developing mathematical models of atmospheric effects on laser beams, which would pave the way for laser communication and laser radar systems.

According to Young, the "real-world applications are laser communications systems and laser radar systems." The advantages of laser systems vs. conventional radio frequency systems are "higher data rates for communication purposes and secured channels for Department of Defense applications."

Doris Cowan, a Ph.D. student in Applied Mathematics, is working with Young on a ground-to-international space station laser communication system. Her work, supported by a fellowship through the Florida Space Grant Consortium, focuses on statistical calculations.

"My focus will be on determining the average number of times that a laser signal will be below a specified acceptable level?when the signal will not be received," Cowan explained, "And, when it is below that level, how long does it stay down?"

Cowan, a former teaching assistant for Young, enjoys the closeness and accountability that result from being part of Young's research group. "Last summer we met once a week to discuss how each of our individual projects was advancing so that we could all share experiences. We work together well," she said. Aaron Masino, whom Young calls "the lead in my office" in her naval research project, also applies statistics to laser systems, researching such variables as atmospheric-induced frequency fluctuations related to a laser radar target identification system.

"We develop models that describe various statistical quantities of a laser beam that is sent through the Earth's atmosphere, and we apply those models to applications such as laser radar and laser communications systems," said Masino, a Ph.D. student in Applied Mathematics who called his experience with Young's group "excellent."

So far, Masino and his colleagues have published two conference proceedings papers and one international journal article, with two more international journal articles and two more conference papers in the works.

"I have had the opportunity to conduct research, publish papers in international journals, give presentations at professional conferences and assist in the management of a research team," Masino related. "Very few graduate students are afforded all of these opportunities."

The experience is priming Masino for a future as a faculty member at a research university. "By having the opportunity to conduct research on a large-scale project such as this, I am more marketable for such a position," he said.

Real-world applications partner with real-world experience to set UCF graduate students on a path to success. "They get experience working in a group setting, both as peers and with a mentor," Young said.

"As the project progresses, they become more independent, which assists in their maturation as scientists and engineers."

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Institutes and Centers

[School of Optics/CREOL/Florida Photonics Center of Excellence](#)

[Institute for Simulation and Training](#)

[Florida Solar Energy Center](#)

[Biomolecular Science Center](#)

[Advanced Materials Processing and Analysis Center](#)

[Central Florida Research Park](#)

[Office of Research](#)

The university has several nationally and internationally recognized research institutes that offer students the opportunity to work hands-on with experienced researchers. Other organized research units complement the activities of academic departments and engage graduate students in instructional and research roles.

CREOL/FPCE

Funding in 2003 | \$16.2 million

The School of Optics/CREOL/FPCE (Center for Research and Education in Optics and Lasers) provides the highest quality education in optical science and engineering, conducts scholarly fundamental and applied research, and aids in the development of technology-based industries in Florida and throughout the nation. In 2003 the state awarded UCF \$10 million to establish the Florida Photonics Center of Excellence at the School of Optics/Creol. Research activities include:

- Diffractive and holographic optics
- Image analysis and understanding
- IR systems and technology
- Laser system development
- Laser-aided materials processing
- Liquid Crystal Optics
- Nonlinear optics
- Optical glass sciences
- Optoelectronics
- Nanophotonics
- Photonic information processing systems
- Remote sensing, laser radar and atmospheric propagation
- Theory of light matter interaction
- Virtual reality and medical imaging
- Biophotonics
- X-Ray sources and technology

Director: Eric Van Stryland

www.creol.ucf.edu

407-823-6834

IST

Funding in 2003 | \$5.1 million

The Institute for Simulation and Training (IST) is an internationally recognized research institute that focuses on advancing modeling and simulation technology and increasing the understanding of simulation's role in training and education. Research activities include:

- Multi-resolution simulation
- Mixed reality simulation
- Connectivity
- Computer generated forces
- Virtual environments
- Computer graphics
- Terrain databases
- Low-cost graphics
- Training and education
- Augmented reality
- New simulation environments
- Medical applications
- Public safety simulation
- Parallel computing
- Information systems technology
- Robotics and machine cognition

Director: Randall Shumaker

www.ist.ucf.edu

407-882-1300

FSEC

Funding in 2003 | \$12.8 million

Located at UCF Cocoa, the Florida Solar Energy Center (FSEC) is the largest and most active state-supported renewable energy and energy efficiency research and training organization in the United States. FSEC researches and develops energy technologies to reduce Florida's use of energy and enhance its economy and environment, and educates the public, practitioners, and students on the results of the research. Research activities include:

- Solar thermal systems
- Photovoltaic systems, applications and cells
- Energy efficiency and building science
- Indoor air quality
- Advanced HVAC systems
- Hydrogen energy from renewable resources
- Pollutant detoxification
- Energy-Efficient Industrialized Housing
- Cost-Effective Solar Program for Utilities/ESCOs
- Energy-Efficient New Homes Program

Interim Director: Philip Fairey

www.fsec.ucf.edu

321-638-1013

Biomolecular Science Center

Funding in 2003 | \$1.9 million

The Biomolecular Science Center emphasizes development of biomedical technology. Research activities include:

- Molecular and genomic basis of diseases
- Advanced fluorescence microscopy
- Allergy
- Antithrombotics
- Arthritis
- Bionanotechnology in therapeutics
- Cancer
- Cardiovascular diseases/ischemic heart disease
- Cell signal transduction
- Crohn's disease
- Developmental genetics
- Giardia
- High-yield recombinant protein production using plants as bioreactors
- Kidney ischemia
- Image analysis
- Inflammation
- Magnetic force microscopy
- Malaria
- Mechanisms of cell death
- Mechanisms of gene expression control
- Molecular immunology
- Neuron guidance damage and repair
- Photoactivated drugs
- Raman spectral microscopy
- Reproduction
- Synthesis of antimetabolites
- Thalassemia
- Transcription factors and proteomics
- Tuberculosis
- Uptake and delivery of drugs
- Vaccines

Director: Pappachan Kolattukudy

www.bmsc.ucf.edu

407-823-1206

AMPAC

Funding in 2003 | \$1.4 million

The Advanced Materials Processing and Analysis Center (AMPAC) excels in the development, processing, and characterization of advanced materials, including structural, electronic, optical and nanomaterials. The overall mission of the Center is to advance fundamental and applied multidisciplinary research in materials through combining resources of UCF and local industries. AMPAC is home to the Materials Characterization Facility (MCF), a facility with state-of-the-art surface and materials characterization equipment and the newly-commissioned Advanced Microfabrication Facility (AMF), a facility for processing of Micro Electromechanical systems, miniaturized systems, devices and thin films. In 2003 two AMPAC researchers received the prestigious Faculty Early Career Development award from the National

Science Foundation, the first time two scholars from one unit have concurrently won. Research activities include:

- High temperature materials and coatings
- Micro and nano fabrication
- Nanomaterials, synthesis and consolidation
- MEMS and smart materials
- Multi-scale mechanical property characterization
- Atomic scale characterization of materials
- Chemical mechanical polishing (CMP)
- Acoustic wave devices
- Microelectronics materials processing and device characterization

Director: Vimal Desai
pegasus.cc.ucf.edu/~ampac/
407-207-4966

Central Florida Research Park

The hub for research and development in Central Florida celebrated its 20th year in 2002. The thousand-acre Central Florida Research Park for the past five years has ranked among the top ten research parks in the nation.

UCF is in the company of North Carolina's Research Triangle and Stanford University in California at the pinnacle, says Research Park Executive Director Joe Wallace. "Whether by the number of acres, by the number of buildings, the number of companies or employees, we're always in the top ten, by whatever criteria used," he notes.

Today, with an annual payroll of around \$520 million, the park is home to about 90 companies, 9,000 employees, many of them students and UCF graduates, and elements of the U.S. Army, Navy and Marines, as well as university departments and projects. Although the park's foundation is U.S. military simulation and training research, the door is open to any other enterprise which can enhance UCF and the area's economic development through partnerships with the university and research park.

UCF's Institute for Simulation and Training, Central Florida Technology Development Center, the National Center for Forensic Science, Crime Mapping and Data Management and Public Safety Research centers are in the Research Park, along with the Naval Air Warfare Center Training Systems Division and other joint missions with government entities.

On the private side, Siemens/Westinghouse, AT&T Wireless, Silicon Graphics, Hewitt Associates and others operate in the park. The University Tech Center serves as an "incubator" transition site, where private industries develop and produce products and services based on university research.

Office of Research

The UCF Office of Research promotes the application of intellectual capital, cultivated within the university, to issues that can impede human development or mar quality of life. It serves as both an official liaison between UCF research and the commercial sector by providing a helping hand for faculty as they work their way through the funding process. The Office of Research provides support to UCF faculty and research institutes by establishing connections with the agencies and individuals who invest in the promise of science.

Vice President for Research: M. J. Soileau
www.research.ucf.edu
407-823-5538

Admission and Registration

[Overview](#)

[U.S. Citizens and Alien Residents](#)

[International Students](#)

[Information for All Applicants](#)

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Overview

UCF Graduate Studies coordinates the admission process with program directors and the deans of the colleges to admit prospective students to graduate study. Graduate Studies also admits students who are applying as nondegree-seeking students.

In order to enroll in graduate classes, students must have obtained a baccalaureate or higher degree, prior to the start of the term for which the student is admitted, from a regionally accredited institution or from a recognized foreign institution. Students without a baccalaureate or higher degree from an accredited institution (or equivalent) are not admitted to graduate degree programs, graduate certificate programs, or graduate nondegree status. The College of Business Administration requires that all degrees must have been earned from regionally accredited institutions.

Admission to the University

The admission process begins with the receipt of the Graduate Application for Admission online. As soon as the application is received, Graduate Studies will send you an e-mail notifying you of its receipt. Actual processing of the application, however, is not initiated until the application fee and other required materials are received in UCF Graduate Studies. The College of Engineering and Computer Science and the School of Optics require pre-application to their programs prior to beginning the university application process. Please refer to the program admissions information in order to become familiar with the procedures specific to each program.

When all application information has been received by the stated deadline, it is reviewed by the appropriate degree program in order to make an admission decision. Acceptance into a graduate degree program will be granted by the academic program.

Nondegree-seeking applicants will receive notice of acceptance to the university and registration information from UCF Graduate Studies. Admission as a nondegree student does not constitute admission to a graduate program.

Readmission to the University

A regularly admitted student who has not been registered for two major semesters (spring/fall) must apply for readmission to the graduate program through UCF Graduate Studies. Students can complete the admission application online at www.graduate.ucf.edu. An application fee is required. Please refer to the [Application Deadlines](#) for your program. Readmissions are not guaranteed.

Admission

In order to be considered for admission to a graduate program, the following information must be submitted and on file in UCF Graduate Studies by the stated deadline: application, residency, and any required supporting documents specified by the program. These documents become part of UCF's files and will not be returned to the applicant.

For specific program information, refer to the appropriate department descriptions in the Academic Programs section of this catalog. Program application deadlines are listed for each academic program. Some programs require pre-application and may require additional documents as part of this process. To apply online, check online for application status or review program information, visit www.graduate.ucf.edu. This website also includes registration information.

NOTE: All programs require that all admission documents (application form, residency form, recommendations, essay/personal statement, resume) be submitted online simultaneously. Official test scores must be sent directly from ETS to UCF Graduate Studies (institution code 5233). Official transcripts should be sealed in an envelope by the registrar of the former institution and sent directly to UCF Graduate Studies, University of Central Florida, 230 Millican Hall, P.O. Box 160112, Orlando, FL 32816-0112.

U.S. Citizens and Alien Residents

The application for admission to a graduate program is submitted electronically via the Internet. In order to apply online, go to www.graduate.ucf.edu, and click on "Apply Online". The College of Engineering and Computer Science and the School of Optics require pre-application to their programs prior to beginning the university application process. The College of Engineering and Computer Science pre-application is located at www.graduate.cecs.ucf.edu, and the School of Optics pre-application is located at <http://www.creol.ucf.edu/academics/prospective/application/PreApplication.asp>.

U.S. citizens and resident aliens in the United States must submit the following application materials:

- Graduate Application for Admission form (electronically signed and submitted by the applicant)
- A \$30 application fee is required of all applicants for each application submitted. No application fee is required for the pre-application form required by the College of Engineering and Computer Science or the School of Optics.
- Residency Classification form
- One official transcript (in a sealed envelope) from each college/university attended. **For UCF students applying to UCF graduate programs:** You do not need to request transcripts of your UCF course work. UCF Graduate Studies will request those transcripts internally.
- Official GRE (or GMAT, if required by the program) scores sent directly to UCF Graduate Studies by ETS (institution code 5233)
- Official TOEFL scores sent directly to UCF Graduate Studies by ETS, if an applicant is from a country where English is not the official language or if an applicant's bachelor's degree is from an accredited non-U.S. institution (institution code 5233)
- Free Application for Federal Student Aid (FAFSA), if financial support is desired
- Recommendations, if required by the program
- Essays and/or statements, if required by the program
- Professional resume, if required by the program
- Immunization Form*

Some programs may require interviews, portfolios, or other materials.

The application and all supporting documents must be received by UCF Graduate Studies by the stated application deadline.

* To expedite processing of materials, download and print the Immunization Form from the online application. Send the completed form to the address specified on the form. This form is not used in making an admission decision. However, you will not be allowed to enroll at UCF without submitting the Immunization Form.

Nondegree-seeking Students

If you are interested in taking graduate courses at UCF for personal or professional enhancement or to prepare for possible admission to a graduate program, you may enroll as a nondegree-seeking student. In order to apply online, go to www.graduate.ucf.edu, and click on "Apply Online". If you are applying as a nondegree student, you must submit the following application materials:

- Graduate Application for Admission (electronically signed and submitted by the applicant)
- Residency Classification form
- A \$30 application fee is required of all applicants for each application submitted.
- Official transcripts showing an earned bachelor's degree from a regionally accredited institution
- Prior to registration, an Immunization Form must be submitted to Student Health Services. The form can be downloaded from the online application site.

The application and all supporting documents must be received by UCF Graduate Studies by the stated application deadline.

Please note that nondegree admission or admission to a graduate certificate program at UCF does not guarantee admission to graduate status in a degree program. International students are not eligible for nondegree status unless they hold an eligible visa.

In general, nondegree-seeking students are not eligible for financial aid, assistantships, fellowships, or tuition support, although it is best to check with the Office of Student Financial Assistance for specific details.

* To expedite processing of materials, download and print the Immunization Form from the online application. Send the completed form to the address specified on the form. This form is not used in making an admission decision. However, you will not be allowed to enroll at UCF without submitting the Immunization Form.

Transient Students

Students attending UCF for a term from another institution where they are receiving their degree are classified as transient students. Transient students can apply online as a nondegree-seeking student. In order to apply online, go to www.graduate.ucf.edu, and click on "Apply Online". Required documents for transient students are:

- Graduate Application for Admission form (electronically signed and submitted by the applicant)(Select nondegree-seeking status)
- A \$30 application fee is required of all applicants for each application submitted.
- Immunization Form (required if you are not an SUS transient student)
- A letter from your home institution stating that you are in good academic standing and that the institution will accept the transfer of the hours

The application and all supporting documents must be received by UCF Graduate Studies by the stated application deadline.

Certificate Students

If you are interested in taking graduate courses at UCF in a specialized or interdisciplinary area, you may enroll in one of our many graduate certificate programs. In order to apply to a certificate program, go to www.graduate.ucf.edu, click on "Apply Online", and complete the online application. The following application materials are required:

- Graduate Application for Admission (electronically signed and submitted by the applicant)
- A \$30 application fee is required of all applicants for each application submitted.
- Residency Classification form
- Immunization Form*
- Official transcript showing an earned bachelor's degree

If you are a regular graduate student in a graduate degree program and wish to supplement your degree with a graduate certificate, you may do so by completing the online application indicating the certificate program. In order to complete a graduate certificate program, a student must apply and be admitted to a specific graduate certificate program. International students are not eligible for a graduate certificate program, since it is nondegree status, unless they hold an eligible visa or if they are also pursuing a UCF graduate degree program.

* To expedite processing of materials, download and print the Immunization Form from the online application. Send the completed form to the address specified on the form. This form is not used in making an admission decision. However, you will not be allowed to enroll at UCF without submitting the Immunization Form.

International Students

The application for admission to a graduate program is submitted electronically via the Internet. In order to apply online, go to www.graduate.ucf.edu, and click on "Apply Online". The College of Engineering and Computer Science ([pre-application](#)) and the School of Optics ([pre-application](#)) require that you fill out a pre-application form before you complete the university application for graduate admission. If you are not a U.S. citizen or resident alien, you must submit the following application materials:

- An online [Application](#) for graduate admission must be received prior to the application deadline.
- A \$30 application fee is required of all applicants for each application submitted. No application fee is required for the pre-application form required by the College of Engineering and Computer Science or the School of Optics.
- Residency Classification form
- One official transcript or mark sheets and degree or diploma certificate (in a sealed envelope) from each college/university attended sent directly to UCF Graduate Studies
- Official Transcript Evaluation sent directly to UCF Graduate Studies (see "Transcript Evaluation" under "International Students" in this section of the catalog)
- GRE (or GMAT, if required by the program) scores sent directly to UCF Graduate Studies. UCF cannot accept international students without official copies of the GRE or GMAT. Official test scores must be received by the application deadline date. (Institution Code 5233)
- TOEFL scores sent directly to UCF Graduate Studies, except those who are from countries where English is the only official language or those who have earned a degree from an accredited American college or university. UCF cannot accept international students without an official copy of the TOEFL. Official test scores must be received by the application deadline date. (Institution Code 5233)
- Recommendations, if required by the program
- Essays and/or statements, if required by the program
- Professional resume, if required by the program
- Immunization Form*

Some programs require interviews, portfolios, or other materials.

The application and all supporting documents must be received by UCF Graduate Studies by the stated application deadline.

The university conducts a complete assessment of all required credential documents submitted by the student, including the record of all academic coursework. This assessment process is somewhat different

for programs in different colleges and schools. Additional information regarding specific application requirements and credentials processing by our various colleges and schools is available in the [Transcript Evaluation](#) section below.

* To expedite processing of materials, download and print the Immunization Form from the online application. Send the completed form to the address specified on the form. This form is not used in making an admission decision. However, you will not be allowed to enroll at UCF without submitting the Immunization Form.

International Student Policies

UCF adheres to the principle that the university is primarily a community of scholars, both national and international, in pursuit of knowledge, and active in teaching, studying, and doing research. The presence of international students on the campus contributes substantially to the quality of the educational experience for everyone. It can bring to the classroom learning environment unique viewpoints and perceptions that would otherwise be lost. Effective personal contact across cultures can reduce errors in understanding one another's problems and foster a climate of international peace and cooperation among people of the world today.

Only students with a complete application package will receive e-mail updates and consideration from UCF Graduate Studies. To expedite the application process, international applicants should submit all documents (application, test scores, letters of recommendation, transcripts, etc.) under the same name, preferably the name as it is listed on the official passport. Upon receiving an application, UCF Graduate Studies assigns a student identification number (for example, 828-XX-XXXX). This number should be included whenever possible in all correspondence.

International students are not eligible for nondegree status unless they hold an eligible visa.

International applicants are encouraged to begin the application process early. Also, international applicants should ensure all supporting documents are received by the stated application deadline. Only official documentation is accepted and it is the student's responsibility to submit all documents by the application deadline. The application status available online at connect.ucf.edu is the most current and accurate information available.

Official Transcripts

Official transcripts are required. To be official, transcripts and certificates must bear the original seal or signature of the school's registrar or of the appropriate school official or office. To ensure the timely evaluation of academic credentials, applicants should submit all transcripts or marks sheets and all degree or diploma certificates at the time of application.

Transcript Evaluation

Evaluation Policy

The university conducts a complete assessment of all required credential documents submitted by the student, including the record of academic coursework. This assessment process is somewhat different for programs in different colleges and schools. Additional information regarding specific application requirements and credentials processing by our various colleges and schools is given below. As indicated below, some programs will have funds to assist in covering the cost of credentials evaluations for selected students. International students should check with their programs to get further information about transcripts and evaluation.

Applicants to the College of Arts and Sciences (in the Following Program Areas):

[Applied Sociology](#)

[Mathematics](#)

[Biology](#)

[Physics](#)

[Chemistry-Ph.D.](#)

[Political Science](#)

[Communication](#)[Psychology](#)[Computer Art and Design](#)[Spanish](#)[Conservation Biology-Ph.D.](#)[Statistical Computing](#)[English](#)[Teaching English to Speakers of Other Languages](#)[History](#)[Texts and Technology](#)[Industrial Chemistry](#)[Theatre](#)

A course-by-course Transcript Evaluation is required of all students who attended a college/university outside the United States. Transcript evaluations are accepted from [World Education Services \(WES\)](#) or [Josef Silny and Associates, Inc.](#) only. Students must send one copy of each transcript to [World Education Services \(WES\)](#) (P.O. Box 01-5060, Miami, FL 33101; Phone: 305-358-6688) or [Josef Silny and Associates, Inc.](#) (PO Box 248233, Coral Gables, FL 33124, Telephone: 305-273-1616) for evaluation on a course-by-course basis. For additional information concerning the requirement for transcript evaluations, please contact the program to which you are applying. Some programs will provide funds to assist in covering the cost of evaluations (up to \$125 US) for students who are admitted and enrolled in a UCF graduate program. You may find a contact for your program by clicking on the name of your program in the list above.

Applicants to the College of Business Administration (in the Following Program Areas):

[Accounting](#)[Management](#)[Applied Economics](#)[Management Information Systems](#)[Business Administration - MBA](#)[Sport Business Management](#)[Business Administration - Ph.D.](#)[Taxation](#)

A course-by-course Transcript Evaluation is required of all students who attended a college/university outside the United States. Transcript evaluations are accepted from [World Education Services \(WES\)](#) or [Josef Silny and Associates, Inc.](#) only. Students must send one copy of each transcript to [World Education Services \(WES\)](#) (P.O. Box 01-5060, Miami, FL 33101; Phone: 305-358-6688) or [Josef Silny and Associates, Inc.](#) (PO Box 248233, Coral Gables, FL 33124, Telephone: 305-273-1616) for evaluation on a course-by-course basis. For additional information concerning the requirement for transcript evaluations, please contact the program to which you are applying. Some programs will provide funds to assist in covering the cost of evaluations (up to \$125 US) for students who are admitted and enrolled in a UCF graduate program. Additional information regarding possible reimbursements for applicants to the College of Business Administration is available from the college (www.ucfmba.ucf.edu). You may find a contact for your program by clicking on the name of your program in the list above.

Applicants to the College of Education (in the Following Program Areas):

[Art Education](#)[K-8 Mathematics and Science Education](#)[Counselor Education](#)[Mathematics Education](#)[Curriculum and Instruction](#)[Music Education](#)[Early Childhood Education](#)[Physical Education](#)[Education - Ph.D.](#)[Reading Education](#)[Educational Leadership](#)[School Psychology](#)[Elementary Education](#)[Science Education](#)[English Language Arts Education](#)[Social Science Education](#)[Exceptional Education](#)[Vocational Education](#)[Instructional Technology/Media](#)

A course-by-course Transcript Evaluation is required of all students who attended a college/university outside the United States. Transcript evaluations are accepted from [World Education Services \(WES\)](#) or [Josef Silny and Associates, Inc.](#) only. Students must send one copy of each transcript to [World Education Services \(WES\)](#) (P.O. Box 01-5060, Miami, FL 33101; Phone: 305-358-6688) or [Josef Silny and](#)

[Associates, Inc.](#) (PO Box 248233, Coral Gables, FL 33124, Telephone: 305-273-1616) for evaluation on a course-by-course basis. For additional information concerning the requirement for transcript evaluations, please contact the program to which you are applying. Some programs will provide funds to assist in covering the cost of evaluations (up to \$125 US) for students who are admitted and enrolled in a UCF graduate program. You may find a contact for your program by clicking on the name of your program in the list above.

Applicants to the College of Engineering and Computer Science (in the Following Program Areas):

[Aerospace Engineering](#) [Environmental Engineering](#)
[Civil Engineering](#) [Industrial Engineering and Management Systems](#)
[Computer Engineering](#) [Materials Science and Engineering](#)
[Computer Science](#) [Mechanical Engineering](#)
[Electrical Engineering](#)

The College of Engineering and Computer Science requires that you fill out an online [pre-application form](#) before you complete the university application for graduate admission. Admission to each program in the College of Engineering and Computer Science is limited by space availability. The degree of competition for space depends on the number and qualifications of those who apply. To increase the chance of admissions, prospective international students should pre-apply well in advance of the pre-application deadline. Based upon the pre-application information, selected students will be invited to submit the university's online application for admission to graduate study. The College of Engineering and Computer Science will pay all application and processing fees for top candidates in each program. For additional information concerning the college's pre-application and credentials evaluation processes, please visit www.graduate.cecs.ucf.edu.

Applicants to the College of Health and Public Affairs (in the Following Program Areas):

[Communicative Disorders](#) [Nursing - Ph.D.](#)
[Criminal Justice](#) [Physical Therapy](#)
[Health Sciences](#) [Public Administration](#)
[Molecular Biology and Microbiology](#) [Public Affairs](#)
[Nursing](#) [Social Work](#)

A course-by-course Transcript Evaluation is required of all students who attended a college/university outside the United States. Transcript evaluations are accepted from [World Education Services \(WES\)](#) or [Josef Silny and Associates, Inc.](#) only. Students must send one copy of each transcript to [World Education Services \(WES\)](#) (P.O. Box 01-5060, Miami, FL 33101; Phone: 305-358-6688) or [Josef Silny and Associates, Inc.](#) (PO Box 248233, Coral Gables, FL 33124, Telephone: 305-273-1616) for evaluation on a course-by-course basis. For additional information concerning the requirement for transcript evaluations, please contact the program to which you are applying. Some programs will provide funds to assist in covering the cost of evaluations (up to \$125 US) for students who are admitted and enrolled in a UCF graduate program. You may find a contact for your program by clicking on the name of your program in the list above.

Applicants to the School of Optics (in the Following Program Areas):

[Optics: Master's and Doctoral](#)

The School of Optics requires that you fill out a [pre-application form](#) before you complete the university application for graduate admission. Based upon the pre-application information, students will be invited to submit the university's online application for admission to graduate study. Qualified applicants will be provided a voucher for the cost of one WES transcript evaluation. For additional information concerning the School's pre-application and transcript evaluation processes, please see the [application page](#) of the CREOL website.

Applicants to the School of Hospitality Management:

A course-by-course Transcript Evaluation is required of all students who attended a college/university outside the United States. Transcript evaluations are accepted from [World Education Services \(WES\)](#) or [Josef Silny and Associates, Inc.](#) only. Students must send one copy of each transcript to [World Education Services \(WES\)](#) (P.O. Box 01-5060, Miami, FL 33101; Phone: 305-358-6688) or [Josef Silny and](#)

[Associates, Inc.](#) (PO Box 248233, Coral Gables, FL 33124, Telephone: 305-273-1616) for evaluation on a course-by-course basis. For additional information concerning the requirement for transcript evaluations, please contact the [Hospitality and Tourism Management](#) program.

Applicants to the Ph.D. Program in Biomolecular Sciences:

A course-by-course Transcript Evaluation is required of all students who attended a college/university outside the United States. Transcript evaluations are accepted from [World Education Services \(WES\)](#) or [Josef Silny and Associates, Inc.](#) only. Students must send one copy of each transcript to [World Education Services \(WES\)](#) (P.O. Box 01-5060, Miami, FL 33101; Phone: 305-358-6688) or [Josef Silny and Associates, Inc.](#) (PO Box 248233, Coral Gables, FL 33124, Telephone: 305-273-1616) for evaluation on a course-by-course basis. For additional information concerning the requirement for transcript evaluations, please contact the program, which may provide funds to assist in covering the cost of evaluations (up to \$125 US) for students who are admitted and enrolled. Additional information concerning the requirement for transcript evaluations is available here: [Biomolecular Sciences](#).

Applicants to the Programs in Modeling and Simulation:

A course-by-course Transcript Evaluation is required of all students who attended a college/university outside the United States. Transcript evaluations are accepted from [World Education Services \(WES\)](#) or [Josef Silny and Associates, Inc.](#) only. Students must send one copy of each transcript to [World Education Services \(WES\)](#) (P.O. Box 01-5060, Miami, FL 33101; Phone: 305-358-6688) or [Josef Silny and Associates, Inc.](#) (PO Box 248233, Coral Gables, FL 33124, Telephone: 305-273-1616) for evaluation on a course-by-course basis. For additional information concerning the requirement for transcript evaluations, please contact the program to which you are applying. Some programs will provide funds to assist in covering the cost of evaluations (up to \$125 US) for students who are admitted and enrolled. Additional information concerning the requirement for transcript evaluations is available here: [Modeling and Simulation](#).

Resources for International Transcript Evaluations:

UCF accepts transcript evaluations from the following two agencies:

[World Education Services, Inc.](#)

PO Box 01-5060, Miami, FL 33101

Telephone: 306-358-6688

Fax: 305-358-4411

[Josef Silny and Associates, Inc.](#)

International Education Consultants

PO Box 248233, Coral Gables, FL 33124

Telephone: 305-273-1616

Fax: 305-273-1338

Documents Needed to Issue an I-20

Refer to the International Services Center (ISC) website for information on policies and documents needed to issue an I-20, www.intl.ucf.edu. All documents needed to issue an I-20 must be received by the stated application deadline.

For additional questions about documents required for I-20 issuance, please contact the UCF International Services Center (iss@mail.ucf.edu or 407-823-2337).

International Application Deadlines

Complete applications (all required documents) for all graduate programs must be received by the date listed below to be considered for admission for that semester. Failure to meet these deadlines may prevent admission as a regular graduate student for the term. Please refer to [Application Deadlines](#) in this catalog for programs that have other deadlines for international applicants. The following dates are university application deadlines for international students.

Fall admission: February 1

Spring admission: July 1

In addition, students who wish to be considered for fellowships or assistantships must have a complete application package by February 1 (or the designated Fall Priority date for their program).

Test of English as a Foreign Language

International students, except those who are from countries where English is the only official language or those who have earned a degree from an accredited American college or university, are required to submit a score on the Test of English as a Foreign Language (TOEFL) before they can be admitted to the university. Students who are offered graduate teaching assistant positions must also take and pass the Test of Spoken English before they will be allowed to teach.

A TOEFL computer-based score of 220 (or equivalent score on the paper-based test) is required unless otherwise specified by the program. The list below includes programs that have determined a minimum required TOEFL score higher than the university requirement.

Program	TOEFL (Paper)	TOEFL (Computer)
<u>College of Arts and Sciences</u>		
Biology	573	230
English	577	233
History	577	233
<u>College of Business Administration</u>	577	233

International Student Mandatory Health and Accident Insurance

Each international student accepted for admission must, prior to registration, submit proof of compliance with the Board of Education's mandatory health and accident insurance (effective fall semester 1992). There are no exceptions made for submitting this proof. Written proof of insurance, must be provided to the Office of International Student and Scholar Services and must be valid at all times. Cancellation of the policy or stoppage of the premium will result in administrative withdrawal from all classes.

If an insurance carrier from outside of the United States issues the insurance, a notarized statement, in English, must be provided attesting to meeting the minimum coverage mandated by the State of Florida.

Tax Obligations

The Internal Revenue Service (IRS) is the U.S. government institution that oversees the withholding and filing of taxes. International students are not always exempt from income taxes in the United States. To determine your tax obligations, students should visit the [IRS website](#).

Upon arrival at UCF, international students will be required to apply for a Social Security Number (SSN) or Individual Taxpayer Identification Number (ITIN) and provide this number to the Registrar's Office at UCF. The International Services Center will help international students complete the paperwork required for their visa and SSN or ITIN.

International students who will have graduate assistantships will not be allowed to begin work until the department or program submits the valid SSN and assistantship paperwork to UCF Human Resources. International students who are to receive tuition support or fellowships must provide a valid SSN to the Registrar's Office before payment processing can occur. Those with fellowships must also complete additional paperwork with the UCF Finance and Accounting Office. Deferrals for tuition and fellowship awards will be placed on the student's account, but payment cannot occur until all required paperwork is completed and the valid SSN has been provided to the Registrar's Office.

Employment of International Students

International students must have their I-20 authorized by the International Services Center for any on-campus or off-campus employment. Approved on-campus employment must be validated by presenting all immigration documents and Social Security Number to the UCF Human Resources (HR) Department. International students are not allowed to start employment until they present receipt of Social Security Card application or Social Security Number issued to them by the Social Security Administration. For detailed information on employment and taxation, visit the websites of [UCF Human Resources](#) and [UCF Finance and Accounting](#).

Information for All Applicants

Application Forms

The application for admission to a graduate program is submitted electronically via the Internet. In order to apply online, go to www.graduate.ucf.edu, and click on "Apply Online". An application fee is required of each applicant for each application submitted.

Reactivation, Readmission, and Deferred Admission

A student who has submitted an application for admission to UCF Graduate Studies, but never attended, may reactivate the original application within a year of the original application. Reactivation is the process by which the original application can be reactivated and considered for admission without having to resubmit all application materials. An application fee is required. Admission is *not* guaranteed by completing a reactivation form. If a student applies and does not attend, application files are destroyed after one year. When reactivating an application, please check program deadlines and requirements to ensure that all requirements are met. To reactivate your file or apply for readmission, complete the online application at www.graduate.ucf.edu.

Official Transcripts

To be granted admission to UCF in graduate or nondegree status, all applicants must request official transcripts from the previous institution showing a baccalaureate degree and the grades for the last 60 semester (90 quarter) hours of attempted undergraduate work. Transcripts must be mailed directly from the previous institution to UCF Graduate Studies. **For UCF students applying to UCF graduate programs:** You do not need to request transcripts of your UCF course work. UCF Graduate Studies will request those transcripts internally. If grades were transferred from other schools in the last 60 semester hours, official transcripts from those schools also must be obtained and included. If applying to Business, Social Work, or Psychology, all transcripts from all colleges attended are required. Final acceptance into degree-seeking graduate status is not granted unless an applicant's official transcripts and necessary official test scores are on file so that they can be evaluated for admission.

Graduate Examinations

The Board of Education (BOE) of the State of Florida requires that every student take either the [Graduate Record Exam](#) (GRE) or the [Graduate Management Admission Test](#) (GMAT) before the student can be accepted into graduate student status. Some programs may also require the GRE subject test before admission into graduate student status. Official copies must be mailed directly from the Educational Testing Service (ETS) to UCF Graduate Studies (Institution Code 5233) and be on file by the stated application deadline. UCF recommends that any individual contemplating class work beyond the bachelor's degree take the GRE or GMAT at the earliest possible date to avoid problems associated with a delay of

acceptance into a graduate program. The GMAT exam is computerized and is available at Prometric Testing Center (407-671-2332). The GRE is also available in a computerized format at Prometric and test scores are usually available in four to six weeks. Preparatory courses are offered through UCF's Division of Continuing Education (407-882-0260).

Educational Testing Service's policy, effective with the October 1985 GRE test, is to report scores only until September 30 following the fifth anniversary of the test date. In other words, test scores are only valid for five years. If ETS cannot provide an official copy, students will need to repeat the GRE or GMAT and have an official score reported to UCF Graduate Studies. TOEFL scores are only valid for two years.

Medical History Report

All new students must furnish medical history reports on the approved university health form before registration will be allowed. The Immunization Form is available from the Office of Student Health Services and at www.shs.ucf.edu/. This form should be completed and mailed to the address on the form. Immunizations and diagnostic procedures may be required of students by the university prior to any registration. University requirements for vaccinations or immunizations may be waived upon receipt of appropriate documentation from the student that the waiver is requested on the basis of religious grounds or on the recommendation of a university physician.

Where physician examinations or certificates are required, they must be signed by a doctor of medicine or by a doctor of osteopathy. The university reserves the right to refuse registration to any student whose health record or report of medical examination indicates the existence of a condition that may be harmful to members of the university community.

Validity of Submitted Documents

If the university finds that an applicant has made a false or fraudulent statement or a deliberate omission on the application, residency affidavit, health report, or any accompanying document or statement, that applicant will be denied admission. If the student is enrolled when such fraud is discovered, the student may be immediately withdrawn (with no refund), further enrollment denied, and credit earned and any degree based on such credit invalidated. International students may face deportation. Actions for this type of offense are handled administratively by the Student Development and Enrollment Services office after notification to the alleged violator and hearing by that office.

Deadline for Supporting Documents

If the program has a specific deadline, the application and all supporting documents are due by that deadline (see the "Application Deadlines" in this catalog). For all other programs and nondegree applicants, the application and all supporting admissions documents should be received by UCF Graduate Studies no later than July 15 (fall admission), December 1 (spring admission), or April 15 (summer admission). For international applicants, all supporting admission and I-20 documents should be received by UCF Graduate Studies no later than February 1 for Fall and July 1 for Spring. In some cases, applicants may be allowed to register on a temporary basis (without all records), assuming it can be determined from available records or consultation with the students that they appear admissible. Failure to submit records by mid term of the first semester will result in registration holds for all succeeding terms. Transcripts should be sealed in an envelope by the registrar of the former institution and mailed directly to UCF Graduate Studies.

Change of Major

When students wish to change their major or college, after having applied to a graduate program, they must file a new application for the new program at UCF Graduate Studies following the application for

admission guidelines and pay the application fee. The program coordinator of the new program will then decide whether to admit the student.

Second Master's Degree

Individuals seeking a second master's degree must file a separate application and application fee for that program and complete the normal UCF master's degree requirements for the second degree.

Up to nine semester hours from a completed master's program at UCF or any other institution may be transferred into a second master's program if the courses are not more than seven years old when the second degree is completed.

Admission Decisions

After receiving all official transcripts, standardized test information, and other documents required by the program, the degree program director will make an application decision. Admission to graduate status can be in one of four categories: regular, conditional, provisional, or restricted status. Applicants should contact the program directly for admission decision information.

Admission Classifications

Graduate Status—Regular

All students who wish degree-seeking status must submit an official GRE General Test score (or an official GMAT score as required). Some programs also require the GRE Subject Test. The minimum systemwide requirements of the Board of Education (BOE) for admission to regular graduate status are listed below. Individual degree programs may specify additional requirements. Programs may require a minimum GRE General Test score more stringent than the BOE requirement.

- A baccalaureate degree or equivalent from a regionally accredited university and GPA of 3.0 or more (on a 4.0 maximum) while registered as an upper-division undergraduate student (normally based on the last sixty attempted semester hours); OR, a total score of 1000 or higher on the General Test (quantitative and verbal sections) of the Graduate Record Examination (or a GMAT score of 450 or higher as needed) or an equivalent score on an equivalent measure approved by the Board of Education (or a previous graduate degree and official GRE or GMAT score). Even though an applicant may qualify for minimum admission on the basis of the undergraduate grade point average or having a previous graduate degree, an official GRE or GMAT score must be on file before admission to graduate status.
- A student must be accepted by the program director and the dean of the college offering the particular degree program sought. Programs are encouraged to have more restrictive admission requirements than the BOE requirements. Program requirements may be based on other factors such as work experience, research interests of the prospective student, evidence of extracurricular or community work, personal interviews, or other factors specified by the program.
- International students must demonstrate their proficiency in the English language. International students, except those who are from countries where English is the only official language or those who have earned a degree from an accredited American college or university, are required to submit a score on the Test of English as a Foreign Language (TOEFL) before they can be admitted to the university. A computer-based TOEFL score of 220 (or equivalent score on the paper-based test) is required unless otherwise specified by the program.

Graduate Status—Conditional

A student who meets the Board of Education (BOE) criteria for admission but has not submitted all required documents may be admitted conditionally into a graduate program. Conditions must be met by midterm of the first semester in order to register for future semester classes.

Graduate Status—Provisional

A student who does not fulfill the minimum BOE requirements for regular admission may be admitted provisionally upon recommendation of the dean of the college to which admission is sought. Provisional admissions may at no time exceed 10 percent of the graduate students admitted for any academic year in any single degree program. Provisional students may be admitted to regular status following satisfactory completion of nine semester hours and upon recommendation by the program director and college dean.

If a student does not maintain a 3.0 GPA in the graduate program of study, he or she will be placed on academic provisional status for nine semester hours, then reverted to nondegree status if the GPA is still unsatisfactory. A student, with regular or provisional status, whose overall GPA falls below 2.0 will be reverted immediately to nondegree status. (See [Academic Grievance Procedure](#) under "Policies.")

Graduate Status—Restricted

Even though BOE minimum requirements are met, a program may attach restrictions to the admission of an applicant, such as higher GRE or GPA requirements, completing certain prerequisite courses, retaking the GRE, maintaining a certain GPA in the first few hours of a graduate program, etc. Students may be denied admission to regular graduate status if the conditions are not met.

Nondegree Status

Students are generally placed in this category at their request. International students are not eligible for nondegree status unless they hold an eligible visa status.

A student may elect to remain in nondegree status for various reasons (e.g., requirements in a graduate program at another institution, personal improvement, meeting job requirements, and removing academic deficiencies). While in nondegree status, students are allowed to take graduate courses, in some departments, on a space-available basis. Nondegree students may also enroll in specific graduate certificate programs. Not all departments accept nondegree students and the procedures for enrollment into graduate-level classes vary with each department. Students should check with the individual departments or colleges before attempting to register.

All students who take graduate-level course work while in nondegree status should be aware of the limit of 9 semester hours of graduate-level course work that can be transferred into a graduate degree program if a student is granted graduate status. Students who take nine credit hours in nondegree seeking status will be placed on hold until they have signed and submitted a Nine-Hour Hold Release form.

In general, nondegree-seeking students are not eligible for financial aid, assistantships, fellowships, or tuition support, although it is best to check with the Office of Student Financial Assistance for specific details.

Nondegree to Regular Graduate Status

Nondegree students wishing to apply to a degree program must also file an application and application fee for that degree program. Students who have been admitted in provisional status in a degree program must file a new application if they wish to be accepted by a graduate program different from the program to which they were provisionally admitted.

Appeals

Students who are not accepted by a program but who meet the SUS minimum standards for admission to graduate status are allowed under Florida Statutes Rule 6C-6.003 to appeal that decision. The appeal procedure consists of the student writing a letter within thirty days of the date of denial to the program coordinator indicating the desire to appeal and the reasons for the appeal. The program coordinator may ask the department or program graduate committee to examine the necessary information and recommend a response to the appeal. The program coordinator will recommend an admission action to the department chair.

Should the department chair deny the appeal, and there are new circumstances, facts, or other matters that the student feels warrants consideration, the student may request further consideration from the college by writing a letter to the graduate coordinator of the college indicating the desire to appeal further and the reasons why an appeal is sought. The graduate coordinator may ask the college graduate committee to examine the necessary information and recommend a response to the appeal. The graduate coordinator will recommend an admission action to the college dean.

Should the college dean deny the appeal, and there are new circumstances, facts, or other matters that the student feels warrants consideration, the student may request further consideration from the university by writing a letter to the Vice Provost and Dean of Graduate Studies indicating the desire to appeal further and the reasons why an appeal is sought. The Vice Provost and Dean of Graduate Studies may ask the Graduate Council to examine the necessary information and recommend a response to the appeal.

Registration

During each academic semester, registration is held for all new, currently enrolled, degree-seeking, and nondegree-seeking students for the following term. Registration sessions consist of Registration and Late Registration (held during the first week of classes each term).

Spring registration begins following midterm for the fall semester. Summer and fall registrations begin following the midterm of the spring semester. Class listings are available only online through the POLARIS Class Schedule Search at connect.ucf.edu. The dates and times for each registration period are included in the [Academic Calendar](#).

Online Registration

Registration is available over the web using the POLARIS system at connect.ucf.edu, and in the college advising offices.

PID (Personal Identification Number)

Students obtain the Personal Identification Number (PID) on their first login to POLARIS. The initial login will use a default password. Following instructions, students choose a new password and reminder clue.

Schedule Web Guide

The *Schedule Web Guide* is published online twice each year; the Summer/Fall edition and the Spring edition. The *Schedule Web Guide* provides the official "Academic Calendar" and describes the policies and procedures governing registration each term. The *Schedule Web Guide* is available on the Registrar's web page at registrar.ucf.edu

Immunization Form

All new first-term graduate students must have Immunization Forms completed before they are allowed to register at UCF. Holds placed on registration will be removed once the forms are received. Forms may be obtained on the Web at <http://www.shs.ucf.edu/>.

Continuing Graduate Students

Continuing graduate students register through POLARIS on or after the assigned appointment day and time, which can be found in POLARIS. All continuing students should register early to ensure that courses will be offered. For graduate students with fellowships or assistantships, failure to register early may result in delays in receiving assistantship paychecks and sometimes result in the loss of tuition waivers. Continuing graduate students registering for internship, independent study, thesis or dissertation hours, or research report hours must fill out a Registration Agreement form obtained from their adviser or department office. The college graduate office will normally register students into these courses.

International Students

International students are required to seek advisement from International Services Center (ISC) to ensure that their enrollment status meets full-time status in compliance with INS regulations. Students must obtain advisement from ISC before dropping or withdrawing from courses that would affect their enrollment status.

Nondegree-seeking Students

Before registering, all nondegree-seeking students should check with the departments where they want to take courses in order to learn what is required for registration by that department. Certain classes are restricted, and it is best to find this out first. In the College of Education, nondegree-seeking students can ONLY register for 5000- and 6000-level classes. In the College of Business Administration, nondegree-seeking students cannot register for graduate courses without prior approval. The College of Engineering and Computer Science will only allow nondegree-seeking students to register with special approval from the program director. Nondegree-seeking students who want to register for College of Arts and Sciences, College of Health and Public Affairs, School of Optics, or Rosen School of Hospitality Management, courses should check with the individual programs for more detailed information.

Nondegree-seeking students must be registered for 12 hours to be considered full-time. Nondegree-seeking students who already have certification elsewhere (i.e., from a College of Education in another state) are not eligible to receive financial aid. In general, nondegree-seeking students are not eligible for financial aid, assistantships, fellowships, or tuition support, although it is best to check with the Office of Student Financial Assistance for specific details.

Only up to nine hours taken in nondegree-seeking status may be used toward a graduate degree. Students who have completed nine credit hours in nondegree-seeking status will be placed on hold until they have signed and submitted a Nine-Hour Hold Release form.

Holds

A hold (negative service indicator) may be placed on a student's records, transcripts, grades, diplomas or registration due to financial or other obligations to the University. Satisfaction and clearance of the hold is required before a release can be given. Students may check for holds on the POLARIS system at <https://connect.ucf.edu>. To obtain an immediate release for financial holds, payment to the Cashier's Office must be made either in cash, credit card, cashier's check, or money order.

To release Graduate Studies holds, the students must provide the documents to complete their records. Those students who are placed on nine-hour holds must sign a Nine-Hour Hold Release form provided by Graduate Studies in order to release the registration hold. This is to ensure that students are aware of the

UCF policy that no more than 9 credit hours taken in postbaccalaureate, nondegree-seeking status are allowed in a graduate program of study should they be admitted in the future.

Audit Registration

Audit students are those who desire to attend class(es) without receiving academic credit. Regular tuition and fees are assessed for audit registration. See "Tuition and Fees" for more information about the cost of auditing classes at UCF. Audit registration is on a space-available basis at the assigned time of Registration, or at any time during Late Registration and Add/Drop when Late Registration fees will apply. Audit requests for students who register prior to this time will be denied. Students may not change to audit status after Late Registration and Add/Drop, but must remain in the course or withdraw through normal withdrawal procedures. New students must be accepted for admission. Audit forms, available on the Registrar's website and in the Registrar's and college advising offices, must be signed by the instructor and presented to the Registrar's Office at the time of registration.

Senior Citizen Audit

Senior citizens (60 years of age or older) who have been residents of the State of Florida for at least one year as of the first day of classes may enroll tuition free as audit students (i.e., no academic credit) on a space-available basis. Forms to be completed include the "Residency Affidavit," the "Student Health History," and the "Senior Citizen Audit Application" and "Senior Citizen Audit Registration Form." These forms are available in the Registrar's Office (Millican Hall 161) or at the Registrar's website: <http://registrar.ucf.edu>. It is necessary to complete the required forms during the last hours of registration as noted in the "Academic Calendar" online at www.ucf.edu/toplinks/academic_calendar.html. Direct student expenses after the completion of registration include the campus ID card, vehicle registration, and textbooks.

State Employee Registration

State of Florida employee enrollment into courses for which the employee will seek a tuition waiver will occur on a space-available only basis on the last day of Registration each term at the time specified on the "Academic Calendar," online at www.ucf.edu/toplinks/academic_calendar.html. For waiver eligibility and application information, see the "Tuition Support" section.

UCF Employee Registration

UCF employee enrollment into courses for which the employee will seek a tuition waiver will occur on a space-available only basis on the last day of Registration each term at the time specified on the "Academic Calendar," online at www.ucf.edu/toplinks/academic_calendar.html. For waiver eligibility and application information, see the "Tuition Support" section.

State Tuition Exemption Program (STEP) (National Guard) Registration

State Tuition Exemption Program (STEP-National Guard) students register on a space-available basis only. Registration is on a space-available basis during the last hours of registration as noted in the "Academic Calendar" online at www.ucf.edu/toplinks/academic_calendar.html. STEP students must present a "Certification" letter to the Student Accounts Office (MH 107) to receive waiver of eligible fees. Registration before the time specified in the "Academic Calendar" online at

www.ucf.edu/toplinks/academic_calendar.html will result in the student being assessed regular fees. The tuition fee waiver cannot be used for courses that require increased costs, including, but not limited to courses offered through the Center for Continuing Education, independent study, supervised research, supervised teaching labs, thesis hours, dissertation, internships, co-ops, practicums, or applied, individualized instruction in music, art, or dance. Eligible members of the active Florida National Guard may receive a waiver of 50% of tuition and material and supply fees.

Fee Payments

All graduate students must pay their tuition and fees by the published fee payment deadline. If a department or college has not recorded tuition support by then, students must pay all tuition and fees. If a department or college has waived partial tuition and it is recorded, then students must pay the remainder of the tuition owed and all of the fees by the published deadline. It is important for graduate students to register early to provide the department or college enough time to record tuition support.

Fee Invoices

The "Fee Invoice" is your verification of registration. You are not assured of being registered for any class until you print out your Fee Invoice/Schedule. Your fee invoice lists your fees and the classes in which you are registered. Please print a new invoice if you drop or add classes so that the invoice will reflect changes in your fees. If you wish to pay your fees by credit card, press the "ePay fees" button, which will take you to the UCF online credit card payment system. Be sure to have your current address on file (see "Address and E-mail Changes," below).

You may print your "Fee Invoice" through POLARIS under the Financial Services menu or at UCF Kiosks.

Mandatory Health Information

In order for a student to register, the State University System of Florida requires:

- All students born AFTER 1956 to present documented proof of immunity to measles (rubeola).
- All students UNDER the age of 40 to present documented proof of immunity to rubella (German measles).
- All students (REGARDLESS OF AGE) to submit a signed medical history form. Distance learning students who will never come to UCF or an area campus are only required to submit the medical history form.

Students are not allowed to register without proper health information documentation. Please refer to the immunization form for specific details of requirements and acceptable documentation. If you have questions, contact the Immunization Coordinator, Student Health Services (phone: 1-800-613-8544; fax: 407-823-3135; e-mail: pwagner@mail.ucf.edu). Office hours for Student Health Services are Monday-Friday, 8:00 a.m. to 8:00 p.m., and Saturday, 10:00 a.m. to 5:00 p.m. (Holiday hours are 8:00 a.m. to 5:00 p.m.) Visit the Student Health Services website www.shs.ucf.edu for additional information.

Name Changes

To change the legal name maintained on the student's official UCF record, the student must submit a completed "Change of Name" form and supporting documentation to the appropriate UCF office. Attach to the form a copy of a legal name change document (e.g., marriage certificate, divorce decree, etc.).

Undergraduate students must submit the form to the Registrar's Office (MH 161). Graduate students must submit the form to the Graduate Studies Office (MH 230). Current UCF employees and those students who

have been UCF employees within twelve months of the date the name change is requested must submit the form to the Human Resources Office (12565 Research Parkway). The "Change of Name" form is available from the Registrar's Office at MH 161 or online at registrar.ucf.edu.

Address and E-Mail Changes

To communicate in a more expedient manner, UCF uses e-mail as the primary means of notifying students of important university business and information dealing with registration, deadlines, financial assistance, scholarships, tuition and fees, etc., as described in [Student Responsibility for University Communication](#) in this catalog.

If the student's address changes, it is the student's responsibility to make the appropriate changes to the address through POLARIS at <http://connect.ucf.edu> or at any of the kiosks located on campus. Address and e-mail changes also can be made by submitting an "Address Change" form available at www.graduate.ucf.edu or by writing the Registrar's Office, P.O. Box 160114, Orlando, FL 32816-0114 or fax to 407-648-5022. Written requests must be signed and the student number provided. Address changes can also be made by writing the Division of Graduate Studies, University of Central Florida, P.O. Box 160112, Orlando, FL 32816-0112 or fax to 407-823-6442.

Transcript Requests

For UCF students applying to UCF graduate programs: You do not need to request transcripts of your UCF course work. UCF Graduate Studies will request those transcripts internally.

Requests for official transcripts are made through the Registrar's Office (in person, by mail, or by fax). "Transcript Request Forms" are also available on the Registrar's Office website at registrar.ucf.edu. A student's academic record can be released only upon written authorization signed by the student. Telephone and e-mail requests are not accepted. Transcripts cannot be released if the student is on hold due to a financial obligation to the university. Transcript requests must include the student's signature, full name, identification number, and the name and complete address of the person(s) or organizations to whom transcripts are to be sent. If final grades or degree statement are needed, indicate that the transcript request is to be held until all requested data are posted.

A \$5 per transcript charge is assessed for each transcript request. Payment for official transcripts is required at the time of request and may be satisfied by cash, check or money order (made payable to UCF), credit card, or UCF Card. Requests received by mail must be accompanied by a check, money order, or credit card information (i.e., card type, card number, 3-digit Security Number, expiration date, and the name to which the card is registered.) Cash payments can be accepted only by the Cashier's Office during that office's regular business hours. The UCF Card payment option is available only at the main Orlando campus and must be made in person at the Registrar's Office (MH 161). Mail written requests for transcripts to: Registrar's Office, Attn: Transcripts, P. O. Box 160114, Orlando, FL 32816-0114. For fax request information and payment procedures, refer to <http://registrar.ucf.edu> or call 407-823-3100. Transcripts may be sent electronically to other Florida public institutions. Transcripts not claimed with 30 days of printing will be discarded and must be reordered. A \$5.00 per reordered transcript fee must be submitted with the reorder request. Grades are available from POLARIS at <https://connect.ucf.edu>.

Enrollment Certifications

To confirm enrollment in the University, students should obtain the form from the Registrar's website, <http://registrar.ucf.edu>, or the Registrar's Office (Millican Hall 161). Picture identification is required. Enrollment certifications will be generated only for the current term. The Registrar's Office will process requests after the close of "Late Registration and Add/Drop" for the semester that you have requested enrollment certification. Enrollment status is determined as described in the following tables.

Enrollment Status for Fall and Spring Terms

Nondegree-seeking**Degree-seeking**

<u>Status</u>	<u>Credit Hours</u>	<u>Status</u>	<u>Credit Hours</u>
Full	12 or more	Full	9 or more
Half	6, 7, 8, 9, 10, or 11	Half	4.5**,5, 6, 7, or 8
LTHT*	less than 6	LTHT	less than 5

Enrollment Status for Summer Term**Nondegree-seeking****Degree-seeking**

<u>Status</u>	<u>Credit Hours</u>	<u>Status</u>	<u>Credit Hours</u>
Full	12	Full	6
Half	6	Half	3
LTHT*	less than 6	LTHT	less than 3

* LTHT = Less Than Half Time

** 4.5 hours applies only to College of Business Administration credit hours.

For students receiving university fellowships, assistantships, and tuition support, full-time graduate status is defined as 9 hours of course work during the fall and spring terms and 6 hours during the summer term. However, there are two exceptions to this policy:

- Master's students in their last semester who need less than 9 hours to complete their program are considered full time **for UCF purposes only** if they enroll in the hours required for program completion. This is a one-time exception and the student must file an Intent to Graduate for that semester.
- Doctoral students who have finished all of their course work and passed their candidacy exam are considered full time if they enroll in 3 hours of dissertation (XXX 7980) for each term until degree requirements are completed.

Students taking thesis or dissertation hours are required to be continuously enrolled—one hour of thesis (XXX 6971) or three hours of doctoral dissertation (XXX 7980)—until the thesis or dissertation is completed and the student graduates.

All Federal loan recipients must enroll at least half time for each term that a loan is requested (that is, 4.5+ hours in fall/spring; 3+ hours in summer, regardless of classification). The in-school grace and deferment period of the loan remains as long as the student is enrolled at least half time.

Veterans must take at least 9 hours per semester during the fall and spring terms (6 hours during the summer term) to be considered full time.

Students on family insurance policies that require full-time status must take at least 9 hours per semester in the fall and spring terms (6 hours in the summer term) to be considered full time. Students classified as nondegree-seeking must enroll in at least 12 hours of course work in order to be considered full time.

Withdrawal Policy

Withdrawal for each term begins after "Late Registration and Add/Drop" ends. Students may withdraw from a class and receive the notation of "W" until the date noted in the "Academic Calendar" of the *Schedule Web Guide*. A student may withdraw from courses using POLARIS at <http://connect.ucf.edu>, or by visiting the Registrar's Office (MH 161), certain college advising offices, or an Regional Campus records office. Students may withdraw by fax at 407-823-5652. Faxed requests must be received by 5:00 p.m. on the last day to withdraw and must include the student's identification number, the course(s) to be dropped, and the student's signature. Students also may send a written request to the Registrar's Office by mail (to P.O. Box 160114, Orlando, FL 32816-0114). This letter must be time-stamped or postmarked before the published withdrawal deadline and must include the student's identification number, the course(s) to be dropped, and the student's signature. Students seeking to withdraw in person must sign the request and must provide photo identification. The official date of withdrawal is the date the university receives the withdrawal request. Requests received by mail are processed using the postmark as the official date of withdrawal.

Withdrawing from classes may have financial aid, NCAA eligibility, or international Visa consequences. Students should see appropriate advisement prior to withdrawing from a class.

A student is not automatically withdrawn from a class for not attending, nor can an instructor withdraw a student from a class. Upon request the instructor will provide the student with an assessment of the student's performance in the course prior to the last day of withdrawal.

No withdrawal is permitted after the deadline except in extraordinary circumstances such as serious medical problems. Unsatisfactory academic performance is not an acceptable reason for withdrawal after the deadline. Students seeking to petition for a late withdrawal should consult Academic Services (MH 210). At the time of the request, Academic Services will ascertain from the instructor whether the student was passing or failing the course. If the student was passing, a "WP" will be recorded on the student's permanent record; if failing, a "WF" will be entered. Medical and late withdrawals normally are for all courses taken in the semester.

Students who seek late withdrawal because they are ill must apply for the withdrawal within six months of the term from which the withdrawal is sought. Students seeking a late withdrawal because of medical conditions must follow the medical withdrawal procedure. The student's physician provides the university with the appropriate medical information, using the forms available in the Office of Academic Services. A medical withdrawal must be for all classes in the term.

If a medical withdrawal is approved, a "WM" will be recorded for each course. Students who receive a medical withdrawal may be placed on hold until the university can determine that the student is ready to return. If a medical withdrawal is not approved, the request may be approved as a late withdrawal and grades of "WP" or "WF" will be recorded. A grade of "WF" will affect the calculation of the student's grade point average.

Following the close of Late Registration and Add/Drop each term, students withdrawing from courses will incur both grade and fee liability. Students with circumstances determined by the university to be exceptional and beyond their control may apply for a cancellation of enrollment and the elimination of fee liability. Exceptional circumstances include, but are not limited to sickness, death, involuntary call to military service, or administrative errors created by the University. Students must submit a petition and all supporting documentation for a late Drop of courses to Academic Services (Millican Hall 210; 407-823-2691) within six months of the end of the semester for which the late Drop is sought.

If a student withdraws from a course while an alleged academically dishonest act is under consideration, and the case is not subsequently resolved in favor of the student, the university reserves the right to assign the appropriate grade for the course.

Financial Support

Graduate students who will be supported on assistantships must contact their program coordinator to see that their employment contract form is filled out and to request tuition support. Paychecks are delayed when these arrangements are not made prior to the beginning of the semester. All graduate students who are receiving fellowships should register as early as possible so that payment arrangements can be made by UCF Graduate Studies.

Student Responsibility to Inform Offices

All graduate students who have financial aid, or who need financial support in order to attend UCF, should be sure to inform all appropriate offices of all changes in financial status. Remember to inform the departmental office, the Office of Student Financial Assistance, and UCF Graduate Studies of all changes related to enrollment, graduate status, or financial support.

Parking

All vehicles parked on campus, including evening students' vehicles, must be registered with the Parking Services Office and display the appropriate permit or decal. Parking Services offers assistance to motorists, including battery jump-starts and unlocking car doors. For more information see their website at <http://parking.ucf.edu>

Visitor Information Center

To park on campus without a permit, purchase a daily permit at the Visitor Information Center across from Millican Hall or from the pay-and-display machines on campus. Daily permits are valid only in student lots. Meters are also available in selected locations.

Records

Student records submitted to the university become the property of the university and cannot be returned to the student or released to a third party. Copies of student records will be released only upon receipt of a written request signed by the student. Student records are stored in paper form or are digitally scanned. Once the student has been absent from the university for three academic years, all records are transferred to optical disk storage and the paper copies destroyed.

Family Educational Rights and Privacy Act (FERPA)

The procedures for protecting the confidentiality of student records are based on state regulations and the federal Family Educational Rights and Privacy Act of 1974. FERPA affords students certain rights with respect to their education records. They are:

1. The right to inspect and review the student's education records within 30 days of the day the University receives a written request for access. Students should submit to the University Registrar, dean, head of the academic department, or other appropriate official, written requests that identify the record(s) they desire to inspect. The University official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the University official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed;
2. The right to request the amendment of the student's education records that the student believes are inaccurate or misleading.

The student may ask the University to amend a record that he or she believes is inaccurate or misleading. The student should write the University official responsible for the record, clearly identify the part of the record to be changed, and specify why the current record is inaccurate or misleading. If the University decides not to amend the record as requested by the student, the University will notify the student of the decision and advise the student of his or her right to a

- hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing;
3. The right to consent to disclosures of personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent. One exception that permits disclosure without consent is disclosure to school officials with legitimate educational interests. A school official is a person employed by the University in an administrative, supervisory, academic or research, or support staff position (including law enforcement unit personnel and health 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 Trustees; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks. A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibility; and
 4. The right to file a complaint with the U.S. Department of Education concerning alleged failures by a State University to comply with the requirements of FERPA. The name and address of the office that administers FERPA is: Family Policy Compliance Office, U.S. Department of Education, 400 Maryland Avenue, SW, Washington DC, 20202-4605.

Directory Info

FERPA authorizes the University to classify certain information concerning students as "directory information," which means that it may be released to anyone upon request. In accordance with Florida Statutes Section 228.093, the University is required to release student directory information to independent vendors upon request. Directory information at UCF includes

- name,
- current mailing address,
- telephone number,
- e-mail address,
- date of birth,
- major field of study,
- dates of attendance,
- enrollment status,
- degrees and awards received,
- participation in officially registered activities and sports
- athletes' height and weight.

All other student information will be released in accordance with FERPA; in most cases this requires the student's prior written and signed consent. The University extends to students the opportunity to withhold any or all information, including "directory information." To do this, students must complete the appropriate form in the Registrar's Office (MH 161), requesting that this information be withheld. The Golden Rule outlines the University procedures for confidentiality. For additional information describing FERPA policy, enter the Department of Education Family Policy Compliance Office website at www.ed.gov/offices/OM/fpco/.

Higher Education Act

Lists, descriptions, and sources of information required for disclosure under the Higher Education Act may be obtained from the Registrar's Office (MH 161) or from <http://registrar.ucf.edu/HEA.html>.

Financial Information

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Overview

Graduate education is an important investment for both the student and the community. Graduate education enables students to enter new career fields with more choices as to their work assignments and more opportunities for advancement to higher paying jobs. It provides enrichment and a deeper understanding of a chosen field. Educated employees improve the quality of life in the state of Florida. At UCF, the cost of this investment is very reasonable.

A student's basic expenses at the university include tuition, course-related fees, textbooks, other instructional supplies, room and board, and miscellaneous items.

Tuition and Fees

Associate Controller: Dan Mayo

Student Accounts Office, Millican Hall 107

Telephone (407) 823-2433

Required fees are established by the University Board of Trustees and are subject to change without notice. Tuition and fees are affected by the student's residency status.

Students are encouraged to obtain a "Fee Invoice" to confirm fees and course registration. Fee invoices are not mailed. Fee invoices are available on the POLARIS web system and kiosks, from student's college advising offices, and in the Registrar's Office. Students must obtain a new "Fee Invoice" after making any course changes or schedule adjustments.

All university fees must be paid according to published dates and no later than the end of the Late Registration and Add/Drop period. Fees not paid by the payment deadline date for each term will result in late fees and could result in the cancellation of all classes.

The following schedule applies to all UCF students:

2003-2004 Tuition and Fee Schedule*

<u>Fees Per Credit Hour</u>	Florida Resident		Non-Florida Resident	
	<u>Undergraduate</u>	<u>Graduate</u>	<u>Undergraduate</u>	<u>Graduate</u>
Matriculation Fee	\$63.41	\$170.63	\$63.41	\$170.63
Non-Resident Fee	0	0	\$350.10	\$542.17

Building Fee	\$2.32	\$2.32	\$2.32	\$2.32
Capital Improvement Fee	\$2.44	\$2.44	\$2.44	\$2.44
Financial Aid Fee	\$3.17	\$8.53	\$3.17	\$8.53
Non-Res Financial Aid Fee	0	0	\$17.50	\$27.10
UCF Activity and Svc Fee	\$8.09	\$8.09	\$8.09	\$8.09
UCF Athletic Fee	\$11.09	\$11.09	\$11.09	\$11.09
Transportation Access Fee	\$3.90	\$3.90	\$3.90	\$3.90
TOTAL PER HOUR FEES	\$94.42	\$207.00	\$462.02	\$776.27

Other Fees: Resident and Nonresident*

ID Service and Access Fee (per academic year)	\$10.00
ID Service and Access Replacement Fee	\$15.00
Health Fee	\$6.00 per credit hour Minimum charge per term: \$36.00 Maximum charge per term: \$90.00
Material and Supply Fee (approved courses only - varies per course)	\$5.00-\$45.00
Late Registration Fee (students who initially register during Late Registration)	\$100.00
Late Payment Fee (failure to pay, defer or present waiver for fees by payment deadline)	\$100.00
Returned Check Fees (checks returned for any reason)	\$25.00 or 5% (whichever is greater)
Transcript Fee	\$5.00 per transcript

Student Health Fee: Mandatory fee assessed to all students except those enrolled at area campuses (i.e., UCF Cocoa, UCF Daytona, UCF Downtown, UCF Lake Sumter, UCF Palm Bay, UCF South Orlando, UCF Seminole, and UCF Valencia) and exclusively in Continuing Education courses.

Zero Hour Registration: Students registering for zero credit hours pay for a minimum of one credit hour at the Florida Resident Tuition rate at the course level for which the student is registered. Students registered in other credit hours do not have to pay for the zero hour course.

*Fees are subject to change without notice. Rates for the 2004-2005 academic year will be available in early July 2004.

Application Fee

The \$30.00 application fee for graduate admission must be paid by U.S. check or money order. This fee is not refundable. The \$30.00 application fee is required of all applicants for each application submitted.

Registration Fees

Current registration fees per semester or term for main campus, area centers, and continuing education courses are shown above in the Tuition and Fee Schedule. Rates for the next academic year will be

available in July prior to the beginning of the new academic year. Zero-hour registration students are assessed one credit hour at the Florida Resident Tuition rate at the course level for which the student is registered. Students registered in other credit hours do not have to pay for the zero-hour course.

Late Registration Fee

Students who enroll following the close of Add/Drop for the term or who enroll for the first time that term during Late Registration and Add/Drop will be assessed a Late Registration Fee of \$100.00.

Pay Now or Pay More: Late Payment Fee

A \$100 Late Payment Fee applies to students who do not pay their fees or who do not pay their fees (or obtain a fee deferment) by the payment deadline.

Student Financial Responsibility Statement

Registration at UCF requires students to acknowledge the following financial responsibility statement: "I accept responsibility for payment of my term tuition and fees by the published deadline. I understand that if I do not pay my tuition and fees or do not pay these fees by the due date, I will be charged a \$100 Late Payment Fee, my records will be put on hold, my account will be referred to a collection agency, and I may incur other financial consequences."

Late Registration Fee and Late Payment Fee Appeals

Students who desire to appeal a Late Registration Fee and/or Late Payment Fee may make their appeal to the Fee Appeals Committee by initiating a student petition (Form 41-561). This form can be obtained online at www.finacctg.ucf.edu>Student Accounts>forms from the Student Accounts Section of Finance and Accounting. Students must submit their petitions to Student Accounts (Millican Hall 107) and may appear before the Committee (not mandatory).

Past Due Accounts

All financial obligations to the university must be met. Failure to meet obligations can result in the withholding and denial of registration and readmission to the university. The services of a professional collection agency and recourse to the courts may also be invoked if deemed necessary. All costs of collection, including attorney's fees, are borne by the debtor.

Acceptable Forms of Payment

Acceptable forms of payment are cash, cashier's checks, money orders and credit cards. Credit card payments may be made online, through POLARIS, at the Cashier's Office (MH 109) or by a telephone call to the Cashier's Office at 407-823-2614. A mandatory, nonrefundable \$10 convenience fee will be charged each time a student chooses to pay tuition or other state mandated fees with a credit card.

Payment Procedures

Payment must be received or postmarked no later than the fee payment deadlines specified. Payment may be made at the Cashier's Office (Millican Hall 109). Operating Hours are Monday and Thursday from 8:30

a.m. to 7:00 p.m. and Tuesday, Wednesday, and Friday from 8:30 a.m. to 4:00 p.m. Students may submit payment after Cashier's Office operating hours at the Cashier's night depository (located at the pond entrance of Millican Hall) or through the enrollment screen "ePay" option on POLARIS at <https://connect.ucf.edu>. Payments (no cash) placed in the night depository by the official fee payment deadline will be considered "on time." Students may also submit payment by mail. Mailed payments must be postmarked no later than the payment deadline. Please include the student's PID (Personal Identification Number) on checks or money orders.

Payment guidelines for Limited Non-Degree enrollment classes can be found on the "Registration Form for Non-Admitted Students."

It is the student's responsibility to officially drop or withdraw from courses so as to avoid additional financial obligations.

Do not send cash. Address payments to: University of Central Florida, P.O. Box 918449, Orlando, FL 32891-8449.

Do not assume your registration will be canceled if you fail to pay fees or attend classes. Tuition deferrals will prevent class cancellation for nonpayment. Payment guidelines for off-campus registration are contained on the off-campus registration form.

Refund of Fees

A refund of fees will be processed under the conditions noted below. The student must submit a written appeal for a refund or other appeal action to the University within six months of the close of the semester/term to which the refund or other appeal action is applicable. Any debts to the University will be deducted from the refund, up to the full amount.

Full Refund Eligibility

The following circumstances allow a full refund: 1) when a class is dropped before the end of the Add/Drop period; 2) cancellation of a course by the University; or 3) the student is denied admission to a course offered by the University for any reason.

Partial Refund (25%)

A 25 percent refund is made when the student withdraws completely from the University prior to the end of the fourth week of classes during a 16 or 17-week semester, or at the end of the first quarter of classes during a Summer session.

Exceptional Circumstances

Refunds for exceptional circumstances are available upon a withdrawal from one or more courses. Up to 100 percent of tuition and registration fees are refundable if due to circumstances determined by the university to be exceptional, including, but not limited to, sickness, death, involuntary call to military service, or university administrative error.

Repayment of Title IV Financial Aid

Any student receiving Title IV Federal Financial Aid who completely withdraws from the University before 60% of the term has elapsed may be required to repay a pro-rated portion of the aid received.

Florida Residency for Tuition Purposes

At University of Central Florida, three offices are responsible for the review of residency for tuition purposes under Florida Statute 1009.21 (formerly 240.1201) and Board of Regents chapter 6C-7.005. The offices of Undergraduate Admissions and Graduate Studies determine residency for all first-time-on-campus students; the Registrar's Office reviews student requests for changes in residency once the student is enrolled. A first-time-on-campus student will be classified according to the information he or she includes on the application for admission, providing that no other information is available that calls into question the information contained on the application.

To qualify as a Florida resident for tuition purposes in accordance with State regulations, the student must be a United States citizen, resident alien, parolee, Cuban national, Vietnamese refugee, or other refugee or asylee so designated by the United States Citizenship and Immigration Service,

AND

Have established a legal residence in this state and maintained that legal residence for 12 months immediately prior to the term in which they are seeking Florida resident classification. The student's residence in Florida must be as a bona fide domiciliary rather than for the purpose of maintaining a mere temporary residence or abode incidental to enrollment in an institution of higher education, and should be demonstrated as indicated below (for dependent students, as defined by Internal Revenue Service regulations, a parent or guardian must qualify),

AND

Submit the following documentation (or in the case of a dependent student, the parent must submit documentation) prior to the last day of registration for the term for which resident status is sought:

1. Documentation establishing legal residence in Florida (this document must be dated at least one year prior to the first day of classes of the term for which resident status is sought). The following documents will be considered in determining legal residence:
 - A. Declaration of Domicile (**Note:** the Declaration of Domicile will support a claim of residency for tuition purposes only after a period of 12 months from the date that the Clerk of the Court notes that the declaration was sworn and subscribed to them.)
 - B. Proof of purchase of a home in Florida in which the student resides.
 - C. Proof that the student has maintained residence in the state for the preceding year (e.g., rent receipts, employment records).
2. Documentation establishing bona fide domicile in Florida which is not temporary or merely incidental to enrollment in a Florida institution of higher education. The following documents will be considered evidence of domicile even though no one of these criteria, if taken alone, will be considered as conclusive evidence of domicile:
 - A. Declaration of Domicile;
 - B. Florida voter registration;
 - C. Florida vehicle registration;
 - D. Florida driver license;
 - E. Proof of real property ownership in Florida (e.g., deed, tax receipts).
 - F. Verification of permanent employment in Florida by the employer, employment records, or other employment-related documentation (e.g., W-2 paycheck receipts), other than for employment normally provided on a temporary basis to students or other temporary employment. The document must show 12 consecutive months of Florida employment prior to the first day of classes of the term for which the student requests Florida residency;
 - G. Proof of membership in or affiliation with community or state organizations or significant connections to the State;
 - H. Proof of continuous presence in Florida during periods when not enrolled as a student;
 - I. Proof of former domicile in Florida and maintenance of significant connections while absent;
 - J. Proof of reliance upon Florida sources of support;
 - K. Proof of domicile in Florida of family;
 - L. Proof of admission to a licensed practicing profession in Florida;
 - M. Any other factors peculiar to the individual that tend to establish the necessary intent to make Florida a permanent home and that the individual is a bonafide Florida resident, including the age and general circumstances of the individual;
 - N. Proof of graduation from a high school located in Florida.
3. No contrary evidence establishing residence elsewhere;
4. Documentation of dependent/independent status (notarized copy of most recent IRS tax return).

OR

Be married to a person who has been a legal resident of the State of Florida for the required 12-month period and relinquish legal ties to any other state,

OR

Be a member of the Armed Forces on active duty stationed in Florida, or a spouse or dependent,

OR

Be a member of the full-time instructional or administrative staff of a state public school, community college or university in Florida, a spouse or dependent,

OR

Be a dependent and have lived five years with an adult relative who has established legal residence in Florida,

OR

Be a person who was enrolled as a Florida resident for tuition purposes at a Florida institution of higher education, but who abandoned Florida residency and then re-enrolled in Florida with 12 months of the abandonment,

OR

Be a full-time Latin American or Caribbean student who receives scholarships from the federal or state government,

OR

Be a United States citizen living on the Isthmus of Panama who has completed 12 consecutive months of college work at the Florida State University Panama Canal Branch, or a spouse or dependent,

OR

Be a graduate student of the Southern Regional Education Board's Academic Common Market attending Florida's state universities,

OR

Be a full-time employee of a state agency or political subdivision of the state when the student fees are paid by the state agency or political subdivision for the purpose of job-related law enforcement or corrections training,

OR

Be a U.S. Citizen who is a McKnight Doctoral Fellowship recipient,

OR

Be a qualified beneficiary under the Florida Pre-paid Post-secondary Expense Program per s.240.551(7)(a),

OR

Be an active duty member of the Canadian military residing or stationed in this state under the North American Air Defense (NORAD) agreement, or a spouse or dependent,

AND

Submit a statement as to the length of residence in Florida and their residency qualifications under the above criteria. Students requesting Florida residency for tuition purposes shall apply to the appropriate admissions office if they have not yet enrolled, or to the Registrar's Office if they already are enrolled.

UCF Graduate Studies reserves the right to require additional documentation as seen necessary to accurately determine the residency status of a student.

Residency Reclassification

Undergraduate Admissions and the Division of Graduate Studies determine first term at UCF residency for tuition purposes for all newly admitted students. Thereafter, the Registrar's Office will review requests for changes in residency.

To request a residency review, the student must submit a completed "Residency Reclassification Request Form" and supporting documents to the Registrar's Office (Millican Hall 161). This form is available either at the Registrar's Office or online at <http://registrar.ucf.edu>. The reclassification form must be accompanied by all documents that support the student's Florida residency claim. Residency reclassification requests are subject to Florida Statute 1009.21 (formerly 240.1201), Florida State Board of Education Administrative Code 6A-10.44, and State Board of Education rule 6C-7.005. In addition, university policy requires students requesting residency reclassification to provide documentation establishing that they have income or personal sources to meet financial obligations of attendance and living expenses. Contact the Registrar's Office at 407-823-3100 for additional information regarding all residency reclassification requirements.

When building a case for Florida residency for tuition purposes, the student may choose to submit documents from a variety of categories. Students may consult the Registrar's Office before submitting the reclassification request and supporting documents. The submission of documents in itself does not qualify the student for Florida residency for tuition purposes. The Registrar's Office will evaluate the submitted documents and available information and will render an eligibility determination. UCF is authorized to

make discretionary judgments as to residency within the bounds of the law and in reaching this professional judgment will evaluate all documents submitted and information available. No single document shall be conclusive.

Students seeking residency reclassification should understand that living in or attending college in Florida is not tantamount to establishing residency in Florida for tuition purposes. The student who comes to Florida to enroll in a Florida post-secondary educational institution as an out-of-state resident and continuously enrolls in a Florida institution normally will not meet the Florida residency requirement for in-state tuition regardless of the length of time enrolled. Living or attending school in Florida merely evidences physical presence. The student must provide documentation verifying that he or she has formed significant legal ties to the State of Florida. This documentation must establish that the Florida residence constitutes a bona fide domicile rather than serving the purpose of maintaining a mere temporary residence or abode incident to enrollment in an institution of higher education. Evidence establishing legal ties to states other than Florida may disqualify the student from Florida residency for tuition purposes. All determinative documents must be dated at least 12 months before the first day of class for the term in which residency is sought.

New and continuing students who believe that they qualify for Florida residency must submit the request and all documents prior to end of "Late Registration and Add/Drop" for the term in which Florida residency is requested. Documentation received after the last day of "Late Registration and Add/Drop" will not be used to determine residency for the current term. Approved residency reclassification **will not** be applied retroactively to previous terms.

The Registrar's Office may require additional documentation beyond that initially submitted by the student or the claimant before it can render a reclassification eligibility determination and it will not complete its review of the residency reclassification application until both the student and the claimant have submitted all requested documents.

Full-time Enrollment Requirements

University financial resources are to be used to support full-time, degree-seeking graduate students who maintain good academic progress. Graduate students receiving assistantships, tuition support, and fellowships must be enrolled full-time. For more information, see [Full-time Enrollment Requirements](#) in the General Policies section of this catalog.

Veterans Educational Benefits

Veterans who are degree seeking graduate students must take at least 9 hours per semester during the fall and spring terms (6 hours during the summer term) to be considered full time. Veterans who are nondegree seeking students must take at least 12 hours to be considered full time. For degree-seeking students, 7-8 hours of enrollment are required 3/4 benefits during fall and spring terms; in summer term, 4 hours of enrollment are required for 3/4 benefits. For nondegree-seeking students, 9-11 hours of enrollment are required for 3/4 benefits enrollment during the fall, spring, and summer terms.

Students on family insurance policies that require full-time status must take at least 9 hours per semester in the fall and spring terms (6 hours in the summer term) to be considered full time. Students classified as nondegree-seeking must enroll in at least 12 hours of course work in order to be considered full time.

Tuition Support

Graduate students who are enrolled full-time and employed as graduate assistants or receiving fellowships may also receive tuition support as part of their financial package. Usually, tuition support pays matriculation and nonresident fees (charges for course hours) and does not pay local fees (health fee, athletic fee, etc.). Tuition support is generally described in the student's letter of admission acceptance and

statement of financial awards. Students should contact their program of study (department) if they have questions about the tuition support that will be provided.

Certain fellowships also provide tuition support. Students should review the letter offering the fellowship and the terms of the award to see if tuition support is included. Students should review the fellowship descriptions in order to determine which fellowships include tuition support. Specific questions concerning the amount of tuition that might be included with a given fellowship may be directed to UCF Graduate Studies at gradfaid@mail.ucf.edu.

Tuition Support Requirements

Graduate students must meet all of the following requirements each term that they receive tuition support.

- Students must be accepted as a graduate student (regular, conditional, or restricted status) in a degree program and enrolled full-time. See [Full-time Enrollment Requirements](#).
- Tuition support will be provided only for courses that are part of the student's program of study and necessary for progress toward the student's graduate degree.
- Students must maintain good academic standing with a graduate GPA of 3.0 or higher each term.
- Students must be employed as a Graduate Assistant (GA), Graduate Teaching Assistant (GTA), or Graduate Research Assistant (GRA) for at least 10 hours per week (0.25 FTE), or students must be receiving a fellowship in the amount of \$3250 or higher for the academic year.
- Tuition support is limited to 9 terms for master's students, 12 terms for doctoral students beyond the master's degree, or 21 terms for doctoral students without a master's degree.

Nondegree-seeking students, degree-seeking students whose admission status is provisional, and students who are only admitted to a graduate certificate program are ineligible for UCF graduate tuition support.

Student Obligations

Student drops a course but remains full-time. If a student drops a course for which tuition support has been received but remains full-time, the tuition support received for the class must be returned to the university. Holds on student records will prevent students from registering for classes, receiving transcripts, or receiving grade reports until the money is returned.

Student drops a course and becomes part-time. If a student drops a course for which tuition support has been received and becomes part-time as a result, all tuition support must be returned to the university. Holds on student records will prevent students from registering for classes, receiving transcripts, or receiving grade reports until the money is returned. (In extreme cases, a student may petition for an exception to this policy.)

Student is dismissed or resigns from assistantship. If a student with tuition support is dismissed from the university or resigns from employment on a graduate assistantship (GA, GTA, or GRA) at any point during the term, tuition support funds received by the student must be returned to the university.

Requesting Tuition Support

Colleges and departments award tuition support to selected master's and specialist students on assistantships each term. Check with your department regarding procedures for receiving tuition support. Upon the recommendation of program and college offices, UCF Graduate Studies assigns tuition support to qualifying doctoral assistants. Tuition may also be paid from departmental or grant and contract accounts. Doctoral students should discuss their tuition support needs with the Graduate Program Director.

Students Working in Nonacademic Units

Each term, employers of students employed as graduate assistants (GA, GTA, or GRA) in a nonacademic unit must notify UCF Graduate Studies of their graduate assistant employees. Once this notification is received, Graduate Studies will review the student's record and award tuition support, if the student meets the requirements.

Examples of nonacademic units: Academic Affairs, Office of Sponsored Research, Computer Services, Student Development and Enrollment Services, Information Technologies, Course Development & Web Services, among others. Contact UCF Graduate Studies if you are unsure if the unit is considered nonacademic.

Tuition Support Disbursement

All tuition support is disbursed through the Office of Student Accounts, based on instructions provided by the program, college, or UCF Graduate Studies. Upon enrollment in full-time hours, students receiving tuition support will have their tuition deferred for the amount of the award. Students are responsible for paying the remaining balance of tuition and fees by the Payment Deadline published in the UCF Academic Calendar. Failure to pay the remaining balance by the Payment Deadline may result in cancellation of students' enrollment.

Students can check to see if tuition support has been applied to their account through POLARIS. In [POLARIS](#), select "Financial Services" to see awards that have been set up to pay against your account.

State of Florida Employees Tuition Waiver

Full-time state employees who work in a state agency or office other than at UCF may be allowed to enroll for up to six (6) credit hours of eligible instruction per term on a space-available basis without payment of registration fees. State Employee registration occurs on the last day of Registration for each term, at the time specified on the Academic Calendar (www.ucf.edu/toplinks/academic_calendar.html) for each term. Should the Employees register for the courses to which the waiver will apply prior to the prescribed date and time, the fee waiver will become invalid and the Employee will be liable for all applicable fees. It is the responsibility of the employee to register on a space-available basis only. The tuition waiver cannot be used for courses that have increased costs. These courses include, but are not limited to, continuing education courses, independent study, supervised research, supervised teaching labs, thesis hours, dissertation, internships, practicums, third attempt repeat course surcharges, co-ops, or applied individualized instruction in Music, Art, or Dance, etc. Any State Employee who uses an Employee Tuition Waiver for approved courses must submit a completed and signed tuition waiver form to the UCF Student Accounts Office (MH 107) by each term's Fee Payment Deadline. See the Academic Calendar (www.ucf.edu/toplinks/academic_calendar.html) for each term for the Fee Payment deadlines. Employees may obtain the "State Employee Waiver Form and Instructions" from the Registrar's Office web-site at <http://registrar.ucf.edu>.

UCF Employee Tuition Policy

All full-time general Faculty, Administrative and Professional (A&P), and University Support Personnel System (USPS) employees of the University of Central Florida who are employed in an established position on the date fees are due and who meet academic requirements, including those employees on sabbatical, professional development, grants-in-aid, and educational leave, may be allowed to enroll for up to six (6) credit hours of eligible instruction per term on a space-available basis without payment of the registration fee. UCF Employee registration occurs on the last day of Registration for each term, at the time specified on the Academic Calendar (www.ucf.edu/toplinks/academic_calendar.html) for each term. Should the UCF Employees register for the courses to which the waiver will apply prior to the prescribed date and time, the fee waiver will become invalid and the UCF Employee will be liable for all applicable fees. Any

UCF Employee who uses an Employee Tuition Waiver for approved courses must submit a completed and signed Tuition Waiver Form to the UCF Student Accounts Office (MH 107) by each term's Fee Payment Deadline. See the Academic Calendar (www.ucf.edu/toplinks/academic_calendar.html) for each term for the Fee Payment deadlines. Prior to enrolling into courses each term, enter the Human Resources web site at www.hr.ucf.edu for eligibility requirements, course restrictions and for the waiver application form.

Tuition Fees for Senior Citizens

Persons 60 years of age or older who meet Florida residency requirements may register to audit classes on a space-available basis without payment of tuition and application fees. Registration is on a space-available basis; see the appropriate term's Academic Calendar (www.ucf.edu/toplinks/academic_calendar.html) for each term for dates and times. The tuition fee waiver cannot be used for courses which require increased costs (such as thesis, dissertation, directed individual study). A "Florida Residency" Affidavit is required to establish Florida residency. A completed "Student Health History" must be filed prior to registration. Inquiries should be directed to the Registrar's Office (MH 161).

State Tuition Exempt Program (STEP)

Eligible members of the active Florida National Guard may receive a waiver of 50 percent of tuition and material and supply fees. Registration is on a space-available basis on the last day of Registration at the time specified in the "Academic Calendar" of this Graduate Catalog. STEP students should present FNG form 621-5-2 to the Student Accounts Office (Millican Hall 107) prior to the fee payment deadline.

Fellowships

UCF Graduate Studies awards more than \$2.5 million in university fellowships to provide financial support for the graduate education of over 500 graduate students each year. These fellowships are funded by university appropriations, endowments, and other outside sources.

Some fellowships are awarded on the basis of academic merit. Others are available only to students who demonstrate financial need or who are minority applicants. For eligibility, students must be accepted as a graduate student in a degree program and enrolled full-time. See [Full-time Enrollment Requirements](#). Students are strongly encouraged to apply for admission early. If they are interested in being considered for need-based awards, they should also complete the Free Application for Federal Student Aid (FAFSA) as early as possible. Allow up to four weeks for the FAFSA form to be processed.

Most fellowships require student nominations through the college and program offices. All admitted graduate students are automatically considered in this nomination process. Other fellowships, however, require students to fill out a fellowship application. For more details about graduate fellowships, visit www.graduate.ucf.edu.

International students receiving fellowships are subject to up to 14 percent withholding on their fellowship checks. International students must obtain a Social Security Number (SSN) prior to receipt of a fellowship. Further information on this issue can be obtained from the International Services Center.

Need-based Fellowships

For need-based fellowships, students must complete the Free Application for Federal Student Aid (FAFSA). This application may be completed online at FAFSA Express: www.fafsa.ed.gov/. Students must have unmet need as determined by the FAFSA to be eligible for need-based awards. International students are not eligible for need-based support.

NOTE: When students receive need-based financial aid, federal financial aid regulations require that the gross need as established by the Free Application for Federal Student Aid (FAFSA) cannot be exceeded. If

this occurs, a portion of the financial aid package will be reduced or deleted. Students are strongly recommended to consult a counselor in the Office of Student Financial Assistance concerning their awards and how they will affect the student's financial aid package.

General Fellowship Requirements

- Students usually receive only one UCF fellowship per term, and students are eligible to receive a given fellowship only once (with the exception of the Delores Auzenne Fellowship).
- Students must be regularly admitted graduate students by the time the fellowship is awarded in order to receive the funds. Provisional and restricted admission, nondegree-seeking (post-baccalaureate), and graduate certificate students are not eligible for fellowships.
- Most fellowships require at least a GRE score of 1000 (or a GMAT score of 500) and a 3.0 grade point average in the last 60 attempted semester hours of undergraduate study.
- All fellowships require full-time enrollment. See [Full-time Enrollment Requirements](#).
- Fellowship students must make acceptable academic progress during each term of the award or the fellowship will be cancelled.
- Each fellowship has different specific requirements, which are described at www.graduate.ucf.edu.

Students Working Full Time

Students working full time in on-campus or off-campus jobs may not receive university fellowships, as UCF fellowship recipients are expected to be primarily focused on graduate study and related activities on campus (e.g., graduate assistantships, research activities, participation in professional organizations). In addition, students receiving tuition assistance from another source (UCF Employee Tuition Voucher, State Employee Tuition Voucher, etc.) may not also receive a UCF graduate tuition waiver or graduate tuition fellowship.

Academic Progress for Fellowship Recipients

Fellowship recipients are required to be in good standing and make satisfactory academic progress to continue to receive a fellowship award. To be considered in good standing, fellowship recipients are required to maintain the standards listed below.

- Students must be fully accepted into a graduate degree program at UCF.
- Students must be full-time graduate students. See [Full-time Enrollment Requirements](#).
- Students must maintain a minimum grade point average of 3.0 each term of the award.
- Students must receive a satisfactory progress report from their academic adviser each term of the award.
- Students cannot receive a grade of incomplete ("I") and continue to receive the award.

Failure to meet any one of these standards will cause cancellation of the fellowship. Rare exceptions to this policy may be granted by UCF Graduate Studies after review of evidence of mitigating circumstances presented by the student.

Graduate Fellowships

The fellowships listed below is a partial list of fellowships offered and programs in which the university participates. For the most current information regarding fellowships, students are encouraged to consult www.graduate.ucf.edu.

- UCF Trustees Doctoral Fellowship
- UCF Presidential Doctoral Fellowship
- McKnight Doctoral Fellowship
- UCF Provost's Graduate Fellowship
- UCF Undergrad to Grad Fellowship
- UCF Merit Fellowship
- UCF Incentive Fellowship
- Summer Mentoring Fellowship
- GEM Fellowship
- Delores A. Auzenne Fellowship
- Florida A&M University Feeder Program
- FGAMP Graduate Fellowship
- Siemens-Westinghouse Graduate Fellowship

Fellowship Disbursement

Most graduate fellowships are disbursed through the Office of Student Financial Assistance, based on instructions provided by UCF Graduate Studies. Student Financial Assistance does not disburse fellowship funds or any other aid until after the registration and add/drop period has ended (usually about 2 weeks into the term). Upon enrollment in full-time hours, students receiving fellowships will have their tuition deferred (up to the amount of the fellowship) until they receive their fellowship payment. If students are not enrolled in full-time hours by the end of the add/drop period, their fellowship will be cancelled. Students are responsible for paying the balance of tuition and fees by the Payment Deadline published in the UCF Academic Calendar to avoid being dropped from classes. Fellowship payment will first be applied to the student's account balance. Remaining funds will be disbursed to the student either as a check mailed to the current mailing address of record or as a direct deposit into the student's SunTrust account, if already set up on campus.

Students can check to see if fellowship payment has been applied to their account through POLARIS. In [POLARIS](#), select "Financial Services" to see awards that have been set up to pay against your account.

Assistantships

Graduate students are often hired on assistantships in their departments or other university offices while pursuing graduate studies. Graduate assistants are employed to teach, conduct research, or perform other tasks for the university.

Graduate students may be employed as Graduate Teaching Assistants (GTAs), Graduate Research Assistants (GRAs), or Graduate Assistants (GAs). For eligibility, students must be accepted as a graduate student in a degree program and enrolled full-time. See [Full-time Enrollment Requirements](#).

Specific eligibility and application guidelines for graduate assistants are established by the colleges and departments. To apply for an assistantship, students should contact their Graduate Program Director in the department of study.

Part-time students (those registered for less than 9 hours in fall and spring terms, less than 6 hours in summer term) and nondegree students are not eligible to be hired on assistantships.

Assistantship Payment

Graduate students who have assistantships receive biweekly paychecks following the payment schedule set by Human Resources. If a student is employed by more than one office, the student receives one paycheck combining the amounts paid by each office. Assistantship payments do not show as credit on the student's term bill; they do not defer tuition and fees. Students are responsible for paying the balance on their term bill by the payment deadline published in the academic calendar.

Graduate students on assistantships should be aware of the Internal Revenue Service guidelines for exemption from FICA and FUTA withholding taxes (see the [UCF Human Resources](#) website).

Graduate Research Assistants

Graduate research assistants may be employed to assist professors with research activities, participate in research efforts in university institutes and centers or in off-campus projects affiliated with the university, or perform other research-related duties. They may also be employed in nonacademic university offices such as Academic Affairs, University Analysis and Planning Support, Operational Excellence and Assessment Support, Computer Services, and Course Development & Web Services.

Graduate research assistants are typically supported by grants and contracts but may also be supported by departmental funds.

Requirements

- Students must be classified as graduate students by the end of the add/drop period for the term of employment.
- Students must maintain good academic standing with a graduate GPA of 3.0 or higher each term.
- Students must be full-time graduate students. See [Full-time Enrollment Requirements](#).
- Students may not work more than 20 hours per week during fall and spring terms or 30 hours per week during summer. In rare circumstances, students may request to work excess hours by completing an Excess Hours Form (available at www.graduate.ucf.edu).

Graduate research assistants are not faculty and are not able to receive faculty parking privileges or faculty ID cards.

Graduate Assistants

Graduate assistants may be employed in college or department offices to assist in general office tasks and services not involved in teaching or research assignments. They may also be employed in nonacademic university offices such as the Registrar's Office, Computer Services, and Course Development & Web Services.

Requirements

- Students must be classified as graduate students by the end of the add/drop period for the term of employment.

- Students must maintain good academic standing with a graduate GPA of 3.0 or higher each term.
- Students must be full-time graduate students. See [Full-time Enrollment Requirements](#).
- Students employed as graduate assistants may not be simultaneously employed as a student assistant or adjunct faculty.
- Students may not work more than 20 hours per week during fall and spring terms or 30 hours per week during summer. In rare circumstances, students may request to work excess hours by completing an Excess Hours Form (available at www.graduate.ucf.edu).
- Nondegree students may be employed but must be classified as student assistants (not graduate assistants).

Graduate assistants are not faculty and are not able to receive faculty parking privileges or faculty ID cards.

Graduate Teaching Assistants

Graduate teaching assistants may be employed as classroom teachers, co-teachers or classroom assistants, graders, lab assistants, or other roles directly related to classroom instruction.

Requirements

- Students must be classified as graduate students by the end of the add/drop period for the term of employment.
- Students must maintain good academic standing with a graduate GPA of 3.0 or higher each term.
- Students must be full-time graduate students. See [Full-time Enrollment Requirements](#).
- Students must have completed at least 18 hours of graduate courses in the major prior to being employed as the instructor of record or teaching independently at the university.
- New graduate teaching assistants are required to attend the University Graduate Teaching Assistants Workshop before teaching classes at the university.
- Students with access to student records must maintain the confidentiality of all student records and information. Failure to do so will result in immediate dismissal.
- All graduate students involved in classroom instruction who received their undergraduate degrees from a foreign institution must prove their ability to speak the English language. See "English-speaking Ability for Graduate Teaching Assistants" in this section of the graduate catalog for more information.
- Students may not work more than 20 hours per week. In rare circumstances, students may request to work excess hours by completing an Excess Hours Form (available at www.graduate.ucf.edu).

Graduate teaching assistants are not faculty and are not able to receive faculty parking privileges or faculty ID cards.

English-speaking Ability for Graduate Teaching Assistants

Effective with Fall 2004, the English-speaking skills of graduate students with English as a second language who plan to serve as graduate teaching assistants (GTAs) will be evaluated as part of the GTA Orientation that is offered in August each year by the Faculty Center for Teaching and Learning. This requirement applies to all students from countries where English is not the native language; however, such students will be exempt if they have completed a previous degree from an accredited U.S. college or university. Only exempted students and those who have attended the GTA Orientation and satisfactorily passed the evaluation of their English-speaking skills may be employed as GTAs. English-speaking ability will be evaluated using the SPEAK test provided by the Educational Testing Service. If students do not pass this evaluation administered as part of the GTA Orientation, they are required to complete course work to improve their English-speaking skills through the Center for Multicultural and Multilingual Studies. As needed, the university will provide each student one or two month-long sessions with post-evaluations. If students achieve a satisfactory post-evaluation following the first session, they may be employed as GTAs. Otherwise, students must complete the second session and a second post-evaluation. Students who require more than two sessions to speak English effectively will have to rely upon personal or department resources to pay for additional course work and post-evaluations.

Employment of International Students

For information regarding the employment of international students, see [International Students](#) in the Admission and Registration section of this catalog.

Tax Obligations

All students must obtain a Social Security Number (SSN) in order to receive payments from the University, including fellowships, assistantships, and tuition support. Students are responsible for determining their tax obligations. For forms and information, students should contact the [Internal Revenue Service](#) (1-800-829-1040) or consult their personal tax adviser.

For more information on international students and tax obligations, see [International Students](#) in the Admission and Registration section of this catalog.

FICA and FUTA Exemption Guidelines

The Internal Revenue Service (IRS) excludes certain types of student wages from the IRS definition of "employment" for purposes of FICA and FUTA tax withholding. The Internal Revenue Code (IRC) 3121[b][10][B] provides in part that wages paid by a university to one of its student employees who is enrolled at least half-time and regularly attending classes are exempt from the FICA and FUTA tax withholding. The university has the sole discretion whether to treat a student's employment at UCF as exempt from FICA and FUTA withholding taxes.

The university provides assistantships for graduate students to gain research and/or teaching experience as part of their education toward a graduate degree. Graduate students are defined as those with pay classifications of 9181-9185.

To be eligible for this IRS exemption, a graduate assistant must:

- Be enrolled at least half time at UCF
- Attend classes regularly

Under this classification, services that are performed by graduate students as a general rule qualify as incidental to their primary purpose of pursuing a course of study at the university.

Criteria for FICA/FUTA Exemption Eligibility

- Graduate students are eligible for the FICA and FUTA exemptions only if they are enrolled at least half time. Graduate students are considered half-time when they are registered for at least 4.5 hours in fall or spring terms, at least three hours in summer term, or enrolled in at least one hour of thesis or three hours of dissertation during any term.
- Generally, students who are only on fellowship support are not subject to FICA and FUTA taxes, since they do not have to account for hours of employment per week.
- Graduate students will be exempt from FICA/Medicare taxes during pay periods that overlap with the academic term and during breaks of less than five weeks. Graduate students who are not enrolled for longer than five weeks and employed by the university are subject to FICA/FUTA.

Student Financial Assistance

Executive Director: Mary H. McKinney

MH 120; 407-823-2827; e-mail: finaid@mail.ucf.edu

Website: <http://finaid.ucf.edu>

Students are encouraged to apply for financial assistance by completing the "Free Application for Federal Student Aid" (FAFSA). The following Financial Assistance policies and procedures are based upon federal, state, and University regulations current for the 2004-2005 academic year. Regulations are subject to change at any time.

Determining Eligibility

In order to qualify for federal and state financial aid programs, a student must be a citizen or permanent resident of the United States, the Mariana Islands, or the Pacific Trust Territories. Some financial aid programs are available to part-time students; for graduate students at least 4.5 credit hours enrollment per Fall/Spring term is required.

The Student Financial Assistance Office encourages all students to apply for financial aid and to begin the process early. There are fellowship, loan and employment programs available. Most programs require the determination of financial need.

Financial need is calculated by the federal processor who uses a standardized formula: financial need equals the cost of education (specific to the school to be attended) minus the expected family contribution (specific to each applicant) and minus any Veteran's Educational Benefits or other expected resources available. Students and/or parents provide detailed financial information on the Free Application for Federal Student Aid (FAFSA), which generates a need analysis. The results are forwarded to the UCF Student Financial Assistance Office by the federal processor.

More Specific Eligibility Requirements Are Listed Below

- The applicant must be admitted as a degree-seeking student at UCF in an eligible program.
- The applicant must be a U.S. citizen or an eligible non-citizen (e.g. resident alien). Eligible non-citizens include I-151, I-551 and I-688 cardholders as well as some I-94 classifications.
- The applicant must be maintaining Satisfactory Academic Progress toward his/her degree. See the "Satisfactory Academic Progress Policy" in this section of the catalog or refer to the Student Financial Assistance website for more information.
- The applicant must not be in default on any Federal Student Loan and must not owe a repayment on any grant program.
- The male applicant must be registered with Selective Service (if applicable).

- The applicant's aid may not exceed the published cost of attendance (refer to the Student Financial Assistance website for more information).
- The applicant must not have received Federal loans in excess of the established annual or aggregate limits.
- The applicant must show a financial need as computed on the FAFSA (for need based programs).
- The applicant must meet minimum hours of enrollment and other program-specific criteria.

Application Procedures

The following steps may take up to four weeks to complete. Students should apply well in advance of the March 1 priority deadline of the year for which aid is being requested. Students who desire to enter UCF in spring or summer term must also apply by the March 1 priority deadline of the preceding Spring in order to be considered for the maximum aid available.

1. **File a Free Application for Federal Student Aid** - UCF requires that the student complete the Free Application for Federal Student Aid (FAFSA) or Renewal FAFSA. Applications should be filed electronically at www.fafsa.ed.gov. Follow-up promptly on all corrections to the FAFSA. If the student's record is "rejected in analysis" by the federal processor, the student should provide them with the information they request as soon as possible. Processing of the student's file will be held up until corrections are made.

NOTE: The results of the student's FAFSA must be in the Student Financial Assistance office by March 1 for the next fall and spring semesters, to meet the priority deadline, so that the student may be considered for all aid available.

2. **Follow-Through** - The student's application will not be complete until all documents requested have been filed and reviewed in the financial assistance office. Whenever the student receives financial aid correspondence (primarily sent via e-mail), he or she should review it thoroughly and follow directions promptly. Delays can be frustrating, as well as costly.
3. **Verification** - Federal regulations require that some students verify the information submitted on their applications. If selected for verification, the student will be asked to provide additional information (such as copies of tax return forms, documentation of household size, untaxed income, etc.). It is not unusual for additional documents to be requested after the initial review of the file. Prompt responses to requests for additional documentation will expedite completion of this process. Financial aid cannot be processed or received until verification is complete and all necessary corrections have been made.
4. **Professional Judgment** - Students should contact the Student Financial Assistance Office for an appointment with a counselor if they experience an extenuating circumstance that they were not able to state on the original FAFSA.
5. **Award Notification** - Award notification and important additional information will be available to the student on POLARIS after Student Financial Assistance processes the data.

Helpful Tips

- Make a copy of tax return forms before submission to IRS.
- Start a folder NOW to save financial aid information and photocopies of all documents filed and received.

- Include student's name and SSN on all documents submitted to Student Financial Assistance.
- Maintain a current mailing and e-mail address on POLARIS; most financial aid correspondence is sent via e-mail.
- Complete all items necessary to apply for a Federal Stafford Loan, if one is desired.
- Online access is available at <http://finaid.ucf.edu/>
- If the student has extenuating circumstances or runs into major problems at anytime, call the appointment line, 407-823-5285, to meet with a counselor. Call 407-823-2827 for other information.

Office Hours:

Monday: 9:00 a.m. - 7:00 p.m.

Tuesday/Wednesday/Friday: 9:00 a.m. - 5:00 p.m.

Thursday: 1:00 p.m. - 7:00 p.m.

Transfer Students

To apply for financial aid at UCF, complete all the application procedures listed with one exception. If a need analysis for the year in question has already been filed, the student need only request that the processor forward the information to UCF Code 003954 by utilizing Part II of his/her SAR, or by calling 1-800-4-FED AID.

Independent Student Status

The financial resources of parents do not have to be included in the determination of student's financial need if the student satisfies any of the following conditions:

- Graduate/Professional
- 24 years of age or older as of the award year
- An orphan or ward of the court
- A veteran
- Legally and financially responsible for dependents other than a spouse
- Married

UCF Financial Assistance Programs

First-time UCF students will be mailed an award notification. Other students will receive an email award notification only after their file is complete. Admission to UCF must be finalized with no contingencies, the student must be classified as Degree-Seeking, the verification process must be completed, and the student must meet the standards for Satisfactory Academic Progress before a financial aid award will be disbursed. Student awards will be based upon the student's financial need, the amount of funds available to UCF, the number of UCF students who qualify for aid, and the date the student completes the application process. The amounts listed on the award notification are estimates based on full-time registration. Awards are subject to change. Check the chart below to see the number of hours for which the student must enroll each semester to receive an award from each program. The results of the FAFSA will determine eligibility for these programs. It is the student's responsibility to be aware of minimal hourly requirements for each program. When requirements are no longer met, awards will be adjusted as necessary. The adjusted awards will appear on POLARIS.

Loans

Federal Family Educational Loans are made through private lenders. Graduate students must be enrolled at least half-time at UCF in UCF classes at the time of disbursement to receive a loan check. First-time borrowers at UCF must complete an Entrance Interview before a loan will be processed. Entrance Interviews may be completed by entering the Student Financial Assistance website at <http://finaid.ucf.edu/> and going to "Entrance Interview." Exit Interviews are required for graduation or whenever enrollment drops below half-time. Exit Interviews are available through the Student Financial Assistance website. Payment is deferred until students graduate or drop below half-time enrollment at UCF. Once eligibility has been determined by the [FAFSA](#), students must complete and submit a Federal Stafford Loan Response Form by the dates printed below so that processing can be completed in time to receive funds during the term indicated.

November 15 - Fall Semester Loan

March 15 - Spring Semester Loan

June 30 - Summer Semester Loan

Employment

Federal Work Study (FWS) jobs are awarded as part of a student's financial aid package: a minimum of half-time enrollment is required for graduate students. Jobs are on- and off-campus and efforts are made to match job assignments with the student's academic program. Awards are paid as an hourly wage.

OPS (Other Personnel Services) jobs are available on-campus and are not related to financial need.

Application is made directly to the department advertising the position.

Short Term Advances

Short Term Advances are available to students currently enrolled at UCF. Loans are granted at the beginning of the semester for books and emergencies. This is not for the payment of tuition and fees. A \$5.00 nonrefundable service charge will be assessed for processing the advance. This service charge, like other debts owed the university, will be deducted at the time of check disbursement. If the advance is canceled, the \$5.00 service charge still must be paid. The specific repayment date of the advance is noted on the contract.

Deferrals of Tuition and Fees

Financial assistance awards normally will result in the student being granted a deferment of tuition and fee payments. This process occurs automatically if the student has enrolled for sufficient hours, is meeting all general eligibility requirements, and is making satisfactory academic progress. This program makes up for the time lag that normally occurs between the date that tuition and fees are due and the date on which financial aid disbursements are made, which normally is two to three weeks after the semester begins. Students registering for classes during Registration or Late Registration must pay, or be deferred for, tuition and fees by the **published deadline**.

- The student's "Fee Invoice/Schedule" reflects the dollar amount of tuition and fees and estimated aid. Students must use POLARIS to obtain up-to-date information. If the total amount of tuition and fees exceeds the amount of estimated aid, the difference must be paid by the due date on the "Fee Invoice" (class schedule). Different financial assistance programs require different hours of enrollment for eligibility. The student must make sure he or she is registered for the required number of hours. Students must register for at least half-time enrollment to receive a Federal Stafford and/or Federal Perkins award.
- The following programs are not included in the calculation of estimated aid: work study programs, third party deferrals, other waivers, and direct-pay scholarships.
- Since awards are subject to change, deferments are also subject to change.
- Estimated aid based on estimated Stafford loans will be canceled if the student does not complete the loan process.

- Estimated aid based on federal or state programs that require a FAFSA will not be available to students who do not complete a FAFSA in time for the results to be in UCF's computer system by fee deadline dates. Federal loans cannot be processed without FAFSA data online to support the award.

NOTE: Both Subsidized and Unsubsidized Federal Stafford Loans will result in a deferral in the amount of 97 percent of the award, since origination fees are taken out by the lender and the guarantee agent in the amount of 3 percent. It is the responsibility of the student to properly drop classes prior to the end of the add/drop period. Additionally, under any circumstance where previously estimated financial aid cannot be paid and a deferment must be canceled, the student is liable for the cost of tuition, whether or not he/she attended classes. If classes are not dropped by the student, a financial aid deferment may keep them active. Students will be responsible for payment of these classes even if they never attended, and may receive a grade of "F."

Financial Assistance Deadlines and Qualifications

	Priority Deadline	Fall/Spring* Minimum Credit Hrs. Required	Available to Graduate Students
Federal College Work Study On-campus jobs; award earned as hourly wage.	March 1	4.5 at UCF in UCF classes	Yes
Federal Stafford Loan Program Repayment may be deferred. Loan amounts vary as well as interest rates and repayment options.	Posted each term	4.5 at UCF in UCF classes	Yes
Federal Perkins Loans Currently are made at 5 percent interest rate; loans deferred until 6 or 9 months after the student graduates or drops below 1/2-time.	March 1	4.5	Yes
Federal Unsubsidized Stafford Loans These loans operate under the same terms as regular Federal Stafford Loans except that financial need is not necessary. In addition, the student is responsible for the payment of interest as it accrues, (alternatively the interest can be capitalized into the loan balance).	Posted each term	4.5 at UCF in UCF classes	Yes

*For summer information, refer to the Program Eligibility Charts on the Student Financial Assistance website.

Fund Disbursements

Financial assistance disbursements are not available at the time of registration. Funds will be disbursed after the second week of classes. Therefore, students should make themselves aware of the automatic deferment policies and procedures and should be prepared to use personal savings or a UCF Short Term Advance for books. Late applicants (those who apply after June 30) will likely find themselves caught up in a processing backlog that could dramatically delay the disbursement of their aid. These individuals should be prepared to cover their own living expenses out-of-pocket well into the semester.

Financial assistance funds for most programs are mailed directly to the student by the UCF Office of Student Accounts unless the student has a SunTrust Bank account linked to his/her UCF Smart Card. If that is the case, the net check amount will be directly deposited in the SunTrust account. Initial disbursements should take place after the second week of each semester. Most fellowship checks go through a process in which debts owed to the university are deducted from the available assistance. Federal Stafford Loan disbursements will also go through the process, if two conditions are met: 1) the student has authorized Electronic Funds Transfer (EFT) on the promissory note; and 2) the student's lender participates in UCF's EFT program. All of the lenders on UCF's preferred lender list participate in the EFT program. For most students who do not participate in EFT, Federal Stafford checks will be mailed to the student. It is the student's responsibility to pay outstanding debts to the school within 21 days of receipt of funds to avoid a late charge. Graduate students must be enrolled at least half-time at UCF in UCF classes at the time of disbursement of each Federal Stafford Loan.

NOTE: The verification process must be complete before financial assistance funds will be released. Students on Financial Assistance Cancellation will not receive funds.

Federal Stafford Loans

Stafford loan funds will be received from the lender by EFT (or by check if the lender is non-Florida) after the University is able to certify eligibility and a valid promissory note is on file with the lender. Follow up with the lender is recommended if funds have not been received within 21 days of the mailing of your promissory note and after the second week of classes. Funds will not be received and disbursed until the add/drop period is over, usually after the second week of classes.

- **First-time borrowers at UCF:** must complete an on-line "Entrance Interview" before the loan award can be processed by visiting <http://finaid.ucf.edu>.
- **Two-term loans:** to receive the second half of a two-term loan, the student must have received the first disbursement, and be enrolled at least half-time at UCF for the second semester to receive the second disbursement. If the student did not accept the first term loan disbursement, he or she cannot receive the second term disbursement and must cancel the original loan request and reapply for a new loan through Student Financial Assistance.
- **Summer Term:** graduate students must have a minimum of 3 hours **at UCF in UCF classes** to receive assistance. If the student's hours include **Summer B** hours that are needed to meet the minimum requirements, funds will not be disbursed until **Summer B** term.

Exit Interviews **are required** upon graduation or departure from UCF. Be sure to file address changes online at <https://connect.ucf.edu> as they occur.

Award Notification

In the spring of each year, most students will be notified of the estimated awards they should receive in the coming school year. Award notifications may not go out to students who were selected for verification and have not completed that process, since verification corrections often alter award eligibility. Award notifications that are sent out anytime prior to the beginning of the semester will disclose estimated awards based on full-time enrollment. If the student enrolls for less than full-time, some estimated awards will change. In addition, new information brought to the attention of our office (such as third party payments, waivers, prepaid tuition plans, or newly awarded scholarships) can cause a reduction in the amount of previously estimated assistance.

Award notifications are available to students who miss the application priority deadline once there is enough information on file to make an awarding decision. Verification students will have access to their award notifications once that process is complete. Regardless of when the notification is available, comprehensive information can be found on the Student Financial Assistance website. Students should read this information carefully and follow the instructions.

Please note that although an estimated Federal Stafford loan may appear on the award notification to disclose loan eligibility, the **student still must apply** for the loan by completing the requested information on the "Federal Stafford Loan Request Form."

Overawards/Overpayments

Awarding of a financial aid package involves matching the student budget with the Estimated Family Contribution (EFC), which is calculated from the FAFSA information. The office attempts to award students as much of the difference (unmet need) as possible. From time to time, the office will establish an aid package for a student and later the budget or EFC changes or aid will come in from some unexpected source (such as a departmental payment). This may result in what is called an "overaward." If no adjustment to the aid package occurs and the financial aid is actually paid, this is called an "overpayment." State and federal regulation require adjustment or repayment of overawards and overpayments for many programs. If the student receives notification of scholarship or other third-party payment after the initial award notification, please notify the office. Student Financial Assistance may be able to correct an overaward before it becomes an overpayment. If an overpayment does occur, the office will notify the Student Accounts Office and the student will be required to work with them on a repayment.

Late Drops, Withdrawals and Medical Withdrawals

The following information is provided to give you a general overview of the policies on Refunds and Return of Title IV Funds. Prior to dropping or withdrawing, students are encouraged to seek individual counseling by visiting the Office of Student Financial Assistance.

If you receive financial aid, the effects of each action listed below apply; regardless of the tuition refund policy. *

Late Drops

The Office of Academic Services approves late drops for special circumstances. A late drop results in the course/s being removed from your class schedule, as if you were never registered in them. As a result, you may be ineligible for all or a portion of your financial aid, depending on the number of hours that you are dropping and the number of hours remaining. This action may affect all types of aid awarded. Here are questions to ask when considering petitioning for a late drop:

- What aid did I receive that is dependent on the number of hours I am enrolled in? (Please refer to the Program Eligibility Charts on the Student Financial Assistance website.)
- How much will my awards be reduced if this drop is approved?
- What will the tuition credit be for the drop? (This amount will be applied towards the amount of aid owed back.)

Withdrawal/Medical Withdrawal

If you withdraw on or before the 60% point in time of the semester, which is calculated using calendar days, a portion of the total Title IV funds awarded must be returned, according to the provisions of the Higher Education Amendments of 1998. The calculation of the return of these funds may result in the student owing a balance to the University and/or the Federal Government. This calculated amount will be returned to the Title IV Programs in the following order:

1. Unsubsidized Federal Stafford loans
2. Subsidized Federal Stafford loans
3. Federal Perkins loans

4. Federal PLUS loans
5. Federal Pell Grants
6. Federal SEOG
7. Other grants or loan assistance authorized by Title IV of the HEA

Things you should consider before withdrawing from one or more of your courses:

- If your last date of attendance is on or before the 60% point in the semester, you may owe funds back to your federal financial aid program/s if withdraw from all of your courses.
- If your aid has not been disbursed when a withdrawal occurs, you may lose eligibility for all or some of your financial aid program(s) if you are no longer enrolled in the minimum required credit hours for the program(s).
- Withdrawn and medically withdrawn classes do not count as completed hours and may affect your Satisfactory Academic Progress and renewal requirements for individual aid programs.
- Additionally, students who repeatedly withdraw from all classes may be canceled for not meeting the Standards of Satisfactory Academic Progress.

Questions to ask:

1. Will I meet the Standards of Satisfactory Academic Progress if this withdrawal is approved? If not, what do I do?
2. Will I meet specific renewal requirements for specific programs for the next year? (Some of the programs that have additional requirements include Bright Futures, Florida Student Assistance Grant and High Achievement Scholarship.)

Unofficial Withdrawals

Federal law requires that UCF evaluate federal aid recipients who fail to earn any credit during a semester, in order to determine if the student stopped attending classes on or before the 60% point in the semester. Professors are required to provide attendance information for all students who receive an F, I, N, or U grade.

Students who are reported to have stopped attending all of their classes prior to the 60% point of the semester will be identified as students who "unofficially withdrew" from classes. A calculation of the return of federal aid will be done as described under the Withdrawal/Medical Withdrawal section above, which may result in the student owing funds back to the university. Aid for future terms will be put on hold until the student provides a signed written statement, explaining why he/she unofficially withdrew from classes.

**For information on the tuition refund policy of the university, please visit the appropriate catalog.*

Conditions and Requirements for Receiving Assistance

- The graduate student must enroll at least half-time (4.5 hours Fall/Spring and 3 hours Summer);
- The student must maintain UCF's standards for Satisfactory Academic Progress (following section);
- The student agrees to inform the office of any additional assistance received beyond that listed on the award notification. Any subsequent awards or income may necessitate a revision of the financial assistance award;
- The student must not be in default on any educational loan or owe repayment on a grant at this or any other institution;

- The student must provide all information requested for the completion of his or her file. If selected, verification must be completed prior to the receipt of any funds or certification of a Federal Stafford Loan;
- The student must notify the Student Financial Assistance Office of any changes in housing status or corrections to the financial or household information from that listed on the student's assistance application;
- The student must reapply yearly for financial assistance; and
- The student's financial aid package may not exceed the cost of attendance as specified on the Student Financial Assistance website.

Satisfactory Academic Progress Policy

Federal regulations require the university to establish standards of Satisfactory Academic Progress as a general eligibility requirement for financial assistance. A student must maintain Satisfactory Academic Progress in a course of study regardless of whether the student was a previous recipient of financial aid. It is recommended that students refer to the Student Financial Assistance website for more information regarding satisfactory academic progress. Students may not receive Title IV financial aid for courses that do not count toward program completion. Graduate students will have to provide verification from their Graduate Program for all undergraduate courses taken.

Time Limit

When a student meets or exceeds the number of allowed Overall Attempted Hours, the student will be placed on "Financial Aid Cancellation" at the end of the summer semester (even if financial aid was not received during previous terms).

Classification	Time Frame Allowed for Completing Degree
Undergraduate	180 Overall Attempted Hours (including transferred hours)
Second Degree	60 Attempted Hours
Master's	70 Attempted Hours
Specialist	100 Attempted Hours (including all graduate hours)
Doctorate	120 Attempted Hours (including all graduate hours)

Measurement of Progress within Time Limit

At the end of the **Summer** term of each academic year, the **progress within the time limit will be monitored for the previous three terms** (Fall, Spring, and Summer). Students are required to complete 75 percent of their attempted hours for the same period. **(Students on probation must meet standards each term.)**

Procedure for Appeals

If students do not meet the Standards of Satisfactory Academic Progress, they will be placed on "Financial Aid Cancellation." When students are on Financial Aid Cancellation, they are not eligible for aid, nor a deferment, until reinstated through the appeal process. Any student with extenuating circumstances who is placed on Cancellation may appeal to the Financial Aid Review Committee. To appeal, the student must:

1. Complete the Satisfactory Academic Progress Appeal Form; and
2. Submit acceptable documentation supporting the extenuating circumstances.

After a thorough evaluation of the written request and all documentation, the Financial Aid Review Committee will notify the student of the decision by email communication or the student may view the updated status on POLARIS, under Financial Aid Status. Aid remains canceled unless the student receives written notification of reinstatement.

Re-establishing Eligibility

Students may re-establish financial aid eligibility. Contact the Student Financial Assistance Office for more information about requirements.

Student Rights and Responsibilities

- Students have the right to full information about the financial aid programs available at UCF, application procedures and deadlines, and the criteria used to determine a financial aid package.
- Students have the right to appeal decisions made by the Student Financial Assistance Office.
- Students have the right to equitable treatment of their financial assistance applications. Although each student's case is analyzed individually, eligibility standards are applied uniformly without regard to race, gender, religion, creed, national origin, or physical handicap.
- All students' records are confidential.
- It is the student's responsibility to review and understand all information and instructions, meet all deadlines, and provide all information and documentation accurately. Errors and omissions can cause delays and prevent students from receiving assistance. Misrepresentation is a violation of the law.
- It is the student's responsibility to periodically check their financial assistance progress on POLARIS at <https://connect.ucf.edu> for application status, short-term advance status, deferment status, disbursement information, and "Fee Invoice."

Policies

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Overview

The policies in this section of the *Graduate Catalog* are minimum university-wide standards for graduate programs. Additional requirements for each graduate program are described in the individual college or school descriptions (see Arts and Sciences, Business Administration, Education, Engineering and Computer Science, Health and Public Affairs, School of Optics, and Rosen School of Hospitality Management) and in the Academic Programs descriptions in this catalog.

General Policies

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Student Status

Students who are taking graduate classes may be classified in several ways. Those classifications are defined as:

Regular Graduate Student—a student who has been accepted into a graduate degree program with no conditions or provisions and is seeking a graduate degree. (Graduate certificates are not degree programs.)

Provisional Graduate Student—a degree-seeking student who does not meet Board of Governors (BOG) criteria for grade point average or GRE/GMAT requirements, but for other reasons is accepted as a degree-seeking student by a program. Conditions will be attached to the admission that will have to be fulfilled in the first nine hours of a graduate program before the student can be made a Regular Graduate Student. Only 10 percent of all new students in any degree program may be Provisional. Provisional graduate students cannot receive graduate fellowships or tuition support.

Conditional Graduate Student—a degree-seeking student who meets BOG criteria for admission, but has not submitted all required documents. Conditions must be met by midterm of the first semester in order to register for future semester classes.

Restricted Graduate Student—a degree-seeking graduate student who meets BOG criteria, but does not meet program requirements to be accepted as a Regular Graduate Student. Restrictions will be attached to the admission that will have to be fulfilled before the student is made a Regular Graduate Student.

Nondegree-seeking Student—a student who has not been accepted into an academic program and is not seeking a graduate degree. Some students in this category are completing application requirements for a graduate program. Students who are allowed to take graduate courses in this category can only transfer nine credit hours into a graduate program.

Graduate Certificate Student—a student, either a degree-seeking graduate student or a nondegree-seeking student, enrolled in a graduate certificate program. Nondegree-seeking students enrolled in graduate certificate programs are not eligible for financial aid. If accepted into a graduate program, students in this status may, at the discretion of the program, transfer the credit hours from a graduate certificate program into a graduate degree program.

Full-time Enrollment Requirements

University financial resources are to be used to support full-time, degree-seeking graduate students who maintain good academic progress. Graduate students receiving assistantships, tuition support, and fellowships must be enrolled full-time.

Entry Semester and Subsequent Semesters

Fall	9 graduate hours
Spring	9 graduate hours
Summer	6 graduate hours

NOTES:

Undergraduate hours are acceptable **ONLY** if they are part of the student's program of study for the graduate degree.

All international students must maintain full-time, degree-seeking status, regardless of financial support received from the university.

Students who receive financial support from outside UCF and who have loan obligations are responsible for enrolling in the number of credit hours that meet the full-time or half-time criteria specified by the funding source. Enrollment certification is provided by the Registrar's Office based upon the UCF definition of full-time graduate status.

Exceptions to these enrollment requirements are granted only in cases of medical hardship. Requests for an exception should be directed to Dr. Ben Morgan, Jr., Associate Dean of Graduate Studies, in writing.

Master's Students

If students have less than the required hours left to take toward their program of study in their last semester, they will be considered full-time for UCF purposes only by enrolling in the courses/credit hours needed to meet graduation requirements. This is a one-time exception.

NOTE: After all coursework is completed and only the thesis remains, master's thesis program students must enroll in at least one thesis hour (XXX 6971) for each semester (without skipping a semester) until they complete the thesis and graduate. This one hour of thesis does not constitute full-time graduate status unless that one credit hour (and completion of thesis) is the only requirement remaining and the student has filed an Intent to Graduate form.

Doctoral Students

Doctoral students who have passed candidacy and have begun doctoral dissertation hours (XXX 7980), must continue to enroll in at least three dissertation hours each semester (without skipping a semester) until they complete the dissertation and graduate. When the minimum course credit hours have been completed, the three credit hours of doctoral dissertation (XXX 7980) will constitute full-time graduate status.

Student's Responsibility

It is the student's responsibility to keep informed of all rules, regulations, and procedures required for graduate studies. Graduate program regulations will not be waived or exceptions granted because students plead ignorance of the regulations or claim failure of the adviser to keep them informed.

Classroom Responsibility

Students are responsible for maintaining classroom decorum appropriate to the educational environment. When the conduct of a student or group of students varies from acceptable standards and becomes disruptive to normal classroom procedures, the instructor has the authority to remove the offending party from the room and refer the student to the Office of Student Conduct (SRC 155) for disciplinary action.

Student Conduct

Students are subject to federal and state laws and local ordinances as well as regulations prescribed by the University of Central Florida and the Florida Board of Governors. The breach or violation of any of these laws or regulations may result in disciplinary action. Detailed conduct regulations and procedures are presented in *The Golden Rule*.

A person applying for admission to UCF who has declared an adjudication of a violation of conduct policies at a previous college or university or a violation of the law that resulted in probation, community service, a jail sentence, or the revocation or suspension of their driver's license (including traffic violations that resulted in a fine of \$200 or more) may have circumstances of the case reviewed by the Office of Student Conduct (SRC 155) to consider eligibility for admission.

Religious Observances

It is the policy of the University of Central Florida to reasonably accommodate the religious observances, practices, and beliefs of individuals in regard to admissions, class attendance, and the scheduling of examinations and work assignments. A student who desires to observe a religious holy day of his or her religious faith will notify all of his/her instructors and be excused from classes to observe the religious holy day.

The student will be held responsible for any material covered during the excused absence, but will be permitted a reasonable amount of time to complete any work missed. Where practicable, major examinations, major assignments, and university ceremonies will not be scheduled on a major religious holy day.

Students who are absent from academic or social activities because of religious observances will not be penalized. A student who believes that he/she has been unreasonably denied an educational benefit due to his/her religious belief or practices may seek redress in accordance with Rule 6C7-5.0031, Student Grievance Procedure, as listed in *The Golden Rule*.

University Closings

In the event of some extraordinary event (such as a natural disaster or prolonged power outage), the President shall determine whether it is necessary to cancel classes and approve administrative leave for employees in affected areas. Department chairs, in consultation with their faculty and with the college dean, shall determine the effect on final examinations and other academic matters.

UCF Employment

Full-time graduate students may be offered the opportunity to work as Graduate Teaching Assistants (GTAs), Graduate Research Assistants (GRAs), or Graduate Assistants. See [Full-time Enrollment Requirements](#) for a description of the policy regarding full-time enrollment.

During the academic year (fall and spring), graduate assistants are not employed more than 20 hours per week. During the summer terms, graduate assistants may be employed for up to 30 hours per week.

All graduate assistants (GTAs and GRAs) must work at least 10 hours per week, but the standard assignment for graduate assistants is 20 hours per week. Students who want to work for hours in excess of 20 hours per week during Fall and Spring semesters or for more than 30 hours during the summer semester, must complete an Excess Hours Form (see <http://www.graduate.ucf.edu> for form). UCF Graduate Studies will only grant exceptions to this policy in rare circumstances and for compelling reasons. Exceptions are granted only rarely during the first year of a student's program of study. Decisions are based upon the student's academic record, the number of excess hours requested, the relationship of the work to the student's program of study, support from the graduate program director, and related factors.

Student FICA exemption—Graduate students who are enrolled at least part time (5 hours in spring/fall; 3 hours in summer) will be exempt from FICA/Medicare taxes during pay periods that overlap with the academic term and during breaks of less than five weeks. Breaks longer than five weeks where graduate students are employed but not enrolled will result in withholding FICA/Medicare taxes.

International Student Employment

According to U.S. Citizenship and Immigration Services (USCIS) regulations, graduate students who are on an F-1 or J-1 visa may accept employment on campus without prior USCIS approval as long as students are enrolled full-time and employment does not interfere with their studies. Off-campus employment, however, must be at locations affiliated with the university either through contractually funded projects or associated with the university curricula. Curricular training is authorized by the International Services Center only to students who qualify for Curricular Training for off-campus employment.

During the fall and spring semesters, on-campus employment is limited to no more than 20 hours per week while school is in session. During the summer enrollment periods, on-campus employment is limited to no more than 30 hours per week for enrolled students (enrollment must be full-time). Such employment may be full-time (40 hours per week) during vacation periods (including summer) when students are not enrolled in classes, provided that the student is eligible and intends to register for the subsequent academic term. All graduate assistants during the summer must enroll in a full-time course load.

On-campus employment is not permitted after completion of the program of study, unless the student is issued a Form I-20A-B to begin a new program and intends to enroll for the next regular academic year, term, or session.

Students who received a bachelor's degree at one school and will start a master's degree at UCF are eligible to work during the summer at either the original school or UCF as long as a Form I-20A-B was issued for the new master's program.

International students on an F-1 visa are eligible to apply for one year of optional practical training after completion of their program.

For more information about the employment of international students, contact the International Services Center at 407-823-2337.

English Competency for Graduate Teaching Assistants

The English-speaking skills of graduate students with English as a second language who plan to serve as graduate teaching assistants (GTAs) will be evaluated using the SPEAK test provided by the Educational Testing Service. This requirement applies to all students from countries where English is not the native language; however, such students will be exempt if they have completed a previous degree from an accredited U.S. college or university. Only exempted students and those who have attended the required GTA Orientation and satisfactorily passed the evaluation of their English-speaking skills may be employed as GTAs.

The SPEAK test will be administered as part of the GTA Orientation that is offered in August each year by the Faculty Center for Teaching and Learning. All students who will serve as GTAs for the first time are required to attend the GTA Orientation and take the SPEAK test. Students who pass the test will be allowed to serve as GTAs.

Students who do not pass the SPEAK test will not be allowed to serve as GTAs unless they complete course work designed to improve English-speaking skills and pass the post-training administration of the

test. This course work and post-training evaluations will be administered through the Center for Multicultural and Multilingual Studies. As needed, the university will provide each student one or two month-long sessions with post-training evaluations. If students achieve a satisfactory test score following the first session, they may be employed as GTAs. Otherwise, students must complete a second session and a second post-training evaluation. Students who require more than two sessions to speak English effectively will have to rely upon personal or department resources to pay for additional course work and post-evaluations.

Limited Nondegree Students Enrolling in Graduate Classes

All students who wish to enroll as limited nondegree students at the graduate level, will be accepted as nondegree-seeking students at the graduate level. Students wishing to enroll should complete the online graduate application (www.graduate.ucf.edu), pay the application fee, provide transcripts from previous institutions, and complete residency forms.

UCF Graduate Studies will make available the one-page nondegree graduate application form to those who are meeting classes for the first time at an off-campus site or regional campus. Those meeting classes should collect the appropriate information and forms. These materials should be returned directly to UCF Graduate Studies, where they will be processed and students will be registered.

Students will be placed on hold for the following semester's registration, awaiting the transcript from a previous institution that verifies the bachelor's degree.

Review of Academic Performance

The primary responsibility for monitoring academic performance standards rests with the degree program. However, the college and UCF Graduate Studies will monitor a student's progress and may revert any student to non-degree status if performance standards or academic progress as specified by the program, college or university are not maintained. Satisfactory academic performance in a program includes, but is not limited to, maintaining at least a 3.0 GPA in all graduate work taken as part of (or transferred into) the program of study. Satisfactory performance also involves maintaining the standards of academic progress and professional integrity expected in a particular discipline or program. Failure to maintain these standards may result in termination of the student from the program.

A degree program may revert any graduate student to nondegree status at any time, when, in its judgment, the individual is deemed incapable of successfully performing at required standards of excellence. Once reversion to nondegree status has occurred, a student will not be allowed to enroll in graduate courses in that major and will be removed from courses currently being taken in that major. If a student is reverted to nondegree status, reinstatement to graduate student status in that major can occur only through a formal grievance process. (See Graduate Academic Grievance Procedure in the *The Golden Rule*, www.goldenrule.sdes.ucf.edu/.)

Academic Progress and Performance

A program of study is a listing of course work agreed to by the student and the degree program specifying course degree requirements. It must be established prior to enrollment in the second term for a full-time graduate student. For a graduate student carrying a reduced load, the establishment of a program of study may be delayed up to the registration for the ninth graduate semester hour. A Program of Study form (either a SASS audit or written form) can be obtained from the graduate program director or college graduate coordinator. This form should be prepared and signed by the adviser and student, then given to the graduate program director to be placed in the student's permanent file. It must comply with the catalog current at the time it is proposed. The Program of Study, once established, cannot be altered solely due to poor academic performance by the student.

No graduate-level course with a grade of "D+" or lower may be used to satisfy degree requirements. However, because there is no grade forgiveness at the graduate level, such grades will be calculated into the student's GPA. If a grade of "C" or lower is received in a course in the program of study, this grade must be shown in the program of study along with any grade received in any retakes of the course. In addition, only 4000-level courses or transfer courses with a grade of "B-" or higher are acceptable in the program of study. Once established, the program of study cannot be altered solely due to poor academic performance of the student.

Graduate GPA

The university computes an overall graduate GPA based upon all graduate courses taken by the student at (and transferred into) UCF. All graduate courses taken at UCF and the corresponding overall GPA will be shown for informational purposes on the student's academic audit. In addition, a program GPA will be calculated on the courses taken as part of (and transferred into) the program of study for the degree program in which the student is enrolled. This program GPA will be established and calculated by an audit of the student's progress in the program. In most instances, the overall graduate GPA and the program GPA will be equivalent. However, for students who change programs or move from a completed master's program into a doctoral program, the two computations will be somewhat different. The university requires that students must maintain a program GPA of at least 3.0 or higher in order to maintain graduate student status and for graduation. This graduation requirement for a minimum 3.0 GPA in all courses completed in the graduate degree program of study cannot be waived.

The university also computes a term GPA on all courses attempted in a given academic term. When a graduate student's term GPA falls below 3.0, the Division of Graduate Studies will notify both the student and the graduate program director that the two should schedule an advising meeting before the student registers for classes for the next semester.

If a student's program GPA drops below 3.0, the student will be changed to academic provisional status for a maximum of nine semester hours. If the student has not attained a program GPA of 3.0 at the end of the nine semester hours, she/he will be reverted to nondegree status. These students will not be allowed to enroll in graduate courses in that major and will be removed from courses currently being taken. Prior to reversion to nondegree status, international students must be directed to the International Services Center for advisement regarding the Immigration status implications of this action. (Students admitted on provisional status are similarly given 9 semester hours to attain a 3.0 GPA.) If a student wishes to appeal a change in status, an appeal should be filed with the graduate program director. (See [Academic Grievances](#) in the Policies section of the *Graduate Catalog*.)

Graduate students whose graduate GPA falls below 2.0 will be reverted to nondegree status immediately.

NOTE: Individual graduate programs may have more stringent grade requirements. Students must abide by the academic performance standards of their graduate program.

Maximum Hours of Unsatisfactory Grades

A student may earn a maximum total of six semester hours of "C" (C+, C, C-) or lower grades. A course in which a student has received these grades may be repeated to provide a better grade. However, both grades will be used in computing the GPA. There is no forgiveness policy on graduate grades. Exceeding six semester hours of unsatisfactory grades ("C+" and below or unresolved "I" grades) is reason for reversion to nondegree status. The final program of study may not contain unresolved "I" grades.

Nondegree-seeking students who have earned more than six semester hours of unsatisfactory grades (C+ and below or unresolved "I" grades) may be blocked from taking additional graduate courses.

Incomplete Grades

A grade of "I" (incomplete) is assigned by the instructor when a student is unable to complete a course due to extenuating circumstances, and when all requirements can clearly be completed in a short time following the close of regular classes. In all circumstances where an "I" grade is received, the student and faculty

member must complete an agreement form that specifies how and when the incomplete grade will be made up. This agreement form is submitted with the instructor grade rolls at the end of the semester, and a copy of this agreement is given to the college for further follow-up. For those students on financial assistance such as loans, the incomplete must be made up by the agreement date. Failure to complete course requirements by that date may, at the discretion of the instructor, result in the assignment of an "F" grade, or a "U" grade for thesis, dissertation, or research report hours. It is the student's responsibility to arrange with the instructor for the changing of the "I" grade.

Grades of "I" must be resolved within one calendar year or prior to graduation, whichever comes first. Incompletes in regular course work left unresolved will be changed to "F" if not changed in the allowed time period, and this time period may be sooner for those receiving financial assistance. A student may register for a course in which an "I" was received, but no repeat "R" action will be made on the permanent record. The exception to this is enrollment in thesis (XXX 6971) and dissertation (XXX 7980) hours where the incomplete grade will be allowed to continue until graduation. Incomplete grades cannot be used on the program of study. Students cannot receive an incomplete grade while supported on a UCF fellowship and continue to receive the fellowship.

Continuous Attendance

Graduate students should be aware of the policies regarding continuous attendance at the university. The first policy below may affect continuing status as a graduate student. The second requires thesis and dissertation students to be enrolled continuously. The third applies specifically to international students. The fourth affects the student's option to fulfill degree requirements under any UCF catalog in force during the student's most recent period of continuous attendance.

- Students may not be guaranteed continuing graduate status if they do not enroll in the university for a period of two consecutive major semesters (spring/fall) and do not obtain Special Leave of Absence approval for such interruptions in their programs of study. Students who have not obtained Special Leave of Absence approval and who have had two or more consecutive major semesters of program interruption must apply for readmission, at which point the program will review the students' records to determine if they will be continued in graduate status or be reverted to nondegree status. Readmission is not guaranteed.
- Students taking thesis or dissertation hours are required to be continuously enrolled until the thesis or dissertation is completed. Special Leave of Absence is not available for students in this category.
- Because of U.S. government regulations, international students must be enrolled every fall and spring semester. For students in this category, Special Leave of Absence is only available for medical reasons.
- Graduation policy allows a student to fulfill degree requirements as listed in the student's official program of study on file in the office of the student's major. The program of study should use the catalog associated with the entry semester into graduate status of the student as long as the student maintains uninterrupted, continuous attendance. A student will be considered to have interrupted continuous attendance only if the interruption is for two or more consecutive major semesters (spring/fall) and Special Leave of Absence approval has not been obtained. Under these circumstances, a student will lose the option of fulfilling the degree requirements originally listed in his/her official program of study already on file, and will instead fulfill the degree requirements listed in the graduate catalog in effect at the time the student resumes his/her attendance.

Special Leave of Absence

A Special Leave of Absence may be granted to a student in order to temporarily waive the continuous attendance requirement (this is not applicable to the period of required continuous enrollment in thesis and dissertation credits). A student may request such a leave in cases where the student can demonstrate good cause (e.g., illness, family issues, financial difficulties, personal circumstances, employment issues). The

specific reason for the Special Leave of Absence request must be indicated by the student on the Special Leave of Absence Form. A Special Leave of Absence will be granted only after approval from the Graduate Program Director for the student's program of study, College Graduate Coordinator, International Services Center (required for international students), and Division of Graduate Studies. The normal time limit for a Special Leave of Absence is three consecutive major semesters. Application for a Special Leave of Absence must be filed by submitting the Special Leave of Absence Form no later than the end of the first semester of absence. Time spent in a Special Leave of Absence will not reduce the total time limitation for degree completion (see the policy regarding Time Limitation for Degree Completion in the master's, specialist, and doctoral policies). If a student fails to enroll in the semester following the last term in the approved Special Leave of Absence, the student will have failed to maintain continuous enrollment and must apply for readmission to the university.

Discrimination or Sexual or Racial Harassment

The University of Central Florida values diversity in the campus community. Accordingly, discrimination on the basis of race, sex, national origin, religion, age, disability, marital status, parental status, or veteran's status is prohibited.

Employees, students, or applicants for employment or admission may obtain further information on this policy, including grievance procedures, from the Equity Coordinator. The Director of the Office of Equal Opportunity and Affirmative Action Programs is the campus Equity Coordinator responsible for concerns in all areas of discrimination. The office is located on the main campus, in Millican Hall 330, Orlando, FL 32816-0030. The phone number is 407-UCF-1EEO. Policies and guidelines are available online at <http://pegasus.cc.ucf.edu/~eoo/>.

Golden Rule

The *Golden Rule* is the university's policy regarding nonacademic discipline of students and limited academic grievance procedures for graduate (grade appeals in individual courses, not including thesis and dissertation courses) and undergraduate students. Information concerning *The Golden Rule* can be found at www.goldenrule.sdes.ucf.edu/.

Academic Grievance Procedure

UCF Graduate Studies allows for petitions of university requirements and their academic matters. Academic matters are those involving instruction, research, or decisions involving instruction or affecting academic freedom.

The academic grievance procedure is designed to provide a fair means of dealing with graduate student complaints regarding a specific action or decision by a faculty member, program or college, including termination from an academic program. Academic misconduct complaints associated with sponsored research will invoke procedures outlined by the Office of Research.

Students who believe they have been treated unfairly may initiate a grievance. The procedure provides several levels of review, and at each level of review the participants are further removed and have a broader outlook than where the grievance originated. Procedures for initiating an academic grievance can be found in *The Golden Rule* at www.goldenrule.sdes.ucf.edu/.

Petitions of Graduation Requirements Procedures

Students have the responsibility to familiarize themselves with policies and procedures of the university, college, and program. Students are responsible for knowing the degree requirements and following the policies that govern the academic program. However, when unusual instances arise, making it appropriate

for students to request exceptions of existing graduation requirements for graduate students, graduate students may petition the appropriate unit for an exception to this requirement. The procedures are:

- The graduate student completes a petition form (located at www.graduate.ucf.edu), specifying the requirement and the exception desired to the graduate program director.
- The graduate program director may ask the program graduate committee to examine the necessary information. The program graduate committee will recommend a response to the petition to the graduate program director.
- The graduate program director will consider the input of the program graduate committee and make a recommendation about the exception at this level. The graduate program director will consider the input of the unit graduate committee and make a recommendation to the unit head about the grievance. The unit head will then make a final unit decision about the grievance at that level. If the exception requested is only a program requirement, then the petition decision is final at this level.
- Should the graduate student wish to appeal the decision of the program, either because the requirement is a college, school, or university requirement or further evidence is now available that would cause the program decision to be reconsidered, the student or program may request in writing to the college or school graduate coordinator (if this is the next most appropriate unit) or the Division of Graduate Studies (if this is the next most appropriate unit) that the petition be considered at this level. The college or school graduate coordinator may ask the college or school graduate committee to examine the information and consider the petition at a scheduled meeting. The college or school graduate committee will recommend a response to the petition to the college or school graduate coordinator.
- The college or school graduate coordinator will consider the input of the college or school graduate committee and make a recommendation about the exception at this level. The college graduate coordinator will consider the input of the college graduate committee and make a recommendation to the college dean about the grievance. The college dean will then make a final decision about the grievance at that level. If the exception requested is only a college, school, or program requirement, then the petition decision is final at this level.
- Should the graduate student wish to appeal the decision of the college or school either because the requirement is a college or university requirement or further evidence is now available that would cause the college or school decision to be reconsidered, the student may request consideration at the university level by submitting the petition form to the Vice Provost and Dean of Graduate Studies. The Vice Provost and Dean may ask the Appeals Subcommittee of the Graduate Council of the Faculty Senate to examine the information and consider the petition at a scheduled meeting.
- The Vice Provost and Dean of Graduate Studies will consider the input of the Appeals Subcommittee of the Graduate Council and make a final decision about the petition for the university.

Grade System

The university uses an alphabetic system to identify student grades and other actions regarding student progress or class attendance. This system, with a grade point equivalent per semester hour, is as follows:

Grades	Grade Points Per
	Semester Hour of Credit
A	4.00
A-	3.75
B+	3.25
B	3.00
B-	2.75

C+	2.25
C	2.00
C-	1.75
D+	1.25
D	1.00
D-	0.75
F	0.00
NC	- No Credit -

Other Actions

I	Incomplete
N	No grade reported by instructor
R*	(followed by grade) Repeated course (Grade Forgiveness)
S	Satisfactory (with credit)/Satisfactory Progress (Research, Thesis, or Dissertation)
T*	(followed by grade) Subsequently repeated (no credit)
U	Unsatisfactory (no credit)
W	Withdrawn
WF	Withdrawn Failing
WH	Health Form Withdrawal
WM	Medical Withdrawal
WP	Withdrawn Passing
X	Audit (no credit)

* "R" and "T" actions only apply to undergraduates.

The designation of "N" will be temporarily assigned by the Registrar's Office only in the case when a grade has not been submitted by the faculty by the "grades due" deadline. The designator will be replaced by the earned letter grade at the earliest opportunity in the semester that immediately follows. The "N" designator may not be assigned by faculty.

Grade changes other than medical withdrawals will be considered only during the semester immediately following the one in which the grade was assigned, except that grades assigned during the Spring semester may be changed during either the following Summer term or Fall semester. A change in grade must be approved by the dean of the college or school. A grade will not be changed after a degree has been conferred.

Traveling Scholars

The university participates in the Board of Education Traveling Scholar Program (6C-6.07) enabling a graduate student to take advantage of special resources available on another campus but not available on

the home campus; for example, special course offerings, research opportunities, unique laboratories, and library collections. A traveling scholar is a graduate student who, by mutual agreement of the appropriate academic authorities in both the sponsoring and hosting institutions, receives a waiver of admission requirements of the host institution and a guarantee of acceptance of earned resident credits by the sponsoring institution.

A traveling scholar must be recommended by his or her own graduate adviser, who will initiate a visiting arrangement with the appropriate faculty member of the host institution. After agreement by the student's adviser and the faculty member at the host institution, graduate deans at both institutions will be fully informed by the adviser and have the authority to approve or disapprove the academic arrangement. A student will register at the host institution and will pay tuition and/or registration fees according to fee schedules established at that institution. The Traveling Scholar form (located at www.graduate.ucf.edu) must be used for documentation. This form must be completed by the student and approved by UCF Graduate Studies before any course work can be taken.

Each university retains its full right to accept or reject any student who wishes to study under its auspices. A traveling scholar will normally be limited to one term for a total of six credit hours taken as a traveling scholar at another institution.

A traveling scholar is not entitled to displacement allowance, mileage, or per diem payments. The home university, however, may at its option continue its financial support of the traveling scholar in the form of a fellowship or graduate assistantship with any work obligation to be discharged either at the home or at the host institution.

As part of the Traveling Scholars agreement, SUS institutions agree to accept one another's entrance requirements and credits. All Traveling Scholars are required to submit the Student Health History and immunization requirements according to UCF and BOG policies. Credit is not automatically transferred into the graduate program of study. The student must request an official transcript be sent from the host institution to UCF Graduate Studies (Millican Hall 230, P.O. Box 160112, Orlando, FL 32816-0112; Phone 407-823-2766), and the graduate program director must complete the Program of Study so that the credits can be entered into the student database. Credits earned at another institution while in Traveling Scholar status will be considered resident credits and are not counted as "transfer" credits under the "nine-hour" rule. These hours may count toward UCF residency requirements if prior approval is obtained. Graduate students are not allowed to be traveling scholars in their final, or graduation, term except by prior approval of UCF Graduate Studies.

International graduate students who are registered at another educational institution besides UCF as a traveling scholar or transient student and therefore may not be enrolled full-time at UCF are required to complete a Reduced Course Load Form to satisfy SEVIS requirements of being enrolled full-time.

International graduate assistants employed at UCF must be enrolled full-time at UCF.

International Visiting Scholars

The following policy and procedures allow departments to invite international visitors to study or participate in research activities at UCF. These scholars will be designated as Visiting Scholars or Visiting Research Scholars. The policy is directed to those who do not wish to earn a degree, but who may audit courses in the post-baccalaureate, nondegree-seeking status for professional development and who normally have complete financial support provided by some outside agency. These visitors will have J-1 Exchange Scholar Visa status, limited to one year, which can be extended. J-1 visa holders must return to their home country; they may not request to remain in the United States. Visitors seeking degrees will use regular UCF admission procedures and must qualify for an I-20 Certificate of eligibility for an F-1 Student Visa.

Visitors participating in the international scholars program who are required to audit courses at UCF must fill out the UCF application for admission as a nondegree student and pay the application fee. The deadline is about four (4) months before the beginning of a term. A faculty member, as Faculty Sponsor, must accept the responsibility for recommending, advising, and directing the activities of the scholar. The procedure for extending an invitation is as follows:

1. All international scholars and employees should report to the International Services Center directly upon arrival at UCF to ensure immigration documents are in order.
2. If financial support will be provided to the visiting scholar using university resources, then the approval of the university must be obtained on all correspondence with the visiting scholar. Written arrangements should be made with the Vice President for Research for financial support prior to invitations to visiting scholars.
3. The Department Chair will submit a recommendation to the Dean specifying the Faculty Sponsor, documenting anticipated activities, and providing the following information on the Visiting Scholar:
 - a. Date of birth
 - b. City and country of birth
 - c. Country of residence if different from country of birth
 - d. Place of work (academic institution, business firm, etc.)
 - e. Current position held in country of residence
 - f. Academic background
 - g. Professional experience
 - h. Source and amount of financial support (recommended honorarium, if any)
 - i. English proficiency
 - j. Dates of visit
 - k. Statement of how the Visiting Scholar will participate in research and what will be accomplished
 - l. Office space, equipment, etc. which will be required for scholar's use
4. If arrangements are approved, the Dean will notify the Vice President for Research that the College is extending an invitation. The Chair's recommendation will be included with the notification. These will be sent to UCF Graduate Studies so that the invitation and application may be placed in the visiting scholar's official university file.
5. UCF Graduate Studies will then forward copies of the information to the International Services Center. A copy of the recommendation will also be sent to the Director of International Services Center asking that Form IAP-66 for the J-1 Visa be issued.
6. The Faculty Sponsor will then correspond with the visitor detailing the conditions of the visit, including whatever limited financial support and facilities will be provided and what is expected of the Scholar, with copies of this correspondence sent to the International Services Center and the Vice President for Research. The Scholar will be asked to write a brief report at the termination of the visit.

During each academic term of the visit, the Visiting Scholar may be required to audit one hour of XXX 6918, Directed Research, under the direction of the Faculty Sponsor and also may be permitted (or required) to audit regular courses. The Visiting Scholar will be admitted to post-baccalaureate status and will audit courses as directed and approved by the Faculty Sponsor. The Visiting Scholar will not be permitted to take courses for credit unless formally admitted to a degree program or upon written approval from the Dean of the college in which the student is studying.

The international visiting scholar will be appointed Visiting Research Scholar or Visiting Scholar in the College and may be given a modest honorarium. Such scholars will normally not be maintained on the College payroll, but are expected to have extended financial support.

Academic Common Market Scholars

The university is a participant in the Academic Common Market Program with other universities in the Southeast offering access to both undergraduate and graduate courses in selected fields. Arrangements can be made for certified Florida residents to earn a graduate degree at a participating university, and be treated as an in-state student at that university. This program can be used only when the field of study is not available in the home state and the participating institution approves. Students taking part in this program will have to apply and be accepted by a participating university, notifying that university of their planned attendance as an Academic Common Market Scholar. The participating universities are located in the following states:

Alabama	Louisiana	Tennessee
Arkansas	Maryland	Texas
Florida	Mississippi	Virginia
Georgia	Oklahoma	West Virginia
Kentucky	South Carolina	

Both Florida and Texas only participate at the graduate level. For further information, please contact UCF Graduate Studies at 407-823-5815 (Millican Hall 230, P.O. Box 160112, Orlando, FL 32816-0112).

Linkage Agreements

The State of Florida has established various linkage agreements to assist in the development of stronger economic and social ties between Florida and strategic foreign countries. Linkage Institutes are set up throughout the state, and provide out-of-state tuition exemption to scholars from the foreign countries represented by the institutes. To participate in these exemptions, students must apply to the Linkage Institute for the country in which they reside to receive an out-of-state tuition award. Students participating are required to return home after their tenure of graduate study for a length of time equal to the exemption period. Each institute develops its own criteria for selection of students, and typically support the out-of-state fees for about 20 to 30 scholars a year. The institutes established in Florida are listed below with their contact persons. Information is available at <http://oir.dos.state.fl.us/linkagegrant.html>.

Florida-Brazil Institute

Hannah H. Covert, UF, 352-392-0375
Dr. Robert Vitale, Miami-Dade Community College, 305-237-2533

Florida-Canada Institute

Dr. Jean Kijek, UCF, 407-823-5739

Florida-Caribbean Institute

Eduardo Gamarra and Julissa Castellanos, FIU, 305-348-2894
Dr. Donald Matthews, Daytona Beach Community College, 386-247-8131

Florida-China Institute

Dr. Henry O. K. Chen, UWF, 850-474-2665
Ms. Francine Arrington, Brevard Community College, 407-632-1111
Dr. Miriam B. Stamps, USF, 813-974-6205

Florida-Costa Rica Institute

Ms. Joan Cassels, FSU, 850-644-7823
Dr. Larry Reagan, Valencia Community College, 407-299-5000 ext. 3421

Florida-Eastern Europe Institute

Dr. Jean Kijek, UCF, 407-823-5739
Dr. Robert W. Westrick, Lake-Sumter Community College, 352-365-3523
Ms. Karen Levin, Lake-Sumter Community College, 352-323-3638

Florida-France Institute

Ms. Joan Cassels, FSU, 850-644-7823
Dr. Christine Probes, USF, 813-974-3104
Reinaldo Changsut, Miami-Dade Community College, 305-237-2533

Florida-Israel Institute

Dr. William B. Stronge, FAU, 561-367-2833
Dr. William Greene, Broward Community College, 954-973-2206
Ms. Nancy Q. Rosen and Dr. Benjamin Popper, FAU, 954-236-1056

Florida-Japan Institute

Dr. Mark Orr, USF, 813-974-9448
Ms. Shigeko Honda, UWF, 850-474-3108
Dr. Patricia Rowell, St. Petersburg Community College, 727-791-2474

Florida-Mexico Institute

Eduardo Gamarra and Julissa Castellanos, FIU, 305-348-2894
Ana Maria Meyers and Rosalinda Collins, Polk Community College, 941-297-1010

Florida-West Africa Institute

Dr. Rose Glee and Ms. Agnes Coppin, FAMU, 850-599-3562
Dennis Gayle and Betty Flinchum, UNF, 904-620-1950
Dr. Brenda Simmons, Florida Community College at Jacksonville, 904-633-5895

Proprietary and Confidential Information

If thesis or dissertation work is supported by a contractual agreement with an outside sponsoring agency, and provision was made in the agreement to delay disclosure of the study's results for the purpose of filing a patent or copyright, then this section describes procedures for handling the thesis/dissertation. (See also "Patent and Invention Policy" in the *Graduate Catalog* for explanations of rights associated with patents and copyrights.)

1. Only for those theses and dissertations where a prior written agreement was made with an outside sponsoring agency or where the university wishes to pursue a copyright/patent may publication of the thesis/dissertation be delayed. Review and delay of disclosure of the thesis/dissertation will normally not exceed one term.
2. The review by the outside sponsoring agency or by the university for the purpose of copyright or patent will follow the oral defense of the document. If it appears that the review process will delay certification of the degree or if the delay of disclosure is exercised, the certification process will be completed prior to deposit. The document will be held by the Thesis and Dissertation Editor in UCF Graduate Studies and deposit in the Library will take place following the delay.
3. No graduate degree will be awarded when the thesis or research report, after a reasonable interval, is not available to the public. If material is sensitive, classified, or will be or has been patented, it may be placed in UCF Graduate Studies for a specified period.
4. Contractual agreements that contain provisions for review and delay of disclosure shall be reviewed by the Vice President for Research, and exceptional cases shall be considered by the Graduate Council. Exceptional cases include a delay of disclosure for more than one year and/or review prior to the oral defense.
5. The student and the student's Advisory Committee shall be informed of the possibility of the delay of disclosure at the time of appointment of the Advisory Committee.

Patent and Invention Policy

The "Patent and Invention Policy" for graduate students is included here in its entirety. Departments and colleges should discuss this policy with graduate students at orientations.

PREMISE: UCF has three fundamental responsibilities with regard to graduate student research. They are to (1) support an academic environment that stimulates the spirit of inquiry, (2) develop the intellectual property stemming from research, and to (3) disseminate the intellectual property to the general public. UCF owns the intellectual property developed using university resources. The graduate student as inventor will according to this policy share in the proceeds of the invention.

1. **University Authority and Responsibilities:** Department of Education (6C7-2.029 Copyrights and Patents, pp. 1461 and 1462) authorizes the university to take any action necessary to secure letters of patents, copyrights, and trademarks on any work produced by a graduate student's research done in a thesis or dissertation, or in connection with dissertation problems.
2. **Definitions:** For the purposes of this policy the following definitions shall apply:
 - a. A **work** includes any copyrightable material (other than journal articles) such as printed material, computer software or databases, audio or visual materials, circuit diagrams, architectural and engineering drawings, lectures, musical or dramatic compositions, choreographic works, pictorial or graphic works, and sculptural works.
 - b. An **Invention** includes any discovery, invention, process, composition of matter, article of manufacture, know-how, design, model, technological development, strain, variety, culture of any organism, or portion, modification, translation, or extension of these items, and any mark used in connection with these items.
 - c. **Instructional Technology Material** includes motion pictures, film strips, photographic and other similar visual materials, live video and audio transmissions, computer programs, computer-assisted instructional course work, programmed exhibits, and combinations of the above materials, which were prepared or produced in whole or part by a graduate student, and which are used to assist or enhance instruction.
 - d. **University Support** includes the use of university funds, personnel, facilities, equipment, materials, or technological information, and includes such support provided by other public or private organizations when it is arranged, administered, and/or controlled by a university.

- e. **Student-generated Effort** means that the ideas come from the graduate student alone outside the field or discipline for which the graduate student is employed by the university, the work was not made with the use of university support, and the university is not held responsible for any opinions expressed in the effort.
- f. **Research** means the inquiry or examination in some field of knowledge undertaken to establish facts or principles that are true. Research, as used in this policy, does not include work done in an internship or coop setting where new knowledge in a field is not actively sought, but rather a setting that offers a real life experience for the graduate student.

3. **Work(s)**

- a. **Student-generated Effort** — A **work** made solely by the graduate student, outside the field or discipline for which the graduate student is employed by the university, is the property of the graduate student, who has the right to determine the disposition of such **work** and the revenue derived from such **work**.
- b. **University-supported Efforts** — If the **work** was not made solely in the course of student-generated efforts, the **work** is the property of the university, and the graduate student shall share in the proceeds therefrom.
- c. **Disclosure**
 - 1. Upon creation of a **work** that is potentially patentable, and prior to any publication, the graduate student shall disclose to the Vice President for Research, or representative, any **work** made in the course of university-supported efforts, together with an outline of the project and the conditions under which it was done.
 - 2. The Vice President for Research, or representative, shall gather information to assess the relative equities of the graduate student and the university in the **work**.
 - 3. Within sixty days after such disclosure, the Vice President for Research, or representative, will inform the graduate student whether the university seeks an interest in the **work**.
 - 4. The graduate student and the university shall not commit any act which would tend to defeat the university's or graduate student's interest in the **work** and shall take any necessary steps to protect such interests.

4. **Invention(s)**

- a. **Student-generated Efforts**

All **inventions** made outside the field or discipline in which the graduate student is employed by the university and for which no university support has been used are the property of the graduate student.
- b. **University-supported Efforts**

An **invention** made in the field or discipline in which the graduate student is employed by the university, or receiving university support, is the property of the university and the graduate student shall share in the proceeds therefrom.
- c. **Disclosure**
 - 1. A graduate student shall fully and completely disclose to the Vice President for Research, or representative, all **inventions** which the graduate student may

develop or discover while a graduate student of the university, together with an outline of the conditions under which it was done. With respect to **inventions** made during the course of approved outside employment, the graduate student may delay such disclosure, when necessary to protect the outside employer's interest, until the decision has been made by the outside employer whether to seek a patent.

2. If the university wishes to assert its interest in the invention, the Vice President for Research, or representative, shall inform the graduate student within 120 days of the graduate student's disclosure.
3. The division of proceeds generated by the licensing or assignment of an **invention**, shall be according to the established royalty division set forth in the patent policy of the university, pp. 1461-2, paragraph (c).
4. The graduate student and the university shall not commit any act which would tend to defeat the university's or graduate student's interest in the **invention** and shall take any necessary steps to protect such interests.

5. Release of Rights

At any stage of making the patent applications, or in the commercial application of an **invention**, if it has not otherwise assigned to a third party the right to pursue its interests, the Vice President for Research, or representative, may elect to withdraw from further involvement in the protection or commercial application of the **invention**. At the request of the graduate student in such case, the university shall transfer the **invention** rights to the graduate student, in which case the **invention** shall be the graduate student's property, and none of the costs incurred by the university or on its behalf shall be assessed against the graduate student.

6. University Policy

- a. The university has a policy addressing the division of proceeds between graduate students and faculty when the **research** is done and results in a dissertation, Department of Education (6C7-2.029 Copyrights and Patents, pp. 1461 and 1462). The university also has a policy addressing the division of proceeds between faculty and the university. It is contained in the Patents and Copyrights Policy of the Office of Research. This same division of royalties will apply in the disbursement of royalty income to graduate students, unless this has been negotiated in a contractual agreement at the start of research.
- b. All **research** done by graduate students enrolled at the university for and with companies must have a contractual agreement negotiated at the start of that research.
- c. Dissertation or thesis dissemination can be delayed because of patent concerns. This can only occur when a prior contractual agreement has been entered into including provisions for review and delay for dissertation purposes. (See "Proprietary and Confidential Information" in the Policies section of the *Graduate Catalog*.)

Course Requirements

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Course Loads

A full-time degree-seeking graduate student must take at least 9 credit hours in the Fall and Spring semesters, with 12 semester hours being the maximum load. A half-time load is defined as enrolled in at least 4.5 credit hours in Fall and Spring terms. During the summer term, full-time is 6 credit hours and half-time is 3 credit hours. There are two exceptions to this policy: (1) For students in their last semester, a full-time load is whatever is required to finish the degree program unless they are receiving federal loans. This is a one-time only exception to the general policy. (2) For doctoral students who have passed the candidacy exam and are registered for doctoral dissertation (XXX 7980) hours only, full-time is 3 hours per semester until graduation. In order to meet residency requirements, doctoral and specialist students must register for 9 hours in two contiguous terms. Master's students in the Thesis option are required to enroll in at least 1 hour (XXX 6971) each semester once they have completed all coursework and the thesis is still remaining, and until thesis completion and graduation. One hour of thesis credit does not constitute full-time status unless the student is using the one-time exception during the graduation semester. Students receiving veterans' education benefits should contact Veterans' Affairs (www.va.sdes.ucf.edu) for additional information about course loads.

International students should contact the International Services Center (ISC) to ensure that their enrollment conforms to the full-time definition for their visa status. International students should not change their course schedule or drop classes without advisement from the International Services Center. All international students who enroll in less than 9 hours per term must complete a Reduced Course Load Form with ISC that explains the nature of the reduced hours; this includes those who are enrolled in thesis or dissertation research or those in their last semester.

Nondegree-seeking students must be enrolled in 12 credit hours or more to be considered as full-time status.

Course Levels of Graduate Work

7000-Level Courses. These courses are designed for doctoral students. Master's students are not permitted to enroll; students must be in doctoral status.

6000-Level Courses. These courses are designed for graduate students. Post-baccalaureate or nondegree-seeking students should check with the colleges about their ability to enroll in 6000-level courses. Students in accelerated undergraduate/graduate programs should check with their academic adviser before registering for 6000-level courses. Undergraduate registration in 6000-level courses is allowed only in special situations with prior approval by the college. Undergraduate students must be within nine hours of

graduation, have a minimum 3.0 GPA, and not register for more than a total of twelve hours in that term. See also "Senior Scholars" in this chapter.

5000-Level Courses. Courses at the 5000 level are taken to satisfy graduate degree requirements and are graduate-level courses. Nondegree-seeking students and seniors may enroll in 5000-level courses with permission from the program.

Other. Under special circumstances 4000-level courses may be applied toward a graduate degree, but not in excess of six semester hours. Only 4000-level courses with a grade of "B-" or higher are acceptable in a program of study. Courses at the 3000 level or below shall not be utilized in a graduate program of study unless permission is obtained from the college prior to enrollment in the course. Under no circumstances should 3000-level courses be used in a doctoral program except as transfer credits as explained under "Transfer Credit" for doctoral students in this catalog.

Language Requirements

Foreign language requirements shall be at the option of the individual departments or appropriate units consistent with their college regulations.

Transfer of Credit When Accreditation Is Uncertain

Students who believe they have mastered the content of a graduate-level course should present a portfolio to the graduate program director documenting the learning experience. If the committee after examining the portfolio believes the student has mastered the content presented in a graduate-level course, the student should be allowed to demonstrate that mastery through examination. (See "Credit by Examination or Waiver" below.) Correspondence courses are not acceptable toward a graduate program of study; however, extension or continuing education courses may be accepted.

The acceptance of courses from unaccredited agencies or institutions threatens the integrity and value of the graduate degrees awarded by UCF. Graduate-level course work demands the mastery of skills, theories, and concepts at a much higher level than undergraduate-level course work. Therefore, the university will not allow students to transfer course work from professional societies, independent agencies, employees, or companies unless they are ACE (American Council on Education) certified.

Credit by Examination or Waiver

Examination credit may be used to satisfy program course requirements, but not credit hour requirements. Certain program requirements or courses may be waived at the discretion of a program, although the total hours required for the program must be satisfied.

Thesis, Research Report, and Dissertation Grades

For thesis (XXX 6971 or 6973), doctoral dissertation (XXX 7980), and research report (XXX 6909) courses, satisfactory (S) or unsatisfactory (U) grades are used to reflect student progress in these courses. Should a student in a given term be given an incomplete (I), then this grade should be changed to an S or U, upon completion of the work. Other grades may not be assigned in these courses. Students who do not maintain satisfactory progress in their research, as determined by their thesis or dissertation advisory committee, may be reverted to post-baccalaureate status.

Application for Graduate Degree

Graduate students should file an Intent to Graduate form with the graduate program director by the last day of registration for the term of graduation. If the student does not graduate in that term, a new form must be filed at the beginning of registration for the term of anticipated graduation.

Application for Graduate Certificate

Those students, graduate or nondegree, who are completing a certificate must file a Completion of Certificate form with the graduate program director by the last day of registration for the last course in the graduate certificate program. If the student does not complete certificate requirements in that term, a new form must be filed at the beginning of registration for the term of completion.

Thesis and Dissertation Requirements

An oral defense of an original thesis or dissertation is required with copies of the approved thesis or dissertation being prepared in accordance with program, college, and university requirements. Academic dishonesty in thesis, research report and dissertation work may result in reversion to post-baccalaureate status or termination from the degree program. Our emphasis on academic honesty requires quotations or ideas of others to be accompanied by appropriate citations. The Graduate Studies *Thesis and Dissertation Manual* describes UCF's formatting requirements for theses/dissertations and outlines the steps graduate students must follow to submit their theses/dissertations to UCF Graduate Studies for binding. Graduate students can obtain the manual from the UCF Graduate Studies website (www.graduate.ucf.edu). Additionally, the Thesis/Dissertation Editor maintains online workshops to inform graduate students about procedures, deadlines, and requirements associated with preparing a thesis and dissertation www.graduate.ucf.edu.

All theses and dissertations that use research involving human subjects, including surveys, must obtain approval from an independent board, the Institutional Review Board (IRB), for this prior to starting the research. It is imperative that proper procedures are followed when using human subjects in research projects. Information about this process can be obtained from the Office of Research (www.research.ucf.edu). Failure to obtain this prior approval could jeopardize receipt of the student's degree.

Students who wish to complete their degree requirements in a given semester must take their oral defense and turn in their final unbound copies to UCF Graduate Studies by the dates shown in the Academic Calendar.

Effective Fall 2004, all graduate students will be required to submit their thesis or dissertation electronically. Exceptions to this are available if needed from the Thesis and Dissertation Editor at www.graduate.ucf.edu.

Certification for Degree

The college of the degree program must certify through the College Dean that all program and college requirements have been met. Degree certification forms (SASS audit forms or program of study with approval signatures) are forwarded to UCF Graduate Studies for final determination that all program, college, and university requirements have been met. Graduate students who have completed all the requirements for the degree and have successfully completed the required thesis or dissertation may request a letter to that effect prior to the receipt of the degree. Such letters will be issued by UCF Graduate Studies.

Certification of Completion of a Graduate Certificate

The college of the graduate certificate program must certify through the College Dean that all program and college requirements have been met. Completed Graduate Certificate forms (available at

www.graduate.ucf.edu) are forwarded to UCF Graduate Studies for final determination of program, college, and university requirements.

For each certificate program, the graduate program director will certify successful completion of the program's academic requirements. UCF Graduate Studies will arrange for recording the completed certificate on the student's transcript. The certificate is mailed to the student unless the student or the graduate program requests other arrangements. Certificate recipients are not recognized at commencement.

Registration in Term of Graduation

A student must be registered in any term in which UCF faculty or administrative and professional time will be required (e.g., for review of thesis or research report by faculty or editorial staff, for completion of internships, or for comprehensive or other examinations). Therefore, unless the graduate program certifies to UCF Graduate Studies that no UCF resources will be utilized, a student must be registered in the term of graduation.

Readmission

To file for readmission or reactivation, students must complete a new [application](#), submit the application fee, and update their residency information and health history (if applicable). Students should apply for readmission if they were previously admitted and enrolled in a graduate program but have been absent for two major semesters, and should apply for reactivation if they applied and were admitted into a graduate program within the last year but never attended. For more information on reactivation or readmission, please visit the [Graduate Students website](#).

Graduate Certificate Programs

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Overview

Graduate certificate programs are available at UCF to supplement an existing graduate program or to provide specialized knowledge in disciplines that complement the education of working professionals in the metropolitan area served by UCF. Many of our area employees have advanced graduate degrees and can enhance their education with specialized courses. Frequently a package of specialized courses that forms a certificate will increase employment credentials and lead to career enhancement.

It is the intent of these programs to be current, providing specialized and state-of-the-art content to area employees. Often certificate programs are offered using flexible and nontraditional delivery systems that provide the best service to the employees in this metropolitan area. Distributed learning, weekend courses, evening courses, and accelerated term courses are acceptable.

Certificate programs are often ideal for nondegree students who would like to sample graduate courses before committing to a graduate degree program. Certificate programs may round out a graduate degree program, providing a special emphasis in addition to a graduate degree. Frequently a certificate program can provide an interdisciplinary focus to an existing program of study to provide more depth and understanding to enhance the graduate program.

Any academic unit may propose a graduate certificate program that encompasses graduate courses in its graduate program. If an interdisciplinary certificate program is proposed, it must be acceptable to departments and faculty offering the courses and graduate programs on which the certificate program is based.

University Admission Standards

Students admitted to a graduate degree program or to post-baccalaureate status are eligible to take graduate certificate programs. Those with bachelor's, master's, or doctoral degrees are eligible to enroll in certificate programs and must apply by submitting a separate graduate certificate application that designates the graduate certificate. Entry to a certificate program does not guarantee admission to a graduate program. However, once a person is accepted into a regular graduate program, credits from a UCF certificate program may be applied toward an existing graduate program with the consent of the program. Post-baccalaureate students who are enrolled in a certificate program are not eligible for tuition waivers, assistantships, fellowships, or federal financial aid. Students are advised to apply for the graduate certificate program well in advance of completion of all required courses so that their additional graduate status can be on file and to enable the program and university to accurately track certificate activity.

Course Requirements and Loads

A certificate program must comprise a minimum of nine semester hours and a maximum of 18. The course work must consist of an integrated and organized sequence of study; course substitutions are not permitted beyond the specified curriculum.

No internship or independent study courses may be used in a certificate program. The use of practicum courses in certificate programs is not generally encouraged, but may be used in programs where there is a strong professional setting and on-campus faculty supervision. Alternative delivery programs are acceptable and encouraged.

A course may not apply toward more than one certificate program. Certificate students must take the full number of required hours. If an overlap of course work occurs between two or more certificate programs for the same student, the student must complete the total required hours by taking electives approved by the program.

All courses that are offered as part of a certificate program must be graduate-level courses. Students must earn course grades of "B-" or better to get credit toward the certificate. Courses may be retaken to achieve a better grade. However, the certificate will only be awarded if the overall grade point average for all courses in the certificate program of study is 3.0 or higher.

Applicable Credits

Transfer of Credit

No graduate credit hours taken at other institutions can be applied to a graduate certificate program at UCF.

Recency of Credit

Graduate credit hours taken at UCF less than three years previously from a prior baccalaureate, master's, specialist, or doctoral degree may be applied toward a certificate, with the consent of the program.

Completion of Graduate Certificate

Students will not be processed for completion of a graduate certificate unless there is a record of application that designated the graduate certificate and admission to the graduate certificate program. The Graduate Certificate Completion form can be downloaded from the UCF Graduate Studies website (www.graduate.ucf.edu) and must be filed with the program office by the time that the student is registering for the final course in the certificate program. The students complete their name, address, and certificate name information and submit the form to the graduate certificate program office so that the required courses can be listed and final grades can be verified. The program director approval signature signifies that requirements have been met according to the program of study and university policies. College review and approval signature is required before the completion form is submitted to UCF Graduate Studies for final verification, processing, and release of the certificate completion.

Master's Programs

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University Admission Standards

Admission to graduate status requires a bachelor's degree from an accredited institution and a minimum of a 3.0 GPA in the last 60 attempted semester hours of undergraduate studies, or a score of at least 1000 on the combined verbal-quantitative portion of the GRE or a score of at least 540 on the combined verbal-quantitative portion of the GMAT, or a master's degree from an accredited institution and GRE or GMAT scores. A GRE or GMAT (Business Administration) exam score is required of all applicants. Admission to the university does not constitute admission to a master's program. Meeting minimum university admission standards for graduate status may not satisfy master's program admission requirements. Additional or higher criteria may be required by the program. An applicant's character, integrity and general fitness to practice a particular profession may also be considered in the admission process. The university encourages applications from a diverse population and values diversity in our graduate programs.

Applicable Credits and Courses

Total Hours Required

A minimum of 30 semester hours (combined course work and thesis) is required, although many programs require more. For the thesis option, at least 24 semester hours of course work must be earned exclusive of thesis. For the non-thesis option, at least 50 percent of the credits offered for the degree must be in a single field of concentration. A research report or other culminating experience is required in a non-thesis option master's program.

Course Levels

6000-Level Courses—A minimum of fifteen credit hours (including thesis hours) of an individual's program of study must be in 6000-level courses, which are designed for graduate students.

Directed Independent Studies Courses

A maximum of three courses may be taken as independent study, for a total of no more than six semester hours.

Residence Credit

At least 21 semester credits must be UCF credits. Residence credits may be earned through enrollment in courses physically offered on the main campus; or at the UCF regional campuses (Brevard, Daytona Beach, and Downtown); or at geographical locations where UCF courses are being taught by regular UCF faculty members. Residence credits also include UCF courses offered through the web.

Transfer of Credits in Program of Study

Work taken at an accredited institution BEFORE a student is given graduate status in their major at UCF may be transferred into the student's program of study. Transfer course work may come from the following areas:

- Work taken as other accredited post-baccalaureate student at UCF
- Work taken at institutions within the state
- Work taken at other accredited institutions not in the state
- Work taken while in graduate status in another major while at UCF
- Work taken in a graduate certificate program at UCF

No more than nine semester hours total of graduate credit may be transferred into the graduate program from UCF post-baccalaureate work or from other accredited institutions. All of the hours taken in a graduate certificate program can be used in a graduate degree program with the consent of the program. These hours are not subject to the nine-hour limit.

Graduate programs are permitted to accept up to nine hours of graduate course work taken at UCF while an undergraduate student as part of an undergraduate program of study. Oversight of the appropriateness of and discretion for accepting such courses into a graduate program of study will be provided by the instructor, graduate program director, and graduate college coordinator. The use of these hours of graduate course work in a graduate program of study is at the discretion of the college and graduate program. Not all graduate programs permit students to use graduate credit hours for a graduate program of study, if they have been used for an undergraduate degree. It is the student's responsibility to obtain advisement from the graduate program director of the specific program before registering in graduate-level courses. This does not apply to undergraduate course work taken while an undergraduate student. (See also "Senior Scholars" below.)

No graduate-level courses with a grade of "D+" or lower are acceptable in a program of study. In addition, only 4000-level courses or transfer courses with a grade of "B-" or higher are acceptable in the program of study. Once established, the program of study cannot be altered solely due to poor academic performance of the student.

Institutions must be fully accredited by a regional accrediting association of the Commission on Accreditation (e.g., the Southern Association of Colleges and Schools).

Students who wish to take course work elsewhere while enrolled as a student at UCF must apply and be accepted as a Traveling Scholar. Credits earned as a Traveling Scholar are considered "resident" credits that are earned at UCF. Consult "Traveling Scholars" in the Policies section of the *Graduate Catalog* for more information.

Accelerated Undergraduate and Graduate Programs

Some programs combine undergraduate and graduate course work in a more seamless educational experience for students, reducing the time spent working on both degrees and providing a challenging educational experience to outstanding undergraduates. These accelerated bachelor's and master's (3+2 or 4+1) programs usually provide about five years of work toward both degrees.

While students are classified as undergraduate students, they are subject to undergraduate policies.

Similarly, those who are classified as graduate students are subject to graduate policies.

The undergraduate requirements listed in the *Graduate Catalog* for specific programs are for informational purposes only. The official requirements are detailed in the *Undergraduate Catalog* and take precedence over what is described here.

Senior Scholars

UCF undergraduates who meet eligibility requirements may enroll in UCF graduate courses and use them toward their undergraduate degree and their graduate program of study upon admission to a UCF graduate program. As Senior Scholars they are entitled to use up to nine graduate credit hours toward a UCF graduate degree, provided they have received advisement and written approval to do so from the graduate program director. This permission must be obtained before enrolling in the graduate courses. In addition to approval from the graduate program director, undergraduates must consult their undergraduate adviser to ensure that registration in graduate-level course work will meet their bachelor's degree requirements. The student must receive college and university approval to interrupt the residency requirement. The University Waiver Form can be obtained from the undergraduate department office. Tuition and fees for graduate-level courses are different from undergraduate courses, and it is the student's responsibility to consult with the Office of Student Financial Assistance regarding adjustments that may be needed for Bright Futures and other scholarship funding.

Time Limitation for Degree Completion

The student has seven years from the date of admission (prerequisite, articulation, and foundation courses are exempt) to the master's program to complete the degree. No course older than seven years at the time of graduation may be used in the Program of Study for a master's degree. Students who do not maintain continuous enrollment (missing enrollment at the university for a period of two major semesters [spring/fall], excluding summers) must file for readmission to the university, although seven years is measured from when the student was first admitted to the program.

Examinations

Evaluation

All examination procedures and other evaluations of a student's progress shall be the province of the individual department or appropriate unit operating within the framework of the college (or colleges for interdisciplinary programs).

Comprehensive Examination

An appropriate culminating academic experience is required of all master's degree students. It may include a thesis defense, written or oral examination, research report, capstone course, presentation and defense of a portfolio of student work, or other appropriate scholarly activity of a type that has been approved by the Graduate Council.

Appointment of Committee or Adviser

It is the responsibility of the appropriate academic Dean of the college or the director of the program to (1) determine whether an advisory committee or an adviser will be used and (2) approve the necessary appointments. The Academic Adviser is normally necessary when there is considerable flexibility in course work, or where the student is conducting research and working with a thesis adviser who is not a UCF faculty member. Both thesis and non-thesis programs may find it useful to appoint an Academic Adviser.

Thesis

The thesis is the culminating or comprehensive experience for those who conduct an original research study. The thesis consists of a common theme with an introduction and literature, details of the study, and results and conclusions. Since the work is original, it is very important that care is taken in properly citing ideas and quotations of others. Academic dishonesty in thesis, research report and dissertation work may result in reversion to post-baccalaureate status or termination from the degree program.

An oral defense of the thesis is required with copies of the approved thesis being prepared in accordance with program, college, and university requirements. The *UCF Thesis and Dissertation Manual* describes formatting requirements for theses and outlines the steps graduate students must follow to submit their theses to UCF Graduate Studies for binding. Graduate students can obtain the manual from www.graduate.ucf.edu.

Additionally, the Thesis/Dissertation Editor maintains online workshops to inform graduate students about procedures, deadlines, and requirements associated with preparing a thesis (www.graduate.ucf.edu).

Beginning in Fall 2004, thesis students will submit their thesis electronically rather than producing paper copies that will be bound. Electronic thesis/dissertation (ETD) submissions will be archived by the UCF library in digital format and will be more widely accessible. In addition, students will have the opportunity to use video and audio clips as well as other formats that may be appropriate for their field of study.

All theses that use research involving human subjects, including surveys, must obtain approval from an independent board, the Institutional Review Board (IRB), for this prior to starting the research. Graduate students and the faculty that supervise them are required to attend training on IRB policies, so this needs to start well in advance of the research start date. It is imperative that proper procedures are followed when using human subjects in research projects. Information about this process can be obtained from the Office of Research (<http://www.research.ucf.edu>). Click on "Compliance" and the IRB Policy and Procedures Manual is available. In addition, should the nature of the research or the faculty supervision change since the IRB approval was obtained, then new IRB approval must be sought. Failure to obtain this prior approval could jeopardize receipt of the student's degree.

Students who wish to complete their degree requirements in a given semester must take their oral defense and turn in their final unbound copies to UCF Graduate Studies by the dates shown in the Academic Calendar.

Thesis Advisory Committee Composition

A student writing a thesis must have a Thesis Advisory Committee. This committee will recommend to the Dean of the college the student's program of study, provide continual guidance for the student, and be the principal mechanism for the evaluation of the student's thesis and performance in any general examinations. At least two members must be qualified regular faculty members from the student's department (or college, if a college-wide program) at UCF, one of whom must serve as the chair of the committee. Only one adjunct or visiting faculty member may serve as a member of a thesis advisory committee. An adjunct or visiting faculty may not serve as the chair, but may serve as a co-chair.

Program areas may specify additional committee membership beyond the minimum of three. Qualifications of additional members must be equivalent to that expected of UCF faculty members. UCF faculty members must form the majority of any given committee.

Committee membership must be approved by the Dean or designee of that College. All members must be in fields related to the thesis topic. UCF Graduate Studies reserves the right to review appointments to a thesis advisory committee, place a representative on any thesis advisory committee, or appoint a co-chair. A student may request a change in membership of the thesis advisory committee.

All members vote on acceptance or rejection of the thesis proposal and the final thesis. The thesis proposal and final thesis must be approved by a majority of the committee.

Enrollment Requirement

Master's level students who are engaged in thesis or research report-related activity must be enrolled for at least one credit hour of thesis (or research report) each semester continuously after completion of regular course work and required minimum thesis hours. This requirement does not negate other regulations regarding full-time enrollment or the requirement that all graduate students be enrolled in the term they

graduate. (See "Registration in Term of Graduation" in the Course Requirements section of the *Graduate Catalog*.)

Thesis Defense

Thesis defenses will be approved by a majority vote of the Thesis Advisory Committee. Thesis committee members who do not approve of the thesis may choose to not sign the thesis approval sheet. Further approval is required from the Dean or Dean designee and UCF Graduate Studies before final acceptance of the thesis in fulfilling degree requirements.

Public Access

Students, faculty, staff, and other interested parties are strongly encouraged to attend thesis final defense sessions. Notices providing date, time, and location of such meetings must be distributed to all academic departments.

These sessions are educational and informative for graduate students and provide an opportunity for colleagues to observe the work of their peers with students. At the discretion of the Chair of the Committee, questions may be invited from the audience. That part of the session involving committee discussion leading to a vote on the acceptance of the work will be closed. Sessions may be recessed briefly to excuse visitors and the candidate before this stage begins.

Education Specialist Programs

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Overview

Education Specialist (Ed.S.) degrees are awarded in Educational Leadership, Curriculum and Instruction, and School Psychology. The Ed.S. degree provides an opportunity for professionals in leadership positions in an educational environment to receive in-depth academic study. This degree provides the opportunity for the development of a high level of professional proficiency in such areas as instruction, supervision, administration, curriculum, and current research literature. The primary goal of the Ed.S. degree is teaching or acquiring professional proficiency in a specialized education-related area. Because the purpose of the Ed.S. degree may differ from that of the Ed.D., credit earned in an Ed.S. program is not automatically transferable to a doctoral program. Instead, if a holder of an Ed.S. degree enters a doctoral program at a later date, the doctoral advisory committee will decide how much of the credit earned in the Ed.S. program will be credited toward the doctorate. In any case, only 30 hours taken prior to doctoral status may be transferred into the doctoral program of study.

University Admission Standards

Admission to the Education Specialist program requires (1) a master's degree from a regionally accredited institution (except in the case of the School Psychology Specialist program, which does not require a master's degree, but does have other special admission criteria), (2) a combined score of 1000 (Verbal and Quantitative Sections of the General Graduate Record Examination), (3) other criteria as required by the individual departments, and (4) a recommendation for admission by the appropriate College of Education Graduate Admissions Committee. Admission to the university does not constitute admission to a specialist program.

Examinations

Educational Leadership majors must successfully complete one five-hour examination in their major area and one three-hour examination in an area of specialization. Curriculum and Instruction majors must successfully complete one three-hour examination in their teaching specialty and one three-hour examination in the Educational Foundations area. School Psychology (School Psychology Track) students must successfully complete one three-hour examination during the last semester of enrollment.

Program of Study and Academic Standards

A program of study (i.e., required course work) will be specified by the student's program area and approved by the college. Minimal core requirements for the Ed.S. degree consist of 36 hours beyond the

master's degree in an approved program, which must include a minimum of 12 graduate-level hours in the specialization area, 6 graduate-level hours in research/statistics, and additional core requirements that are specific to each of the Ed.S. degrees. An overall 3.0 GPA must be maintained on all graduate work attempted. All other academic standards which apply to master's students will not be lower for specialist students.

Transfer of Credit

Educational Leadership program. A maximum of 9 semester hours earned in a master's degree may be applied to the program of study. Transfer credit decisions are made by the respective graduate program directors and the specialization advisers with the approval of the College of Education.

Curriculum and Instruction program. A maximum of 9 semester hours earned in a master's degree may be applied to the program of study. Transfer credit decisions are made by the respective graduate program directors and the specialization advisers with the approval of the College of Education.

School Psychology program. Students entering the School Psychology program from the baccalaureate level may transfer in a maximum of 9 semester hours of graduate credit earned subsequently at an accredited institution of higher education. Courses taken as an undergraduate student may not be used for transfer unless the credit was graduate level and not a part of the undergraduate degree program.

Time Limitation and Continuous Attendance

The student has seven years from the date of admission (prerequisite, articulation, and foundation courses are exempt) to the specialist program to complete the degree. No course older than seven years, at graduation, may be used in the program of study for a specialist degree. Students who do not maintain continuous enrollment (missing enrollment at the university for a period of two major semesters [spring/fall], excluding summers) must file for readmission to the university, although seven years is measured from when the student was first admitted to the program.

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University Admission Standards

Eligibility for admission to a doctoral program should be limited to superior students who have demonstrated intellectual ability, high achievement, and adequate preparation for advanced study and research in a chosen field.

Minimum university standards for admission to a doctoral program require a bachelor's degree from an accredited institution and a minimum of a 3.0 GPA in the last 60 attempted semester hours of undergraduate studies, or a score of at least 1000 on the combined verbal-quantitative portion of the GRE or a combined verbal-quantitative score of at least 540 on the GMAT, or a master's degree from an accredited institution and GRE or GMAT scores. A GRE or GMAT (Business Administration) score is required of all applicants. However, meeting minimum university admission standards may not satisfy doctoral program admission requirements. Additional or higher criteria may be required by the college or department.

Examinations

To avoid confusion of terminology for examinations, all programs should use the following terms:

Qualifying Examination. This title designates the examination (optional by programs) that is used to determine if students should continue with their doctoral studies. It is normally given within the first year of the doctoral program. This is a written examination and is permanently filed in the student's records in the program.

Candidacy Examination. This title is used for the examination that the student takes prior to admission to Candidacy Status. This is a written examination and is permanently filed in the student's permanent records. It is normally taken near the end of completion of course work, and must be passed before being allowed to enroll in doctoral dissertation (XXX 7980) hours.

Dissertation Proposal Examination. After passing the general Candidacy Examination, the student will write and defend a Dissertation Proposal in an oral examination.

Dissertation Defense. This is an oral examination (or defense) of the dissertation.

Completion of Qualifying Examination

Eligibility to continue a doctoral program should be limited to superior students who have demonstrated intellectual ability, high achievement, and adequate preparation for advanced study and research in a chosen field. The decision to allow a student continuing progress toward a doctorate is made by the graduate committee of the program area concerned and the Dean of the college on the basis of the qualifying examination and/or other criteria as specified by the individual program area. This exam is normally taken within the first year of a doctoral program.

Program of Study

A program of study (i.e., required course work) will be specified by the student's program area and approved by the college. The particular plan of study, which may vary from student to student, should be formulated jointly by the student and the appropriate committee or adviser in the program area. Changes in the program of study may be made at any time by the advisory committee.

Course Requirements

The course requirements for a doctoral degree will consist of lectures, seminars, discussions, independent research, and independent study. Each program of study will include a minimum of 72 semester hours of graduate credit beyond the baccalaureate degree, with at least 6 semester hours of course work taken at UCF outside the student's program area. A university-wide minimum of at least 15 hours of dissertation hours are required for all doctoral programs. Specific programs may require more.

Independent Study Hours

No more than 12 total semester hours of independent study (including those hours counted toward a master's degree) may be applied to a doctoral program of study.

Academic Standards

Academic standards for doctoral students will meet or exceed those previously stated for master's programs.

Special Degree Requirements

Each student may be expected to demonstrate an appropriate competency in a related area. The appropriate competency must be carefully defined by the program area and approved by the student's committee and the Dean of the college. Any course credit earned in attaining such a skill does not count toward minimum hour requirements.

Residency Requirements

Each student is expected to complete two contiguous semesters in full-time graduate student status after acceptance into a doctoral program.

Transfer Credit

Up to 30 semester hours of graduate credit from an accredited institution may be transferred into a doctoral program, and will be determined on a case-by-case basis by the graduate committee of the program area

generally at the time the student is admitted to the program. The transfer hours will consist of a maximum of six hours of 4000-level work, no 3000-level courses, and no courses with grades of less than "B-." The College of Engineering and Computer Science allows up to 36 credit hours, including up to 6 thesis credits, to be transferred from a master's program. In all cases, the transfer work will constitute less than half of the course work hours necessary for degree requirements, per accreditation guidelines.

Graduate programs are permitted to accept up to nine hours of graduate course work taken at UCF while an undergraduate student as part of an undergraduate program of study. Oversight of the appropriateness of and discretion for accepting such courses into a graduate program of study will be provided by the instructor, graduate program director, and graduate college coordinator. Not all graduate programs permit students to use graduate credit hours for a graduate program of study if they have been used for an undergraduate degree. It is the student's responsibility to obtain advisement from the graduate program director of the specific program before registering in graduate-level courses. This does not apply to 4000-level course work taken while an undergraduate student.

Time Limitation for Degree Completion

The student has seven years from the date of admission to the doctoral program to complete the dissertation. No courses taken since the original program entry date at UCF may be older than seven years and used in the program of study. Graduate course work taken elsewhere and not part of an earned graduate degree is subject to the 7-year rule.

Readmission

Students who do not maintain continuous enrollment (missing enrollment at the university for a period of two major semesters [spring/fall], excluding summers) must file for readmission to the university, although seven years is measured from when the student was first admitted to the program. To file for readmission, the student must complete a Reactivation/Readmission Application, or contact UCF Graduate Studies by fax (407-823-6442) or e-mail (graduate@mail.ucf.edu) and state a desire for readmission for a particular term. UCF Graduate Studies will consult with the program about readmission. For more information about readmission, refer to the "Admissions and Registration" section of this catalog.

Doctoral students admitted to candidacy must continuously enroll in three hours of dissertation course work (XXX 7980) each semester until the dissertation is completed. Readmission decisions are individually made, based on such factors as space in the program, reasons for the break in graduate education, progress in the degree program, among others.

Examination Committee

In some programs a doctoral examination committee will be formed consisting of several faculty members representing the appropriate disciplines and approved by the Dean or college designee to administer qualifying and/or candidacy examinations. In many cases this committee will consist of the program graduate committee. All members will evaluate and vote as to whether students have successfully completed the exams.

Candidacy

Admission to Candidacy

Students may not be admitted to candidacy until a Doctoral Committee has been appointed, and the Committee has certified that the student has successfully completed the Candidacy Examination and demonstrated the qualifications necessary to successfully complete requirements for the degree. Only after

admission to candidacy may a student register for doctoral dissertation hours (XXX 7980). The admission to candidacy will be approved by the graduate college coordinator and forwarded to UCF Graduate Studies for status change.

Candidacy Examination

The purpose of the Candidacy Examination is for the student to demonstrate knowledge of the field, including theory, bibliography, and research methodology. The examinations must be written and should be based on the student's plan of study and may be a defense of a written dissertation proposal. Written examinations are administered and established on campus by the student's Doctoral Committee in coordination with the college. All written original examination materials will be kept in the student's file in the program.

Dissertation

Dissertations are required in all doctoral programs, with copies of the approved dissertation being prepared in accordance with program requirements. The dissertation is a significant contribution to the discipline for all completing a doctoral degree and consists of an original research study. The dissertation consists of a common theme with an introduction and literature, details of the study, and results and conclusions. Since the work is original, it is very important that care is taken in properly citing ideas and quotations of others. Failure to do so is academic dishonesty and subject to termination from the program without receiving the degree. An oral defense of the dissertation is required.

Enrollment in Dissertation Hours

The student must continue to enroll for at least three semester hours of doctoral dissertation credit (XXX 7980) each semester after attaining candidacy status until they complete the dissertation and graduate. Post-candidacy enrollment is allowable for a maximum of four years subject to the seven-year time limitation.

Dissertation Advisory Committee Composition

Doctoral students must have a Dissertation Advisory Committee prior to the Candidacy Examination. The Committee will consist of a minimum of four members. At least three members must be qualified regular faculty members from the student's department (or college, if a college-wide program) at UCF, one of whom must serve as the chair of the committee. One member must be from either outside the student's department at UCF (or college, if a college-wide program) or outside the university.

Only one adjunct or visiting faculty member may serve as a member of a dissertation advisory committee. An adjunct, visiting faculty, or outside scholar may not serve as the chair, but may serve as a co-chair. One of the co-chairs must satisfy faculty qualifications for serving as a chair of a dissertation advisory committee. The other co-chair must satisfy the minimum requirements for serving as a member of a dissertation advisory committee. A member from outside the university may serve as co-chair without being appointed as an adjunct or visiting faculty member provided that all other membership requirements are met.

Program areas may specify additional committee membership beyond the minimum of four. Qualifications of additional members must be equivalent to that expected of UCF faculty members. UCF faculty members must form the majority of any given committee.

Committee membership must be approved by the Dean or designee of that College. All members must be in fields related to the dissertation topic. UCF Graduate Studies reserves the right to review appointments to a dissertation advisory committee, place a representative on any dissertation advisory committee, or appoint a co-chair. A student may request a change in membership of the dissertation advisory committee. All members vote on acceptance or rejection of the dissertation proposal and the final dissertation. The dissertation proposal and final dissertation must be approved by a majority of the committee.

Dissertation Preparation

The Graduate Studies *Thesis and Dissertation Manual* describes UCF's formatting requirements for dissertations and outlines the steps graduate students must follow to submit their dissertations to UCF Graduate Studies for binding. Graduate students can obtain the manual from www.graduate.ucf.edu. Additionally, the Thesis/Dissertation Editor maintains online workshops to inform graduate students about procedures, deadlines, and requirements associated with preparing a dissertation (www.graduate.ucf.edu). Those students who have just passed Candidacy are strongly encouraged to visit the online workshop. Dissertation students will submit their dissertations electronically starting in Fall 2004. Electronic thesis/dissertation (ETD) submissions will be archived by the UCF library in digital format and will be more widely accessible. In addition, students will have the opportunity to use video and audio clips as well as other formats that may be appropriate for their field of study.

All dissertations that use research involving human subjects, including surveys, must obtain approval from an independent board, the Institutional Review Board (IRB), for this prior to starting the research. Graduate students and the faculty that supervise them are required to attend training on IRB policies, so this needs to start well in advance of the research start date. It is imperative that proper procedures are followed when using human subjects in research projects. Information about this process can be obtained from the Office of Research (<http://www.research.ucf.edu>). Click on "Compliance" and the IRB Policy and Procedures Manual is available. In addition, should the nature of the research or the faculty supervision change since the IRB approval was obtained, then new IRB approval must be sought. Failure to obtain this prior approval could jeopardize receipt of the student's degree.

Students who wish to complete their degree requirements in a given semester must take their oral defense and turn in their final unbound copies to UCF Graduate Studies by the dates shown in the Academic Calendar. Doctoral students also must provide their electronic copy for microfilming by University Microfilms International (UMI). The editor will send dissertations to UMI, with the student's completed UMI form and microfilming fee.

Dissertation Defense

The dean of the college or his/her designee will normally attend all dissertation defenses. Dissertations will be approved by a majority vote of the advisory committee. Further approval is required from the Dean or Dean designee and UCF Graduate Studies before final acceptance of the dissertation in fulfilling degree requirements.

Public Access

Students, faculty, staff, and other interested parties are strongly encouraged to attend dissertation final defense sessions. Notices providing date, time, and location of such meetings must be distributed to all academic departments.

These sessions are educational and informative for graduate students and provide an opportunity for colleagues to observe the work of their peers with students. At the discretion of the Chair of the Committee, questions may be invited from the audience. That part of the session involving committee discussion leading to a vote on the acceptance of the work will be closed. Sessions may be recessed briefly to excuse visitors and the candidate before this stage begins.

Academic Programs

[Overview](#)

[List of Degree Programs](#)

[List of Tracks](#)

[List of Certificate Programs](#)

Overview

UCF offers more than 85 graduate degree programs, including master's, specialist, and doctoral programs. A graduate degree from UCF will provide you a major advantage. UCF's graduate students have opportunities to engage in enriching activities through course work and research that are valuable in job placement and in pursuing further graduate study. The accomplishments of our students, alumni and faculty reflect UCF's degrees of distinction.

UCF offers more than 65 graduate certificate programs to supplement an existing graduate program or to provide specialized knowledge in disciplines that complement the education of working professionals in the metropolitan area served by the university. Frequently, a package of specialized courses that forms a certificate will increase employment credentials and lead to career enhancement. Certificate programs are often ideal for nondegree students who would like to sample graduate courses before committing to a graduate degree program.

List of Degree Programs

- Accounting
- Aerospace Engineering
- Applied Economics
- Applied Sociology
- Art Education
- Biology
- Biomolecular Sciences
- Business Administration - MBA
- Business Administration - Ph.D.
- Chemistry - Ph.D.
- Civil Engineering
- Communication
- Communicative Disorders
- Computer Art and Design
- Computer Engineering
- Computer Science
- Conservation Biology - Ph.D.
- Counselor Education
- Criminal Justice
- Curriculum and Instruction
- Early Childhood Education
- Education - Ph.D.
- Educational Leadership
- Electrical Engineering
- Elementary Education
- English
- English Language Arts Education
- Environmental Engineering
- Exceptional Education
- Forensic Science
- Health Sciences
- History
- Hospitality and Tourism Management
- Industrial Chemistry
- Industrial Engineering and Management Systems
- Instructional Technology/Media
- K-8 Mathematics and Science Education
- Liberal Studies
- Management
- Management Information Systems
- Materials Science and Engineering
- Mathematics
- Mathematics Education
- Mechanical Engineering
- Modeling and Simulation
- Molecular Biology and Microbiology
- Music Education
- Nonprofit Management
- Nursing
- Nursing - Ph.D.
- Optics
- Physical Education
- Physical Therapy
- Physics
- Political Science
- Psychology
- Public Administration
- Public Affairs
- Reading Education
- School Psychology
- Science Education
- Social Science Education
- Social Work
- Spanish
- Sport Business Management
- Statistical Computing
- Taxation
- Teaching English to Speakers of Other Languages
- Texts and Technology
- Theatre
- Vocational Education

Accounting

[Description](#)

[Degree Offered](#)

[Admission](#)

[Master of Science in Accounting](#)

[Contact Info](#)

Description

The Master of Science in Accounting degree provides candidates with greater breadth and depth in accounting than is possible in baccalaureate programs. The emphasis is on preparing students for careers as professional accountants and consultants in public practice, financial institutions, governments, industry, and nonprofit organizations. The program, along with appropriate foundation work, satisfies the Florida requirements to qualify to take the Certified Public Accountant (C.P.A.) examination.

Degrees Offered

Master of Science in Accounting

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the graduate catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

In addition to the general admission requirements, applicants must provide:

- Official score of at least 520 on the Graduate Management Admission Test (GMAT)..
- GPA of 3.0 or higher in last 60 hours of undergraduate study and in upper-division accounting and tax courses. All foreign transcripts must be evaluated.
- Resume.
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 230 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Science in Accounting	Feb 1	Jun 15	Nov 1	Mar 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Science in Accounting	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Science in Accounting	Feb 1	Mar 1	Sep 1	

Master of Science in Accounting**M.S.A. Degree Minimum Requirement—30 Credit Hours**

The Master of Science in Accounting (M.S.A.) degree is awarded upon satisfactory completion of a minimum of 30 credit hours. In the total program of study a minimum of 18 hours of the course work, including a minimum of 12 hours of accounting/tax course work, must be at the 6000 level. Students, with the assistance and approval of the program adviser, may select courses that reflect their interests.

Accounting and Business Foundation Core

The courses included in the accounting and business foundation core are listed below. A recent UCF accounting undergraduate degree satisfies the core requirement. Other recent related business administration course work may partially or fully satisfy this requirement. Any deficiencies must be satisfied before advanced course work can be taken.

Accounting Foundation Core (18 credit hours)

- ACG 3131 Financial Accounting Concepts and Analysis (3 credit hours)
- ACG 3141 Intermediate Financial Accounting (3 credit hours)
- ACG 4401 Accounting Information Systems (3 credit hours)
- ACG 4651 Auditing or ACG 4671 Internal Auditing (3 credit hours)
- BUL 3130 Legal and Ethical Environment of Business (3 credit hours)
- TAX 4932 Taxation of Business Entities and Transactions (3 credit hours)

Business Foundation Core (10.5 credit hours)

- ACG 5005 Accounting Foundations (1.5 credit hours)*
- ECO 5006 Economic Foundations (1.5 credit hours)*
- ECO 5414 Statistical Foundations (1.5 credit hours)*
- FIN 5407 Financial Foundations (1.5 credit hours)*
- ISM 5020 MIS Foundations (1.5 credit hours)*
- MAN 5021 Management Foundations (1.5 credit hours)*
- MAR 5055 Marketing Foundations (1.5 credit hours)*

* Or undergraduate course equivalent taken as an undergraduate student. If the course was not part of the undergraduate program, it must be taken at the 5000 level.

Required Courses—6 Credit Hours

- ACG 6636 Advanced Auditing Topics (3 credit hours)
- ACG 5405 Advanced Accounting Information Systems (3 credit hours)

Restricted Electives—24 Credit Hours

Students must select eight elective courses for their programs of study. Five selections must be from the list of restricted electives listed below. At least three of these five selected courses must be accounting and/or taxation courses at the 6000 level.

Accounting and Taxation Restricted Electives

- ACG 5205 Advanced Financial Accounting Topics (3 credit hours)
- ACG 5346 Advanced Managerial Accounting (3 credit hours)
- ACG 5517 Financial Accounting and Auditing for Governmental and Nonprofit Organizations (3 credit hours)*
- ACG 6675 Operational Auditing (3 credit hours)
- ACG 6255 International and Multinational Accounting (3 credit hours)
- ACG 6519 Seminar in Governmental and Nonbusiness Accounting and Auditing (3 credit hours)
- ACG 6685 Seminar in Fraud Auditing (3 credit hours)
- ACG 6805 Seminar in Accounting Theory (3 credit hours)
- ACG 6415 Seminar in Accounting Information Systems (3 credit hours)
- ACG 6835 Seminar in Ethics and Professionalism in Accounting and Auditing (3 credit hours)
- ACG 6946 Graduate Accounting Internship (3 credit hours)
- TAX 5015 Advanced Tax Topics (3 credit hours)**
- TAX 6065 Tax Research (3 credit hours)
- TAX 6135 Taxation of Corporations and Shareholders (3 credit hours)
- TAX 6205 Partnership Taxation (3 credit hours)
- TAX 6405 Taxation of Estates and Gifts (3 credit hours)
- TAX 6845 Tax Planning and Consulting (3 credit hours)
- TAX 6505 International Taxation (3 credit hours)

Business Restricted Electives

- BUL 5332 Advanced Business Law Topics (3 credit hours)**
- ECO 6115 Economic Analysis of the Firm (3 credit hours)
- FIN 6406 Strategic Financial Management (3 credit hours)
- FIN 6425 Asset Management and Financial Decisions (3 credit hours)
- FIN 6475 Business Valuation (3 credit hours)
- FIN 6515 Analysis of Investment Opportunities (3 credit hours)
- ISM 6227 Management of Telecommunications (3 credit hours)
- ISM 6305 Information Resources Management (3 credit hours)
- ISM 6367 Strategic Information Systems (1.5 hours)
- ISM 6407 Decision Support Systems (1.5 hours)
- ISM 6485 Electronic Commerce (3 credit hours)
- ISM 6537 Quantitative Models for Business Decisions (3 credit hours)

* Students who have not completed ACG 3501 Financial Accounting for Governmental and Nonprofit Organizations, or its equivalent, must complete ACG 5517 Financial Accounting and Auditing for

Governmental and Nonprofit Organizations or ACG 6519 Seminar in Governmental and Nonbusiness Accounting and Auditing. Either may be selected as an elective in the graduate program of study courses. ** Students planning to take the C.P.A. examination should include TAX 5015 Advanced Tax Topics and BUL 5332 Advanced Business Law Topics in their elective course selections.

Other Electives

The three additional elective courses may be chosen from the list of restricted electives above, including accounting, taxation, and other business electives. They may also be selected from other graduate courses offered in the College of Business Administration or from outside the college. Courses not on the restricted elective list should be selected with the students area of interest in mind and with approval of the program adviser. The university limits program of study courses outside the college to six semester hours. Students must show clear evidence of proficiency in oral and written communication and computer usage.

Comprehensive Examination

Satisfactory completion of an end-of-program comprehensive examination is required. The M.S.A. program does not require a thesis.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Linda Savage, Ph.D. , Associate Professor
Phone Number: 407-823-5661
cbagrad@bus.ucf.edu

Aerospace Engineering

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Master of Science in Aerospace Engineering](#)

[Space Systems Design and Engineering Track](#)

[Thermofluid Aerodynamic Systems Design and Engineering Track](#)

[Contact Info](#)

Description

The aerospace engineering program offers a Master of Science in Aerospace Engineering (M.S.A.E.) degree with two tracks: Space Systems Design and Engineering and Thermofluid Aerodynamic Systems Design and Engineering.

Space Systems Design and Engineering includes the fields of controls and dynamics, space environment, instrumentation and communications, structures and materials, thermal analysis, and design.

Thermofluid Aerodynamic Systems Design and Engineering includes the fields of controls and dynamics, aerodynamics, propulsion, thermal analysis, and design.

Degrees Offered

Master of Science in Aerospace Engineering

- Space Systems Design and Engineering Track
- Thermofluid Aerodynamic Systems Design and Engineering Track

Admission

The Master of Science degree in Aerospace Engineering (M.S.A.E.) is intended primarily for a student with a mechanical engineering or a closely related discipline obtained from a recognized and accredited institution. Minimum requirements for admission to regular status are a 3.0 grade point average (4.0=A) in the last 60 attempted hours of undergraduate study at an accredited institution, and for international students (except those who are from countries where English is the only official language or those who have earned a degree from an accredited American college or university), a score of 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL). In certain circumstances a provisional admission may be extended to students who have a GPA below 3.0 but otherwise meet university requirements. Additional courses may be required to correct deficiencies. Students should contact the MMAE graduate program coordinator for further information.

The College of Engineering and Computer Science requires that you fill out a pre-application form (www.graduate.cecs.ucf.edu) before you complete the application for graduate admission. The deadlines for the pre-application form can be found on the Prospective Student Page on the College of Engineering and Computer Science website.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Science in Aerospace Engineering	Feb 1	Jul 15	Dec 1	Apr 15
Space Systems Design and Engineering Track	Feb 1	Jul 15	Dec 1	Apr 15
Thermofluid Aerodynamic Systems Design and Engineering Track	Feb 1	Jul 15	Dec 1	Apr 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Science in Aerospace Engineering	Feb 1	Feb 1	Jul 1	
Space Systems Design and Engineering Track	Feb 1	Feb 1	Jul 1	
Thermofluid Aerodynamic Systems Design and Engineering Track	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Science in Aerospace Engineering	Feb 1	Mar 1	Sep 1	
Space Systems Design and Engineering Track	Feb 1	Mar 1	Sep 1	
Thermofluid Aerodynamic Systems Design and Engineering Track	Feb 1	Mar 1	Sep 1	

Master of Science in Aerospace Engineering**[General College Requirements](#)**

Minimum Requirement—30-36 Credit Hours

The program offers two tracks: Space Systems Design and Engineering and Thermofluid Aerodynamic Systems Design and Engineering. Students select one of these tracks upon entering the program, and also select a thesis or non-thesis option. All students are expected to identify an adviser and file an official degree program of study prior to the completion of nine semester hours of study. Students should consult the graduate program coordinator for assistance.

Thesis Option—30 Credit Hours

- Required Courses (Core)—12 credit hours
- Specialization Courses (at least two)—6 credit hours
- Electives (maximum of two)—6 credit hours. (Electives selected in consultation with adviser and taken from optional course list and/or other support course list)
- Thesis—6 credit hours

Non-Thesis Option—36 Credit Hours

- Required Courses (Core)—12 credit hours
- Specialization Courses (at least four)—12 credit hours
- Electives (maximum of four)—12 credit hours. (Electives selected in consultation with adviser and taken from optional course list and/or other support course list)
- Final Examination—0 credit hours
- Comprehensive Examination—The non-thesis option requires a comprehensive final examination.

Space Systems Design and Engineering Track

Required Courses—12 Credit Hours

- EML 5060 Mathematical Methods in Mechanical, Materials and Aerospace Engineering (3 credit hours)
- EAS 6507 Topics of Astrodynamics (3 credit hours)
- EAS 5407 Mechatronic Systems (3 credit hours)
- EML 6067 Finite Elements in Mechanical, Materials, and Aerospace Engineering I or EML 6XXX Modern Control Systems (currently EML 5311) (3 credit hours)

Select one of the following specializations:

Controls/Dynamics Specialization

- EAS 6415 Guidance, Navigation and Control (3 credit hours)
- EAS 6403C Attitude Determination and Control (3 credit hours)
- EML 5271 Intermediate Dynamics (3 credit hours)
- EML 6808 Analysis and Control of Robot Manipulators (3 credit hours)
- EEL 6616 Adaptive Control (3 credit hours)
- EEL 6621 Nonlinear Control Systems (3 credit hours)

Structures/Materials/Thermal Specialization

- EML 5152 Intermediate Heat Transfer (3 credit hours)
- EML 6155 Convection Heat Transfer (3 credit hours)
- EML 5211 Continuum Mechanics (3 credit hours)
- EML 5237 Intermediate Mechanics of Materials (3 credit hours)
- EML 6067 Finite Elements in Mechanical, Materials and Aerospace Engineering I (3 credit hours)
- EML 6157 Radiation Heat Transfer (3 credit hours)

Space Environment/Instrumentation/Communications Specialization

- EAS 6808 Space Environment and Payload Instrumentation (3 credit hours)
- EML 5271 Intermediate Dynamics (3 credit hours)

- EML 5311 System Control (3 credit hours)
- EEL 5432 Satellite Remote Sensing (3 credit hours)
- EEL 5542 Random Processes I (3 credit hours)
- EEL 5881 Software Engineering I (3 credit hours)
- EEL 6530 Communication Theory (3 credit hours)

Suggested Electives (any specialization)

- EAS 6405 Advanced Flight Dynamics (3 credit hours)
- EML 6808 Analysis and Control of Robot Manipulators (3 credit hours)
- EMA 6628 Materials Failure Analysis (3 credit hours)
- EML 6227 Nonlinear Vibration (3 credit hours)
- EML 6547 Engineering Fracture Mechanics in Design (3 credit hours)
- Any course in the MMAE curriculum or other approved graduate course (3 credit hours)

Thermofluid Aerodynamic Systems Design and Engineering Track

Prerequisite (or Equivalent) Requirements For This Track

- Mathematics through Differential Equations (MAP 2302)
- Modeling Methods in Mechanical and Aerospace Engineering (EML 3034)
- High-Speed Aerodynamics (EAS 4134)
- Aerothermodynamics of Propulsion Systems (EAS 4300)
- Flight Mechanics (EAS 4105)
- Fluid Mechanics II (EML 4703)

Required Courses—12 Credit Hours

- EML 5060 Mathematical Methods in Mechanical, Materials and Aerospace Engineering (3 credit hours)
- EML 6712 Mechanics of Viscous Flow (3 credit hours)
- EAS 6138 Advanced Gas Dynamics (3 credit hours)
- EML 5131 Combustion Phenomena (3 credit hours)

Specialty Courses

- EAS 5123 Intermediate Aerodynamics (3 credit hours)
- EML 6155 Convection Heat Transfer (3 credit hours) or EML 6XXX Intermediate Heat Transfer (3 credit hours)
- EAS 6185 Turbulent Flow (3 credit hours)
- EAS 5315 Rocket Propulsion (3 credit hours)
- EML 5402 Turbomachinery (3 credit hours)
- EML 5105 Gas Kinetics and Statistical Thermodynamics (3 credit hours)
- EML 6725 Computational Fluid Dynamics and Heat Transfer I (EML XXXX Numerical HT and Fluid Flow) (3 credit hours)

Suggested Electives

- EML 6157 Radiation Heat Transfer (3 credit hours)

- EAS 5302 Direct Energy Conversion (3 credit hours)
- EML 6124 Two-Phase Flow (3 credit hours)
- EML 6726 Computational Fluid Dynamics and Heat Transfer II (3 credit hours)
- EML 6154 Conduction Heat Transfer (3 credit hours)
- EAS 6807 Aerospace Measurements/Instrumentation (3 credit hours)
- EML 5713 Intermediate Fluid Mechanics (3 credit hours)
- EAS 5302 Direct Energy Conversion (3 credit hours)
- Any course in the MMAE curriculum or approved graduate course

Other Support Course List

For both tracks and all options

- CDA 5106 Advanced Computer Architecture I (3 credit hours)
- COT 5405 Design and Analysis of Algorithms (3 credit hours)
- EAS 5315 Rocket Propulsion (3 credit hours)
- EAS 5535 Engineering Design for Aerospace Vehicles (3 credit hours)
- EEL 5173 Linear Systems Theory (3 credit hours)
- EEL 5245C Power Electronics (3 credit hours)
- EEL 5881 Software Engineering I (3 credit hours)
- EEL 6537 Detection and Estimation (3 credit hours)
- EEL 6543 Random Processes II (3 credit hours)
- EEL 6883 Software Engineering II (3 credit hours)
- EEL 6897 Software Development for Real-Time Engineering Systems (3 credit hours)
- EML 5025C Engineering Design Practice (3 credit hours)
- EAS 5123 Intermediate Aerodynamics (3 credit hours)
- EML 5211 Continuum Mechanics (3 credit hours)
- EML 5237 Intermediate Mechanics of Materials (3 credit hours)
- EML 5532C Computer-Aided Design for Manufacture (3 credit hours)
- EML 5546 Engineering Design with Composite Materials (3 credit hours)
- EML 6067 Finite Elements in Mechanical, Materials, and Aerospace Engineering I (3 credit hours)
- EML 6547 Engineering Fracture Mechanics in Design (3 credit hours)
- EML 6712 Mechanics of Viscous Flow (3 credit hours)
- EML 6725 Computational Fluid Dynamics and Heat Transfer I (3 credit hours)
- MAA 5405 Complex Variables (3 credit hours)
- MAP 5426 Special Functions (3 credit hours)

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.

- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program coordinator of your major.

Contact Info

Master of Science in Aerospace Engineering

Ruey-hung (Ray) Chen, Ph.D. , Associate Professor
Phone Number: 407-823-2416
gradmmae@mail.ucf.edu

Space Systems Design and Engineering Track

Ruey-hung (Ray) Chen, Ph.D. , Associate Professor
Phone Number: 407-823-2416
gradmmae@mail.ucf.edu

Thermofluid Aerodynamic Systems Design and Engineering Track

Ruey-hung (Ray) Chen, Ph.D. , Associate Professor
Phone Number: 407-823-2416
gradmmae@mail.ucf.edu

Applied Economics

[Description](#)

[Degree Offered](#)

[Admission](#)

[Master of Arts in Applied Economics](#)

[Contact Info](#)

Description

The Master of Arts in Applied Economics (M.A.A.E.) degree program was designed for students desiring careers as economists in the academic, governmental, business, and financial communities.

Contemporary society offers almost unlimited opportunities for people with a comprehension of economic relationships and the analytical tools to understand today's economic issues. Economists work on such problems as sales forecasting, market analysis, economic feasibility, hedging and commodity pricing, unemployment, inflation, balance of payments, energy development, pollution abatement, and many other current topics.

Degrees Offered

Master of Arts in Applied Economics

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Graduate Catalog](#). Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s). The program is highly competitive and meeting the graduate admissions requirements is no guarantee of acceptance to the program.

In addition to the general admission requirements, applicants must provide:

- Official score of at least 500 on the Graduate Management Admission Test (GMAT) or a combined score of at least 1000 on the Graduate Record Examination (GRE).
- GPA of 3.0 or higher in last 60 hours of undergraduate study. Foreign transcripts must be evaluated.
- Resume.
- Three letters of recommendation.
- Essay (for details, see the college website).
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 230 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Applied Economics	Feb 1	Jun 15	Nov 1	Mar 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Applied Economics	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Applied Economics	Feb 1	Mar 1	Sep 1	

Master of Arts in Applied Economics (M.A.A.E.)**Minimum Requirement—30 Credit Hours****Foundations—12 Credit Hours**

The following foundations (or equivalents) should be completed before enrolling in 6000-level graduate courses:

- ECO 4412 Economic Statistics and Econometrics
- ECO 3410 Mathematical Economics (or Calculus II or equivalent)

The following prerequisites (or equivalents) should be completed before enrolling in the corresponding 6000-level graduate courses as indicated:

- ECO 3101 Intermediate Price Theory (3 credit hours) (ECO 6118 Microeconomic Analysis)
- ECO 3203 Aggregate Economic Conditions Analysis (3 credit hours) (ECO 6206 Aggregate Economic Conditions and Analysis)

Prerequisite work may be entirely or partially satisfied through prior equivalent course work. Normally, such course work must have been satisfactorily completed at a regionally accredited college or university, preferably one accredited by the Association to Advance Collegiate Schools of Business (AACSB). Prerequisite course work does not count toward the 30 credit hours required for completion of the M.A.A.E. degree.

Required Courses—12 Credit Hours

FALL TERM

- ECO 6403 Mathematical Economics (3 credit hours)
- ECO 6206 Aggregate Economic Conditions and Analysis (3 credit hours)

SPRING TERM

- ECO 6118 Microeconomic Analysis (3 credit hours)
- ECO 6424 Econometrics (3 credit hours)

Economics Electives—9-12 Credit Hours

(Required courses must be completed before electives can be taken.)
A minimum of nine additional hours of economics electives is required.

Non-Economics Electives—0-3 Credit Hours

A maximum of three hours of an approved non-economics elective may be completed in disciplines such as accounting, finance, management, marketing, mathematics, statistics, public administration, health sciences, political science, computer science, and environmental engineering

End-of-Program Requirements—6 Credit Hours

All candidates for the M.A. in Applied Economics degree must complete an end-of-program option. This requirement can be met by any of the following three equivalent options: 1) thesis option, 2) graduate internship option, or 3) course work option.

Thesis Option

In the thesis option, the student must register for a total of six credit hours of ECO 6971. The candidate may fulfill this requirement by completing a formal thesis on a topic selected in consultation with the candidate's advisory committee and meeting both departmental and university requirements. The final examination consists of an oral examination over the thesis.

Graduate Internship Option

If the graduate internship option is selected, the student must register for a total of six credit hours of ECO 6946. The candidate may fulfill this requirement by completing an internship consisting of work in a business or governmental agency and an end-of-project, thesis-quality report. The final examination consists of an oral examination over the end-of-project report.

All Course Work Option

In lieu of a thesis or internship, two additional elective courses may be taken. No more than six hours outside the College of Business Administration may be used. Candidates choosing the all course work option will be required to write a comprehensive field research paper that draws upon the six hours of the field or area from the career-oriented electives (see below) and core courses. The final examination for this option consists of an oral examination over the research paper.

Career-Oriented Elective Specializations

Students are encouraged to use the flexibility provided in the elective portion of the program to design a plan of study that enhances their particular career interests. The suggested career-oriented elective specializations that follow represent some of the possibilities for packaging electives.

Environmental Economics and Policy

For candidates seeking careers in the area of environmental economics and policy, environmental regulation, risk assessment, or health and safety, selection among the following electives is recommended:

- CGN 6655 Regional Planning, Design, and Development (3 credit hours)
- ECO 6505 Public Finance and Fiscal Policy (3 credit hours)
- ECP 6031 Benefit/Cost Analysis in Economic Policy (3 credit hours)
- ECP 6305 Resources and Environmental Management Policy (3 credit hours)
- ECP 6309 Advanced Resource and Environmental Economics (3 credit hours)
- ECP 6605 Economics of Urban and Regional Problems (3 credit hours)
- ECS 6015 Economic Development (3 credit hours)
- ENV 5071 Environmental Analysis of Transportation Systems (3 credit hours)
- PAD 6353 Environmental Program Management Research (3 credit hours)
- PCB 5045C Conservation Biology (4 credit hours)
- PUP 6007 Public Policy Analysis (3 credit hours)
- PUP 6201 Urban Environmental Policy (3 credit hours)
- PUP 6208 Environmental Politics (3 credit hours)

Financial Economics

For candidates seeking careers as financial economists in the fields of banking, brokerage, corporate, or personal finance, selection among the following electives is recommended:

- ECO 6226 Seminar in Money, Banking, and Monetary Policy (3 credit hours)
- ECO 6433 Business Cycles and Forecasting (3 credit hours)
- ECP 6705 Managerial Economics (3 credit hours)
- FIN 6406 Strategic Financial Management (3 credit hours)
- FIN 6425 Asset Management and Financial Decisions (3 credit hours)
- FIN 6515 Analysis of Investment Opportunities (3 credit hours)
- FIN 6605 International Financial Management (3 credit hours)

Human Resource Economics

For candidates seeking careers in the area of human resources development or positions in interdisciplinary manpower-related issues, selection among the following electives is recommended:

- ECP 6205 Labor Economics (3 credit hours)
- ECS 6015 Economic Development (3 credit hours)
- EIN 5117 Management Information Systems I (3 credit hours)
- EIN 6258 Human Computer Interaction (3 credit hours)
- EVT 6267 Vocational Program Planning, Development, and Evaluation (2-4 credit hours)
- ISM 6121 Advanced Information Systems Analysis and Design (3 credit hours)
- MAN 6245 Organizational Behavior and Development (3 credit hours)
- MAN 6305 Human Resources Management (3 credit hours)
- PAD 6417 Human Resource Management (3 credit hours)

International Political Economy

For candidates seeking positions with international organizations (such as the World Bank or United Nations) or overseas business or government appointments, selection among the following electives is recommended:

- ECO 6705 Seminar in International Economics (3 credit hours)
- ECS 6015 Economic Development (3 credit hours)
- FIN 6605 International Financial Management (3 credit hours)
- INR 6007 Seminar in International Politics (3 credit hours)

Public Sector Economics

For candidates seeking careers in the public sector as planners, policy analysts, or regulators, selection among the following electives is recommended:

- ECO 6226 Seminar in Money, Banking, and Monetary Policy (3 credit hours)
- ECO 6505 Public Finance and Fiscal Policy (3 credit hours)
- ECP 6205 Labor Economics (3 credit hours)
- ECP 6405 Industrial Organization and Performance (3 credit hours)
- ECP 6605 Economics of Urban and Regional Problems (3 credit hours)
- ECP 6705 Managerial Economics (3 credit hours)
- Approved electives in Public Administration
- Approved electives in Political Science
- Approved electives in Political Theory

Quantitative Economics

For candidates seeking careers as analysts, consultants, or researchers in business, government, or nonprofit institutions, selection among the following quantitative electives is recommended:

- ECO 6433 Business Cycles and Forecasting (3 credit hours)
- ECP 6705 Managerial Economics (3 credit hours)
- ISM 6537 Quantitative Models for Business Decisions (3 credit hours)
- MAR 6616 Marketing Research Methods (3 credit hours)

Accelerated Undergraduate and Graduate Program in Applied Economics

The Master of Arts in Applied Economics component of the BSBA/MAAE accelerated degree requires 30 credit hours based on admission to the BSBA/MAAE program and completion of 120 credit hours of the BSBA component. Up to 15 hours of graduate courses will count toward the completion of the BSBA component of the BSBA/MAAE degree.

Requirements for BSBA/MAAE—135 Credit Hours Minimum

Prerequisites—120 Credit Hours

- Admission to the BSBA/MAAE accelerated program
- Completion of the undergraduate requirements of the Economics BSBA/MAAE degree

Courses taken toward the BSBA must include:

- ECO 3101 Intermediate Price Theory (3 credit hours)
- ECO 3203 Aggregate Economic Conditions Analysis (3 credit hours)
- ECO 4451 Research Methods in Economics (3 credit hours)
- Select one 3000-4000 level elective (3 credit hours)

Shared BSBA/MAAE Courses

- ECO 6403 Mathematical Economics (3 credit hours)
- ECO 6206 Aggregate Economic Conditions and Analysis (3 credit hours)
- ECO 6118 Microeconomic Analysis (3 credit hours)
- ECO 6424 Econometrics (3 credit hours)
- Economics Elective (3 credit hours)

Career-Oriented Elective Concentration

Same as MAAE (See above)

Courses Taken Toward MAAE—9 Credit Hours

Select three 6000-level electives from the Career-Oriented Specialization (six hours in Economics required). A maximum of three hours of an approved non-economics elective may be completed from disciplines such as accounting, finance, management, marketing, mathematics, statistics, public administration, health sciences, political science, computer science, and environmental engineering.

End-of-Program Option—6 Credit Hours

Same as MAAE (See above)

The baccalaureate degree will be awarded when program requirements for the BSBA are met and students have completed a minimum of 120 hours of credit. Students will then be reclassified as graduate students. The MAAE will be awarded on completion of the total program of study.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.

- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Michael Caputo, Ph.D. , Professor
Phone Number: 407-823-4728
cbagrad@bus.ucf.edu

Applied Sociology

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Master of Arts in Applied Sociology](#)

[Domestic Violence Track](#)

[Contact Info](#)

Description

The Department of Sociology and Anthropology offers a graduate program leading to the Master of Arts degree in Applied Sociology. Beyond a curriculum appropriate for general applied sociology, the program includes a graduate track in Domestic Violence as well as instruction and opportunity pertaining to the study of deviant behavior, social disorganization, social inequalities, and urban/environmental sociology. A primary focus of the program is the variety of social problems in society with special attention given to the Central Florida area and the different community policies that have evolved to confront them. Toward this objective, the program promotes the application of sociological and social psychological knowledge, principles, and research skills in a variety of organizational, community, and institutional settings. Examples of competencies in applied sociology include effective skills in the conceptualization of human and organizational problems; program design and evaluation research; planning, feasibility and needs assessment studies; data management, analysis and presentation; and, the application of general systems and social conflict theories to organizational problems, community development and planned change.

Degrees Offered

Master of Arts in Applied Sociology

- Domestic Violence Track

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

In addition to the general admission requirements, applicants must provide:

- Official Graduate Record Examination (GRE) scores from test taken within the last five years
- GPA of 3.0 or higher in last 60 hours of undergraduate study*
- Three letters of recommendation, including at least one from an academic source familiar with the applicant's abilities
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

* The minimum GPA requirement will be waived for applicants whose combined GRE score (quantitative and verbal) exceeds 1000.

The applicant's records will be reviewed on an individual basis for academic deficiencies and evaluated to assess their potential for success in the program. Supplemental course work may be recommended. Note also that there is no automatic connection between acceptance as a non-degree-seeking student and acceptance into this degree-granting program. Consult the graduate program coordinator whenever questions arise.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Applied Sociology	Feb 1	Jul 15	Dec 1	Apr 15
Domestic Violence Track	Feb 1	Jul 15	Dec 1	Apr 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Applied Sociology	Feb 1	Feb 1	Jul 1	
Domestic Violence Track	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Applied Sociology	Feb 1	Mar 1	Sep 1	
Domestic Violence Track	Feb 1	Mar 1	Sep 1	

Master of Arts in Applied Sociology (M.A.)

Degree-seeking students in the Applied Sociology Program may elect to follow either a thesis or a non-thesis course of study. However, the thesis option is designed for students who plan to enter doctoral programs, while the non-thesis option is more appropriate for students entering or continuing professional careers following the M.A. degree. The Master of Arts degree is conferred when students have fulfilled the requirements of either the thesis or non-thesis option. Both options require 30 hours of course work, at least 15 of which must be at the 6000-level or above. In addition, students must earn a grade of "B-" (2.75) or better in the program's required courses. Courses may be retaken to achieve a better grade; however, students must maintain a minimum GPA of 3.0 in their program of study.

By the end of their second semester in the program, students should select a permanent faculty adviser and determine their preliminary program of study, either in the thesis or non-thesis track. Students should maintain close contact with their faculty adviser in order to develop a viable program of study and avoid graduation delays. For thesis students, the permanent faculty advisor will chair their committee, which also will include two additional graduate sociology faculty members in the department. The additional members of the thesis committee are selected in consultation with the student's permanent faculty adviser.

Minimum Requirement-30 Credit Hours

Degree-seeking students in the applied sociology program may elect to follow either a thesis or a non-thesis course of study. Both options require 30 hours of course work.

Required Courses—12 Credit Hours

- SYA 5625 Proseminar (3 credit hours)
- SYA 6126 Social Theory (3 credit hours)
- SYA 6305 Social Research (3 credit hours)
- SYA 6455 Research Analysis (3 credit hours)

Electives—12 Credit Hours

Students will select a minimum of 12 credit hours of nonrestricted electives in consultation with their faculty adviser. No more than 6 hours may be taken in UCF graduate programs outside the department. The department's graduate coordinator must approve all courses taken outside the department prior to enrollment.

Under special circumstances, students may enroll in a graduate-level Directed Independent Study course or a Directed Independent Research course to fulfill their non-restricted elective course requirements. These courses, like most graduate seminars, require written research reports. Enrollment in these courses requires written approval from the student's adviser. No more than 6 hours of graduate-level courses in Directed Independent Study or Directed Independent Research may be included in a student's program of study.

Domestic Violence Track

Students who elect to pursue the Domestic Violence Track as a special area of study within the Department's Master of Arts in Applied Sociology Program must complete the following requirements in place of their 12-hour elective coursework:

The following two courses must be completed for the Domestic Violence Track (6 hours):

- SYP 5562 Seminar on Domestic Violence: Theory, Research and Social Policy (3 credit hours)
- SYP 6563 Reactions to Domestic Violence (3 credit hours)

Two of the following restricted electives must be completed for the Domestic Violence Track (6 hours):

- SYA 6657 Program Design and Evaluation (3 credit hours)
- SYP 6561 Child Abuse in Society (3 credit hours)
- SYP 6565 Elder Abuse and Neglect (3 credit hours)
- SYP 5526 Sociological Criminology (3 credit hours)
- SYP 6515 Deviant Behavior Issues (3 credit hours)
- SYO 6515 Issues in Social Disorganization (3 credit hours)
- SYP 6546 Crime, Law, Inequality (3 credit hours)

Thesis Option—6 Credit Hours

The thesis option requires a minimum of 6 hours of thesis credit and a successful defense of a thesis. Students may enroll in thesis hours after they have successfully completed the four required courses. When a topic has been selected, students, in conjunction with their permanent adviser, will develop a thesis proposal. Copies of the proposal will be routed to members of their thesis committee and a proposal hearing scheduled. All students must pass a proposal hearing as well as a final oral defense of their thesis. Students who elect to write a thesis should become familiar with the University's requirements and deadlines for organizing and submitting the thesis. The thesis option is highly recommended for students interested in community college teaching and/or graduate work beyond the Master of Arts degree.

Non-Thesis Option—6 Credit Hours

The non-thesis option requires that students complete SYA 6657 Program Design and Evaluation (required course) and 3 additional hours of elective coursework in their area of specialization. Non-thesis students may substitute up to 6 hours of their elective course work by completing a graduate practicum/internship (SYA 6946). The practicum must be approved by the student's permanent and the department's graduate coordinator.

In addition, the non-thesis option requires students to pass a final written examination. The examination will be based on the sociology coursework contained in the student's program of study, which includes the five courses required for the non-thesis option. Before students may register for the final examination, they must earn a grade of "B-" (2.75) or better in each of the five required courses. The examination will be given twice a year. Students must notify the department's graduate coordinator in writing of their intent to take the exam at least one week before the date fixed for the examination. A committee composed of at least three graduate sociology faculty members in the department will supervise the non-thesis examination. The grading system for the examination is as follows: 1) Pass with Distinction, 2) Pass, 3) Conditional Pass, and 4) Fail. Students who receive a grade of Conditional Pass will be required to complete additional work as determined by the grading committee. Students who fail to pass the examination must re-take it at the next scheduled examination period. Failure to pass the examination on the second attempt will result in dismissal from the program. Students who indicate their intent to take the examination but do not appear at the scheduled time will be awarded a failing grade.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based

fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.

- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program coordinator of your major.

Contact Info

Master of Arts in Applied Sociology

Jana Jasinski, Ph.D. , Assistant Professor
Phone Number: 407-823-6568
jjasinsk@mail.ucf.edu

Domestic Violence Track

Jana Jasinski, Ph.D. , Assistant Professor
Phone Number: 407-823-6568
jjasinsk@mail.ucf.edu

Art Education

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Master of Arts in Art Education](#)

[Community College Teaching Track](#)

[Master of Education in Art Education](#)

[Contact Info](#)

Description

The College of Education offers a master's program in art education, with the choice of a Master of Education (M.Ed.) or Master of Arts (M.A.) degree.

The M.Ed. program is designed to meet the expanding needs of the art teacher. Students in the program will examine contemporary problems in art education, review recent curriculum developments, study innovations in art education, explore interdisciplinary concepts, and become involved in research problems specific to the art teacher. This degree requires previous certification in art.

The M.A. program is planned to provide the art-oriented person with a degree that includes certification. The program meets state certification requirements in foundations, special methods in art education, general methods in teaching, and the student teaching component. The M.A. program also includes a Community College Teaching Track, which is designed for individuals planning to teach at that level and not requiring state teacher certification.

Degrees Offered

Master of Arts in Art Education

- Community College Teaching Track

Master of Education in Art Education

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit www.graduate.ucf.edu, then click on "Future Students."

Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s). In addition to the general admission requirements, applicants must provide:

- Official Graduate Record Examination (GRE) score of at least 840 (combined) from test taken within the last five years
- GPA of 3.0 or higher (if GPA is below 3.0, GRE of 1000; in lieu of the GRE, a GMAT score of 500 or higher may be used for admission consideration)
- Applicants to the M.Ed. program must (1) have completed all course requirements for Florida state teacher certification in the program's subject area and/or grade range, or (2) present a Florida Professional Teaching Certificate upon admission to the program. Applicants who have graduated from an accredited university or college teacher certification program in another state or country,

in the appropriate subject and/or grade range, may also be admitted to the M.Ed. program at the discretion of the program director.

- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

Students may not switch from an M.A. program to an M.Ed. program, or vice versa, without going through the university's admission process. Courses used to gain initial state certification may not be transferred into an M.Ed. program.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Art Education	Feb 1	Jul 15	Dec 1	Apr 15
Community College Teaching Track	Feb 1	Jul 15	Dec 1	Apr 15
Master of Education in Art Education	Feb 1	Jul 15	Dec 1	Apr 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Art Education	Feb 1	Feb 1	Jul 1	
Community College Teaching Track	Feb 1	Feb 1	Jul 1	
Master of Education in Art Education	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Art Education	Feb 1	Mar 1	Sep 1	
Community College Teaching Track	Feb 1	Mar 1	Sep 1	
Master of Education in Art Education	Feb 1	Mar 1	Sep 1	

Master of Education in Art Education (M.Ed.)

Minimum Hours Required for M.Ed.—36 Credit Hours

Area A: Core—9 Credit Hours

- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- EDF 6886 Multicultural Education (3 credit hours)

Area B: Specialization (approved by adviser)—21 Credit Hours

Can include two studio (4000*- or 5000- level ART) courses

Select One Option—6 Credit Hours

Option A: Research Report—6 Credit Hours

- ARE 6905 Research Trends in Art Education (3 credit hours)
- ARE 6909 Research Report (2, 1 credit hours)

Option B: Thesis—6 Credit Hours

- EDF 6401 Statistics for Educational Data (3 credit hours)
- ARE 6971 Thesis (2,1 credit hours)

Option C: Non-Thesis (approved by adviser)—6 Credit Hours

- Six hours of 4000-level courses maximum

Master of Arts in Art Education (M.A.)

Minimum Hours Required for M.A.—37 Credit Hours

Area A: Core—18 Credit Hours

- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- EDG 6236 Principles of Instruction (3 credit hours)
- EDF 6432 Measurement and Evaluation in Education (3 credit hours)
- RED 6336 Reading in the Content Areas (3 credit hours)
- TSL 5345 Methods of ESOL Teaching (3 credit hours)

Select One:

- EDF 6517 Perspectives on Education (3 credit hours) OR
- EDF 6608 Social Factors in American Education (3 credit hours)

Area B: Specialization—13 Credit Hours

- ARE 5359 Teaching Art K-12 (4 credit hours)
- ARE 6905 Research Trends in Art Education (3 credit hours)
- ARE Elective Number One (3 credit hours)
- ARE Elective Number Two (3 credit hours)

Area C: Internship—6 Credit Hours

- ARE 6946 Graduate Internship (6 credit hours)

Satisfactory completion of Graduate Internship (ARE 6946, 6 credit hours) requires the student to demonstrate proficiency in all 12 Florida Educator Accomplished Practices at the pre-professional level in accordance with State Board of Education Rule 6A-5.065.

Additional Program Graduation Requirements

- Complete a portfolio according to program guidelines. This portfolio requires demonstration of professional growth, reflection, and proficiency in the 12 Florida Educator Accomplished Practices.
- Pass all required sections of the Florida Teacher Certification Examination.
- Students are required to have 30 credit hours of art course work to meet certification requirements to teach art in grades K-12. Only six hours of independent study courses may be used to satisfy degree requirements. It is important to see an adviser if courses are difficult to schedule in content areas.

Community College Teaching Track

The Community College Teaching Track in this program is designed for individuals whose goal is teaching art at the community college level. Every attempt is made to build at least the required 18 hours of graduate-level art courses into the program of study. Only six hours of independent study courses may be used to satisfy degree requirements. It is important to see an adviser if courses are difficult to schedule in the content area. Students electing this track will not meet state requirements for teacher certification in art grades K-12.

Required Courses—42 Credit Hours Minimum

Area A: Core—15 Credit Hours

Students in this track should consult with the Community College Teaching Track adviser regarding Core requirements prior to registering for Core courses.

- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- EDF 6401 Statistics for Educational Data (3 credit hours) OR
- EDF 6432 Measurement and Evaluation in Education (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- EDF 6517 Perspectives on Education (3 credit hours)
- ESE 6909 Research Report (2 credit hours)
- ESE 6909 Research Report (1 credit hour)

Area B: Specialization—27 Credit Hours

(Electives must be approved by adviser)

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance

available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program coordinator of your major.

Contact Info

Master of Arts in Art Education

Thomas Brewer, Ph.D., Associate Professor
Phone Number: 407-823-3714
tbrewer@mail.ucf.edu

Master of Education in Art Education

Thomas Brewer, Ph.D., Associate Professor
Phone Number: 407-823-3714
tbrewer@mail.ucf.edu

Community College Teaching Track

Ruby Evans, Ed.D. , Associate Professor
Phone Number: 407-823-1129
revans@mail.ucf.edu

Biology

[Description](#)

[Degree Offered](#)

[Admission](#)

[Master of Science in Biology](#)

[Contact Info](#)

Description

The Master of Science degree in Biology is offered with the following areas of specialization: Biology, Botany, Cell Biology, Development, Genetics, Limnology, Conservation Biology, and Zoology. Thesis and non-thesis options are available. A graduate certificate in Conservation Biology is also offered. Qualified certificate program students in Conservation Biology may apply to and be accepted into the Biology M.S. program.

Degrees Offered

Master of Science in Biology

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

In addition to the general admission requirements, applicants must provide:

- Official Graduate Record Examination (GRE) score of at least 1000 (combined) from test taken within the last five years
- GPA of 3.0 or higher for the last 60 attempted semester hours of undergraduate study
- Three letters of recommendation
- A written statement of past experience and research, area of interest, and immediate and long-range goals.
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

Additional Notes on Admissions

Personal interviews are strongly encouraged but not required. Applicants who fail to meet either the minimum program GPA or GRE requirement may occasionally be accepted if there is other convincing evidence of potential for high achievement and success. Applicants failing to satisfy minimum program criteria should submit a GRE Subject (Advanced) Biology Test score at or above the 50th percentile. In no case will GRE scores (verbal, quantitative, or advanced) older than five years be accepted. Applicants need not have an undergraduate degree in a biological science but are expected to have 18 hours of biological sciences, including ecology and genetics. Courses in organic chemistry, calculus, and statistics are also

recommended. After acceptance, minor deficiencies must be remedied by enrollment in the appropriate course at the first opportunity.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Science in Biology	Jan 15	Jan 15		

Students applying for summer or spring admission will be considered on an ad hoc basis.

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Science in Biology	Jan 15	Jan 15		

Students applying for summer or spring admission will be considered on an ad hoc basis.

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Science in Biology	Jan 15	Jan 15		

Students applying for summer or spring admission will be considered on an ad hoc basis.

Master of Science in Biology

There are two options available: (1) a thesis option, which includes a minimum of 30 semester hours of courses; and (2) a non-thesis option, which includes a minimum of 40 semester hours of courses. Thesis students need to receive a commitment from a faculty advisor for admission. M.S. students have five years to complete the program.

Thesis Option

Requirements for M.S. Thesis Option—30 Credit Hours Minimum

A student selecting the biology thesis option will include in their program of study:

Group A—At Least 12 Credit Hours

(Minimally, one course approved by the thesis committee from at least three of the five core areas listed below.)

1. Ecology
2. Evolutionary Biology
3. Genetics
4. Physiology
5. Cell and Developmental Biology

Group B—8 Credit Hours (both courses)

- BSC 6938 Biology Seminar (2 credit hours)
- BSC 6971 Thesis (6 credit hours)

Group C—Remaining Credit Hours (typically 8-10 Credit Hours)

Restricted electives acceptable to the student's graduate advisory committee. Completion of a graduate certificate in Conservation Biology will satisfy electives in this category.

Non-Thesis Option

Requirements for M.S. Non-Thesis Option—40 Credit Hours Minimum

A student selecting the biology non-thesis option will take the following courses:

Group A—At Least 12 Credit Hours

The requirements are the same as the thesis option.

Group B—4 Credit Hours (both courses)

- BSC 6909 Research Report (2 credit hours)
- BSC 6938 Biology Seminar (2 credit hours)

Group C—Remaining Credit Hours (typically 22-24 Credit Hours). Restricted electives acceptable to the student's graduate advisory committee.

Examinations

A comprehensive examination is required of all students in the program. The comprehensive exam must be taken no later than the semester preceding that of thesis defense. If a student fails the comprehensive examination, a minimum of four weeks must elapse before reexamination. The comprehensive exam may be taken a maximum of two times. In addition, an oral thesis defense is required in the thesis option. A minimum of four weeks must elapse between the comprehensive and thesis defense examinations.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based

- fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
 - For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program coordinator of your major.

Contact Info

John Weishampel, Ph.D. , Associate Professor
Phone Number: 407-823-6525
jweisham@mail.ucf.edu

Biomolecular Sciences

[Description](#)

[Degree Offered](#)

[Admission](#)

[Doctor of Philosophy in Biomolecular Sciences](#)

[Contact Info](#)

Description

The biomolecular sciences Ph.D. program is an interdisciplinary program supported by the College of Arts and Sciences and the College of Health and Public Affairs. The four participating units include the Molecular Biology and Microbiology Department, Biology Department, Chemistry Department, and the Biomolecular Science Center. The program provides doctoral education and training at the interface between the biological and physical sciences. This training produces scientists who are not only capable of doing independent research, but who can also work as part of interdisciplinary teams to solve important problems in the biomolecular sciences.

Degrees Offered

Doctor of Philosophy in Biomolecular Sciences

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Graduate Catalog](#). Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

Students entering the graduate program with regular status are normally expected to have completed course work generally required for a bachelor's degree in chemistry, cell biology, biochemistry, biophysics, genetics, molecular biology, or microbiology.

In addition to the general admission requirements, applicants must provide:

- Official score of at least 1100 (combined) on the Graduate Record Examination (GRE), which must have been taken within the last five years.
- Official transcripts showing a bachelor's degree and all courses taken for that degree, and any post-baccalaureate education or degree. GPA should be 3.0 or higher.
- A course-by-course transcript evaluation is required of all students who attend a college/university outside the United States. Transcript evaluations are accepted from [World Education Services \(WES\)](#) or [Josef Silny and Associates, Inc](#) only.
- Three letters of recommendation.
- Statement of research interest and purpose, including a summary of relevant work or research experience.
- Resume.
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

A personal or telephone interview will also take place whenever possible. Admission is based on an overall assessment of qualifications documented in credentials submitted and the interview. All admissions to graduate status are competitive and based on availability of faculty for sponsoring research.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Biomolecular Sciences	Jan 1	Jan 1		

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Biomolecular Sciences	Jan 1	Jan 1		

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Biomolecular Sciences	Jan 1	Jan 1		

Doctor of Philosophy in Biomolecular Sciences—Minimum 72 Credit Hours

The program is composed of 20 credit hours of required core courses, a minimum of 12 credit hours of electives, a minimum of 15 credit hours of dissertation research, and the balance of required credit hours in additional electives and doctoral research.

Programmatic deficiencies expected of applicants from diverse settings will be addressed early in the program by completion of appropriate course work. No more than six semester credit hours of 4000-level courses may be taken for credit. Students entering with a master's degree may request that up to 30 semester credit hours of previous course work be accepted toward the requirements for this degree, subject to the approval of the dissertation committee. Students may register for doctoral research until they have been admitted to candidacy, after which they must register for dissertation research.

All entering students who are adequately prepared first take a two-semester interdisciplinary core course to provide an introduction to the interdisciplinary area of biomolecular sciences. In addition, a laboratory rotation will allow students to have a brief but intensive experience working in at least three different faculty members' research laboratories in order to find a research area of interest for their dissertation. Finally, a sequence of required seminars will immerse students in the literature of the fields and introduce them to the conceptual and technical frameworks in which they will work.

Core Courses—20 Credit Hours

- IDS 7691 Structure-Function-Relationships of Biomolecules I (5 credit hours)
- IDS 7693 Structure-Function-Relationships of Biomolecules II (5 credit hours)
- IDS 7692L Experiments in Biomolecular Sciences (lab) (3 credit hours)
- IDS 7939L Experiments in Biomolecular Sciences (lab) (1 credit hour)
- IDS 7690 Frontiers in Biomolecular Sciences (four semesters, 1 credit hour each semester)
- MCB 6938 Practice of Biomolecular Science (2 credit hour)

Elective Courses—12 Credit Hours

By the completion of 24 credit hours students must choose a dissertation adviser and establish a program of study. Students are required to complete a minimum of 12 credit hours of electives that will give them the needed background in their area of emphasis. In addition to the electives taken from the list below, the dissertation committee may require the candidate to take any graduate course taught at UCF, if deemed appropriate for the candidate's area of emphasis.

- CHM 5305 Applied Biological Chemistry (3 credit hours)
- CHM 5450 Polymer Chemistry (3 credit hours)
- CHM 5451C Techniques in Polymer Science (3 credit hours)
- CHS 6251 Applied Organic Synthesis (2 credit hours)
- CHS 6535 Forensic Analysis of Biological Materials (2 credit hours)
- CHS 6535L Forensic Analysis of Biological Materials (3 credit hours)
- CHS 6536 Forensic Analysis of DNA Data (2 credit hours)
- MCB 5205 Infectious Processes (3 credit hours)
- MCB 5225 Molecular Biology of Disease (3 credit hours)
- MCB 5505 Molecular Virology (3 credit hours)
- MCB 5527 Genetic Engineering and Biotechnology (3 credit hours)
- MCB 5654 Applied Microbiology (3 credit hours)
- MCB 6226 Molecular Diagnostics (3 credit hours)
- MCB 6407C Laboratory Methods in Molecular Biology (5 credit hours)
- MCB 6417C Microbial Metabolism (3 credit hours)
- MCB 6938 ST: Plant Molecular Biology (3 credit hours)
- PCB 5107C Advanced Cell Biology (4 credit hours)
- PCB 5239 Tumor Biology (3 credit hours)
- PCB 5256C Advanced Developmental Biology (4 credit hours)
- PCB 5665C Human Genetics (4 credit hours)
- PCB 5677 Molecular Evolution (3 credit hours)
- PCB 6585C Advanced Genetics (4 credit hours)
- PCB 6596 Bioinformation and Genomics (3 credit hours)
- PCB 6595 Regulation of Gene Expression (3 credit hours)

Enrollment Requirements

All students receiving assistantships must enroll for nine credit hours in fall and spring and six credit hours in summer before being admitted to candidacy. Students may enroll in dissertation research only after passing the candidacy exam. Once students have been admitted to candidacy and completed all course requirements, they must enroll for at least three credit hours of dissertation research each semester until graduation.

Cumulative/Qualifying Examinations

Cumulative examinations will determine if students should continue with their doctoral studies. Eight exams will be given by program faculty members during the second year. Each exam will consist of two questions set by two different faculty members. One will deal with interpretation of data from the literature and the other will require the design of experiments to test a hypothesis. All program faculty members will have an opportunity to evaluate the answers and determine whether the performance is satisfactory. A student must satisfactorily answer eight cumulative questions out of sixteen to be eligible to continue in the Ph.D. exam.

Candidacy Examination

Candidacy to the degree will consist of writing and orally defending a proposal outlining a novel research idea (outside the research area of the thesis) to the advisory committee and program faculty. This ten-page proposal, which will be done in an NIH format, will be developed and written independently by the student and approved by the advisory committee. After passing the candidacy examination, the student can register for dissertation hours.

Dissertation Defense

The dissertation must consist of at least two manuscripts already published, accepted, or ready for publication in a mainstream journal in the field. In case of manuscripts not yet subjected to peer review by the journal, the dissertation committee will determine whether the manuscript meets the standards for publication in a mainstream journal. For more information, see the General Guidelines for Alternative Organization in the [Thesis and Dissertation Manual](#).

Upon completion and approval of the doctoral dissertation by all appropriate faculty and university offices, the student will make a formal presentation of the research findings in seminar format to the dissertation committee and other university faculty and students who may wish to attend. The candidate will answer questions about the subject matter presented and defend the conclusions drawn. The dissertation committee will determine whether or not the candidate has passed this last assessment.

Financial Support

Students accepted in the program are eligible for graduate assistantships, graduate teaching assistantships, and graduate research assistantships. Stipends are currently \$18,500 per year. Tuition waivers are provided to all students. Exceptionally qualified students become eligible for university enhancement awards. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based

fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.

- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Antonis Zervos, Ph.D. , Associate Professor

Phone Number: 407-823-4677

biomoldoc@mail.ucf.edu

Business Administration - MBA

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Master of Business Administration](#)

[Executive M.B.A. Track](#)

[M.B.A. \(1 year, full-time program\) Track](#)

[Sport Business Management Track](#)

[Contact Info](#)

Description

The college offers a Master of Business Administration (M.B.A.) degree with three options for study: a full-time, one-year program; a traditional evening program; and an Executive M.B.A. program.

The M.B.A. program allows students to apply advanced theoretical concepts and knowledge from all functional areas of business through an analytical, decision-making process which focuses on solving practical problems. Students in the M.B.A. program also learn to efficiently access and retrieve information through technology. The program promotes the use of networking, leadership, and interpersonal competencies to develop and sustain effective relationships with peers, and to create an appreciation for the value of a diverse workforce.

The Executive M.B.A. program is designed to prepare executives and managers for the challenges they will face as they continue their career progression to positions of top leadership. The skills they develop and refine during this program will help them to achieve their full career potential and become an increasingly valuable organizational member.

The college also offers a doctoral (Ph.D.) program in business administration – for more information, please [click here](#).

Degrees Offered

Master of Business Administration

- Executive M.B.A. Track
- M.B.A. (1 year, full-time program) Track
- Sport Business Management Track

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Graduate Catalog](#). Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

In addition to the general admission requirements, applicants to this program must provide:

- Official score of at least 540 on the Graduate Management Admission Test (GMAT).
- Evidence of an accredited Bachelor's degree with a prior GPA of 3.0. Foreign transcripts must be evaluated for U.S. bachelor's equivalency.
- Three letters of recommendation.

- Essay (for details, see www.ucfmba.ucf.edu).
- Resume.
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 230 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Business Administration	Feb 1	Jun 15	Nov 1	Mar 15
<i>Traditional/evening program.</i>				
Executive M.B.A. Track	Feb 1	Jul 15		
M.B.A. (1 year, full-time program) Track	Feb 1	Apr 15		
Sport Business Management Track				
<i>Students must be admitted to the Master of Sport Business Management program first.</i>				

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Business Administration	Feb 1	Feb 1	Jul 1	
<i>Traditional/evening program.</i>				
Executive M.B.A. Track	Feb 1	Feb 1		
M.B.A. (1 year, full-time program) Track	Feb 1	Feb 1		
Sport Business Management Track				
<i>Students must be admitted to the Master of Sport Business Management program first.</i>				

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Business Administration	Feb 1	Mar 1	Sep 1	
<i>Traditional/evening program.</i>				

Executive M.B.A. Track	Feb 1	Mar 1
M.B.A. (1 year, full-time program) Track	Feb 1	Mar 1
Sport Business Management Track		

Students must be admitted to the Master of Sport Business Management program first.

Master of Business Administration

The M.B.A. curriculum provides a challenging and creative learning environment in an intensive program of study that has a broad-based administrative emphasis. Recognizing that the management methods of tomorrow may bear little resemblance to techniques in current use, the program emphasizes sound general principles and decision-making techniques that provide a base for continued learning and professional development rather than upon business procedures which are subject to obsolescence.

The program can be completed on either a full-time or part-time basis on the Orlando Campus.

Traditional M.B.A. Requirements 39-51 Minimum Credit Hours

Foundation Core—10.5 Credit Hours

Students entering the M.B.A. program must complete the foundation core first. This 10.5-credit-hour core of business foundation courses may be satisfied by a student's prior equivalent course work, provided such course work has been satisfactorily completed at a regionally accredited university either at the undergraduate or graduate level.

The foundation core is defined by the course requirements listed below:

- ACG 5005 Accounting Foundations (1.5 credit hours)
- ECO 5006 Economic Foundations (1.5 credit hours)
- ECO 5414 Statistical Foundations (1.5 credit hours)
- FIN 5407 Financial Foundations (1.5 credit hours)
- ISM 5020 MIS Foundations (1.5 credit hours)
- MAN 5021 Management Foundations (1.5 credit hours)
- MAR 5055 Marketing Foundations (1.5 credit hours)

Foundation courses are offered in either the first or second half of the semester, and students must register for all courses during regular registration periods.

Professional Core—39 Credit Hours

The professional core consists of advanced course work that substantially extends and applies knowledge developed in the foundation core. Core I of the professional core, the decision-making tools courses, is a prerequisite for Core II, the decision applications courses. The M.B.A. program also requires the student to take three elective courses (9 credit hours), and students are encouraged to choose a concentration in a specific area to give focus to their elective hours. The professional core must be completed in four consecutive years. If a course falls outside the four-year rule, the student will be required to retake the course.

Professional Core I: Decision-Making Tools—16.5 Credit Hours

- GEB 6895 Business Analysis (1.5 credit hours)

- BUL 6444 Law and Ethics (1.5 credit hours)
- ECO 6416 Applied Business Research Tools (3 credit hours)
- MAN 6245 Organizational Behavior and Development (3 credit hours)
- ISM 6407 Decision Support Systems (1.5 credit hours)
- ACG 6425 Managerial Accounting Analysis (3 credit hours; accounting undergraduate majors may not take ACG 6425, but may substitute another accounting or tax elective, or any other business elective in its place)
- ECO 6115 Economic Analysis of the Firm (3 credit hours)

Professional Core II: Decision Applications—13.5 Credit Hours

- MAR 6816 Strategic Marketing Management (3 credit hours)
- FIN 6406 Strategic Financial Management (3 credit hours)
- ISM 6367 Strategic Information Systems (1.5 credit hours)
- GEB 6365 International Business Analysis (3 credit hours)
- MAN 6721 Applied Strategy and Business Policy (3 credit hours, capstone course; students must earn a grade of “B” or better in the MAN 6721 course, or the course must be repeated)

Electives—9 Credit Hours

Electives may be taken in accounting, economics, finance, marketing, management, or management information systems. A student may petition to take up to two graduate electives outside the College of Business Administration with permission from the Associate Dean for Graduate Programs. The M.B.A. program does not require a thesis.

M.B.A. Career-Oriented Concentrations

Concentrations in the M.B.A. program are available in the following areas: Accounting, Economics, Finance, Entrepreneurship, Environmental Management and Policy, Human Resource and Change Management, International Business or Management Information Systems. See the Graduate Adviser in BA 229 for requirements for the concentrations.

Executive M.B.A. Program

The Executive M.B.A. program prepares executives and managers for the challenges they will face as they continue their career progression to positions of top leadership. The skills they develop and refine during this program will help them to achieve their full career potential and become increasingly valuable members of their organization.

Degree Requirements

The Executive M.B.A. program is comprised of 39 credit hours delivered every other weekend, including a 3-day kickoff, and during an international residency. The courses are designed to expose participants to new methods, concepts, and tools that will enhance their business and leadership skills. Innovative teaching methodologies, such as team-based projects, interdisciplinary case studies, simulations, debates, and self-assessment exercises are used to enhance the learning experience.

Kick-off and Residency

The Kick-off and residency are designed for very specific purposes. The Kick-off, at the beginning of the program, prepares participants for the academic and intellectual challenges of the Executive M.B.A. program. The mid-program international residency emphasizes managing in a global and multicultural environment.

Kick-off

Introduces class participants and updates skills needed for future course work. The first lessons of the Session I courses are introduced.

Session 1

- ECO 6416 Applied Business Research Tools (3 credit hours)
- ISM 6407 Decision Support Systems (1.5 credit hours)
- ECO 6115 Economic Analysis of the Firm (3 credit hours)
- GEB 6895 Business Analysis (1.5 credit hours)

Session 2

- BUL 6444 Law and Ethics (1.5 credit hours)
- MAN 6245 Organizational Behavior and Development (3 credit hours)
- ACG 6425 Managerial Accounting Analysis (3 credit hours)
- ISM 6367 Strategic Information Systems (1.5 credit hours)

Session 3

- FIN 6406 Strategic Financial Management (3 credit hours)
- Elective—Special Topic
- Elective—Special Topic

Session 4 and International Experience

- GEB 6365 International Business Analysis (3 credit hours)
- MAR 6816 Strategic Marketing Management (3 credit hours)
- GEB 6918 Contemporary Strategic Issues

Session 5

- MAN 6721 Applied Strategy and Business Policy (3 credit hours)
- MAN 6296 Executive Leadership (3 credit hours)

Notes on the Executive M.B.A. Program

The international residency typically is one week long and is generally held in the fall. Otherwise, all classes meet on Friday and Saturday every other week from 8:00 a.m. to 5:00 p.m. in the Executive Development Center in the College of Business Administration on our main campus in Orlando (unless otherwise stated). Our accessible executive classroom is specifically designed to provide the best in learning environments, with the latest in audio/video equipment and individual electrical hookups and data ports.

M.B.A. (1 year, full-time program) Track

The M.B.A. (1 year, full-time program) Track is focused on honors eligible students who wish to obtain an M.B.A. in one year, and gain professional work experience at the same time. Classes are limited in size,

offered only during the daytime, and students complete the program as a group (qualified students accepted in order of application date up to the program limit). Please see www.ucfmba.ucf.edu

Sport Business Management Track

Students interested in the Sport Business Management Track must apply and be accepted to the [Master in Sport Business Management](#) program. Once accepted into the program, students can earn a Master of Business Administration in addition to a masters degree in Sport Business Management by taking a select group of courses.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted full-time graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Master of Business Administration

Donna Jordan
Phone Number: 407-823-2412
cbagrad@bus.ucf.edu

Executive M.B.A. Track

Kay Mittnik, Ph.D.
Phone Number: 407-823-2446
cbagrad@bus.ucf.edu

M.B.A. (1 year, full-time program) Track

Robin Hofler
Phone Number: 407-823-6183
cbagrad@bus.ucf.edu

Sport Business Management Track

Philomena Pirolo
Phone Number: 407-823-4887
ppirolo@bus.ucf.edu

Business Administration - Ph.D.

[Description](#)

[Degrees Offered](#)

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[Doctor of Philosophy in Business Administration](#)

[Accounting Track](#)

[Finance Track](#)

[Management Information Systems Track](#)

[Management Track](#)

[Marketing Track](#)

[Contact Info](#)

Description

The objective of the doctoral program in Business Administration is to prepare students for academic careers in higher education and management careers in profit and nonprofit organizations. Success in the program is judged by the student's understanding of the issues and methodologies essential to the advancement of knowledge.

Degrees Offered

Doctor of Philosophy in Business Administration

- Accounting Track
- Finance Track
- Management Information Systems Track
- Management Track
- Marketing Track

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Graduate Catalog](#). Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

In addition to the general admission requirements, applicants to this program must provide:

- Official scores on the Graduate Management Admission Test (GMAT).
- Official prior transcripts, including GPAs, of previous undergraduate and graduate programs.
- Three letters of recommendation.
- Goal Statement.
- Resume.
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 230 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required. An evaluation of all foreign transcripts is also required.

Additional Notes on Admissions

Admission decisions are made on the recommendation of the faculty of the appropriate department or school. Admissions will generally be made only for fall semester, every other year; however, exceptions may be made in some cases. All interested students should contact the program director for their track for information about applying to this program. The college strongly encourages applications from minority and diverse populations. Race, national origin, and gender are not used in the evaluation of students for admission into graduate and professional programs.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Business Administration				
Accounting Track	Feb 1	Apr 15		
Finance Track	Feb 1	Apr 15		
Management Information Systems Track	Feb 1	Apr 15		
Management Track	Feb 1	Apr 15		
Marketing Track	Feb 1	Apr 15		

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Business Administration				
Accounting Track	Feb 1	Feb 1		
Finance Track	Feb 1	Feb 1		
Management Information Systems Track	Feb 1	Feb 1		
Management Track	Feb 1	Feb 1		
Marketing Track	Feb 1	Feb 1		

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
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Doctor of Philosophy in Business Administration				
Accounting Track	Feb 1	Mar 1		
Finance Track	Feb 1	Mar 1		
Management Information Systems Track	Feb 1	Mar 1		
Management Track	Feb 1	Mar 1		
Marketing Track	Feb 1	Mar 1		

Doctor of Philosophy in Business Administration

Total Semester Hours Required—84-96 hours

Doctoral work is based on the achievement of academic and research competencies, rather than a specific number of courses. A student who participates in a doctoral program of study is expected to strive for the knowledge and skills necessary to develop excellence in teaching and to conduct quality research, and should at all times maintain the highest ideals of academic integrity and scholarship.

Upon admission to the doctoral program, the student will be assigned an advisory committee. The student, with the approval of the student's advisory committee, will complete a program of study including the following:

General Preparation and Course Work

- MBA degree or equivalent —30 hours: Each track may specify different requirements for this category. Consult the doctoral graduate program coordinator for a specific major.
- Major—12-21 hours
- Minor/Support Area—6-9 hours
- Research Tools —12-15 hours: All doctoral students are required to take two applied statistics courses. Other research tool courses will be specified by the track.
- Teaching—0-3 credit hours: Each track will require some education related to teaching. It may take the form of classes, noncredit seminars, mentoring, or a teaching requirement. Consult the doctoral graduate program coordinator for a specific major.
- Candidacy Examination: The student must successfully complete a comprehensive candidacy examination. This exam has written and oral parts, and covers the candidate's program of study. Students are admitted to candidacy after satisfying all general degree requirements, passing the comprehensive exam, and fulfilling the residency requirement.
- Dissertation—24 hours: The student must successfully defend a written dissertation proposal in an oral examination conducted by the student's advisory/dissertation committee. The final defense of the successful dissertation will require an oral examination that concentrates on, but is not limited to, the student's dissertation defense.

The general expectations for each track follow. Each program is tailored to the needs of the individual student and may require work that is not included in the following descriptions.

Accounting Track

Minimum Hours Required for Ph.D.—93 Credit Hours

Foundation Body of Knowledge—30 Credit Hours

In Accounting, the foundation body of knowledge may be satisfied with a master's degree in Accounting, Business Administration, Taxation, or its equivalent from an Association to Advance Collegiate Schools of Business (AACSB) accredited school that includes certain accounting courses deemed essential by the accounting Ph.D. coordinator. Alternatively, this requirement may be satisfied by courses deemed essential by the School of Accounting's doctoral advisory committee.

Accounting Major Concentration—21 Credit Hours Minimum

Required Courses—18 Credit Hours

- ACG 7157 Seminar in Archival Research in Accounting (3 credit hours)
- ACG 7399 Seminar in Behavioral Accounting Research (3 credit hours)
- ACG 7826 Seminar in the Social and Organizational Context of Accounting (3 credit hours)
- ACG 7885 Research Foundations in Accounting (3 credit hours)
- ACG 7887 Accounting Research Forum (6 credit hours) (Workshop, 1 credit hour per semester)

Elective Courses—3 Credit Hours—Select one course.

- ACG 7888 Seminar in Critical Accounting and AIS (3 credit hours)
- ACG 7917 Advanced Research Methods in Accounting and Accounting Information Systems Research (3 credit hours)
- Other accounting electives as they are developed for the program

Minor/Support Area—6 Credit Hours

Students must select a minimum of six credit hours in a unified area approved by the students doctoral study advisory committee. Each student's program of study is individually tailored to accommodate student interests whenever possible, and this course work may be developed from offerings in the following areas with the advice and consent of the respective departments and advisory committee:

- Management Information Systems
- Marketing
- Economics
- Political Science
- Psychology
- Gender Studies
- Management
- Sociology
- Environmental Studies
- Communication
- Philosophy
- Public Affairs

Research Tools—12 Credit Hours

The research tools requirement is intended to ensure a thorough exposure to research methods. All candidates are expected to demonstrate knowledge of statistical methods as well as usage of statistical packages, including design, analysis, and interpretation of results.

- ECO 7423 Applied Models I (3 credit hours, required course)

- Additional 9 credit hours of research tools courses, approved by the student's advisory committee. Examples of courses that will satisfy this requirement include GEB 7910, STA 5205, PSY 6216, PSY 6217, PSY 6308, ECO 6424, ECO 7425, and ISM 7029.

Teaching Requirement

The requirements for the teaching component of the doctoral degree will be developed with the doctoral program coordinator based on the student's experience. Normally, this requirement will be satisfied through teaching a minimum of 3 credit hours of class instruction under the direct supervision of a faculty member. As appropriate, students will also be required to attend teaching development workshops and seminars.

Candidacy Examination and Dissertation (24 Credit Hours)

As described in General Preparation and Course Work (above).

Finance Track

Minimum Hours Required for Ph.D.—84 Credit Hours

Foundation Body of Knowledge—30 Credit Hours

In finance, the foundation body of knowledge includes (a) the common body of knowledge in an M.B.A. degree or its equivalent, and (b) graduate credit hours (6 credit hours total) in macro and microeconomic theory, and (c) graduate courses in financial management, investments, financial institutions, and international finance.

Finance Major Concentration—12 Credit Hours

- FIN 7807 Corporate Finance Theory (3 credit hours)
- FIN 7811 Seminar in Financial Markets and Institutions (3 credit hours)
- FIN 7816 Investment Theory (3 credit hours)
- FIN 7930 Seminar in Finance (3 credit hours)

Minor/Support Area—6 Credit Hours

- ECO 7116 Microeconomic Theory (3 credit hours)
- ECO 7205 Macroeconomic Theory (3 credit hours)

Research Tools—12 Credit Hours

- ECO 6424 Econometrics (3 credit hours)
- ECO 7423 Applied Models I (3 credit hours)
- ECO 7425 Applied Models II (3 credit hours)
- ECO 7428 Time Series (3 credit hours)

Teaching Requirement—0-3 Credit Hours

The requirements for the teaching component of the doctoral degree will be developed with the doctoral graduate program coordinator based on the student's experience.

Candidacy Examination and Dissertation (24 Credit Hours)

As described in General Preparation and Course Work (above).

Management Track

Minimum Hours Required for Ph.D.—90 Credit Hours

Foundation Body of Knowledge—30 Credit Hours

In the [UCF Management Ph.D. track](#), the foundation body of knowledge includes the common body of knowledge in an M.B.A. degree or its equivalent from an AACSB-accredited or comparable school.

Management Major Concentration—18 Credit Hours

- MAN 7275 Organizational Behavior (3 credit hours)
- MAN 7207 Organization Theory (3 credit hours)
- MAN 7306 Seminar in Human Resources Management (3 credit hours)
- MAN 7777 Corporate-level Strategic Management (3 credit hours)
- MAN 7075 Foundations of the Management Discipline (3 credit hours)
- MAN 7900 Directed Readings in Management (3 credit hours)

Minor/Support Area—6 Credit Hours

Students may select a minimum of six hours, typically within a unified area, approved by the student's doctoral study advisory committee. Each student's program of study is individually tailored to accommodate student interests whenever possible, and this course work may be developed from offerings in the following or other disciplines with the advice and consent of the respective departments and advisory committee: accounting, communication, economics, finance, marketing, psychology, sociology, and statistics.

Research Tools—12 Credit Hours

The research tools requirement is intended to ensure a thorough exposure to research methods. All candidates are expected to demonstrate knowledge of statistical methods as well as usage of statistical packages. This includes design, analysis and interpretation of results. ECO 7423, Applied Models I, is required. An additional nine hours of research courses must be approved by the student's advisory committee. Examples of courses that will satisfy this requirement include ECO 7425, GEB 7910, STA 5205, PSY 6216, PSY 6217, PSY 6308, and ECO 6424.

Teaching Requirement

Students are required to have a minimum of three credit hours of class instruction under the direct supervision of a faculty member. As appropriate, students will also be required to attend teaching development workshops and seminars.

Candidacy Examination and Dissertation (24 Credit Hours)

For Information regarding program characteristics and requirements, please visit the UCF Management Ph.D. Track website.

Management Information Systems Track

Minimum Hours Required for Ph.D.—91 Credit Hours

Foundation Body of Knowledge—30 Credit Hours

For management information systems (MIS) the foundation body of knowledge includes the common body of knowledge in an M.S. / M.I.S. degree or its equivalent from an AACSB-accredited school. This incorporates the common body of knowledge in an M.B.A. program, plus the technical courses such as programming languages (e.g., Java, VB, C, C++), database technology (e.g., ISM 6938 Advanced Database Administration), and systems development (e.g., ISM 6121 Advanced Systems Analysis and Design).

Management Information Systems Concentration—19-21 Credit Hours

The student must choose four of the following five seminars.

- ISM 7029 Organizational Impacts of Information Technology (3 credit hours)
- ISM 7936 Seminar on Technical Information Systems Research (3 credit hours)
- ISM 7916 Seminar on Behavioral Information Systems Research (3 credit hours)
- ISM 7938 Theoretical Foundations for Information Systems Research (3 credit hours)
- ISM 7027 Systems Support of Organizational Decision Making (3 credit hours)

The following are required:

- ISM 7909 Comprehensive Research Project (4-6 credit hours)*
- ISM 7926 Management Information Systems Research Forum (6 credit hours) (workshop, 1 hour per semester)*

* The Comprehensive Research Project (ISM 7909) is required, and the 1 hour research forum (ISM 7926) must be taken at least four semesters.

Elective Courses: 3 Credit Hours

- ISM 7XXX Information System Project Implementation and Management
- Other electives as they are developed

Minor/Support Area—6-12 Credit Hours

A minimum of six hours of course work is required in a minor/support area. The course work, typically in a unified area, is intended to accommodate and support the student's individual research interests whenever possible and will be developed with the advice and consent of the MIS Department's doctoral advisory committee. Typical support disciplines include any area in the College of Business Administration, psychology, computer science, and electrical engineering. Students will be expected to have a faculty member from their support area on their dissertation committee.

Research Tools—12-18 Credit Hours

Doctoral students majoring in MIS are required to take a minimum of 12 credit hours of research tools. The courses must include ECO 7423 Applied Models I. It is assumed that the research tools classes will be taken early in the program. The MIS department's doctoral advisory committee will determine the additional research tool courses.

Teaching Requirement

The requirements for the teaching component of the doctoral degree will be developed with the doctoral graduate program coordinator based on the student's experience.

Comprehensive Examination

The student must successfully complete a comprehensive candidacy examination. This examination has written and oral parts and covers the candidate's program of study.

Admission to Candidacy and Dissertation—24 Credit Hours

Students are admitted to candidacy after satisfying all general degree requirements, passing the comprehensive examination, fulfilling the residency requirement, and successfully defending a written dissertation proposal in an oral examination conducted by the student's advisory/dissertation committee. The student will select a dissertation chairperson and in conjunction with the chair will select a committee consistent with the College of Business Administration and UCF doctoral program policies. A dissertation proposal includes an introduction, overview, and justification of a viable research topic and a comprehensive review of the theoretical and empirical research relevant to the topic. The student will present the dissertation topic to the doctoral program committee for approval in an oral defense.

Final Defense

The successful completion of a final oral examination is required. This examination concentrates on the student's dissertation but may include other topics. The final defense is open to the entire university community.

Marketing Track

Minimum Hours Required for Ph.D.—93 Credit Hours

Foundation Body of Knowledge—30 Credit Hours

In marketing, this requirement may be satisfied with a master's degree in marketing, business administration, or its equivalent from an AACSB-accredited school. Alternatively, this requirement may be satisfied by courses deemed essential by the department's doctoral advisory committee.

Marketing Major Concentration—18 Credit Hours

- MAR 7575 Seminar in Consumer Behavior (3 credit hours)
- MAR 7638 Seminar in Marketing Theory, Scaling, and Measurement (3 credit hours)
- MAR 7666 Seminar in Marketing Models (3 credit hours)
- MAR 7807 Seminar in Marketing Strategy (3 credit hours)
- MAR 7919 Special Topics: Comprehensive Research Project (6 credit hours)

Minor/Support Area—9 Credit Hours

A minimum of nine hours of course work is required in a minor/support area. This course work, typically in a unified area, is intended to accommodate and support the student's individual research interests whenever possible and will be developed with the advice and consent of the department's doctoral advisory committee.

Research Tools—12 Credit Hours

Doctoral students majoring in marketing are required to take a minimum of 12 credit hours of research tools. The courses required include ECO 7423 Applied Models I (3 credit hours), and MAR 7XXX Multivariate Analysis (3 credit hours). The department's doctoral advisory committee will determine the additional research tools courses.

Teaching Requirement

The department's doctoral advisory committee, based on the student's experience, will develop the requirements for the teaching component of the doctoral degree.

Candidacy Examination and Dissertation (24 Credit Hours)

As described in General Preparation and Course Work (above).

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Doctor of Philosophy in Business Administration

Robin Roberts, Ph.D. , Professor
Phone Number: 407-823-2385
cbagrad@bus.ucf.edu

Accounting Track

Robin Roberts, Ph.D. , Professor
Phone Number: 407-823-2385
cbagrad@bus.ucf.edu

Finance Track

Pradipkumar Ramanlal, Ph.D. , Associate Professor
Phone Number: 407-823-2662
cbagrad@bus.ucf.edu

Management Information Systems Track

Jim Courtney, Ph.D. , Professor
Phone Number: 407-823-4138
cbagrad@bus.ucf.edu

Management Track

Cameron Ford, Ph.D. , Associate Professor
Phone Number: 407-823-3700
cbagrad@bus.ucf.edu

Marketing Track

Ramarao Desiraju, Ph.D. , Associate Professor
Phone Number: 407-823-2412
cbagrad@bus.ucf.edu

Chemistry - Ph.D.

[Description](#)

[Degree Offered](#)

[Admission](#)

[Doctor of Philosophy in Chemistry](#)

[Contact Info](#)

Description

The Ph.D. program in Chemistry will provide doctoral education in three technical focal areas: Materials Chemistry, Environmental Chemistry, and Forensic Science, drawing upon the strengths of the Department of Chemistry and other units within the University of Central Florida (e.g., CREOL/School of Optics, AMPAC, etc.). The focus areas meet the ever-pressing demand for the development of new materials and the increasing urgency of addressing crucial environmental and security problems. The curriculum has been developed in collaboration with industrial scientists and represents a response to current and projected competencies needed by industry. The purpose of this training is to provide scientists and educators who are capable of conducting research to solve important problems in contemporary fields of the chemical sciences and prepare a highly skilled work force to ensure the technological and economic health and competitiveness of Central Florida.

Degrees Offered

Doctor of Philosophy in Chemistry

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants are encouraged to [apply online](#). Please be sure to submit all requested material by the established deadline(s).

Students will normally possess a B.S. degree in the chemical sciences, or closely-related field, and an overall grade point average of at least 3.0. GRE scores, three letters of recommendation, a statement of purpose, and a resume are also required for admission. International applicants, for whom English is not their native language, will be required to achieve at least 220 on the TOEFL exam.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Chemistry	Feb 1	Jul 15	Dec 1	Apr 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Chemistry	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Chemistry	Feb 1	Mar 1	Sep 1	

Doctor of Philosophy in Chemistry

A program of course study is developed for each student in order to provide an appropriate background for his or her research. The academic program of study is developed jointly by the student and the advising committee based on the student's chosen sub-discipline and his/her performance on the placement exams. Students will then acquire the knowledge and skills necessary to develop expertise in their area of specialization by successfully completing at least 15 credit hours of elective courses and directed research in their chosen area of concentration. One of the primary means of education and training in the Ph.D. program will be achieved through successful completion of an original research project, through close mentorship by their research adviser and the presentation and defense of the Ph.D. dissertation. This intense research experience provides the education and training necessary for the student to substantiate his/her expertise and develop the skills necessary to become an independent professional.

A minimum of 21 credit hours of formal courses are required above the qualifying level (six 3 credit hour graduate-level courses, excluding seminar, research, or independent/directed study). The course work includes four core courses, three additional (elective) courses in the chosen area of concentration (two of which must be taken within the Department of Chemistry), and a minimum of 6 credit hours of directed research in the area of concentration. Students must maintain a 3.0 average or better in their program of study. Additional courses may be required by the student's research adviser, depending on the chosen area of research. By the end of the second semester, students will choose a dissertation adviser and establish a program of study.

During the second year, students will take a two-semester seminar course sequence (2 credit hours), presenting a seminar to the department in the second seminar course. A third credit hour of seminar will be taken the year the student intends to defend their dissertation. During this semester, the student will present a seminar to the department on their thesis research. The research adviser and graduate coordinator will establish an advisory committee for each student. A total of 72 credit hours are required, with a minimum of 15 credit hours of dissertation research. A maximum of 27 credit hours are transferable from an approved M.S. degree program.

The program requires a minimum of 72 hours specified as follows:

Core Course—12 hours

- CHM 6710 Analytical Chemistry (3 credit hours)
- CHM 6440 Kinetics and Catalysis (3 credit hours)
- CHS 6251 Applied Organic Synthesis (3 credit hours)
- CHS 6240 Chemical Thermodynamics (3 credit hours)

Elective Courses—15 credit hours in chosen concentration including Directed Research

(The student needs only 3 elective courses and 6 hours of directed study. He/she may choose three courses from the departmental offerings or two courses from the departmental offerings and one from outside of the department. Directed research will always be within the department.)

Materials Chemistry Concentration

Choose three courses from the following (except directed research):

- CHM 5225 Advanced Organic Chemistry (3 credit hours)
- CHM 5580 Advanced Physical Chemistry (3 credit hours)
- CHS 6260 Chemical Unit Operations and Separations (2 credit hours)
- CHM 6711 Chemistry of Materials (3 credit hours)
- CHM 6XXX Solid State Inorganic Chemistry (3 credit hours)
- CHM 5450 Polymer Chemistry (3 credit hours)
- CHM 5451C Techniques in Polymer Science (3 credit hours)
- CHM 5715C Materials Processing and Characterization Techniques (3 credit hours)
- CHM 6449 Photochemistry (3 credit hours)
- CHM 5305 Applied Biological Chemistry (3 credit hours)
- CHM 6XXX Special Topics (3 credit hours)
- CHM 5235 Applied Molecular Spectroscopy (3 credit hours)
- CHM 6XXX Advanced Instrumental Analysis (3 credit hours)
- CHM 7919 Directed Research in Materials Chemistry

Maximum one course from outside the Chemistry Department from the following:

- OSE 5050 Fundamentals and Applications of Photonics (3 credit hours)
- EMA 5504 Modern Characterization of Materials (3 credit hours)
- EMA 6518 Transmission Electron Microscopy (3 credit hours)
- EMA 5108 Surface Science (3 credit hours)
- EMA 6129 Solidification and Microstructure Evolution (3 credit hours)
- EMA 6130 Phase Transformations in Metals and Alloys (3 credit hours)
- EMA 6136 Diffusion in Solids (3 credit hours)
- EMA 6516 X-Ray Diffraction and Crystallography (3 credit hours)
- IDS 7691 Structure-Function-Relationships of Biomolecules I (3 credit hours)
- PHY 5933 Selected Topics in Biophysics of Macromolecules (3 credit hours)
- MCB 5527 Genetic Engineering and Biotechnology (3 credit hours)
- BSC 5408L Advanced Biology Laboratory Techniques (3 credit hours)

Environmental Chemistry Concentration

Choose three courses from the following (except directed research):

- CHS 6613 Current Topics in Environmental Chemistry (3 credit hours)
- CHM 5235 Applied Molecular Spectroscopy (3 credit hours)
- CHM 6XXX Advanced Instrumental Analysis (3 credit hours)
- CHS 6XXX Chemistry of Hazardous Waste (3 credit hours)
- CHS 6XXX Chemical Aspects of Air and Water Borne Pollutants (3 credit hours)
- CHM 6449 Photochemistry (3 credit hours)
- CHM 6XXX Special Topics (3 credit hours)
- CHM 7919 Directed Research in Environmental Chemistry (3 credit hours)

One course from outside the Chemistry Department from the following:

- ENV 5410 Drinking Water Treatment (3 credit hours)
- ENV 6046 Membrane Mass Transfer (3 credit hours)
- ENV 6055 Fate and Transport of Subsurface Contaminants (3 credit hours)
- ENV 6058 Particle Processes in Aquatic Systems (3 credit hours)
- ENV 6106 Theory and Practice of Atmospheric Dispersion Modeling (3 credit hours)
- ENV 6126 Design of Air Pollution Controls (3 credit hours)
- ENV 6336 Site Remediation and Hazardous Waste Treatment (3 credit hours)
- ENV 6519 Aquatic Chemical Processes (3 credit hours)
- ENV 6558 Industrial Waste Treatment (3 credit hours)

Forensic Science Concentration

Choose three courses from the following (except directed research):

- CHS 6XXX Explosives and Accelerants Analysis (3 credit hours)
- CHS 6XXX Forensic Micro-analytical Techniques (3 credit hours)
- CHM 6XXX Advanced Instrumental Analysis (3 credit hours)
- CHM 5451 Techniques in Polymer Science (3 credit hours)
- CHM 6XXX Special Topics (3 credit hours)
- CHS 6535 Forensic Analysis of Biological Materials (2 credit hours)
- CHS 6535L Forensic Analysis of Biological Materials (3 credit hours)
- CHS 6536 Forensic Analysis of DNA Data (2 credit hours)
- CHM 7919 Directed Research in Forensic Science

Examinations

Qualifying Examinations

Students will be expected to satisfy qualifying (proficiency) requirements (analytical, inorganic, organic, and physical chemistry) during the first year by taking exams in each of these four areas. Additional coursework may be required if one or more of the qualifying exams are not satisfied. These exams may be waived if entering student possesses a M.S. degree in the chemical sciences. Satisfaction of this requirement will help ensure that all students are adequately prepared for the core courses.

Ph.D. Candidacy Examination

By the end of the second year, students will take the Ph.D. candidacy oral examination. The candidacy examination consists of writing and orally defending an original research proposal (a topic not directly related to the student's dissertation research, and approved by the advisor and advisory committee) to the student's advisory committee, and a presentation of their preliminary dissertation research accomplishments and plans.

Dissertation

- CHM 7980 Doctoral Dissertation (15 credit hours minimum)
- CHM 6938 Seminar (1hour)

Within three months before defending the dissertation, the student will present a seminar on the student's dissertation research to the Department of Chemistry (the student will register for 1 credit of seminar).

Dissertation Defense

The final requirement for the Ph.D. Degree is completion of a satisfactory written dissertation of his/her research, along with successful presentation and defense of the dissertation to the student's dissertation advisory committee, including one committee member selected from faculty at the university exclusive of the Chemistry Department.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Kevin D. Belfield, Ph.D., Professor
Phone Number: 407-823-5728
kbelfiel@mail.ucf.edu

Civil Engineering

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Master of Science in Civil Engineering](#)

[Structural and Geotechnical Engineering Track](#)

[Transportation Engineering Track](#)

[Water Resources Engineering Track](#)

[Master of Science in General Civil Engineering](#)

[Structures and Foundations Engineering Track](#)

[Transportation Systems Engineering Track](#)

[Water Resources Engineering Track](#)

[Doctor of Philosophy in Civil Engineering](#)

[Contact Info](#)

Description

Graduate work and research in civil engineering reflects the very broad nature of the field, which encompasses the design, construction, and enhancement of the infrastructure of society. The educational program includes course work in structural analysis and design, geotechnical engineering and foundations, transportation planning and operations, traffic engineering and water resources engineering. Faculty research interests include geotechnical studies of subsurface conditions, soil testing and design of advanced testing devices, "superpave" mix design, intelligent transportation systems, traffic safety, structural dynamics, nonlinear structural analysis and software development, reinforced concrete, hydraulic modeling, coastal ocean modeling, stormwater management, and watershed management. Students completing the program find positions in consulting firms, construction and construction-related industries, in city, county, state, and federal government agencies, and academic institutions.

Degrees Offered

Master of Science in Civil Engineering

- Structural and Geotechnical Engineering Track
- Transportation Engineering Track
- Water Resources Engineering Track

Master of Science in General Civil Engineering

- Structures and Foundations Engineering Track
- Transportation Systems Engineering Track
- Water Resources Engineering Track

Doctor of Philosophy in Civil Engineering

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

In addition to the general admission requirements, applicants to this program must provide:

- Official scores on the Graduate Record Examination (GRE) showing a combined verbal and quantitative score of 1000, and/or
- GPA of 3.0 or greater in the last 60 attempted semester hours of undergraduate studies, and
- Bachelor of Science degree in an appropriate discipline.

Doctor of Philosophy in Civil Engineering only:

- Master's degree in civil engineering or a closely related discipline
- Score of 1100 or higher on the GRE
- Detailed resume
- Letter with research interests
- Three letters of recommendation
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

Additional Notes on Admissions

The M.S.C.E. degree is designed for students who have an undergraduate degree in Civil Engineering or another closely related engineering degree, and the M.S. degrees in specialized tracks are designed for students with appropriate baccalaureate backgrounds. Applicants who are applying to the programs without a directly related undergraduate degree should closely check the prerequisites. Additional undergraduate courses may be required.

The College of Engineering and Computer Science requires that you fill out a pre-application form (www.graduate.cecs.ucf.edu) before you complete the application for graduate admission. The deadlines for the pre-application form can be found on the Prospective Student Page on the College of Engineering and Computer Science website.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Civil Engineering	Feb 1	Jul 15	Dec 1	Apr 15
Master of Science in Civil Engineering	Feb 1	Jul 15	Dec 1	Apr 15
Structural and Geotechnical Engineering Track	Feb 1	Jul 15	Dec 1	Apr 15
Transportation Engineering Track	Feb 1	Jul 15	Dec 1	Apr 15
Water Resources Engineering Track	Feb 1	Jul 15	Dec 1	Apr 15

Master of Science in General Civil Engineering	Feb 1	Jul 15	Dec 1	Apr 15
Structures and Foundations Engineering Track	Feb 1	Jul 15	Dec 1	Apr 15
Transportation Systems Engineering Track	Feb 1	Jul 15	Dec 1	Apr 15
Water Resources Engineering Track	Feb 1	Jul 15	Dec 1	Apr 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Civil Engineering	Feb 1	Feb 1	Jul 1	
Master of Science in Civil Engineering	Feb 1	Feb 1	Jul 1	
Structural and Geotechnical Engineering Track	Feb 1	Feb 1	Jul 1	
Transportation Engineering Track	Feb 1	Feb 1	Jul 1	
Water Resources Engineering Track	Feb 1	Feb 1	Jul 1	
Master of Science in General Civil Engineering	Feb 1	Feb 1	Jul 1	
Structures and Foundations Engineering Track	Feb 1	Feb 1	Jul 1	
Transportation Systems Engineering Track	Feb 1	Feb 1	Jul 1	
Water Resources Engineering Track	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Civil Engineering	Feb 1	Mar 1	Sep 1	
Master of Science in Civil Engineering	Feb 1	Mar 1	Sep 1	
Structural and Geotechnical Engineering Track	Feb 1	Mar 1	Sep 1	
Transportation Engineering Track	Feb 1	Mar 1	Sep 1	
Water Resources Engineering Track	Feb 1	Mar 1	Sep 1	

Track				
Master of Science in General Civil Engineering	Feb 1	Mar 1	Sep 1	
Structures and Foundations Engineering Track	Feb 1	Mar 1	Sep 1	
Transportation Systems Engineering Track	Feb 1	Mar 1	Sep 1	
Water Resources Engineering Track	Feb 1	Mar 1	Sep 1	

Master of Science in Civil Engineering (M.S.C.E.)

The Master of Science in Civil Engineering (M.S.C.E.) degree is designed for students who have an undergraduate degree in Civil Engineering or another closely related engineering degree. As such, math through differential equations and all prerequisite classes for graduate courses are required. The degree requires 30 credit hours of acceptable graduate work and includes a thesis (6 credit hours), or 36 credit hours of acceptable graduate work with a comprehensive final examination (The non—thesis option is recommended only for part—time students). The student must develop an individual program of study with a faculty adviser by the second semester of study.

[General College Requirements](#)

M.S.C.E.—Thesis Option

30 credit hours—24 credit hours of courses and 6 hours of thesis

Required Courses—12 Credit Hours

Take one course from each of the following 4 groups:

- Geotechnical Engineering: Any CEG course at the 5000 or 6000 level (CEG 5015, CEG 5700, CEG 6115, CEG 6065, etc.)
- Structural Engineering: Any CES course at the 5000 or 6000 level (CES 5325, CES 5606, CES 5706, CES 6715, CES 6840, etc.)
- Transportation Engineering: Any TTE course at the 5000 or 6000 level (TTE 5204, TTE 5805, TTE 6270, TTE 6315, etc.)
- Water Resources Engineering: Any course at the 5000 or 6000 level (CWR 5205, CWR 5545, CWR 5125, CWR 6102, CWR 6126, CWR 6235, CWR 6236, CWR 6532, CWR 6535, CWR 6539, etc.)

Elective Courses—12 Credit Hours

Take 4 more courses (12 credit hours) of approved electives (see your adviser for approval) plus complete a thesis (6 credit hours).

M.S.C.E.—Non-thesis Option

36 credit hours—36 credit hours of courses

Required Courses—24 Credit Hours

Take two courses from each of the following 4 groups:

- Geotechnical Engineering: Any CEG course at the 5000 or 6000 level (CEG 5015, CEG 5700, CEG 6115, CEG 6065, etc.)
- Structural Engineering: Any CES course at the 5000 or 6000 level (CES 5325, CES 5606, CES 5706, CES 6715, CES 6840, etc.)
- Transportation Engineering: Any TTE course at the 5000 or 6000 level (TTE 5204, TTE 5805, TTE 6270, TTE 6315, etc.)
- Water Resources Engineering: Any course at the 5000 or 6000 level (CWR 5205, CWR 5545, CWR 5125, CWR 6102, CWR 6126, CWR 6235, CWR 6236, CWR 6532, CWR 6535, CWR 6539, etc.)

Elective Courses—12 Credit Hours

Take 4 more courses (12 credit hours) of approved electives (see your adviser for approval) plus pass a comprehensive final exam.

Master of Science in Civil Engineering (M.S.)

The M.S. degree requires 30 credit hours of acceptable graduate work and includes a thesis (6 credit hours), or 36 credit hours of acceptable graduate work with a comprehensive final examination. Three defined tracks are available for this degree: Structural and Geotechnical Engineering, Transportation Systems Engineering, and Water Resources Engineering. The student must develop an individual program of study with a faculty adviser by the second semester of study.

[General College Requirements](#)

Structural and Geotechnical Engineering Track

The department offers a Master of Science (M.S.) degree in Structural and Geotechnical Engineering to students with appropriate science or engineering baccalaureate backgrounds. The degree requires 24 credit hours of acceptable graduate course work and a thesis (6 credit hours), or 36 credit hours of acceptable graduate course work with a comprehensive final examination. The student must develop an individual program of study with a faculty adviser and must have background or articulation course work as described below.

Prerequisites

- CEG 4101C Geotechnical Engineering I (3 credit hours)
- CES 4101 Structural Analysis II (3 credit hours)
- CES 4605 Steel Structures (3 credit hours) OR
- CES 4702 Reinforced Concrete Structures (3 credit hours)
- EGN 3310 Engineering Analysis—Statics (3 credit hours)
- EGN 3321 Engineering Analysis—Dynamics (3 credit hours)
- EGN 3331 Mechanics of Materials (3 credit hours)

Required Courses—12 Credit Hours

Take 4 courses (12 hours), 2 each from each of the following two subgroups:

Subgroup A: Geotechnical Engineering

- CEG 5015 Geotechnical Engineering II (3 credit hours)
- CEG 5700 Geo-Environmental Engineering (3 credit hours)
- CEG 6065 Soil Dynamics (3 credit hours)
- CEG 6115 Foundation Engineering (3 credit hours)
- CEG 6317 Advanced Geotechnical Engineering (3 credit hours)
- CES 6170 Boundary Element Methods in Civil Engineering (3 credit hours)
- TTE 5835 Pavement Design (3 credit hours)

Subgroup B: Structural Engineering

- CES 5325 Bridge Engineering (3 credit hours)
- CES 5606 Advanced Steel Structures (3 credit hours)
- CES 5706 Advanced Reinforced Concrete (3 credit hours)
- CES 5821 Masonry and Timber Design (3 credit hours)
- CES 6116 Finite Element Structural Analysis (3 credit hours)
- CES 6209 Dynamics of Structures (3 credit hours)
- CES 6220 Wind and Earthquake Engineering (3 credit hours)
- CES 6230 Advanced Structural Mechanics (3 credit hours)
- CES 6715 Prestressed Concrete Structures (3 credit hours)
- CES 6840 Composite Steel Concrete Structures (3 credit hours)
- CES 6910 Research in Structural Engineering (3 credit hours)

Elective Courses

Take 4 more courses (12 credit hours) of approved electives (primarily from the above listing) plus complete a thesis (6 credit hours).

OR

Take 8 more courses (24 credit hours) of approved electives (primarily from the above listing) plus pass a comprehensive final exam.

Transportation Systems Engineering Track

The department offers a Master of Science (M.S.) degree in Transportation Systems Engineering for students with appropriate science or engineering baccalaureate backgrounds. Students without a bachelor's degree in Science or Engineering will not be admitted. Students must also have background (or articulation course work) as described below.

Prerequisites

- STA 3032 Probability and Statistics for Engineers (3 credit hours)
- EGN 3613 Engineering Economic Analysis EGN 3613 (3 credit hours)
- TTE 4004 Transportation Engineering (3 credit hours)

Required Courses—12 Credit Hours

- TTE 5204 Traffic Engineering (3 credit hours)
- TTE 5805 Geometric Design of Transportation Systems (3 credit hours)
- TTE 6256 Traffic Operations (3 credit hours)

- TTE 6270 Intelligent Transportation Systems (3 credit hours)

Elective Courses

Take 4 more courses (12 credit hours) of approved electives (consult your adviser) plus complete a thesis (6 credit hours).

OR

Take 8 more courses (24 credit hours) of approved electives (consult your adviser), plus pass a comprehensive final exam.

Water Resources Engineering Track

The department offers a Master of Science (M.S.) degree in Water Resources Engineering to students with appropriate science or engineering baccalaureate backgrounds. The degree requires 30 credit hours of acceptable graduate course work, which includes a thesis (6 credit hours), or 36 credit hours of acceptable graduate course work with a comprehensive final examination. Each student must have an individual program of study approved by his/her faculty committee and have completed all required articulation course work as described below.

Prerequisites

- CEG 4101C Geotechnical Engineering I (3 credit hours)
- CWR 4101C Hydrology (3 credit hours)
- CWR 4203C Hydraulics (3 credit hours)
- EGN 3613 Engineering Economic Analysis (2 credit hours)
- STA 3032 Probability and Statistics for Engineers (3 credit hours)

Required Courses (any five CWR courses)—15 Credit Hours

- CWR 5205 Hydraulic Engineering (3 credit hours)
- CWR 5545 Water Resources Engineering (3 credit hours)
- CWR 5125 Groundwater Hydrology (3 credit hours)
- CWR 6235 Open Channel Hydraulics (3 credit hours)
- CWR 6236 River Engineering and Sediment Transport (3 credit hours)
- CWR 6535 Modeling Water Resources Systems (3 credit hours)
- CWR 6102 Advanced Hydrology (3 credit hours)
- CWR 6126 Groundwater Modeling (3 credit hours)
- CWR 6539 Finite Differences/Elements in Surface Water Modeling (3 credit hours)
- CWR 6532 Modeling of Subsurface Reactive Chemical Transport (3 credit hours)

Elective Courses

Take 3 more courses (9 credit hours) of approved electives plus complete a thesis (6 credit hours).

OR

Take 7 more courses (21 credit hours) of approved electives plus pass a comprehensive final exam.

Doctor of Philosophy in Civil Engineering

The Doctor of Philosophy (Ph.D.) degree requires a student to have completed a master's degree in Civil Engineering or a closely related discipline. The Ph.D. program in Civil Engineering is intended to allow a

student in-depth study with emphasis on research in a specific area, structural analysis and design, geotechnical engineering and foundations, transportation planning and operations, or water resources engineering.

Degree Requirements

The Ph.D. degree requires a minimum of 36 to 42 credit hours beyond the master's degree, 18 of which will be dissertation credits, and a minimum of 6 credits of which must be from courses taken outside the student's program while at UCF. A minimum of 12 credit hours of formal classroom work is required while at UCF. A program of study must be developed with an advisory committee and meet with departmental approval at the beginning of the Ph.D. program, at which time transfer credit will be evaluated on a course-by-course basis.

[General College Requirements](#)

Hours that must be taken in formal courses at UCF—12 credit hours

Hours taken at the discretion of the adviser—6 credit hours or 12 credit hours*

Dissertation—18 credit hours

Minimum hours required for Ph.D.—36-42 credit hours beyond the master's degree

* The student must take 12 credit hours if the student completed a M.A. thesis with no additional course work past the minimum. Hours taken at the discretion of the adviser include research hours, special topics, directed studies, as well as additional formal courses.

Examinations

The student must pass three examinations. The first is the Ph.D. Qualifying Examination in one of the departmental disciplines. This examination must be taken within the first year of study beyond the master's degree. In addition to the Qualifying Examination, the student must pass a Candidacy Examination and a Dissertation Defense Examination. The Candidacy Examination is normally taken near the end of the course work and consists of a written portion and an oral presentation of a research proposal. A copy of the written examination will be kept as part of the student's official record. The Dissertation Defense Examination is an oral examination taken as defense of the written dissertation.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based

fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.

- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Doctor of Philosophy in Civil Engineering

David Cooper, Ph.D., P.E. , Professor
Phone Number: 407-823-2841
gradcee@mail.ucf.edu

Master of Science in Civil Engineering

David Cooper, Ph.D., P.E. , Professor
Phone Number: 407-823-2841
gradcee@mail.ucf.edu

Master of Science in General Civil Engineering

David Cooper, Ph.D., P.E. , Professor
Phone Number: 407-823-2841
gradcee@mail.ucf.edu

Structural and Geotechnical Engineering Track

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gradcee@mail.ucf.edu

Structures and Foundations Engineering Track

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Transportation Engineering Track

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David Cooper, Ph.D., P.E. , Professor
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Water Resources Engineering Track

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Communication

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Master of Arts in Communication](#)

[Interpersonal Communication Track](#)

[Mass Communication Track](#)

[Contact Info](#)

Description

The Master of Arts in Communication curriculum focuses on theoretical and applied perspectives of communication theory and research, with tracks in Interpersonal Communication and Mass Communication. Graduates derive benefits in a variety of academic and career directions, including entry into doctoral programs, advancement within existing career contexts, and the procurement of new career directions in the public and private sectors.

Degrees Offered

Master of Arts in Communication

- Interpersonal Communication Track
- Mass Communication Track

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

In addition to the general admission requirements, applicants must provide:

- Official Graduate Record Examination (GRE) combined score of at least 1000 from test taken within the last five years.
- GPA of 3.0 or higher in last 60 semester hours of undergraduate study.
- Written statement outlining the student's academic and professional goals.
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Communication				
Interpersonal Communication Track	Feb 1	Jul 15	Dec 1	Apr 15
Mass Communication Track	Feb 1	Jul 15	Dec 1	Apr 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Communication				
Interpersonal Communication Track	Feb 1	Feb 1	Jul 1	
Mass Communication Track	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Communication				
Interpersonal Communication Track	Feb 1	Mar 1	Sep 1	
Mass Communication Track	Feb 1	Mar 1	Sep 1	

Master of Arts in Communication

All students must select a track—Interpersonal Communication or Mass Communication. To select or change a track, students should consult with the graduate program coordinator at the Nicholson School of Communication.

Core Requirements

Interpersonal Communication Track—15 Credit Hours

- COM 6046 Interpersonal Communication (3 credit hours)
- COM 6303 Communication Research I (3 credit hours)
- COM 6304 Communication Research II (3 credit hours)
- SPC 6219 Modern Communication Theory (3 credit hours)
- EDF 6401 Statistics for Educational Data (3 credit hours)

Mass Communication Track—12 Credit Hours

- MMC 6402 Mass Communication Theory (3 credit hours)
- MMC 6445 Mass Media Research I (3 credit hours)
- MMC 6446 Mass Media Research II (3 credit hours)
- EDF 6401 Statistics for Educational Data (3 credit hours)

Restricted Electives for All Tracks

Interpersonal Communication Track—15 credit hours in thesis option, 18 credit hours in comprehensive exam option

Mass Communication Track—18 credit hours in thesis option, 21 credit hours in comprehensive exam option

- COM 6121 Communication Management (3 credit hours)
- COM 6467 Studies in Persuasion (3 credit hours)
- COM 6468 Communication and Conflict (3 credit hours)
- COM 6525 Communication Strategy and Planning (3 credit hours)
- MMC 6202 Legal and Ethical Issues for Communication (3 credit hours)
- MMC 6307 International Communication (3 credit hours)
- MMC 6407 Visual Communication Theory (3 credit hours)
- MMC 6567 Seminar in New Media (3 credit hours)
- MMC 6600 Media Effects and Audience Analysis (3 credit hours)
- MMC 6606 Advertising and Society (3 credit hours)
- MMC 6607 Communication and Society (3 credit hours)
- MMC 6612 Communication and Government (3 credit hours)
- PUR 6403 Crisis Public Relations (3 credit hours)
- SPC 6442 Small Group Communication (3 credit hours)

With approval, independent study and internship credit taken through the Nicholson School of Communication may be applied to electives.

Core courses from other tracks, special topics, independent studies, 5000-level courses, and approved courses taken outside the Nicholson School of Communication may be counted as restricted electives.

Degree Completion

Before completing their degree, students must select either the thesis or comprehensive exam option. The decision whether to write a thesis and defend it in an oral examination or to take the comprehensive exams should be made in consultation with the Nicholson School of Communication graduate program director. Typically, students entering or continuing professional careers following the M.A. would select the comprehensive exam option. Those who plan to enter doctoral programs would select the thesis option. Regardless of track, the requirements are as follows:

Thesis option:

- 30 hours of coursework and 4 hours of thesis preparation and defense
- Students complete a formal thesis on a topic based on consultation with their thesis adviser and committee and will meet both departmental and university thesis requirements.

Comprehensive Exam Option:

- 33 hours of coursework and successful completion of the comprehensive exams
- Students take written examinations from six courses. All exams must be based on graduate courses offered by the Nicholson School of Communication.

- For the Interpersonal Communication Track, the exam courses must include the four core communication courses and two electives. For the Mass Communication Track, the exam courses include the three mass communication courses and three electives.
- Students must pass five of the six exams with grades of "B" or higher to successfully complete the comprehensive exam requirement.
- Students who pass four of the six exams must rewrite the two failed exams and pass one of the two. This is scheduled early in the subsequent semester. Students who pass less than four exams must retake all six exams at the regularly scheduled comprehensive exam times in the subsequent semester.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

For consideration by the Nicholson School of Communication, students must apply by the priority deadline and submit three letters of recommendation and a brief (one page) resume.

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Master of Arts in Communication

Burt Pryor, Ph.D. , Professor
Phone Number: 407-823-4655
apryor@pegasus.cc.ucf.edu

Interpersonal Communication Track

Burt Pryor, Ph.D. , Professor
Phone Number: 407-823-4655
apryor@pegasus.cc.ucf.edu

Mass Communication Track

Burt Pryor, Ph.D. , Professor
Phone Number: 407-823-4655
apryor@pegasus.cc.ucf.edu

Communicative Disorders

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Master of Arts in Communicative Disorders](#)

[Communicative Disorders Consortium Track](#)

[Contact Info](#)

Description

The Department of Communicative Disorders offers two options leading to the Master of Arts degree in Speech-Language Pathology, both intended for those interested in working with children and adults who have communication disorders.

The first option, the traditional master's program, typically requires six to seven semesters of full-time attendance, including at least two summers, for students with undergraduate degrees in Speech-Language Pathology and Audiology. The second option is designed specifically for students with bachelor's degrees in Speech-Language Pathology and Audiology who have been providing speech and language services in the Florida public schools for at least one year prior to application.

The program's goal is to provide the academic and clinical education experiences necessary for certification by the American Speech-Language-Hearing Association (ASHA) and licensure by the State of Florida. The Council on Academic Accreditation of the American Speech-Language-Hearing Association has accredited the program since 1986.

Degrees Offered

Master of Arts in Communicative Disorders

- Communicative Disorders Consortium Track

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

In addition to the general admission requirements, applicants must provide:

- Official Graduate Record Examination (GRE) combined score of at least 1000 from test taken within the last five years, OR a GPA of 3.0 or higher in the last 60 attempted semester hours of undergraduate study. A course-by-course transcript evaluation is required of all students who attended a college or university outside the United States. For information and instructions about transcript evaluations, please see [Transcripts and Evaluations](#) on the Graduate Students website.
- Three letters of recommendation, preferably from former professors.
- A letter of intent, describing background and experience, interest in the field, future goals, the semester in which admission is desired, and specifying traditional or consortium program
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220

(computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

Additional Notes on Admissions

Admission into the graduate program will be determined in fall and spring for all semesters including summer. The program is highly competitive; meeting minimum university standards may not guarantee admission to the program.

Currently, the department admits in-field applicants (that is, those with undergraduate degrees in speech-language pathology) in the fall, spring, and summer. Applicants who have undergraduate degrees in other fields, and who have fewer than eight credit hours of applicable courses in speech-language pathology and audiology, are considered out-of-field. Out-of-field students require approximately three semesters of full-time course work to complete the necessary undergraduate prerequisites before enrolling for graduate work. To complete the prerequisite course work in three semesters, out-of-field students must first enroll during fall or summer semesters.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Communicative Disorders	Feb 1	Feb 1	Oct 1	Feb 1
Communicative Disorders Consortium Track	Feb 1	Feb 1	Oct 1	Feb 1

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Communicative Disorders	Feb 1	Feb 1	Jul 1	
Communicative Disorders Consortium Track	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Communicative Disorders	Feb 1	Feb 1	Sep 1	
Communicative Disorders Consortium Track	Feb 1	Feb 1	Sep 1	

Master of Arts in Communicative Disorders

Minimum Hours Required for M.A.—70 Semester Hours

Overview

The Master of Arts program offers two options: the first option, the traditional master's program, typically requires six to seven semesters of full-time attendance, including at least two summers, for students with undergraduate degrees in speech-language pathology and audiology. Out of field students typically complete three semesters of prerequisite course work prior to enrolling in the traditional master's program. The second option is designed specifically for students who have bachelor's degrees in speech-language pathology and audiology and who have been providing speech and language services in the Florida public schools for at least one year prior to application. The second option is referred to as the consortium program and is available only to applicants who are providing speech and language services in the 10 county school districts in central Florida. Students admitted through this option may complete their course work in as few as three years, but not more than five years. Typically, students enroll for 6 credit hours of course work during the fall and spring semesters and for 9 to 12 credit hours during the summer semester.

Areas of Emphasis

Both the traditional master's and the consortium programs consist of 70 to 71 credit hours of academic course work and supervised clinical practice. The academic course work includes 31 credit hours of core courses and 6 to 12 credit hours of electives. Electives may be selected through one of three special emphases, Medical Speech-Language Pathology, Multicultural/Multilingual Speech-Language Pathology or Child Language, or through a generalist emphasis. The purpose of special emphases is to provide students with in-depth knowledge and skills in the practice areas in speech-language pathology in which they intend to work. Each of the special emphases targets an area that is becoming increasingly significant in the discipline as the population changes relative to age as well as diversifies culturally and linguistically.

Research

The research component of the program may be fulfilled either through completion of a thesis (6 credit hours) or a research project (1 credit hour). Students selecting the thesis option may substitute thesis for 6 credit hours of electives.

Clinical Practice

Supervised clinical practice is an integral part of the graduate program in communicative disorders. It provides students with an opportunity to apply classroom knowledge to the evaluation and management of individuals with a wide variety of communication disorders. Students in both options complete three clinical practica (9 credit hours) and a diagnostic practicum (1 credit hour) in the communication disorders clinic on campus as well as half-time (6 credit hours) and full-time (12 credit hours) externships in external facilities such as schools, hospitals, rehabilitation centers, skilled nursing facilities, long-term care, community clinics, and private practices. Through these practica and externships, students complete a minimum of 400 clock hours of clinical experience in accordance with the guidelines outlined by the American Speech-Language-Hearing Association. Since 1986, the Council on Academic Accreditation of the American Speech-Language-Hearing Association has accredited the program.

Prerequisites

Successful applicants must have completed a bachelor's degree in communicative disorders or specific prerequisite courses to be arranged in consultation with the graduate program coordinator and the coordinator of academic support. All students must complete Statistical Methods II, HSA 4701, or equivalent, and achieve a grade of "C" or better prior to, or during, their graduate program. This course is a prerequisite to SPA 6805 Research in Communicative Disorders.

Required Courses—70-71 Credit Hours

Sample Schedule for Fall entry (non-thesis)

Term 1

- SPA 6553 Differential Diagnosis in Speech and Language (3 credit hours)
- SPA 6404 Preschool Language Disorders (3 credit hours)
- SPA 6410 Aphasia and Related Disorders (3 credit hours)
- SPA 6505 Entry-Level Clinical Practicum (3 credit hours)

Term 2

- SPA 6211 Voice Disorders (3 credit hours)
- SPA 6236 Motor Speech Disorders in Adults and Children (3 credit hours)
- SPA 6413 School-Aged Language Disorders (3 credit hours)
- SPA 6942C Intermediate-Level Clinical Practicum (3 credit hours)

Term 3

- SPA 6805 Research in Communicative Disorders (3 credit hours)
- SPA 6225 Fluency Disorders (3 credit hours)
- Elective (3 credit hours)
- SPA 6943C Advanced Clinical Practicum (3 credit hours)

Term 4

- SPA 6204 Advanced Articulation/Phonological Disorders (3 credit hours)
- Elective (3 credit hours)
- Elective (3 credit hours)
- SPA 6553L Differential Diagnosis in Speech and Language Laboratory (1 credit hour)

Term 5

- SPA 6132 Advanced Speech Science (3 credit hours)
- Elective (3 credit hours)
- SPA 6946 Externship (6 credit hours)

Term 6

- SPA 6952 Clinical Research Project (1 credit hour)
- SPA 6946 Externship (12 credit hours)

Practicum credit toward degree—27 Credit Hours

All students must register for 9 credit hours of Clinical Practicum (SPA 6505, SPA 6942C, SPA 6943C), 1 credit hour of Differential Diagnosis Lab (SPA 6553L), and 18 credit hours of Externship (SPA 6946).

Research

To fulfill the research component of the degree, each student will complete either a thesis or a directed research report.

Thesis Option—6 Credit Hours

Students selecting the thesis option will complete a thesis in an area of speech/language pathology for six semester hours of credit that may be used to substitute for six credit hours of electives. Students will select an advisory committee of three faculty members, chaired by a departmental faculty member, to guide them through the thesis process. Oral defenses of the thesis prospectus and completed thesis are required.

Examinations

To be considered degree candidates, students must pass the PRAXIS Examination in Speech-Language Pathology. This comprehensive examination must be completed during either of the last two semesters in the program. Students must submit an official notice of their examination scores on the PRAXIS to the Coordinator of Academic Support in the Department two weeks prior to graduation. Scores achieved prior to the second to the last semester will not be accepted. A score of 600 is considered passing on the PRAXIS.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Master of Arts in Communicative Disorders

Thomas Mullin, Ph.D. , Associate Professor

Phone Number: 407-823-4798

tmullin@mail.ucf.edu

Communicative Disorders Consortium Track

Thomas Mullin, Ph.D. , Associate Professor

Phone Number: 407-823-4798

tmullin@mail.ucf.edu

Computer Art and Design

[Description](#)

[Degree Offered](#)

[Admission](#)

[Master of Fine Arts in Computer Art and Design](#)

[Contact Info](#)

Description

The newly approved Master of Fine Arts in Computer Art and Design Program starts in Fall 2004.

The exciting and challenging new MFA in Computer Art and Design at the University of Central Florida provides art and design students the ability to apply twenty-first century digital technology to diverse art disciplines. Classes establish a dialogue that will address the role of technology in the production of visual art. The program challenges students from traditional art disciplines as well as those in computer-dominated fields to come together in an interactive environment. Concept-driven courses ranging from graphic design and sculpture to painting and ceramics integrate computer technology. Students intending to enter this program should be interested in embracing and questioning the benefits of these new mediums of expression. Full-time students who are interested in becoming practicing artists, college instructors, and industry innovators should flourish in this creative, integrative, and interdisciplinary studio environment.

Degrees Offered

Master of Fine Arts in Computer Art and Design

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

Applicants to the MFA program must normally hold an earned BFA degree in Visual Art from an accredited institution with a 3.0 or higher GPA in the last 60 attempted semester hours of undergraduate study. In addition to the online application, applicants must submit the following:

- A portfolio of original creative work (to be submitted directly to the Department of Art)
- A letter of research intent (to be submitted directly to the Department of Art)
- An official copy of the general GRE test scores (minimum score: 1000, on the combined verbal and quantitative portions of the test)
- An official copy of the TOEFL test score if the applicant is an international student (minimum score: 230)
- Official transcripts of all prior college work attempted
- Two letters of recommendation preferably from former visual art professors

Applicants should note that admittance into the program is based strongly on review of the portfolio of original creative work and the letter of research intent. The portfolio should contain at least 20 original works created by the applicant. The letter of research intent is a page or more written by the applicant to describe, for example, his or her creative background, proposed research interests, and the relationship

between this program and the applicant's future goals. Please note that "research" in the context of the MFA program primarily means: full-time creation of an original body of art work over the course of three years residence.

Applicants who hold an earned BA, BS, or other baccalaureate degree in Visual Art or a related discipline with a 3.0 or higher GPA ranking from an accredited university may also apply.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Fine Arts in Computer Art and Design	Feb 1	Feb 1		

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Fine Arts in Computer Art and Design	Feb 1	Feb 1		

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Fine Arts in Computer Art and Design	Feb 1	Feb 1		

M.F.A. in Computer Art and Design

Degree Requirements

Minimum of 70 credit hours

The program requires 70 credits to be acquired in three years (six full-time semesters excluding summers). Degree credit is obtained in theory courses, studio art courses, electives, and in supervised research. All courses must be approved by the Graduate Program Coordinator. Graduate students must maintain a 3.0 or better GPA in all course work to complete the program. Continuation in the MFA program requires a positive annual evaluation by the Program Coordinator of the Department of Art and by the Graduate Committee of the Department of Art.

Required Courses—61 credit hours

- ART 5910 Studio Concentration I (3 credit hours)
- ART 5XXX Serial Content and Classic Form I (3 credit hours)
- ART 5284 Design Theory and Methods (3 credit hours)
- ART 5941 Graduate Practicum I (1 credit hour)

- ART 5XXX Studio Concentration II (6 credit hours)
- ART 5695 Web Art I (3 credit hours)
- ART 5696 Art, Design and Human Interactions (3 credit hours)
- ART 6942 Graduate Practicum II (1 credit hour)
- ART 5694 Crosscultural Electronic Art and Design (3 credit hours)
- ART 6697 Web Art II (3 credit hours)
- ART 6281C Serial Content and Classic Form II (3 credit hours)
- ART 6930 Graduate Seminar (1 credit hour; taken twice)
- ART 683C Time Arts (3 credit hours)
- ART 6743C Intermedia Sculpture (3 credit hours)
- ART 6687 Research Concentration I (3 credit hours)
- ART 5698 Concourse I (3 credit hours)
- ART 6689 Research Concentration II (3 credit hours)
- ART 6699 Concourse II (3 credit hours)
- ART 6971 Thesis (3 credit hours; taken twice)

Electives—9 credit hours

Electives can be taken from the Art Department or other discipline areas at the university, as appropriate, with approval of the program coordinator.

Thesis

The thesis consists of a body of artistic work accompanied by electronic (Internet) documentation and a culminating exhibition.

The final oral review before the supervisory thesis committee occurs at the end of the sixth semester. At the same time, the graduate student presents a thesis exhibition of selected works from the cumulative body of works produced during his/her three years of residency. In addition, the thesis requires an artist's statement and documentation. The thesis will contain research intentions, results, and the body of the creative works produced. Students are required to submit an electronic version of the thesis to UCF Graduate Studies. After approval by UCF Graduate Studies, the UCF Library will add it to its archives and make the electronic version of the thesis accessible on the web.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically

considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.

- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Scott Hall, M.F.A. , Assistant Professor

Phone Number: 407-823-5649

shall@mail.ucf.edu

Computer Engineering

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Master of Science in Computer Engineering](#)

[Computer Architecture Track](#)

[Digital Systems Track](#)

[Intelligent Systems Track](#)

[Software Engineering Track](#)

[Doctor of Philosophy in Computer Engineering](#)

[Contact Info](#)

Description

The College of Engineering and Computer Science offers Master of Science (M.S.Cp.E.) and Doctor of Philosophy (Ph.D.) degrees in Computer Engineering.

The master's program offers four tracks: Computer Architecture, Digital Systems, Knowledge-Based Systems, and Software Engineering. All tracks offer a thesis option and a non-thesis option. Students in the program receive a broad background in the various tracks while specializing in a research area of their interest. The program is designed for students with a bachelor's degree in computer engineering or a closely related discipline.

The doctoral program is primarily intended for students with a master's degree in Computer Engineering or a closely related discipline wishing to pursue a career in research or academia. Specializations include digital systems, computer architecture and VLSI design, software engineering, intelligent systems, computer networks, and simulation systems.

Research interests of the Computer Engineering faculty include digital systems, computer architecture, software engineering, artificial intelligence, expert systems, modeling and simulation, computer networking and ubiquitous computing, computer vision, and very large-scale integration (VLSI) systems.

Degrees Offered

Master of Science in Computer Engineering

- Computer Architecture Track
- Digital Systems Track
- Intelligent Systems Track
- Software Engineering Track

Doctor of Philosophy in Computer Engineering

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Graduate Catalog. Applicants are encouraged to [apply online](#). Please be sure to submit all requested material by the established deadline(s).

The College of Engineering and Computer Science requires that you fill out a pre-application form (www.graduate.cecs.ucf.edu) before you complete the application for graduate admission. The deadlines for the pre-application form can be found on the [Prospective Student Page](#) on the College of Engineering and Computer Science website.

In addition to the general admission requirements, applicants must provide:

M.S.Cp.E. program:

- Bachelor's degree in Computer Engineering or a closely related discipline from an accredited institution.
- Official Graduate Record Examination (GRE) combined score of at least 1100 from test taken within the last five years.
- GPA of 3.0 or higher in last 60 attempted semester hours of undergraduate study.
- Resume.
- Goals statement.
- Two letters of recommendation.
- International students, except those who are from countries where English is the only official language or those who have earned a degree from an accredited American college or university, are required to submit a score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language.

Ph.D. program:

- Students must have completed either a master's degree in Computer Engineering or a closely related discipline with a minimum GPA of 3.5 or a bachelor's degree in Computer Engineering or a closely related discipline with a minimum GPA of 3.5 in the last 60 attempted semester hours of the bachelor's degree. A minimum of 1200 on the combined verbal-quantitative sections of the GRE is also required.
- Resume.
- Goals statement.
- Three letters of recommendation.
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

Students with a grade point average of less than 3.5 may be admitted on a trial program basis in some circumstances. Additional courses may also be required to correct any course deficiencies. Students should contact the graduate program director for further information.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Computer Engineering	Feb 1	Jul 15	Dec 1	Apr 15
Master of Science in Computer Engineering	Feb 1	Jul 15	Dec 1	Apr 15

Computer Architecture Track	Feb 1	Jul 15	Dec 1	Apr 15
Digital Systems Track	Feb 1	Jul 15	Dec 1	Apr 15
Intelligent Systems Track	Feb 1	Jul 15	Dec 1	Apr 15
Software Engineering Track	Feb 1	Jul 15	Dec 1	Apr 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Computer Engineering	Feb 1	Feb 1	Jul 1	
Master of Science in Computer Engineering	Feb 1	Feb 1	Jul 1	
Computer Architecture Track	Feb 1	Feb 1	Jul 1	
Digital Systems Track	Feb 1	Feb 1	Jul 1	
Intelligent Systems Track	Feb 1	Feb 1	Jul 1	
Software Engineering Track	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Computer Engineering	Feb 1	Mar 1	Sep 1	
Master of Science in Computer Engineering	Feb 1	Mar 1	Sep 1	
Computer Architecture Track	Feb 1	Mar 1	Sep 1	
Digital Systems Track	Feb 1	Mar 1	Sep 1	
Intelligent Systems Track	Feb 1	Mar 1	Sep 1	
Software Engineering Track	Feb 1	Mar 1	Sep 1	

Master of Science in Computer Engineering

Minimum Hours Required for M.S.Cp.E.—30 Credit Hours (Thesis Option) / 36 Credit Hours (Non-thesis Option)

Prerequisites

Undergraduate articulation courses may be required for students with bachelor's and/or master's degrees in fields other than Computer Engineering. The articulation courses will be determined by the graduate program director in consultation with the student's adviser on a case-by-case basis. In general, all students must have had the following undergraduate program or equivalent before admission to graduate study.

Students without this background must take the appropriate course work. Courses taken to correct deficiencies cannot be used to satisfy minimum degree requirements.

- Mathematics through Differential Equations (equivalent to MAC 2311, MAC 2312, MAC 2313, MAP 2302).
- College Physics with Calculus (equivalent to PHY 2048 and PHY 2049).
- Computer Organization and Design (equivalent to EEL 4767C).
- Probability and Statistics (equivalent to STA 3032).
- Numerical Methods and matrix algebra (equivalent to EGN 3420).
- Engineering Data Structures (equivalent to EEL 4851C).
- Digital Logic Circuits (equivalent to EEL 3342C).

Transfer Credits

Subject to approval from an adviser, graduate students with a bachelor's degree in Computer Engineering from UCF may transfer up to 9 credit hours of 5000-level work toward a non-thesis M.S.Cp.E. option, and up to 3 credit hours of 5000-level work toward a thesis M.S.Cp.E. option. Up to 9 credit hours may be transferred from graduate work conducted elsewhere or in non-degree status from a regionally accredited institution.

Thesis / Non-Thesis Options

The master's program has a thesis option and a non-thesis (course work only) option. The thesis option requires a minimum of 30 credit hours, including 6 credit hours of thesis. The entire graduate committee must be appointed and a thesis abstract provided to them prior to registering for thesis credit. The non-thesis option requires following one of the available tracks (Computer Architecture, Digital Systems, Intelligent Systems, and Software Engineering) with a minimum of 36 credit hours of course work. Each option requires a minimum of 15 credit hours at the 6000 level. The actual program of study must be approved by an adviser (and thesis committee, as appropriate) prior to completing 9 credit hours of course work. A maximum of 9 credit hours of graduate course work taken prior to admission to the program can be used in a graduate degree program.

[General College Requirements](#)

Non-thesis option only

Minimum Hours Required for M.S.Cp.E. (Non-Thesis Option)—36 Credit Hours

Required Core Courses

- EEL 5708 High Performance Computer Architecture (3 credit hours)
- EEL 5874 Expert Systems and Knowledge Engineering (3 credit hours)
- EEL 5881 Software Engineering I (3 credit hours)

Computer Architecture Track

- Core (9 credit hours)
- EEL 6707 Parallel Processing (3 credit hours)
- EEL 6763 Current Topics in Parallel Processing (3 credit hours)
- EEL 6769 Parallel Knowledge Processing Systems (3 credit hours)
- EEL 6883 Software Engineering II (3 credit hours)

- Electives (selected in consultation with adviser) (15 credit hours)

Digital Systems Track

- Core (9 credit hours)
- EEL 6707 Parallel Processing (3 credit hours)
- EEL 6763 Current Topics in Parallel Processing (3 credit hours)
- EEL 6883 Software Engineering II (3 credit hours)
- Three courses in one of the following areas: Controls, Digital Signal Processing, or Microelectronics (9 credit hours)
- Electives (Selected in consultation with adviser) (9 credit hours)

Intelligent Systems Track

- Core (9 credit hours)
- EEL 4872 Engineering Applications of Intelligent Systems (3 credit hours)*
- EEL 6875 Engineering of Artificial Intelligence Systems (3 credit hours)
- EEL 6876 Current Topics in Artificial Intelligence in Engineering Systems (3 credit hours)
- EEL 6878 Modeling and Artificial Intelligence (3 credit hours)
- EEL 6883 Software Engineering II (3 credit hours)
- Electives (selected in consultation with adviser) (12 credit hours)

* If the student has taken this course or an equivalent as an undergraduate, then an elective, chosen in consultation with the adviser, can be used to replace this course.

Software Engineering Track

- Core (9 credit hours)
- EEL 6883 Software Engineering II (3 credit hours)
- At least two of the following courses (6 credit hours):
 - EEL 6885 Software Engineering Quality Assurance Methods (3 credit hours)
 - EEL 6887 Software Engineering Life-Cycle Control (3 credit hours)
 - EEL 6897 Software Development for Real-Time Engineering Systems (3 credit hours)
- Electives (selected in consultation with adviser) (18 credit hours)

Doctor of Philosophy in Computer Engineering

Minimum Hours Required for Ph.D. — 72 credit hours beyond bachelor's degree; 36 credit hours beyond non-thesis master's degree or 42 hours beyond thesis option master's degree.

[General College Requirements](#)

The Ph.D. degree requires a minimum of 72 credit hours beyond the bachelor's degree. Of these 72 hours, a minimum of 36 credit hours should be regular course work and a minimum of 15 credit hours should be dissertation hours. The remaining 21 credit hours could be course work including independent study or directed research subject to approval of the department.

The Ph.D. degree requires a minimum of 36-42 credit hours beyond the master's degree (depending on the number of transfer credits from the master's degree). Of these 36-42 hours, a minimum of 12 credit hours should be regular course work and a minimum of 15 hours should be dissertation hours. The remaining 9-15 credit hours could be course work including independent study or directed research subject to approval of the department.

At least 6 credit hours must be taken outside of Computer Engineering while at UCF. Up to 36 credit hours may be transferred from a master's degree including a maximum of 6 credit hours of 4000-level courses, no 3000-level courses, and no courses with grades less than "B" (3.0).

There is a residency requirement of two consecutive semesters in full-time graduate student status (minimum of 9 credit hours) after acceptance to the program. The program of study must be developed in consultation with an adviser within the first 9 credit hours of course work and must meet with departmental approval, at which time transfer credit will be evaluated on a course-by-course basis. Students are required to pass a qualifying examination, after which the student must form a dissertation committee. The degree must be completed within seven years from the entry date to the doctoral program.

Qualifying Examination

Doctoral students must take a written qualifying examination. This exam covers relevant material typically learned at the undergraduate and graduate levels, and serves to verify the student's capability and readiness for the Ph.D. program. It is expected that a Ph.D. student will pass the qualifying examination within the first year of graduate studies. The exam consists of a four-hour written test, held twice a year on the first Friday of November and April of each year. The written exam may be followed by an oral exam, to be held approximately within two weeks from the evaluation of the written examination. The oral exam is required at the discretion of the Computer Engineering Graduate Committee. The qualifying exam allows the use of open books and open notes, but published solution manuals for texts are not allowed. It is the policy of the Computer Engineering Program that any calculator used during the qualifying examination may not be used to store user-defined programs.

Written Exam Format

The exam is comprised of problems in at most four areas. The student must respond to a total of nine questions. The student must respond to four questions in his/her primary area and two questions in his/her secondary area. The primary area will be chosen prior to the exam date by notifying the Computer Engineering Graduate Secretary, or on the day of the exam. The primary area and secondary area can be chosen from the following list of areas.

- Software Engineering
- Digital Systems and Computer Architecture

The student must also respond to three questions in no more than two of the areas listed below.

- Intelligent Systems
- Communications
- Digital Signal Processing
- Controls
- Electro-optics
- Electromagnetics
- Physical Electronics
- Analog Electronics
- Modeling and Simulation

Candidacy Examination

The Candidacy Examination evaluates the student's preparation to begin research in their dissertation topic. A student may sit for the Candidacy Examination upon: (1) Passing the Qualifying Examination; (2) Completing all conditions placed as a result thereof; and (3) Completing all but six credits or less of the courses prescribed in the plan of study. The Candidacy Examination consists of the following:

- A Candidacy Proposal developed by the student to identify the chosen area of research.
- An oral presentation of the Candidacy Proposal to the dissertation committee by the student.
- A written Candidacy Examination based on the student's chosen area of research may be required by the major professor. The major professor determines the format in consultation with the dissertation committee.

Upon successful completion of the Candidacy Examination, the student can be accepted into Candidacy status, allowing him/her to enroll for dissertation credit hours.

The final step in the process is the Dissertation Defense Examination, which is an oral examination taken in defense of the written dissertation before the dissertation committee.

Dissertation Committee

The doctoral committee must consist of a minimum of five members: at least three must be faculty members from the Electrical and Computer Engineering department, and one must be from outside the College of Engineering. The committee chair must be a member of the department graduate faculty approved to direct dissertations. Joint faculty members serve as department faculty committee members. Adjunct faculty and off-campus experts may serve as the outside-the-college person in the committee. Program areas may further specify additional committee membership. UCF Graduate Studies reserves the right to review appointments to advisory committees, place a representative on any advisory committee, or appoint a co-adviser. In unusual cases, with approval from the department chair, two professors may chair the committee jointly. Joint faculty members may serve as committee chairs, but off-campus experts and adjunct faculty may not, although they may serve as co-chairs. All members vote on acceptance or rejection of the dissertation proposal and the final dissertation. The dissertation proposal and final dissertation must be approved by a majority of the dissertation committee.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).

- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Doctor of Philosophy in Computer Engineering

Harold Klee, Ph.D. , Associate Professor
Phone Number: 407-823-2270
klee@mail.ucf.edu

Master of Science in Computer Engineering

Harold Klee, Ph.D. , Associate Professor
Phone Number: 407-823-2270
klee@mail.ucf.edu

Computer Architecture Track

Harold Klee, Ph.D. , Associate Professor
Phone Number: 407-823-2270
klee@mail.ucf.edu

Digital Systems Track

Harold Klee, Ph.D. , Associate Professor
Phone Number: 407-823-2270
klee@mail.ucf.edu

Intelligent Systems Track

Harold Klee, Ph.D. , Associate Professor
Phone Number: 407-823-2270
klee@mail.ucf.edu

Software Engineering Track

Harold Klee, Ph.D. , Associate Professor
Phone Number: 407-823-2270
klee@mail.ucf.edu

Computer Science

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Master of Science in Computer Science](#)

[Doctor of Philosophy in Computer Science](#)

[Contact Info](#)

Description

The Computer Science program offers Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees in Computer Science. The program has a long and respected history, having conferred M.S. degrees since 1968 and Ph.D. degrees since 1980. In 2001 our Ph.D. program was ranked nationally in the top 10 by the National Association of Graduate and Professional Studies.

Students in the program receive a broad background in the areas of programming systems and languages, computer architecture, and computer science theory while specializing in a research area. Research interests of the computer science faculty include affective computing, applied perception, computational biology, computational geometry, computer and network security, computer architecture, computer forensics, computer graphics, computer networks, computer vision, cryptography, data compression, database management systems, data mining, design and analysis of algorithms, evolutionary computation, genetic algorithms, graph theory, hardware/software co-design, image processing, machine learning, mixed and virtual reality, mobile computing, modeling and simulation, multimedia systems, natural language processing, parallel and distributed processing, performance evaluation, programming languages, quantum computing, semantic web, software agents, software engineering, and VLSI systems.

Students successfully completing this program will have exhibited breadth as well as depth of capability involving both theoretical aspects of computer science and practical considerations of computing.

The mission of the M.S. degree program is to provide students with an in-depth education geared toward meeting the needs of business and industry in Florida and throughout the U.S. Our goal is to produce graduates with a high level of competency in understanding, applying, and enunciating the modern concepts, principles, methods, and theories necessary for the design and implementation of computing systems.

The Ph.D. program's goal is to produce professionals trained at the highest possible academic level in the theory and practice of computer science in order to meet current and projected market demand for computer science experts. Our Ph.D. students graduate with proven abilities in research and instruction and have expertise suitable for positions in industry, academia, and government.

Degrees Offered

Master of Science in Computer Science

Doctor of Philosophy in Computer Science

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Graduate Catalog. Applicants are directed to visit the college's [pre-application site](#) as well as to [apply online](#). Please be sure to submit all requested material by the established deadline(s).

The College of Engineering and Computer Science requires that you fill out a pre-application form (www.graduate.cecs.ucf.edu) before you complete the application for graduate admission. The deadlines for the pre-application form can be found on the [Prospective Student Page](#) on the College of Engineering and Computer Science website.

Master's Degree Program

In addition to the general admission requirements, applicants to this program should note:

- Official scores on the Graduate Record Examination (GRE), which must have been taken within the last five years, must be provided.
- Admittance to the program requires a combined verbal and quantitative score of 1200 on the GRE and a GPA of 3.25 or greater.
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

An undergraduate degree in Computer Science is desirable but not required. Applicants without a strong undergraduate background in Computer Science must demonstrate an understanding of the material covered in the following upper division undergraduate courses:

- CDA 4150 Computer Architecture
- COP 4020 Programming Languages I
- COP 4600 Operating Systems
- COT 4210 Discrete Computational Structures

The student may choose to demonstrate his/her knowledge of these courses by scoring well on the Subject (Advanced) GRE in Computer Science. It is estimated that more than 85 percent of this GRE deals directly with the material covered in these courses.

Doctoral Degree Program

Outstanding students with a bachelor's degree are encouraged to apply directly into the doctoral program. Admission to the Ph.D. program is formalized by the university upon the recommendation of the Computer Science Graduate Committee.

In addition to the general admission requirements, applicants to this program must:

- Submit a resume, goals statement, and three letters of recommendation.
- Provide official scores on the Graduate Record Examination (GRE), which must have been taken within the last five years
- Have a combined verbal and quantitative score of 1250 on the GRE and a GPA of 3.25 or greater
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

An undergraduate degree in Computer Science is desirable but not required. Applicants without a strong undergraduate background in Computer Science must demonstrate an understanding of the material covered in the following upper division undergraduate courses:

- CDA 4150 Computer Architecture

- COP 4020 Programming Languages I
- COP 4600 Operating Systems
- COT 4210 Discrete Computational Structures

The student may choose to demonstrate his/her knowledge of these courses by scoring well on the Subject (Advanced) GRE in Computer Science. It is estimated that more than 85 percent of this GRE deals directly with the material covered in these courses.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Computer Science	Feb 1	Jul 15	Dec 1	Apr 15
Master of Science in Computer Science	Feb 1	Jul 15	Dec 1	Apr 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Computer Science	Feb 1	Feb 1	Jul 1	
Master of Science in Computer Science	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Computer Science	Feb 1	Mar 1	Sep 1	
Master of Science in Computer Science	Feb 1	Mar 1	Sep 1	

Master of Science in Computer Science

[General College Requirements](#)

Minimum Hours Required for M.S.—30-36 Credit Hours

Required Courses—9 Credit Hours

(Students must receive a 3.0 or above grade in each of these courses.)

- CDA 5106 Advanced Computer Architecture I (3 credit hours)
- COT 5405 Design and Analysis of Algorithms (3 credit hours)

And one of these courses:

- COP 5611 Operating Systems Design Principles (3 credit hours)
- COP 5021 Program Analysis (3 credit hours)
- COT 5310 Formal Languages and Automata Theory (3 credit hours)

Restricted Electives—21-27 Semester Hours

Restricted electives must include two 6000-level Computer Science courses taught by Computer Science faculty, exclusive of independent study, and may not include any courses for which the grade received is below a 3.0. Additional credits will normally be taken from 5000- and 6000-level Computer Science courses. Approval may be granted for at most 6 semester hours to be taken from graduate courses outside Computer Science. Such approval needs to occur prior to taking these outside courses.

Two options are available. The non-thesis option is a 36-credit-hour program with at most 6 hours of independent study. The thesis option is a 30-credit-hour program and allows no independent study. 6 credits of thesis (CAP, CDA, CEN, COP or COT 6971) are intended to span two semesters. Beyond these two semesters, students are required to be enrolled in at least one credit hour of thesis until the thesis requirement is satisfied. Students are required to prepare and defend a formal thesis in accordance with university requirements. The final thesis will be bound with two copies provided to the library and one copy provided to the School of Electrical Engineering and Computer Science.

The plan of study for each student should be filed no later than in the first two weeks of the student's second semester in the program. This plan must satisfy the following:

- Contain 30-36 credit hours depending on the option selected.
- The grade in each course must be a "C" (2.0) or better with at most 6 credit hours having grades below "B" (3.0) or better. (Note that there is no grade forgiveness in graduate school, so all grades attained on each course are used to compute a student's grade point average.)
- No courses below the 5000-level, and no 5000 level CGS prefix course work.
- No more than 6 credit hours (or two courses) of independent study in the Non-Thesis option and none in the Thesis option.
- Three required courses with grades of "B" (3.0) or above attained in each.
- No more than 6 credits taken outside computer science, with these courses having been approved by his or her adviser prior to the students enrolling in them.
- Two 6000-level courses, with grades of "B" (3.0) or better, taught by Computer Science faculty.
- 6 credits of thesis (CAP, CDA, CEN, COP or COT 6971) for those in the thesis option.

Doctor of Philosophy in Computer Science

The Ph.D. plan of study will consist of a minimum of 15 credit hours of Ph.D. dissertation (CAP, CDA, CEN, COP, or COT 7980) credits and at least 57 additional credit hours of graduate (5000-level or above) credits. The latter must include CDA 5106, COT 5310, COT 5405, at least 15 credit hours of advanced (6000 or 7000-level) computer science courses, at least 6 additional graduate computer science credits (exclusive of dissertation and independent study), and 6 graduate credit hours from approved courses taken outside computer science. No more than 12 credits of Independent Study can be used.

The plan of study for each student should be filed no later than in the first two weeks of the student's second semester in the program. This plan must satisfy the following:

- Contain a minimum of 72 credit hours.
- The grade earned in each course must be a C (2.0) or better with at most 6 credit hours having grades below B (3.0) and an overall grade point average of 3.0 or better (Note that there is no grade forgiveness in graduate school, so all grades attained on each course are used to compute a student's grade point average.)
- No courses below the 5000-level, and no 5000-level CGS prefix course work.
- No more than 12 credit hours (or four courses) of independent study.

- Five 6000 or 7000-level courses (15 credits), with grades of B (3.0) or better, taught by Computer Science faculty.
- Three required courses with grades of B (3.0) or above attained in each.
- Two courses (6 credits) taken outside computer science, with these courses having been approved by his or her adviser prior to the student's enrolling for them.
- Six additional computer science graduate credits to make the total of all non-independent study/non-dissertation courses total at least 36 credits.
- 15 credits of Ph.D. dissertation (CAP, CDA, CEN, COP or COT 7980).

[General College Requirements](#)

Ph.D. Qualifying Examination

Phase I of the qualifying examination, normally taken within the first two semesters of graduate work, determines whether a student will be allowed to continue for the Ph.D.

Phase I consists of a written examination in which students must successfully pass questions covering four areas from a list of areas supplied by the program. Students must clearly convey a strong undergraduate knowledge of each area. Phase I examinations will be offered in the Fall and Spring terms. Students are allowed two attempts to pass the Phase I examination.

Phase II of the qualifying examination consists of the acceptance of a professional paper, normally under the supervision of the student's adviser, by a peer-reviewed conference or journal. It is expected that the Phase II goal will be satisfied within the first eighteen months of graduate work.

Dissertation Committee

- The Dean, through the Chairs, is responsible for committee formation, additions, and deletions. The doctoral committee must consist of a minimum of five members: three must be faculty members from within Computer Science, and one must be at large from outside the School of Computer Science. Committee Chairs must be members of the school graduate faculty. Joint faculty members may serve as school-faculty committee members. Adjunct faculty and off-campus experts may serve as the outside-the-college member. The Computer Science Graduate Committee may further specify additional membership. The Division of Graduate Studies reserves the right to review appointments to advisory committees, place a representative on any advisory committee, or appoint a co-adviser.
- In unusual cases, with approval from the program Chair, two professors may co-chair the committee. Joint faculty members may serve as committee chairs, but off-campus experts and adjunct faculty may not, although they may serve as co-chairs.
- All members vote on acceptance or rejection of the dissertation proposal and the final dissertation. The dissertation proposal and final dissertation must be approved by a majority of the advisory committee.

Candidacy Examination

The candidacy examination consists of a written doctoral research prospectus followed by an oral presentation of the proposal. Students cannot register for dissertation credit (XXX 7980) until the term following successful passing of the candidacy examination.

Residency Requirement

Students in the Ph.D. program (post candidacy) are normally expected to be registered for a minimum of 9 credit hours for at least two consecutive semesters.

Time Limitation

Students have seven years from the beginning of regular graduate status in the Ph.D. program to complete all requirements for the degree.

Dissertation and Oral Defense

Students must write a dissertation on their research that describes a significant original contribution to the field of computer science. The oral defense of the dissertation is administered by the research committee, which makes a critical inquiry into the work reported in the dissertation and into the areas of knowledge that are immediately relevant to the research. All members vote on acceptance or rejection of the dissertation. The dissertation must be approved by the dissertation adviser and committee, the school director or designee, and the dean of the college or designee. Format approval from the Thesis and Dissertation Editor, and final approval of satisfaction of degree requirements by UCF Graduate Studies is required.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Doctor of Philosophy in Computer Science

Charles Hughes, Ph.D. , Professor
Phone Number: 407-823-2779
grad_prog@cs.ucf.edu

Master of Science in Computer Science

Charles Hughes, Ph.D. , Professor

Phone Number: 407-823-2779

grad_prog@cs.ucf.edu

Conservation Biology - Ph.D.

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Doctor of Philosophy in Conservation Biology](#)

[Applied Conservation Biology Track](#)

[Ecology and Organismal Biology Track](#)

[Contact Info](#)

Description

The conservation biology Ph.D. program provides an interface between traditional biological sciences and the areas of economics, law, urban and rural planning, politics, communication, philosophy, and environmental engineering. The purpose of this training is to produce scientists who are not only capable of doing independent research but who can work within the broader area of environmental politics, law, and economics to communicate issues of conservation biology to policy makers, the general public, and industry. Students will choose one of two specializations: Applied Conservation Biology or Ecology and Organismal Biology. The Applied Conservation Biology Track is intended to provide the academic background necessary to begin work in industry, non-governmental organizations, or government in a leadership role in the application of cutting-edge principles to problem solving in conservation biology. The Ecology and Organismal Biology Track embraces both applied and basic research concerning ecological questions to address current concerns in the area of conservation biology. Students taking either track would be prepared to pursue an academic career.

Degrees Offered

Doctor of Philosophy in Conservation Biology

- Applied Conservation Biology Track
- Ecology and Organismal Biology Track

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

Students entering the graduate program with regular status are normally expected to have completed course work generally required for a bachelor's degree in biology. In addition to the general admission requirements, applicants must provide:

- Official score of at least 1100 (combined) on the Graduate Record Examination (GRE), which must have been taken within the last five years
- Official transcripts showing a bachelor's degree and all courses taken for that degree, and any post-baccalaureate education or degree. GPA should be 3.0 or higher.
- Three letters of recommendation

- Statement of research interest and purpose, including a summary of relevant work or research experience
- Resume
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

A personal or telephone interview will also take place whenever possible. Admission is based on an overall assessment of qualifications documented in credentials submitted and the interview. All admissions to graduate status are competitive and based on availability of faculty for sponsoring research.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Conservation Biology	Jan 15	Jan 15		

Students applying for summer or spring admission will be considered on an ad hoc basis.

Applied Conservation Biology Track	Jan 15	Jan 15		
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Students applying for summer or spring admission will be considered on an ad hoc basis.

Ecology and Organismal Biology Track	Jan 15	Jan 15		
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Students applying for summer or spring admission will be considered on an ad hoc basis.

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Conservation Biology	Jan 15	Jan 15		

Students applying for summer or spring admission will be considered on an ad hoc basis.

Applied Conservation Biology Track	Jan 15	Jan 15		
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Students applying for summer or spring admission will be considered on an ad hoc basis.

Ecology and Organismal Biology Track	Jan 15	Jan 15		
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Students applying for summer or spring admission will be considered on an ad hoc basis.

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Conservation Biology	Jan 15	Jan 15		

Students applying for summer or spring admission will be considered on an ad hoc basis.

Applied Conservation Biology Track	Jan 15	Jan 15		
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Students applying for summer or spring admission will be considered on an ad hoc basis.

Ecology and Organismal Biology Track	Jan 15	Jan 15		
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Students applying for summer or spring admission will be considered on an ad hoc basis.

Doctor of Philosophy in Conservation Biology

Ph.D. in Conservation Biology—Minimum 72 Credit Hours

The program is composed of 12 credit hours of required core courses, a minimum of 20 hours of elective courses, a minimum of 24 hours of dissertation research and the balance of required credit hours in additional electives and directed research. In the Applied Conservation Biology Track, professional internship hours can be substituted for directed research.

All entering students will take a core group of courses that will provide an introduction to the science of conservation biology. By the end of the second semester, the student will be required to establish a program of study in conjunction with their dissertation adviser and the advisory committee. Students are required to complete a minimum of 20 hours of electives in consultation with their advisory committee. In addition to these selected electives, the dissertation committee may require the candidate to take any graduate course taught at UCF, if deemed appropriate for the candidate's area of emphasis. Minor programmatic deficiencies will be addressed early in the program. No more than six semester credit hours of 4000-level courses may be taken for credit. Students entering with a master's degree may request up to 30 semester credit hours of previous work be accepted toward the requirements for this degree subject to approval of the dissertation committee. Students may register for dissertation research only after passing candidacy exam.

Applied Conservation Biology Track

The Applied Conservation Biology Track is intended to provide the academic background necessary to work in industry or government in a leadership role in the application of cutting edge principles to problem solving in conservation biology. This track is especially well suited for career employees of federal or state agencies who are looking for a non-traditional Ph.D. program.

Ecology and Organismal Biology Track

The Ecology and Organismal Biology Track will embrace both applied and basic research concerning ecological questions to address current concerns in the area of conservation biology. Students taking this track would be prepared to either work in industry or government or to enter an academic career. This track incorporates more traditional research in broader biology areas that have a focus on conservation.

Sample Program of Study

Year 1

Fall

Conservation Biology I (4 credit hours)
Seminar in Conservation Biology (1 credit hour)
Research Communications I (1 credit hour)*
Elective (3 credit hours)

Spring

Conservation Biology II (4 credit hours)
 Seminar in Conservation Biology (1 credit hour)
 Research Communications II (1 credit hour)*
 Elective (3 credit hours)

Summer**Written Qualifying Exam**

Directed Research (6 credit hours)

Year 2**Fall**

Elective (4 credit hours)
 Elective (3 credit hours)
 Directed Research and/or Elective (2 credit hours)

Spring

Elective (4 credit hours)
 Directed Research and/or Elective (5 credit hours)

Oral Candidacy Exam**Summer**

Directed Research and/or Elective (6 credit hours)

Year 3**Fall**

Dissertation Research (3 credit hours)**

Spring

Dissertation Research (3 credit hours)**

Summer

Dissertation Research (3 credit hours)**

Year 4**Fall**

Dissertation Research (3 credit hours)**

Spring

Dissertation Research (3 credit hours)**

Summer

Dissertation Research (3 credit hours)**

Year 5**Fall**

Dissertation Research (3 credit hours)**

Spring

Dissertation Research (3 credit hours)**

Summer

Dissertation Defense (3 credit hours)**

* *Advanced students, who have already completed a M.Sc., may substitute Directed Research for Research Communication*

** *In the Applied Conservation Biology Track, Professional Internship hours can be substituted for Directed Research*

Advisory Committee

The Advisory Committee shall consist of a minimum of four members, including the dissertation adviser, with at least three members coming from the Biology Department. At least one member will be from a department other than Biology or from outside the university. The Chair, or co-Chair, must be a member of the Program Faculty of the Department of Biology.

Enrollment Requirements

Students are required to register for 9 credit hours in fall and spring, and 6 credit hours in summer, before their candidacy exam. After being admitted to candidacy, minimum enrollment is 3 credit hours of dissertation research each semester.

Qualifying Examination

The written qualifying exam will be administered to students in the summer semester following the end of their first academic year. The exact format of this exam is determined by the Chair of the Advisory Committee and approved by the remaining members of the committee. The purpose of this examination is to determine whether the student is proficient in all subject matter related to their chosen field of conservation biology. While some questions may be directly related to the dissertation research proposal, in most instances questions are designed to examine general knowledge and reasoning. Overall, the committee determines whether the student has a strong knowledge base in the area of biology, understands experimental methods/design and possesses sound scientific reasoning. Students who fail will be given a second opportunity to be taken within one academic semester. Two failures results in dismissal from the program.

Candidacy Examination

No later than the end of the second academic year, each student will be required to generate, organize, and orally defend a written proposal outlining their dissertation research to their Advisory Committee. Areas of deficiency identified in the written Qualifying Exam may also be reexamined in the Candidacy Exam. After passing the candidacy exam the student will be deemed as having been admitted to candidacy and can register for dissertation hours.

Dissertation Defense

Upon completion and approval of the doctoral dissertation by all appropriate faculty and university offices, the student will make a formal presentation of the research findings in seminar format to the dissertation committee and other university faculty and students who may wish to attend. The candidate will answer questions about the subject matter presented and defend the conclusions drawn.

The final defense will consist of two phases; there will be a public presentation of the candidate's research with accompanying questions from the audience, and there will be an oral defense of the dissertation in front of the candidate's committee. This defense will focus on the dissertation and the application and/or ramifications of this research to the discipline. The dissertation committee will determine whether or not the candidate has passed this last assessment.

Student Orientation

An orientation for all incoming students will be scheduled one week prior to each fall semester. The orientation will include tours of the program facilities, a session on registration, university policies and procedures, and expectations of doctoral study. Further, Environmental Health and Safety will present a

program on topics such as laboratory safety, chemical and fire safety, biohazard training, and radioisotope handling. Expectations for Graduate Teaching Assistants (GTA) and Graduate Research Assistants (GRA) will be fully covered. In addition, students will be required to participate in the program for GTA's offered by the UCF Faculty Teaching and Learning Center and the College of Arts and Sciences.

Financial Support

Students accepted in the program are eligible for graduate fellowships, graduate teaching assistantships, or graduate research assistantships. Stipends are currently \$19,000 per year. Tuition waivers are provided to all students. Exceptionally qualified students become eligible for university enhancement awards. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Doctor of Philosophy in Conservation Biology

John Weishampel, Ph.D. , Associate Professor
Phone Number: 407-823-6525
jweisham@mail.ucf.edu

Applied Conservation Biology Track

John Weishampel, Ph.D. , Associate Professor
Phone Number: 407-823-6525
jweisham@mail.ucf.edu

Ecology and Organismal Biology Track

John Weishampel, Ph.D. , Associate Professor
Phone Number: 407-823-6525
jweisham@mail.ucf.edu

Counselor Education

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Master of Arts in Counselor Education](#)

[Mental Health Counseling Track](#)

[School Counseling Track](#)

[Master of Education in Counselor Education](#)

[School Counseling Track](#)

[Contact Info](#)

Description

Counselor Education offers two degree programs: Mental Health Counseling and School Counseling. The Mental Health Counseling program prepares students for licensure in mental health counseling and leads to a Master of Arts (M.A.) degree.

The School Counseling program features two tracks that lead either to a Master of Education (M.Ed.) or a Master of Arts (M.A.) degree. The M.Ed. was created for students who have a bachelor's degree and have completed course work for teaching certification and plan to seek certification in school counseling. The M.A. was designed for the student who has a bachelor's degree in a discipline other than education who plans to seek certification as a school counselor.

As part of the program's "real world" approach to counselor education (in addition to classroom studies) all students complete clinical experiences in the UCF Community Counseling Clinic and on-site in the community.

The Mental Health Counseling program prepares students to obtain licensure as a mental health counselor and practice in community agencies, hospitals, colleges, universities, and private practice. The School Counseling program prepares students to work as professional counselors in pre-K through postsecondary school settings.

Degrees Offered

Master of Arts in Counselor Education

- Mental Health Counseling Track
- School Counseling Track

Master of Education in Counselor Education

- School Counseling Track

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

In addition to the general admission requirements, applicants to this program must provide:

- Three letters of recommendation
- A resume or statement of goals
- Official scores on the Graduate Record Examination (GRE), which must have been taken within the last five years (in lieu of the GRE, a GMAT score of 500 or higher may be used for admission consideration)
- For applicants from countries where English is not the official language, or for an applicant whose bachelor’s degree is not from an accredited U.S. institution, an official score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

Applicants are expected to have a minimum cumulative GRE score of about 1000 or an undergraduate GPA of about 3.0. However, the final admission criteria will normally be more stringent because of the competitiveness of the application process.

A formal interview is required and will be scheduled after the College of Education admission requirements are met. Interviews are conducted on the second Friday in March and the second Friday in October.

This program can accommodate only a limited number of students; therefore, there is a possibility of being denied admission even when all criteria are met.

The College of Education reserves the right to refuse student entrance or terminate a student after admission to the Counselor Education Program, if in the judgment of the faculty the student demonstrates unacceptable personal fitness to work in the counseling field with children, youth, and/or adults.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Counselor Education	Feb 1	Mar 1	Oct 1	
Mental Health Counseling Track	Feb 1	Mar 1	Oct 1	
School Counseling Track	Feb 1	Mar 1	Oct 1	
Master of Education in Counselor Education	Feb 1	Mar 1	Oct 1	
School Counseling Track	Feb 1	Mar 1	Oct 1	

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Counselor Education	Feb 1	Feb 1	Jul 1	
Mental Health Counseling Track	Feb 1	Feb 1	Jul 1	
School Counseling Track	Feb 1	Feb 1	Jul 1	
Master of Education in Counselor Education	Feb 1	Feb 1	Jul 1	

School Counseling Track Feb 1 Feb 1 Jul 1

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Counselor Education	Feb 1	Mar 1	Sep 1	
Mental Health Counseling Track	Feb 1	Mar 1	Sep 1	
School Counseling Track	Feb 1	Mar 1	Sep 1	
Master of Education in Counselor Education	Feb 1	Mar 1	Sep 1	
School Counseling Track	Feb 1	Mar 1	Sep 1	

Please note that all degrees have the following exit requirements:

- Achieve at least a GPA of 3.0 in counseling specialization courses.
- Achieve a “B” or better in MHS 6800 and MHS 6830.
- Complete clinical experiences in the UCF Community Counseling Clinic and on-site in the community (a total of 1,100 clock hours are required for mental health counseling or 700 hours for school counseling).
- Complete a portfolio and receive approval by Counselor Education faculty.
- Pass comprehensive written examinations satisfactorily.
- Complete a professional exit examination.

M.Ed. in Counselor Education

School Counseling

51 Minimum Credit Hours Required

Prerequisite: Eligible for teacher certification

Area A: Core—12 Credit Hours

- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- EGC 6971 Thesis or 2 electives (6 credit hours)

Area B: Specialization—30 Credit Hours

- MHS 5005 Introduction to the Counseling Profession (3 credit hours)
- MHS 6220 Individual Psychoeducational Testing I (3 credit hours)
- MHS 6400 Theories of Counseling and Personality (3 credit hours)
- MHS 6401 Techniques of Counseling (3 credit hours)
- MHS 6420 Counseling Special Populations (3 credit hours)
- MHS 6500 Group Procedures and Theories in Counseling (3 credit hours)
- MHS 6702 Ethical and Legal Issues (3 credit hours)
- SDS 6XXX Career Development (3 credit hours)
- SDS 6411 Counseling with Children and Adolescents (3 credit hours)

- SDS 6620 Organization and Administration of School Counseling and Guidance Programs (3 credit hours)

Area C: Professional Clinical Experience—9 Credit Hours

- MHS 6803 Practicum in Counselor Education (3 credit hours)
- MHS 6830 Counseling Internship (3 credit hours)
- MHS 6830 Counseling Internship (3 credit hours)

NOTE: Courses should be taken in the following sequence: MHS 5005, 6400, 6401, 6500, 6800, and 6830.

M.A. in Counselor Education

Mental Health Counseling

63 Minimum Credit Hours Required

This program prepares students for Florida licensure in mental health counseling.

Area A: Core—12 Credit Hours

- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- EGC 6971 Thesis or 2 approved electives (6 credit hours)

Area B: Specialization—39 Credit Hours

- MHS 5005 Introduction to the Counseling Profession (3 credit hours)
- MHS 6020 Mental Health Care Systems (3 credit hours)
- MHS 6070 Diagnosis and Treatment in Counseling (3 credit hours)
- MHS 6220 Individual Psychoeducational Testing I (3 credit hours)
- MHS 6400 Theories of Counseling and Personality (3 credit hours)
- MHS 6401 Techniques of Counseling (3 credit hours)
- MHS 6420 Counseling Special Populations (3 credit hours)
- MHS 6450 Counseling Substance Use and Abuse (3 credit hours)
- MHS 6480 Human Sexuality and Relationships (3 credit hours)
- MHS 6500 Group Procedures and Theories in Counseling (3 credit hours)
- MHS 6702 Ethical and Legal Issues (3 credit hours)
- SDS 6XXX Career Development (3 credit hours)
- Elective approved by adviser (3 credit hours)

Area D: Professional Clinical Experiences—12 Credit Hours

- MHS 6803 Practicum in Counselor Education (3 credit hours)
- MHS 6830 Counseling Internship (3 credit hours)
- MHS 6830 Counseling Internship (3 credit hours)

Please note: Courses should be taken in the following sequence: MHS 5005, 6400, 6401, 6500, 6800, and 6830.

M.A. in Counselor Education—School Counseling Track

60 Minimum Credit Hours Required**Area A: Core—12 Credit Hours**

- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- EGC 6971 Thesis or 2 approved electives (6 credit hours)

Area B: Specialization—30 Credit Hours

- MHS 5005 Introduction to the Counseling Profession (3 credit hours)
- MHS 6220 Individual Psychoeducational Testing I (3 credit hours)
- MHS 6400 Theories of Counseling and Personality (3 credit hours)
- MHS 6401 Techniques of Counseling (3 credit hours)
- MHS 6420 Counseling Special Populations (3 credit hours)
- MHS 6500 Group Procedures and Theories in Counseling (3 credit hours)
- MHS 6702 Ethical and Legal Issues (3 credit hours)
- SDS 6XXX Career Development (3 credit hours)
- SDS 6411 Counseling with Children and Adolescents (3 credit hours)
- SDS 6620 Organization and Administration of School Counseling and Guidance Programs (3 credit hours)

Area C: Professional Clinical Experience—9 Credit Hours

- MHS 6803 Practicum in Counselor Education (3 credit hours)
- MHS 6830 Counseling Internship (3 credit hours)
- MHS 6830 Counseling Internship (3 credit hours)

Area D: Required DOE Certification—9 Credit Hours

Foundations:

- RED 5147 Developmental Reading (3 credit hours)
- EDF 6608 Social Factors in American Education (3 credit hours)
- EDG 6236 Principles of Instruction (3 credit hours)
- General Methods—6 Credit Hours

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.

- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Master of Arts in Counselor Education

B. Grant Hayes, Ph.D. , Professor
Phone Number: 407-823-3063
counsel@mail.ucf.edu

Master of Education in Counselor Education

B. Grant Hayes, Ph.D. , Professor
Phone Number: 407-823-3063
counsel@mail.ucf.edu

Mental Health Counseling Track

B. Grant Hayes, Ph.D. , Professor
Phone Number: 407-823-3063
counsel@mail.ucf.edu

School Counseling Track

B. Grant Hayes, Ph.D. , Professor
Phone Number: 407-823-3063
counsel@mail.ucf.edu

School Counseling Track

B. Grant Hayes, Ph.D. , Professor
Phone Number: 407-823-3063
counsel@mail.ucf.edu

Criminal Justice

[Description](#)

[Degree Offered](#)

[Admission](#)

[Master of Science in Criminal Justice](#)

[Contact Info](#)

Description

The Master of Science in Criminal Justice offers students an in-depth exploration of the complex and changing world of criminal justice. The historical, political, economic, and philosophical forces shaping crime and punishment in the United States are examined. Students also learn valuable qualitative and quantitative research and computer skills.

Federal, state, and local criminal justice agencies benefit from an informed and innovative work force that is aware of the many complexities of the criminal justice system. The importance of advanced education in criminal justice beyond the bachelor's degree is increasingly being recognized by employers in Central Florida and throughout the United States.

The M.S. Program in Criminal Justice offers two plans of study. The first has a professional focus and is designed for students whose career goals include working in criminal or juvenile justice agencies. The second plan of study is designed for students who plan to enroll in a Ph.D. program when they complete the master's program. Students in both plans of study will be exposed to a wide variety of issues and problems within the discipline.

Degrees Offered

Master of Science in Criminal Justice

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Graduate Catalog](#). Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

In addition to the general admission requirements, applicants must provide:

- Official scores on the Graduate Record Examination (GRE), which must have been taken within the last five years, with a total score of 800 or higher on the combined verbal-quantitative sections. AND a GPA of 3.0 for the last 60 attempted semester hours of undergraduate study. A course-by-course transcript evaluation is required of all students who attended a college or university outside the United States. For information and instructions about transcript evaluations, please see [Transcripts and Evaluations](#) on the Graduate Students website.
- A GPA of 3.0 for the last 60 attempted semester hours of undergraduate study.
- A personal statement reflecting their educational and career goals.
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

Applicants that fail to meet the GRE and GPA minimum requirements will be considered for admission on a case-by-case basis.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Science in Criminal Justice	Feb 1	Jul 15	Dec 1	Apr 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Science in Criminal Justice	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Science in Criminal Justice	Feb 1	Mar 1	Sep 1	

Master of Science in Criminal Justice

The M.S. Program in Criminal Justice offers two plans of study. The first has a professional focus and is designed for students whose career goals include working in criminal or juvenile justice agencies. These students will be encouraged to focus on policy-oriented courses and to compile a professional portfolio of their graduate work. The second plan of study is designed for students who plan to enroll in a Ph.D. program when they complete the master's program. These students will be encouraged to prepare a thesis and to focus on research-related courses.

Students in both plans of study will be exposed to a wide variety of issues and problems within the discipline. They will study crime trends and theories of criminal behavior. They will analyze the administration of justice within the United States, including critical problems facing law enforcement, courts, and corrections. Qualitative and quantitative research methods, statistics, and computer technologies in the criminal justice field will also be part of each student's curriculum.

Students will select elective courses based on their program of study. These courses involve analysis of juvenile crime and the juvenile justice system; the relationship of law to social policy; individual and organizational strategies for change; the connection between popular culture, the mass media, crime, and criminal justice; and the future of corrections and law enforcement. A number of special topic courses will be offered as well.

Minimum Hours Required for M.S.—30 Credit Hours

Each student completes a core of 4 courses (12 credit hours) and an advanced curriculum of 6 courses (18 credit hours) selected in consultation with an adviser. Students may select a thesis option or a non-thesis option, depending on their intended career plans. Students may transfer up to 6 hours of related graduate course work toward the Master of Science degree. Only courses where the student earned a grade of "B" or above will be accepted for transfer from an accredited university or college.

Minimum Core Requirements—12 Credit Hours

- CCJ 5015 The Nature of Crime (3 credit hours)
- CCJ 5456 The Administration of Justice (3 credit hours)
- CCJ 5704 Research Methods in Criminal Justice (3 credit hours)
- CCJ 6706 Quantitative Methods and Computer Utilization in Criminal Justice (3 credit hours)

Advanced Curriculum-18 Credit Hours-Select Six Courses.

- CJC 5020 Foundations of Corrections (3 credit hours)
- CCJ 5105 Foundations of Law Enforcement (3 credit hours)
- CCJ 5040 International Perspectives on Law and Justice (6 credit hours)
- CCJ 5073 Data Management Systems for Crime Analysis (3 credit hours, fall only)
- CCJ 5467 Justice and Safety System Manpower (3 credit hours)
- CJJ 6020 The Juvenile Justice System (3 credit hours)
- CCJ 6077 Advanced Crime Mapping and Analysis in Criminal Justice (3 credit hours, summer only)
- CCJ 6079 Crime Mapping and Analysis in Criminal Justice (3 credit hours, spring only)
- CCJ 6106 Policy Analysis in Criminal Justice (3 credit hours)
- CCJ 6217 Law and Social Control (3 credit hours)
- CCJ 6362 Death Penalty (3 credit hours)
- CCJ 6485 Issues in Justice Policy (3 credit hours)
- CCJ 6705 Applied Criminal Justice Research (3 credit hours)
- CCJ 6730 Planned Change and Innovation in Criminal Justice (3 credit hours)
- CCJ 6908 Independent Study (3 credit hours)
- CCJ 6934 Criminal Justice, Crime, and Popular Culture (3 credit hours)
- CCJ 6938 Special Topics in Criminal Justice (3 credit hours) (topic varies from semester to semester)
- CCJ 6946 Criminal Justice Practicum (3 credit hours)
- CCJ 6971 Thesis (3 credit hours)

A total of 6 credits may be taken outside of the Department in related areas such as Public Administration, Political Science, Psychology, Computer Science, Social Work, Sociology, or other areas approved by the faculty.

NOTE: Students should obtain the most recent course information for electives from the "Course Catalog" at <https://connect.ucf.edu>. Consult the "Class Schedule" at <https://connect.ucf.edu> for those courses offered each term. A student may not take more than 6 credit hours total of Independent Study or Practicum.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

K. Michael Reynolds, Ph.D. , Associate Professor
Phone Number: 407-823-2603
kreynold@mail.ucf.edu

Curriculum and Instruction

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Education Specialist in Curriculum and Instruction](#)

[Master of Arts in Curriculum and Instruction](#)

[Master of Education in Curriculum and Instruction](#)

[Doctor of Education in Curriculum and Instruction](#)

[Contact Info](#)

Description

The College of Education offers master's, specialist, and doctoral degrees in Curriculum and Instruction. The master's program offers the Master of Education (M.Ed.) and Master of Arts (M.A.) degrees and is designed for those who are interested in curricular studies, a more general, broadly based master's program, or who have interest in the flexibility this program offers to pursue graduate course work in middle school, pre-K handicapped, multicultural, and gifted education.

The Education Specialist (Ed.S.) program is designed for individuals in teaching and in other instruction or training leadership positions. The Doctor of Education (Ed.D.) program is designed for those interested in teaching in a college of education, teaching a content field at the community college level, becoming a school district leader in curriculum and instruction, or performing instructional design tasks in military or business settings.

Degrees Offered

Education Specialist in Curriculum and Instruction
Master of Arts in Curriculum and Instruction
Master of Education in Curriculum and Instruction
Doctor of Education in Curriculum and Instruction

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

In addition to the general admission requirements, applicants must provide:

Master's programs:

- Official Graduate Record Examination (GRE) combined score of at least 840 from test taken within the last five years and a GPA of 3.0; if GPA is below 3.0, GRE of 1000 (in lieu of the GRE, a GMAT score of 500 or higher may be used for admission consideration)
- Applicants to the M.Ed. program must (1) have completed all course requirements for Florida state teacher certification in the program's subject area and/or grade range, or (2) present a Florida Professional Teaching Certificate upon admission to the program. Applicants who have graduated from an accredited university or college teacher certification program in another state or country, in the appropriate subject and/or grade range, may also be admitted to the M.Ed. program at the discretion of the program director. Applicants teaching in an area that does not require state

certification—higher education, informal education, business, industrial, or military training—may be admitted with a minimum of two years teaching experience.

Students may not switch from an M.A. program to an M.Ed. program, or vice versa, without going through the university's admission process. Courses used to gain initial state certification may not be transferred into an M.Ed. program.

Ed.S. and Ed.D. programs:

- Official GRE combined score of at least 1000 from test taken within the last five years and a GPA of 3.0
- Resume
- Goals statement
- Three letters of recommendation
- Transcripts from all previously attended institutions
- Evidence of completion of a master's degree

All applicants:

- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

Additional Information on Admissions Policy

For the Ed.S. program, admissions will occur three times a year: fall, spring and summer. Admitted students may begin course work during the first new semester after admission.

Admission to an education specialist program is separate from admission to the doctoral program. Upon completion of the Ed.S. degree, the candidate may apply for admission to a doctoral program.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Education in Curriculum and Instruction	Feb 1	Feb 1	Sep 20	
<i>Florida Gulf Coast Univ - Next available term is Fall 2004 (deadline Feb 1)</i>				
Education Specialist in Curriculum and Instruction	Feb 1	Jun 20	Sep 20	Feb 15
Master of Arts in Curriculum and Instruction	Feb 1	Jul 15	Dec 1	Apr 15
Master of Education in Curriculum and Instruction	Feb 1	Jul 15	Dec 1	Apr 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Education in Curriculum and Instruction	Feb 1	Feb 1	Jul 1	
<i>Florida Gulf Coast Univ - Next available term is Fall 2004 (deadline Feb 1)</i>				
Education Specialist in Curriculum and Instruction	Feb 1	Feb 1	Jul 1	
Master of Arts in Curriculum and Instruction	Feb 1	Feb 1	Jul 1	
Master of Education in Curriculum and Instruction	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Education in Curriculum and Instruction	Feb 1	Feb 1	Sep 1	
<i>Florida Gulf Coast Univ - Next available term is Fall 2004 (deadline Feb 1)</i>				
Education Specialist in Curriculum and Instruction	Feb 1	Mar 1	Sep 1	
Master of Arts in Curriculum and Instruction	Feb 1	Mar 1	Sep 1	
Master of Education in Curriculum and Instruction	Feb 1	Mar 1	Sep 1	

Master of Education in Curriculum and Instruction

Minimum Hours Required for M.Ed.—33 Credit Hours

The Master of Education program in Curriculum and Instruction is designed for those who are interested in curricular studies, a more general, broadly based master's program, or have interest in the flexibility this program offers to pursue graduate course work in middle school, pre-K handicapped, multicultural, and gifted education.

Area A: Core—18 Credit Hours

- EDF 6233 Analysis of Classroom Teaching (3 credit hours)
- EDF 6259 Learning Theories Applied to Classroom Instruction and Management (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- EDF 6446 Assessment of Learning (3 credit hours)
- EDG 6223 Curriculum Theory and Organization (3 credit hours)
- EME 6602 Integration of Technology into the Curriculum (3 credit hours)

Area B: Specialization—15 Credit Hours

- Option I: Curriculum Studies—Select 15 credit hours from the following electives.
 - ESE 6235 Curriculum Design (3 credit hours)
 - EDG 6253 Curriculum Inquiry (3 credit hours)
 - EDG 6285 Evaluation of School Programs (3 credit hours)
 - EDG 6224 Curriculum Policy Analysis (3 credit hours)

- EDF 6206 Challenges of Classroom Diversity (3 credit hours)
- EDF 6809 Introduction to Comparative and International Education (3 credit hours)
- EDF 6517 Perspectives on Education (3 credit hours)
- EDG 6046 Contemporary Issues in Education (3 credit hours)

- Option II: Gifted Education
 - EGI 6051 Understanding the Gifted/Talented Student (3 credit hours)
 - EGI 6245 Program Planning and Methodology for Gifted/Talented Students (3 credit hours)
 - EGI 6246 Education of Special Populations of Gifted Students (3 credit hours)
 - SDS 6426 Guidance and Counseling of Gifted/Talented Individuals (3 credit hours)
 - EGI 6305 Theory and Development of Creativity (3 credit hours)

- Option III: Middle School Education

Students take the following courses and complete an elective approved by the adviser.

 - EDM 6401 Principles of Middle Level Education (3 credit hours)
 - EDM 6047 Understanding the Young Adolescent (3 credit hours)
 - EDM 6321 Middle Level Instruction (3 credit hours)
 - EDM 6235 Contemporary Issues of Middle Level Education (3 credit hours)

The recommended elective is:

- EDM 6908 Research Project (3 credit hours)

- Option IV: Multicultural Education
 - EDF 6206 Challenges of Classroom Diversity (3 credit hours)
 - EDF 6809 Introduction to Comparative and International Education (3 credit hours)
 - EDF 6884 Education as a Cultural Process (3 credit hours)
 - EDF 6886 Multicultural Education (3 credit hours)

An elective selected from the following courses:

- TSL 5345 Methods of ESOL Teaching (3 credit hours)
- TSL 6142 Critical Approaches to ESOL (3 credit hours)
- TSL 6440 Problems in Evaluation in ESOL (3 credit hours)
- Other TSL courses or another elective with adviser approval.

- Option V: Pre-K Handicapped

NOTE: This is an approved graduate certificate program that is currently being offered at off-campus sites in Orange County.

 - EEX 5702 Planning Curriculum for Pre-kindergarten Children with Disabilities (3 credit hours)
 - EEX 5750 Communication with Parents and Agencies (3 credit hours)
 - EEX 6017 Typical and Atypical Applied Child Development (3 credit hours)
 - EEX 6224 Observation and Assessment of Young Children (3 credit hours)

- Approved elective (3 credit hours)
- Option VI: Foreign Language Education
Students will take the following courses and complete 9 credit hours of electives approved by their adviser.
 - FLE 6695 Professional Development in Foreign Language Education (3 credit hours)
 - EDF 6886 Multicultural Education (3 credit hours)
 - FLE 6455 Curriculum and Materials in Foreign Language Teaching (3 credit hours)

The recommended electives are:

- EDF 6206 Challenges of Classroom Diversity (3 credit hours)
- EDM 6321 Middle Level Instruction (3 credit hours)
- FLE 5335 Foreign Language Methods at the Elementary Level (3 credit hours)
- FLE 6705 Testing and Evaluation in Foreign Language Education (3 credit hours)
- LAE 5295 Writing Workshop I (3 credit hours)
- SPN 5705 Introduction to Spanish Linguistics* (3 credit hours)
- SPN 5502 Hispanic Culture of the United States* (3 credit hours)

SPN 5705 and SPN 5502 require near native proficiency in Spanish

Master of Arts in Curriculum and Instruction

Minimum Hours Required for M.A.—39-45 Credit Hours

The Master of Arts program is designed for prospective teachers who want to satisfy the certification requirements of the state of Florida while obtaining a degree that is flexible enough to meet their individual needs and helping them ensure quality instructional and curricular practices in schools and other educational settings.

M.A. students who wish to write a thesis will substitute 6 hours of thesis for one course in Area A (3 credit hours) and one course in Area C (3 credit hours).

Area A: Core—12-15 Credit Hours

Required:

- EDF 6233 Analysis of Classroom Teaching (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- EDG 6223 Curriculum Theory and Organization (3 credit hours)
- EME 6602 Integration of Technology into the Curriculum (3 credit hours)

Electives:

- EDF 6259 Learning Theories Applied to Classroom Instruction and Management (3 credit hours)
- EDF 6446 Assessment of Learning (3 credit hours)
- EDF 6517 Perspectives on Education (3 credit hours)
- EDG 6046 Contemporary Issues in Education (3 credit hours)

Area B: Professional Teaching Certificate Courses—15 Credit Hours

- EDF 6608 Social Factors in American Education (3 credit hours)
- EDG 6236 Principles of Instruction (3 credit hours)
- EDF 6155 Lifespan Human Development and Learning (3 credit hours)

- EDF 6432 Measurement and Evaluation in Education (3 credit hours)
- An approved special methods course in teaching field (3 credit hours)

Area C: Concentration—9-12 Credit Hours

- Option I: Approved electives in subject area to meet certification (9-12 credit hours)
- Option II: Select one of the track options offered in the M.Ed. Program (12-15 credit hours)

Area D: Internship—Only required for students without teaching experience.

- EDG 6940 Graduate Internship (6 hours)

Education Specialist in Curriculum and Instruction

Minimum Hours Required for Ed.S.—36 Credit Hours beyond the master's degree

The Education Specialist program is designed for individuals in teaching and in other instruction or training leadership positions.

General Degree Requirements

- Complete a minimum of 36 credit hours beyond the master's degree including the selected program requirements.
- Have an overall 3.0 grade point average on all graduate work attempted.
- The completed planned program must include a minimum of 12 graduate-level hours in the specialization area AND a minimum of 6 graduate-level hours in Research/Statistics.
- Pass all required examinations.

Degree Requirements

Minimum Hours Required for Ed.S.—36 Credit Hours beyond the master's degree.

Area I—Curriculum and Instruction Core—9 Credit Hours

- EDF 7232 Analysis of Learning Theories in Instruction (3 credit hours)
- EDG 7221 Advanced Curriculum Theory (3 credit hours)
- EDG 7356 Models of Teaching and Instructional Theory (3 credit hours)

Area II—Specialization—12 Credit Hours

Students will select an area of specialization in consultation with their adviser. Specializations may include, but are not limited to, Curriculum, Instruction, Social or Psychological Foundations, Educational Leadership, Community College, or an academic content area.

Area III—Research, Statistics, Measurement or Evaluation—6 Credit Hours Minimum

Students will select, in consultation with their adviser, 6 credit hours of Research, Statistics, Measurement or Evaluation courses to compliment their Specialization.

Examinations

Curriculum and instruction majors must successfully complete one 3-hour examination in curriculum and instruction and one 3-hour examination in their area of specialization.

Doctor of Education (Ed.D.) in Curriculum and Instruction

The Doctor of Education program provides advanced study for the education practitioner who desires a more in-depth understanding of curricular theory.

Prerequisites—12 Credit Hours

- EDG 6223 Curriculum Theory and Organization (3 credit hours)
- EDF 6259 Learning Theories Applied to Classroom Instruction and Management (3 credit hours)
- EDF 6401 Statistics for Educational Data (3 credit hours) (or equivalent)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)

Curriculum/Instruction Core—12 Credit Hours

- EDF 7232 Analysis of Learning Theories in Instruction (3 credit hours)*
- EDG 7221 Advanced Curriculum Theory (3 credit hours)
- EDG 7356 Models of Teaching and Instructional Theory (3 credit hours)
- EDG 7692 Issues in Curriculum (3 credit hours)

* EDF 6259 is a prerequisite to EDF 7232 for the Ed.D. program.

All core courses and the core examination must be completed in the first six semesters of enrollment in the doctoral program.

Specialization Area—45 Credit Hours Minimum

- Includes selected courses in Curriculum, Instruction, Foundations, Educational Leadership, and Community College

Research and Data Analysis—6 Credit Hours

- EDF 7403 Quantitative Foundations of Educational Research (3 credit hours)
- EDF 7463 Analysis of Survey, Record, and Other Qualitative Data (3 credit hours)

Dissertation—21 Credit Hours Minimum

Doctoral students must present a prospectus for the dissertation to the doctoral adviser, prepare a proposal and present to the dissertation committee, and defend the final research submission with the dissertation committee.

Candidacy

To enter candidacy for the Ed.D., students must have an overall 3.0 grade point average on all graduate work included in the planned program and pass all required examinations.

Candidacy Examinations

- Examinations must be completed prior to admission to candidacy.
- Examinations will be scheduled near the tenth week of the fall and spring semesters. Summer examinations will be scheduled for the sixth week of the term.
- All Ed.D. candidates will be required to write examinations. Students must be enrolled in the university during the semester an examination is taken.

- Specialization/Teaching Field—5-hour examination
- Curriculum/Instruction Core—3-hour examination
- Research/Data Analysis—3-hour examination

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Doctor of Education in Curriculum and Instruction

Larry Holt, Ed.D. , Associate Professor

Phone Number: 407-823-2015

holt@mail.ucf.edu

Education Specialist in Curriculum and Instruction

Larry Holt, Ed.D. , Associate Professor

Phone Number: 407-823-2015

holt@mail.ucf.edu

Master of Arts in Curriculum and Instruction

David Boote, Ph.D. , Assistant Professor
Phone Number: 407-823-4160
dboote@mail.ucf.edu

Master of Education in Curriculum and Instruction

David Boote, Ph.D. , Assistant Professor
Phone Number: 407-823-4160
dboote@mail.ucf.edu

Early Childhood Education

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Master of Arts in Early Childhood Education](#)

[Additional Certification Track](#)

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[Master of Education in Early Childhood Education](#)

[Early Literacy Track](#)

[Educational Leadership Track](#)

[Family, School and Community Track](#)

[Pre-Kindergarten Handicapped Endorsement Track](#)

[Contact Info](#)

Description

The master's degree programs in Early Childhood Education are designed to meet the needs of both prospective and practicing teachers through the delivery of relevant, rigorous course work and related academic experiences.

Students who already hold Early Childhood Certification may enroll in the Master of Education (M.Ed.) program, which includes a full range of courses and the choice of 2 specialization tracks. Prospective teachers who do not hold certification in the area of early childhood may enroll in the Master of Arts (M.A.) Initial Certification in Early Childhood Track, which leads to certification in this area. Students who hold elementary education certification and would like to add the Pre-Kindergarten Primary Certification may enroll in the Master of Arts (M.A.) Additional Early Childhood Certification Track.

In addition to fostering the professional development of certified early childhood teachers, this program will also serve as a bridge among schools and community agencies and will provide the educational experiences to nurture educational leaders who will work within and across these areas.

Degrees Offered

Master of Arts in Early Childhood Education

- Additional Certification Track
- Initial Certification Track

Master of Education in Early Childhood Education

- Early Literacy Track
- Educational Leadership Track
- Family, School and Community Track
- Pre-Kindergarten Handicapped Endorsement Track

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

In addition to the general admission requirements, applicants must provide:

- Evidence of a GPA of at least 3.0 for the last 60 attempted credit hours of undergraduate study at an accredited institution and a minimum score of 840 on the combined verbal/quantitative sections of the Graduate Record Examination (GRE); or
- A minimum GRE score of 1000 or above on the combined verbal/quantitative sections of the exam (in lieu of the GRE, a GMAT score of 500 or higher may be used for admission consideration)
- Applicants to the M.Ed. program must (1) have completed all course requirements for Florida state teacher certification in the program's subject area and/or grade range, or (2) present a Florida Professional Teaching Certificate upon admission to the program. Applicants who have graduated from an accredited university or college teacher certification program in another state or country, in the appropriate subject and/or grade range, may also be admitted to the M.Ed. program at the discretion of the program director.
- Admission to the M.A. in ECE initial track requires completion of a bachelor's degree, but not Florida teacher certification.
- Admission to the M.A. in ECE additional track includes completion of a bachelor's degree and Florida elementary education teacher certification.
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

Students may not switch from an M.A. program to an M.Ed. program, or vice versa, without going through the university's admission process. Courses used to gain initial state certification may not be transferred into an M.Ed. program.

Additional Notes on Admissions

Students will be admitted to the program three times a year (in the fall, spring, and summer) and must apply for graduate admission by the application deadline established for this program. No admissions decisions will be made using race, sex, or ethnic origin of the student. Students who do not meet published admission requirements may be admitted provisionally and will be interviewed by a faculty program committee whose recommendations will be forwarded to the master's admission and retention committee in accordance with College of Education code for final admission action. Other admission factors that may be used in selecting students for provisional admission to the program are: previous teaching experience or work (i.e., social service agencies) with pre-kindergarten or primary age children and their families.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Early Childhood Education	Feb 1	Jul 15	Dec 1	Apr 15
Additional Certification Track	Feb 1	Jul 15	Dec 1	Apr 15
Initial Certification Track	Feb 1	Jul 15	Dec 1	Apr 15

Master of Education in Early Childhood Education	Feb 1	Jul 15	Dec 1	Apr 15
Early Literacy Track	Feb 1	Jul 15	Dec 1	Apr 15
Educational Leadership Track	Feb 1	Jul 15	Dec 1	Apr 15
Family, School and Community Track	Feb 1	Jul 15	Dec 1	Apr 15
Pre-Kindergarten Handicapped Endorsement Track	Feb 1	Jul 15	Dec 1	Apr 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Early Childhood Education	Feb 1	Feb 1	Jul 1	
Additional Certification Track	Feb 1	Feb 1	Jul 1	
Initial Certification Track	Feb 1	Feb 1	Jul 1	
Master of Education in Early Childhood Education	Feb 1	Feb 1	Jul 1	
Early Literacy Track	Feb 1	Feb 1	Jul 1	
Educational Leadership Track	Feb 1	Feb 1	Jul 1	
Family, School and Community Track	Feb 1	Feb 1	Jul 1	
Pre-Kindergarten Handicapped Endorsement Track	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Early Childhood Education	Feb 1	Mar 1	Sep 1	
Additional Certification Track	Feb 1	Mar 1	Sep 1	
Initial Certification Track	Feb 1	Mar 1	Sep 1	
Master of Education in Early Childhood Education	Feb 1	Mar 1	Sep 1	
Early Literacy Track	Feb 1	Mar 1	Sep 1	
Educational Leadership Track	Feb 1	Mar 1	Sep 1	
Family, School and Community Track	Feb 1	Mar 1	Sep 1	
Pre-Kindergarten Handicapped	Feb 1	Mar 1	Sep 1	

Endorsement Track

Master of Education in Early Childhood Education**Minimum Hours Required for M.Ed.—36 Credit Hours**

Core courses and track courses may be taken in any sequence preceding the capstone experience. The capstone experience serves as the culminating experience in the program of study and substitutes for the comprehensive examination.

Area A: Core—9 Credit Hours

- EDF 6432 Measurement and Evaluation in Education (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- EEC 5205 Programs and Trends in Early Childhood Education (3 credit hours)

Area B: Specialization Tracks—24 Credit Hours

Select one track for admission into the program. Twelve additional hours will be selected in consultation with your adviser.

Early Literacy Track—12 Credit Hours

- EEC 6213 Communicative Arts in Early Childhood Education (3 credit hours)
- EEC 6XXX Early Childhood Children's Literature (3 credit hours)
- LAE 6616 Trends in Language Arts Education (3 credit hours)
- RED 6116 Trends in Reading Education (3 credit hours)

Educational Leadership Track—12 Credit Hours

- EDA 6061 Organization and Administration of Schools (3 credit hours)
- EDA 6931 Contemporary Issues in Educational Leadership (3 credit hours)
- EDS 6123 Educational Supervisory Practices I (3 credit hours)
- EEC 6525 Early Childhood Program Administration (3 credit hours)

Family, School, and Community Track—12 Credit Hours

- EEC 6405 Home-School-Community Interaction in Early Childhood Education (3 credit hours)
- EEC 6406 Guiding and Facilitating Social Competence (3 credit hours)
- EEC 6946 Practicum in Family Liaison Building (3 credit hours)
- EEX 5750 Communication with Parents and Agencies (3 credit hours) or EEC 6263 Studies in Curriculum Environments for Early Childhood Education (3 credit hours)

Pre-Kindergarten Handicapped Endorsement Track—12 Credit Hours

- EEX 5702 Planning Curriculum for Pre-Kindergarten Children with Disabilities (3 credit hours)
- EEX 5750 Communication with Parents and Agencies (3 credit hours)
- EEX 6017 Typical and Atypical Applied Child Development (3 credit hours)
- EEX 6224 Observation and Assessment of Young Children (3 credit hours)

Area C: Capstone Experience—3 Credit Hours

- EEC 6XXX Master's Seminar (Action Research) (3 credit hours)

Master of Arts in Early Childhood Education

Initial Certification in Early Childhood Education Track

Minimum Hours Required for M.A.—39 Credit Hours

Core courses and professional teaching certificate courses may be taken in any sequence preceding the graduate internship.

Area A: Core—6 Credit Hours

- EDF 6432 Measurement and Evaluation in Education (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)

Area B: Professional Teaching Certificate Courses—33-45 Credit Hours (dependent on undergraduate degree)

Historical, philosophical, and sociological perspectives in early childhood Education—3 Credit Hours

- EEC 5205 Programs and Trends in Early Childhood Education (3 credit hours)

Child growth and development from conception to age eight (8)—3 Credit Hours

- EEX 6017 Typical and Atypical Applied Child Development (3 credit hours)

Developmentally appropriate integrated curriculum and practices in programs serving children ages three through five—9-18 Credit Hours

- EEC 5206 Organization of Instruction in Early Childhood Education (3 credit hours)
- EEC 5208 Creative Activities in Early Childhood (3 credit hours)
- EEC 6213 Communicative Arts in Early Childhood Education (3 credit hours)
- EEC 6269 Play Development, Intervention, and Assessment (3 credit hours)
- EEC 6263 Studies in Curriculum Enrichment for Early Childhood Education (3 credit hours)
- EEC 6XXX Early Childhood Children's Literature (3 credit hours)
- TSL 5345 Methods of ESOL Teaching (3 credit hours)
- TSL 5525 ESOL Cultural Diversity (3 credit hours)

Issues and practices to promote family and community involvement—3-6 Credit Hours

- EEC 6405 Home-School-Community Interaction in Early Childhood Education (3 credit hours)
- EEX 5750 Communication with Parents and Agencies (3 credit hours) Health, nutrition, and safety for children ages three through five (3 Credit Hours)
- EEC 6XXX Practicum in Family Liaison Building (3 credit hours)

Health, nutrition, and safety for children ages three through five—3 credit hours

- EEC 4731 Health, Safety, and Nutrition for Young Children (3 credit hours)

Diagnosis, assessment, and evaluation—3 Credit Hours

- EEX 6224 Observation and Assessment of Young Children (3 credit hours) Special needs of all children and their families—6 Credit Hours

Special needs of all children and their families—6 credit hours

- EEX 5051 Exceptional Children in the Schools (3 credit hours)
- EEX 5702 Planning Curriculum for Pre-Kindergarten Children with Disabilities (3 credit hours)

Child guidance and classroom management—3 Credit Hours

- EEC 6406 Guiding and Facilitating Social Competence (3 credit hours)

Area C: Internship—6 Credit Hours

- Required only for students who have less than one year of experience in early childhood settings (pre-kindergarten through grade three)
- EDG 6940 Graduate Internship (6 credit hours)

Additional Certification in Early Childhood Education Track

Minimum Hours Required for M.A.—39 Credit Hours

Core courses and professional teaching certificate courses may be taken in any sequence preceding the graduate internship.

Area A: Core—6 Credit Hours

- EDF 6432 Measurement and Evaluation in Education (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)

Area B: Professional Teaching Certificate Courses—33-45 Credit Hours

Historical, philosophical, and sociological perspectives in early childhood Education—3 Credit Hours

- EEC 5205 Programs and Trends in Early Childhood Education (3 credit hours)

Child growth and development from conception to age eight (8)—3 Credit Hours

- EEX 6017 Typical and Atypical Applied Child Development (3 credit hours)

Developmentally appropriate integrated curriculum and practices in programs serving children ages three through five—9 Credit Hours

- EEC 5206 Organization of Instruction in Early Childhood Education (3 credit hours)
- EEC 5208 Creative Activities in Early Childhood (3 credit hours)
- EEC 6213 Communicative Arts in Early Childhood Education (3 credit hours)
- EEC 6268 Play Development, Intervention, and Assessment (3 credit hours)
- EEC 6275 Studies in Curriculum Enrichment for Early Childhood Education (3 credit hours)
- EEC 6XXX Early Childhood Children's Literature (3 credit hours)
- TSL 5345 Methods of ESOL Teaching (3 credit hours)
- TSL 5525 ESOL Cultural Diversity (3 credit hours)

Issues and practices to promote family and community involvement—3 Credit Hours

- EEC 6405 Home-School-Community Interaction in Early Childhood Education (3 credit hours)
- EEX 5750 Communication with Parents and Agencies (3 credit hours) Health, nutrition, and safety for children ages three through five (3 Credit Hours)
- EEC 6XXX Practicum in Family Liaison Building (3 credit hours)

Health, nutrition, and safety for children ages three through five—3 credit hours

- EEC 4731 Health, Safety, and Nutrition for Young Children (3 credit hours)

Diagnosis, assessment, and evaluation—3 Credit Hours

- EEX 6224 Observation and Assessment of Young Children (3 credit hours) Special needs of all children and their families—6 Credit Hours

Special needs of all children and their families—6 credit hours

- EEX 5051 Exceptional Children in the Schools (3 credit hours)
- EEX 5702 Planning Curriculum for Pre-Kindergarten Children with Disabilities (3 credit hours)

Child guidance and classroom management—3 Credit Hours

- EEC 6406 Guiding and Facilitating Social Competence (3 credit hours)

Area C: Internship—6 Credit Hours

- Required only for students who have less than one year of experience in early childhood settings (pre-kindergarten through grade three).
- EDG 6940 Graduate Internship (6 credit hours).

Additional Program Graduation Requirements

- Complete a portfolio according to program guidelines. This portfolio requires demonstration of professional growth, reflection, and proficiency in the 12 Florida Educator Accomplished Practices.
- Pass all applicable sections of the Florida Teacher Certification Examination.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.

- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
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- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Master of Arts in Early Childhood Education

Lynn Hartle, Ph.D. , Associate Professor
Phone Number: 407-823-4163
lhartle@mail.ucf.edu

Master of Education in Early Childhood Education

Lynn Hartle, Ph.D. , Associate Professor
Phone Number: 407-823-4163
lhartle@mail.ucf.edu

Additional Certification Track

Lynn Hartle, Ph.D. , Associate Professor
Phone Number: 407-823-4163
lhartle@mail.ucf.edu

Early Literacy Track

Lynn Hartle, Ph.D. , Associate Professor
Phone Number: 407-823-4163
lhartle@mail.ucf.edu

Educational Leadership Track

Lynn Hartle, Ph.D. , Associate Professor
Phone Number: 407-823-4163
lhartle@mail.ucf.edu

Family, School and Community Track

Lynn Hartle, Ph.D. , Associate Professor
Phone Number: 407-823-4163
lhartle@mail.ucf.edu

Initial Certification Track

Lynn Hartle, Ph.D. , Associate Professor
Phone Number: 407-823-4163
lhartle@mail.ucf.edu

Pre-Kindergarten Handicapped Endorsement Track

Lynn Hartle, Ph.D. , Associate Professor
Phone Number: 407-823-4163
lhartle@mail.ucf.edu

Education - Ph.D.

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Doctor of Philosophy in Education](#)

[Counselor Education Track](#)

[Elementary Education Track](#)

[Exceptional Education Track](#)

[Exercise Physiology Track](#)

[Instructional Technology Track](#)

[Mathematics Education Track](#)

[Contact Info](#)

Description

The Ph.D. in Education is a research-oriented degree appropriate for educators from school districts, businesses, industry, educational agencies, and other educational settings who need a strong research base in their careers.

It is the intent of this program to be interdisciplinary, allowing flexibility for students who will work in research clusters and learning communities with faculty on education-related research. Programs of study can be designed for those educators who seek faculty positions in a research university or research-oriented education positions in business and industry.

The doctoral program offers six tracks: Counselor Education, Elementary Education, Exceptional Education, Exercise Physiology, Instructional Technology, and Mathematics Education.

Degrees Offered

Doctor of Philosophy in Education

- Counselor Education Track
- Elementary Education Track
- Exceptional Education Track
- Exercise Physiology Track
- Instructional Technology Track
- Mathematics Education Track

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

In addition to the general admission requirements, applicants must provide:

- Evidence of a master's degree in Education with an emphasis related to one of the six tracks in the Ph.D. program and including master's level competency in educational research and statistics
- GPA of 3.0 and GRE of 1000

- Three letters of recommendation
- Goal statement
- Resume
- Transcripts from all previously attended institutions
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Education	Dec 20	Feb 15		
Counselor Education Track	Dec 20	Feb 15		
Elementary Education Track	Dec 20	Feb 15		
Exceptional Education Track	Dec 20	Feb 15		
Exercise Physiology Track	Dec 20	Feb 15		
Instructional Technology Track	Dec 20	Feb 15		
Mathematics Education Track	Dec 20	Feb 15		

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Education	Dec 20	Feb 1		
Counselor Education Track	Dec 20	Feb 1		
Elementary Education Track	Dec 20	Feb 1		
Exceptional Education Track	Dec 20	Feb 1		
Exercise Physiology Track	Dec 20	Feb 1		
Instructional Technology Track	Dec 20	Feb 1		
Mathematics Education Track	Dec 20	Feb 1		

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Education	Dec 20	Feb 15		

Counselor Education Track	Dec 20	Feb 15
Elementary Education Track	Dec 20	Feb 15
Exceptional Education Track	Dec 20	Feb 15
Exercise Physiology Track	Dec 20	Feb 15
Instructional Technology Track	Dec 20	Feb 15
Mathematics Education Track	Dec 20	Feb 15

Doctor of Philosophy in Education

Minimum Hours Required for Ph.D.—99 Credit Hours

Core Courses—24 Credit Hours

- IDS 7501 Issues and Research in Education (3 credit hours)
- IDS 7938 Research Cluster Seminar (3 credit hours)
- IDS 7500 Seminar in Educational Research (variable credit and repeatable, 6 credit hours)
- EDF 7475 Qualitative Research in Education (3 credit hours)
- EDF 7403 Quantitative Foundations of Educational Research (3 credit hours)
- EDF 7463 Analysis of Survey, Record and Other Qualitative Data (3 credit hours)
- IDS 7502 Case Studies in Research Design (3 credit hours)

Counselor Education Track— 51 Credit Hours Minimum

This track is designed specifically for those who wish to pursue careers as counselor educators at the university level or as supervisors in schools or agencies. The program was developed following the standards of the Council for the Accreditation of Counseling and Related Educational Programs. In addition to advanced curricular experiences in counseling, courses are designed to examine the fundamental issues and theory of teaching adults in higher education, research, supervision, consultation and to provide supervised experiences in each area. The College of Education Community Counseling Clinic serves as a hub for teaching and research in the program, providing services to over 1000 individuals a year through child, adult, couples, and family counseling. The clinic includes facilities for group counseling and play therapy.

- MHS 7406 Advanced Theories in Counseling (3 credit hours)
- MHS 7901 Advanced Practicum in Counselor Education (3 credit hours)
- MHS 6510 Advanced Group Counseling (3 credit hours)
- MHS 7700 Professional Issues in Counselor Education (3 credit hours)
- MHS 7311 Technology Issues in Counselor Education (3 credit hours)
- MHS 7611 Supervision in Counselor Education (3 credit hours)
- MHS 7808 Practicum in Counseling Supervision (3 credit hours)
- MHS 7840 Internship in Counselor Education (repeatable) (6 credit hours)
- MHS 7340 Advanced Career Development (3 credit hours)
- MHS 6221 Individual Psychoeducational Testing II (3 credit hours)
- MHS 7730 Research Seminar in Counselor Education (3 credit hours)

Elementary Education Track—51 Credit Hours Minimum

This track is designed to provide further education for those aspiring to work in the area of education at the post-secondary level (four-year college and/or research university). The program permits students to concentrate their doctoral study in either a field of emphasis (i.e. science, mathematics, literacy, social studies) or to create an interdisciplinary focus, such as mathematics-science or reading-social studies. This program of study is most appropriate for educators who can create, analyze, and synthesize educational studies and for educators seeking employment in settings requiring a strong research base. In contrast to the Ed.D., the Ph.D. program relies on doctoral students who progress through their program of study in cohorts and who are full members of the learning community of the College of Education. The program includes a strong philosophical base, research seminars requiring one-on-one work with faculty members, cluster seminars requiring work with several faculty in interdisciplinary research projects, and long-term mentoring via supervised internships.

- Philosophical Foundations for Studies in Education (3 credit hours)
- Writing for Professional Publication in Education (3 credit hours)
- Elementary Education Internship (variable credit) (3-6 credit hours)
- Area/s of emphases: four (4) additional courses in one or more areas including: Science Education, Literacy Education., Technology Education, or Arts Education with one course from outside the college in a related field of study (12 credit hours)

Exceptional Education Track—51 Credit Hours Minimum

This track is designed to prepare highly competent doctoral-level professionals to assume leadership positions in teaching, research and service in the area of special education. A challenging program of study, the Exceptional Education track focuses on developing the qualifications to conduct research, implement best practices based on research, and evaluate new programs and projects that serve students with disabilities.

- EEX 7936 Current Issues/ Trends in Special Education (3 credit hours)
- EEX 7527 Professional Writing/ Grant Writing in Special Education
- EEX 7766 Technology Research/ Training in Special Education
- EEX 7867 Personnel Preparation: Special Education
- EEX 7865 Internship in College Instruction in Special Education
- EEX 7866 Internship in Practicum Supervision in Special Education
- EEX 7320 Program Evaluation and Planning in Special Education

Exercise Physiology Track—51 Credit Hours Minimum

This track provides advanced studies in the area of exercise physiology and wellness. Students interested in the doctoral program might come from the biological and health-related professions, exercise science, physical education, and athletic training.

- MCB 5932 Current Topics in Molecular Biology (3 credit hours)
- PCB 5107C Advanced Cell Biology (4 credit hours)
- PCB 5275 Signal Transduction Mechanics (3 credit hours)
- PCB 6727 Comparative Animal Physiology (3 credit hours)
- PET 6362 Exercise, Nutrition and Weight Control (3 credit hours)
- PET 7365 Cardiovascular Dynamics During Exercise (3 credit hours)
- PET 7368 Regulation of Metabolism During Exercise (3 credit hours)
- PET 7939 Advanced Research Seminar in Exercise Physiology (3 credit hours)
- PHC 6000 Epidemiology (3 credit hours)

Instructional Technology Track—51 Credit Hours Minimum

This track prepares students for teaching and research in the field of instructional systems in professions such as university professor or corporate researcher. The focus is upon the application of appropriate instructional technologies to the adult learner.

- Previous master's degree in related area (up to 30 credit hours)
- Cognate or elective; approved by adviser (9 credit hours)
- IDS 6504 Adult Learning (3 credit hours)
- IDS 6503 International Trends in Instructional Systems (3 credit hours)
- EME 7634 Advanced Instructional Systems Design (3 credit hours)
- EME 7942 Doctoral Internship in Educational Technology (3 credit hours)

Mathematics Education Track—51 Credit Hours Minimum

This track is designed to prepare mathematics educators for careers in teaching and research. The program will help students open doors to careers in preparing teachers of mathematics, teaching postsecondary mathematics, and conducting research in mathematics education. Doctoral students in this track engage in undergraduate teaching, participate in research activities with faculty, experience internships, and interact with the nationally acclaimed Lockheed Martin/UCF Academy for Mathematics and Science. Throughout these activities, students are mentored by successful and experienced university mathematics education faculty.

- MAE 7640 History of Mathematics Education (3 credit hours)
- MAE 7795 Seminar on Research in Mathematics Education (6 credit hours)
- MAE 6946 Mathematics Education Internship (6 credit hours)
- MAE 6XXX Technology in Mathematics Education (3 credit hours)
- MAE 6XXX Seminar in Mathematics Education (3 credit hours)
- MAE 6899 Seminar in Teaching Mathematics (3 credit hours)

Internship—3 Credit Hours Minimum

Specialization in all tracks must include 3 credit hours of internship (minimum)

Dissertation—24 Credit Hours Minimum

Doctoral students must present a prospectus for the dissertation to the doctoral adviser, prepare a proposal and present to the dissertation committee, and defend the final research submission with the dissertation committee.

Candidacy

To enter candidacy for the Ph.D., students must have an overall 3.0 grade point average on all graduate work included in the planned program and pass all required examinations.

Candidacy Examinations

- Examinations must be completed prior to admission to candidacy.
- Examinations will be scheduled by the student and major adviser. The associate dean for graduate studies and research must be notified of the date and location of the exam 30 days in advance.
- All Ph.D. candidates will be required to complete two examinations. Students must be enrolled in the university during the semester an examination is taken.

- Research in the Specialization—8-hour written examination
- Specialization—3-hour oral examination

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Doctor of Philosophy in Education

E. H. Robinson, Ph.D. , Professor
Phone Number: 407-823-3819
erobinso@mail.ucf.edu

Counselor Education Track

E. H. Robinson, Ph.D. , Professor
Phone Number: 407-823-3819
erobinso@mail.ucf.edu

Elementary Education Track

Sherron Roberts, Ed.D. , Assistant Professor
Phone Number: 407-823-2016
skrobert@pegasus.cc.ucf.edu

Exceptional Education Track

Lisa Dieker, Ph.D., Associate Professor
Phone Number: 407-823-3885
ldieker@mail.ucf.edu

Exercise Physiology Track

Ted Angelopoulos, Ph.D. , Associate Professor
Phone Number: 407-823-0364
tangelop@mail.ucf.edu

Instructional Technology Track

Atsusi "2c" Hirumi, Ph.D. , Associate Professor
Phone Number: 407-823-1760
hirumi@mail.ucf.edu

Mathematics Education Track

Juli Dixon, Ph.D. , Associate Professor
Phone Number: 407-823-4140
jkdixon@mail.ucf.edu

Educational Leadership

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Education Specialist in Educational Leadership](#)

[Master of Arts in Educational Leadership](#)

[Student Personnel Administration in Higher Education Track](#)

[Master of Education in Educational Leadership](#)

[Doctor of Education in Educational Leadership](#)

[Contact Info](#)

Description

Two master's degrees are offered in educational leadership: Master of Education (M.Ed.) and Master of Arts (M.A.). The M.Ed. is intended for those who wish to work in leadership positions and administrative careers in education. The M.A. is designed to prepare students for leadership positions in student personnel administration in higher education and education-related fields, and does not fulfill state certification requirements.

The program also offers Education Specialist (Ed.S.) and Doctor of Education (Ed.D.) in Educational Leadership degrees. The Ed.S. program is designed for those who are currently employed in or interested in decision-making positions in educational organizations. The Ed.D. program provides advanced graduate studies for students aspiring to leadership positions in education; candidates for the Ed.D. degree can concentrate their doctoral study in either K-12 or higher education administration.

Degrees Offered

Education Specialist in Educational Leadership

Master of Arts in Educational Leadership

- Student Personnel Administration in Higher Education Track

Master of Education in Educational Leadership

Doctor of Education in Educational Leadership

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

Master's Programs

In addition to the general admission requirements, applicants must provide:

- Official scores on the Graduate Record Examination (GRE)

- GPA of 3.0 and minimum GRE of 840; if GPA is below 3.0, minimum GRE of 1000 (in lieu of the GRE, a GMAT score of 500 or higher may be used for admission consideration)
- For M.Ed. program only: evidence of course work approved for basic State of Florida bachelor's teaching certificate
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

Ed.S. and Ed.D. Programs

Admission to the Ed.S. program is separate from admission to the doctoral program. Upon completion of the Ed.S. degree, the candidate may apply for admission to a doctoral program.

In addition to the general admission requirements, applicants must provide:

- Official score of at least 1000 on the Graduate Record Examination (GRE). A second score must be submitted if the score is less than 1000.
- Master's degree
- GPA of 3.0
- Transcripts from all previously attended institutions
- Three letters of recommendation
- Professional resume
- Goal statement
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Education in Educational Leadership	Feb 1	Jun 20	Sep 20	Feb 1
Education Specialist in Educational Leadership	Feb 1	Jun 20	Sep 20	Feb 1
Master of Arts in Educational Leadership	Feb 1	Jul 15	Dec 1	Apr 15
Student Personnel Administration in Higher Education Track	Feb 1	Jul 15	Dec 1	Apr 15
Master of Education in Educational Leadership	Feb 1	Jul 15	Dec 1	Apr 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Education in Educational Leadership	Feb 1	Feb 1	Jul 1	
Education Specialist in Educational Leadership	Feb 1	Feb 1	Jul 1	
Master of Arts in Educational Leadership	Feb 1	Feb 1	Jul 1	
Student Personnel Administration in Higher Education Track	Feb 1	Feb 1	Jul 1	
Master of Education in Educational Leadership	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Education in Educational Leadership	Feb 1	Mar 1	Sep 1	
Education Specialist in Educational Leadership	Feb 1	Mar 1	Sep 1	
Master of Arts in Educational Leadership	Feb 1	Mar 1	Sep 1	
Student Personnel Administration in Higher Education Track	Feb 1	Mar 1	Sep 1	
Master of Education in Educational Leadership	Feb 1	Mar 1	Sep 1	

Master of Education (M.Ed.) in Educational Leadership

Minimum Hours Required—39 Credit Hours

The M.Ed. program provides the theoretical and conceptual knowledge base required for principalship and for Florida Level I Educational Leadership certification. Courses required in the program address the eight competency domains specified by the Florida Department of Education and included in the Florida Educational Leadership Examination (FELE). Students are required to pass a comprehensive examination. An M.Ed. in Educational Leadership or its equivalent, three years of teaching experience, and successful completion of the FELE are required by the state of Florida for certification in educational leadership (certification is subject to Florida Department of Education approval).

Modified Leadership Core Program

If an individual holds a graduate degree with a major other than Educational Administration, Administration, Supervision or Educational Leadership, certification may be obtained through completion of an approved modified program in Educational Leadership. The UCF modified program consists of the eight courses in Area B (“specialization”) of the Educational Leadership M.Ed. degree. Request an

evaluation of prior graduate course work (required for admission into the program) on the following website: <http://pegasus.cc.ucf.edu/~educlead/>.

Degree Requirements

Area A: Core—9 Credit Hours

- EDF 6432 Measurement and Evaluation in Education (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)

Select One:

- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- EDF 6259 Learning Theories Applied to Classroom Instruction and Management (3 credit hours)
- EDF 6517 Perspectives on Education (3 credit hours)
- EDF 6608 Social Factors in American Education (3 credit hours)
- EDF 6886 Multicultural Education (3 credit hours)

Area B: Specialization—24 Credit Hours

It is recommended that these courses be taken in the following sequence:

- EDA 6061 Organization and Administration of Schools (3 credit hours)
- EDA 6232 Legal Aspects of School Operation (3 credit hours)
- EDA 6240 Educational Financial Affairs (3 credit hours)
- EDA 6260 Educational Systems Planning and Management (3 credit hours)
- EDA 6931 Contemporary Issues in Educational Leadership (3 credit hours)
- EDS 6123 Educational Supervisory Practices I (3 credit hours)
- EDS 6130 Educational Supervisory Practices II (3 credit hours)
- EDA 6946 Graduate Internship (3 credit hours; students must have teaching experience to complete the internship)

Area C: Electives—6 Credit Hours

- EDA 6300 Community School Administration (3 credit hours)
- EDA 6502 Organization and Administration of Instructional Programs (3 credit hours)
- EDG 6223 Curriculum Theory and Organization (3 credit hours)
- EDG 6253 Curriculum Inquiry (3 credit hours)

Master of Arts (M.A.) in Educational Leadership

Minimum Hours Required—42 Credit Hours

The M.A. program prepares students for leadership positions in student personnel administration in higher education and education-related fields. A track in Student Personnel Administration in Higher Education is offered in this program. Students are required to pass a comprehensive examination.

The M.A. options do not fulfill state certification requirements.

Degree Requirements

Area A: Core—15 Credit Hours

- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- EDF 6517 Perspectives on Education (3 credit hours) OR
- EDF 6608 Social Factors in American Education (3 credit hours)
- EDF 6401 Statistics for Educational Data (3 credit hours) OR
- EDF 6432 Measurement and Evaluation in Education (3 credit hours)
- EDA 6909 Research Report (2,1 credit hours)

Area B: Specialization—9 Credit Hours

Approved by adviser

Area C: Administration—18 Credit Hours

It is recommended that these courses be taken in the following sequence:

- EDA 6061 Organization and Administration of Schools (required) (3 credit hours)
- EDS 6123 Educational Supervisory Practices I (3 credit hours) OR
- EDS 6130 Educational Supervisory Practices II (3 credit hours)
- EDA 6232 Legal Aspects of School Operation (3 credit hours)
- EDA 6240 Educational Financial Affairs (3 credit hours)
- EDA 6260 Educational Systems Planning and Management (3 credit hours)
- EDA 6931 Contemporary Issues in Educational Leadership (required) (3 credit hours)

Student Personnel Administration in Higher Education Track

Area A: Core—6 Credit Hours

- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- EDF 6432 Measurement and Evaluation in Education (3 credit hours) OR
- EDF 6401 Statistics for Educational Data (3 credit hours)

Area B: Specialization—24 Credit Hours

- EDA 6540 Organization and Administration of Higher Education (3 credit hours)
- EDH 6065 History and Philosophy of Higher Education (3 credit hours)
- EDH 6505 Finance in Higher Education (3 credit hours)
- EDH 6935 Capstone Seminar in Student Personnel (3 credit hours)
- EDH 6407 Ethical and Legal Issues in Student Personnel (3 credit hours)
- EDH 6634 Student Personnel Services in Higher Education (3 credit hours)
- EDH 6044 Career Exploration in Higher Education (3 credit hours)
- EDH 6047 The College Community and the Student (3 credit hours)

Area C: Electives—3 Credit Hours

Approved by adviser

Area D: Professional Field Experience— 6 Credit Hours

- EDH 6946 Higher Education Internship (3 credit hours)
- EDH 6947 Practicum in Student Personnel (3 credit hours)

Education Specialist (Ed.S.) in Educational Leadership

Minimum Hours Required—36 Credit Hours beyond the master's degree

The Ed.S. is an advanced professional degree designed specifically for individuals who have completed a master's degree in a field other than Educational Leadership and who wish to meet the requirements for Florida Level 1 Educational Leadership Certification while working toward a degree. Students who complete an Ed.S. degree in Educational Leadership may apply for admission to the doctoral program.

Degree Requirements

- Have an overall 3.0 grade point average on all graduate work attempted.
- The completed planned program must include a minimum of 12 graduate-level credit hours in the specialization area and a minimum of 6 graduate-level credit hours in research/statistics.
- Pass all required examinations.

Area I—Educational Leadership Core—9 Credit Hours

- EDA 7101 Organizational Theory in Education (3 credit hours)
- EDA 6946 Internship (3 credit hours)
- EDA 6909 Research Report (3 credit hours)

Area II—Specialization—21 Credit Hours

- EDA 6061 Organization and Administration of Schools (3 credit hours)
- EDA 6232 Legal Aspects of School Operation (3 credit hours)
- EDA 6240 Educational Financial Affairs (3 credit hours)
- EDA 6260 Educational Systems Planning and Management (3 credit hours)
- EDA 6931 Contemporary Issues in Educational Leadership (3 credit hours)
- EDS 6123 Educational Supervisory Practices I (3 credit hours)
- EDS 6130 Educational Supervisory Practices II (3 credit hours)

Area III—Co-requisites/Electives—6 Credit Hours Minimum

- EDF 6401 Statistics for Educational Data (3 credit hours)*
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)*
- Electives (as approved by advisor) (6 credit hours) to total 36 hours

* Required if not completed in master's degree

Examinations

Educational leadership majors must successfully complete one three-hour examination in general educational leadership.

Doctor of Education in Educational Leadership (Ed.D.)

The Ed.D program consists of approximately 100 semester hours (including a maximum of 30 transfer hours and credit for research toward the dissertation). Content is offered in the areas of political and organizational theory, leadership, systems theory, planning and evaluation, school law and finance, decision making, communications, organizational planning, institutional climate and assessment, staff development, program analysis and evaluation, curriculum and instruction, and educational policy studies. The doctoral program provides structure essential to quality control, and also flexibility to permit specialization.

Candidates for the Ed.D. degree can concentrate their doctoral study in either K-12 or higher education administration. Students who are enrolled in the K-12 track are typically employed in public and private K-12 settings and are expected to complete, if they have not already done so, all coursework required for Florida Level 1 Educational Leadership Certification. This includes a minimum of eight educational leadership courses (or their equivalent). Students who have not completed courses in graduate research methods and foundations of education must also include these courses in their program of study. Students who pursue the higher education concentration are typically employed in two or four-year colleges or universities. Their programs of study require them to complete a minimum of 18 semester hours of specified courses plus two elective courses. Students must complete the higher education core in addition to the educational leadership core, research, specialization, cognates and dissertation.

Prerequisite Courses

- As necessary

Educational Leadership Core Courses—19 Credit Hours

- EDA 7101 Organizational Theory in Education (3 credit hours)
- EDA 7192 Educational Leadership (4 credit hours)
- EDA 7195 Politics, Governance, and Financing of Educational Organizations (4 credit hours)
- EDA 7205 Planning, Research, and Evaluation Systems in Educational Administration (4 credit hours)
- EDA 7225 Educational Personnel Administration (4 credit hours)

Cognate Courses—6 Credit Hours Minimum

The cognate component is satisfied through the completion of at least six semester hours of graduate study outside the College of Education. The courses serve to support the students area of specialization and academic interests. Typical areas of cognate study include public administration, communications, psychology, labor relations, and business administration.

Area of Specialization—12 Credit Hours Minimum

Research and Data Analysis—9 Credit Hours Minimum

- EDF 6401 Statistics for Educational Data (3 credit hours)
- EDF 7403 Quantitative Foundations of Educational Research (3 credit hours)
- EDF 7463 Analysis of Survey, Record, and Other Qualitative Data (3 credit hours)

Dissertation—21 Credit Hours Minimum

Doctoral students must present a prospectus for the dissertation to the doctoral adviser, prepare a proposal and present to the dissertation committee, and defend the final research submission with the dissertation committee. Registration for dissertation hours is not permitted until the student is admitted to candidacy.

Candidacy

To enter candidacy for the Ed.D., students must have an overall 3.0 grade point average on all graduate work included in the planned program and pass all required examinations.

Candidacy examinations will be scheduled near the tenth week of the fall and spring semesters, and summer exams will be scheduled for the sixth week of the term. Students must be enrolled in the university during the semester an examination is taken. The exams are: general educational leadership (five-hour exam), and area of specialization (three-hour exam).

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Doctor of Education in Educational Leadership

William Bozeman, Ph.D. , Professor
Phone Number: 407-823-1471
bozeman@mail.ucf.edu

Education Specialist in Educational Leadership

William Bozeman, Ph.D. , Professor
Phone Number: 407-823-1471
bozeman@mail.ucf.edu

Master of Arts in Educational Leadership

Kenneth Murray, Ph.D. , Associate Professor
Phone Number: 407-823-1468
murray@mail.ucf.edu

Master of Education in Educational Leadership

Kenneth Murray, Ph.D. , Associate Professor
Phone Number: 407-823-1468
murray@mail.ucf.edu

Student Personnel Administration in Higher Education Track

Levester Tubbs, Ed.D. , Associate Professor
Phone Number: 407-823-1466
ltubbs@mail.ucf.edu

Electrical Engineering

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Master of Science in Electrical Engineering](#)

[Communications Track](#)

[Controls/Power Track](#)

[Digital Signal Processing Track](#)

[Electro-Optics Track](#)

[Electromagnetics Track](#)

[Power Electronics and Electronics Track](#)

[Solid State and Microelectronics Track](#)

[VLSI Design Track](#)

[Doctor of Philosophy in Electrical Engineering](#)

[Contact Info](#)

Description

The Department of Electrical and Computer Engineering offers Master of Science and Doctor of Philosophy degrees in Electrical Engineering. Students in the Electrical Engineering program receive a broad background in areas such as communications, controls/robotics, digital signal processing, electromagnetics, power electronics and electronics, electro-optics, solid state and microelectronics, and very large-scale integration (VLSI) while specializing in a research area of their interest.

Research interests of the Electrical Engineering faculty include antennas, microwave and millimeter circuits and devices, communication systems, digital signal/image processing, electronic circuits, IFF devices, electromagnetic theory, radar and microwave remote sensing, speech processing, VLSI design, spread spectrum systems, SAW and ACT devices, spectral estimation, solid state device modeling and computer-aided design (CAD) techniques, communication networks, integrated services digital networks, neural networks, systems and controls, robotics, robust control, computer control, microelectronics, semiconductors, thin films, power system stability, bipolar device modeling, solid state lasers, optical propagation, fiber optics, optical signal processing, laser-induced damage, optical testing, diffractive optics, phase conjunction, infrared detectors, fourier optics, lens design, and nonlinear optics.

Degrees Offered

Master of Science in Electrical Engineering

- Communications Track
- Controls/Power Track
- Digital Signal Processing Track
- Electro-Optics Track
- Electromagnetics Track
- Power Electronics and Electronics Track
- Solid State and Microelectronics Track
- VLSI Design Track

Doctor of Philosophy in Electrical Engineering

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

The Master of Science degree in Electrical Engineering (M.S.E.E.) is intended for students with a baccalaureate degree in Electrical Engineering or a related field from a regionally accredited institution. In addition to the general admission requirements, applicants must provide:

- Minimum GPA of 3.0 on the last 60 attempted credit hours of the bachelor's degree.
- Minimum combined score of 1000 on the verbal-quantitative sections of the Graduate Record Examination (GRE).
- Resume.
- Goals statement.
- Two letters of recommendation.

For the Doctor of Philosophy in Electrical Engineering (Ph.D.) program, students must satisfy university requirements and:

- Have completed either a master's degree in Electrical Engineering or a closely related discipline with a minimum GPA of 3.5 and a minimum of 1100 on the combined verbal-quantitative sections of the GRE, or
- Have a bachelor's degree in Electrical Engineering or a closely related discipline with a minimum GPA of 3.5 in the last 60 attempted credit hours of the bachelor's degree, and a minimum of 1100 on the combined verbal-quantitative portion of the GRE
- Submit a resume, goal statement, and three letters of recommendation

Additional Notes on Admissions

In both programs, for applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

Students with a grade point average of less than 3.0 may be admitted on a provisional basis in some circumstances. Additional courses may also be required to correct any course deficiencies. Students should contact the graduate program coordinator for further information.

The College of Engineering and Computer Science requires that you fill out a pre-application form (www.graduate.cecs.ucf.edu) before you complete the application for graduate admission. The deadlines for the pre-application form can be found on the [Prospective Student Page](#) on the College of Engineering and Computer Science website.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Electrical Engineering	Feb 1	Jul 15	Dec 1	Apr 15
Master of Science in Electrical	Feb 1	Jul 15	Dec 1	Apr 15

Engineering				
Communications Track	Feb 1	Jul 15	Dec 1	Apr 15
Controls/Power Track	Feb 1	Jul 15	Dec 1	Apr 15
Digital Signal Processing Track	Feb 1	Jul 15	Dec 1	Apr 15
Electro-Optics Track	Feb 1	Jul 15	Dec 1	Apr 15
Electromagnetics Track	Feb 1	Jul 15	Dec 1	Apr 15
Power Electronics and Electronics Track	Feb 1	Jul 15	Dec 1	Apr 15
Solid State and Microelectronics Track	Feb 1	Jul 15	Dec 1	Apr 15
VLSI Design Track	Feb 1	Jul 15	Dec 1	Apr 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Electrical Engineering	Feb 1	Feb 1	Jul 1	
Master of Science in Electrical Engineering	Feb 1	Feb 1	Jul 1	
Communications Track	Feb 1	Feb 1	Jul 1	
Controls/Power Track	Feb 1	Feb 1	Jul 1	
Digital Signal Processing Track	Feb 1	Feb 1	Jul 1	
Electro-Optics Track	Feb 1	Feb 1	Jul 1	
Electromagnetics Track	Feb 1	Feb 1	Jul 1	
Power Electronics and Electronics Track	Feb 1	Feb 1	Jul 1	
Solid State and Microelectronics Track	Feb 1	Feb 1	Jul 1	
VLSI Design Track	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Electrical Engineering	Feb 1	Mar 1	Sep 1	
Master of Science in Electrical Engineering	Feb 1	Mar 1	Sep 1	
Communications Track	Feb 1	Mar 1	Sep 1	

Controls/Power Track	Feb 1	Mar 1	Sep 1
Digital Signal Processing Track	Feb 1	Mar 1	Sep 1
Electro-Optics Track	Feb 1	Mar 1	Sep 1
Electromagnetics Track	Feb 1	Mar 1	Sep 1
Power Electronics and Electronics Track	Feb 1	Mar 1	Sep 1
Solid State and Microelectronics Track	Feb 1	Mar 1	Sep 1
VLSI Design Track	Feb 1	Mar 1	Sep 1

Master of Science in Electrical Engineering

The Master of Science in Electrical Engineering degree offers tracks in Communications, Controls/Power, Digital Signal Processing, Electronics/Robotics Electronics, Electro-optics, Solid State and Microelectronics and VLSI Design. The program is intended for students with a baccalaureate degree in electrical engineering or a related field. Detailed information on the tracks and research activities is available in the department or on the [school website](#).

[General College Requirements](#)

Articulation

Undergraduate articulation courses may be required for students with BS and/or MS degrees in fields other than Electrical Engineering. The articulation courses will be determined by the graduate program director in consultation with student's research adviser on a case-by-case basis. In general, students with a non-Electrical Engineering degree must have had the equivalent course work or satisfy the following articulation program:

- Mathematics through Differential Equations (MAP 2302 or equivalent)
- Physics with Calculus (PHY 2048, PHY 2049 or equivalent)
- Electronics I (EEL 3307C or equivalent)
- Electromagnetic Fields (EEL 3470 or equivalent)
- Signal Analysis and Communications (EEL 3552C or equivalent)
- Semiconductor Devices I (EEL 3306 or equivalent)

Additional courses may also be required to correct any undergraduate course deficiencies. Courses taken to correct deficiencies cannot be used to satisfy minimum degree requirements.

Transfer Credits

Graduate students (subject to approval from an adviser) with a bachelor's degree from Electrical Engineering at UCF may transfer up to 9 credit hours of 5000-level work toward an M.S. non-thesis option and up to 3 credit hours of 5000-level work toward an M.S. thesis option. Up to 9 credit hours may be transferred from graduate work conducted elsewhere or in nondegree status from a regionally accredited institution.

Thesis or Non-thesis Option

The master's program offers a thesis option (30 credit hours, including 6 credit hours of thesis) and a non-thesis option (36 credit hours) for all tracks. Students must have an adviser appointed and an official program of study submitted before completing 9 credit hours of course work.

Thesis Option

This option requires a minimum of 30 credit hours of approved course work, of which 6 are thesis work. The course requirements are as follows:

- Required courses from one of the following tracks: Communications, Controls/Power, Digital Signal Processing, Electromagnetics, Power Electronics and Electronics, Electro-optics, or Solid State and Microelectronics
- One course from any other two areas listed above (6 credit hours total)
- No more than 6 credits of thesis will count toward the degree requirement
- The remainder of the program courses is chosen in conjunction with an adviser in an approved program of study
- At least 15 credit hours must be from 6000-level courses
- Continuous enrollment in one hour of thesis is required once six hours of thesis credits have been completed and all course work has been satisfied, until the final thesis has been received by the Division of Graduate Studies

Non-Thesis Option

This option requires a minimum of 36 credit hours of course work and is intended primarily for part-time students. Program requirements are the same as the thesis option except that the thesis requirement is replaced by 12 credit hours of course work. Students are required to pass a final comprehensive examination or another appropriate culminating experience. Please see the graduate program director for details.

Communications Track

Total Hours Required for M.S.E.E.—30 or 36 Credit Hours

Required Courses—12 Credit Hours

- EEL 5542 Random Processes I (3 credit hours)
- EEL 6530 Communication Theory (3 credit hours)
- One course from two of the following tracks: Controls/Power, Digital Signal Processing, Electromagnetics, Power Electronics and Electronics, Electro-optics, Solid State and Microelectronics (6 credit hours)

Thesis Option—18 Additional Credit Hours

- EEL 6971 Thesis (6 credit hours)
- Electives (12 credit hours)

Non-Thesis Option—24 Additional Credit Hours

- Electives (24 credit hours)

Elective Courses

- EEL 6504 Communications Systems Design (3 credit hours)
- EEL 6543 Random Processes II (3 credit hours)
- EEL 6537 Detection and Estimation (3 credit hours)
- EEL 5555C RF and Microwave Communications (3 credit hours)
- EEL 5762 Performance Analysis of Computer and Communication Systems (3 credit hours)
- EEL 5547 Introduction to Radar Systems (3 credit hours)
- EEL 6785 Computer Network Design (3 credit hours)
- EEL 6590 Advanced Topics in Communications (3 credit hours)

Controls/Power Track

Total Hours Required for M.S.E.E.—30 or 36 Credit Hours

Required Courses—12 Credit Hours

- EEL 5630 Digital Control Systems (3 credit hours)
- EEL 5173 Linear Systems Theory (3 credit hours)
- One course from two of the following tracks: Communications, Digital Signal Processing, Electromagnetics, Power Electronics and Electronics, Electro-optics, Solid State and Microelectronics (6 credit hours)

Thesis Option—18 Additional Credit Hours

- EEL 6971 Thesis (6 credit hours)
- Electives (12 credit hours)

Non-Thesis Option—24 Additional Credit Hours

- Electives (24 credit hours)

Electives in Controls

- EEL 6621 Nonlinear Control Systems (3 credit hours)
- EEL 6671 Modern and Optimal Control Systems (3 credit hours)
- EEL 6674 Optimal Estimation for Control (3 credit hours)
- EEL 6617 Fundamentals of Modern Multivariable Control (3 credit hours)
- EEL 6616 Adaptive Control (3 credit hours)
- EEL 6680 Advanced Topics in Modern Control Systems (3 credit hours)

Electives in Power

- EEL 5245C Power Electronics - (3 credit hours)
- EEL 6208 Advanced Machines (3 credit hours)
- EEL 6255 Advanced Power Systems Analysis (3 credit hours)
- EEL 6269 Advanced Topics in Power Engineering (3 credit hours)
- EEL 6246 Power Electronics II (3 credit hours)

Digital Signal Processing Track

Total Hours Required for M.S.E.E.—30 or 36 Credit Hours

Required Courses—12 Credit Hours

- EEL 4750 Digital Signal Processing Fundamentals (3 credit hours)
- EEL 5513 Digital Signal Processing Applications (3 credit hours)
- One course from two of the following tracks: Communications, Controls/Power, Electromagnetics, Power Electronics and Electronics, Electro-optics, Solid State and Microelectronics (6 credit hours)

Thesis Option—18 Additional Credit Hours

- EEL 6971 Thesis (6 credit hours)
- Electives (12 credit hours)

Non-Thesis Option—24 Additional Credit Hours

- Electives (24 credit hours)

Elective Courses

- EEL 6502 Adaptive Digital Signal Processing (3 credit hours)
- EEL 6505 Multidimensional Digital Processing (3 credit hours)
- EEL 6558 Advanced Topics in Digital Signal Processing (3 credit hours)
- EEL 5820 Image Processing (3 credit hours)
- EEL 6823 Image Processing II (3 credit hours)
- EEL 5825 Pattern Recognition (3 credit hours)

Electromagnetics Track

Total Hours Required for M.S.E.E.—30 or 36 Credit Hours

Required Courses—12 Credit Hours

- EEL 6488 Electromagnetic Fields (3 credit hours)
- One course from two of the following tracks: Communications, Controls/Power, Digital Signal Processing, Electronics, Electro-optics, Solid State and Microelectronics (6 credit hours)

One of the following courses is required:

- EEL 4436C Microwave Engineering (3 credit hours)
- EEL 5462C Antenna Analysis and Design (3 credit hours)
- EEL 5434 Microwave Circuits and Devices (3 credit hours)

Thesis Option—18 Additional Credit Hours

- EEL 6971 Thesis (6 credit hours)
- Electives (12 credit hours)

Non-Thesis Option—24 Additional Credit Hours

- Electives (24 credit hours)

Elective Courses

- EEL 5432 Satellite Remote Sensing (3 credit hours)
- EEL 5555C RF and Microwave Communications (3 credit hours)
- EEL 6463 Antenna Analysis and Design II (3 credit hours)
- EEL 6492 Advanced Topics in Electromagnetics and Microwaves (3 credit hours)

Power Electronics and Electronics Track

Total Hours Required for M.S.E.E.—30 or 36 Credit Hours

Required Courses—12 Credit Hours

- EEL 6371 Advanced Electronics I (3 credit hours)
- One course from two of the following tracks: Communications, Controls/Power, Digital Signal Processing, Electromagnetics, Electro-optics, Solid State and Microelectronics (6 credit hours)

One of the following courses is required:

- EEL 5245C Power Electronics (3 credit hours)
- EEL 5378 CMOS Analog and Digital Circuit Design (3 credit hours)

Thesis Option—18 Additional Credit Hours

- EEL 6971 Thesis (6 credit hours)
- Electives (12 credit hours)

Non-Thesis Option—24 Additional Credit Hours

- Electives (24 credit hours)

Elective Courses

- EEL 5353 Semiconductor Device Modeling and Simulation (3 credit hours)
- EEL 5370 Operational Amplifiers (3 credit hours)
- EEL 6354 Advanced Semiconductor Device I (3 credit hours)
- EEL 6372 Advanced Topics in Electronics (3 credit hours)
- EEL 6246 Power Electronics II (3 credit hours)

Electro-optics Track

Total Hours Required for M.S.E.E.—30 or 36 Credit Hours**Required Courses—9 Credit Hours**

- OSE 5041 Introduction to Wave Optics (3 credit hours)
- OSE 6560 Laser Engineering (3 credit hours)
- OSE 6211 Fourier Optics (3 credit hours)

Thesis Option—18 Additional Credit Hours

- EEL 6971 Thesis (6 credit hours)
- Electives (12 credit hours)

Non-Thesis Option—24 Additional Credit Hours

- Electives (24 credit hours)

Elective Courses

Courses from the following tracks can serve as electives: Communications, Controls/Power, Digital Signal Processing, Electromagnetics, Electronics, Solid State and Microelectronics. The elective courses depend on the sub-option chosen in the Electro-optics track. The sub-options are: Photonics, Optical Communications, Electro-optics Systems, Imaging Systems, Remote Sensing, and Laser Engineering. More details of these sub-options can be obtained from the graduate office in the Department of Electrical and Computer Engineering.

Solid State and Microelectronics Track**Total Hours Required for M.S.E.E.—30 or 36 Credit Hours****Required Courses—12 Credit Hours**

- EEL 5355C Fabrication of Solid-State Devices (4 credit hours)
- EEL 6354 Advanced Semiconductor Device I (3 credit hours)
- One course from two of the following tracks: Communications, Controls/Power, Digital Signal Processing, Electromagnetics, Power Electronics and Electronics, Electro-optics (6 credit hours)

Thesis Option—18 Additional Credit Hours

- EEL 6971 Thesis (6 credit hours)
- Electives (12 credit hours)

Non-Thesis Option—24 Additional Credit Hours

- Electives (24 credit hours)

Elective Courses

- EEL 5332C Thin Film Technology (3 credit hours)
- EEL 5353 Semiconductor Device Modeling and Simulation (3 credit hours)
- EEL 5378 CMOS Analog and Digital Circuit Design (3 credit hours)
- EEL 5517 Surface Acoustic Wave Devices and Systems (3 credit hours)
- EEL 5352 Semiconductor Material and Device Characterization (3 credit hours)
- EEL 6354 Advanced Semiconductor Device I (3 credit hours)
- EEL 6338 Advanced Topics in Microelectronics (3 credit hours)

VLSI Design Track

Total Hours Required for M.S.E.E.—30 or 36 Credit Hours

Required Courses—6 Credit Hours

- EEL 5390 Full-Custom VLSI Design (3 credit hours)
- EEL 5378 CMOS Analog and Digital Circuit Design (3 credit hours)

Thesis Option—24 Additional Credit Hours

- EEL 6971 Thesis (6 credit hours)
- Electives (18 credit hours)

Non-Thesis Option—30 Additional Credit Hours

- Electives (30 credit hours)

Elective Courses

- EEL 5353 Device Modeling and Simulation (3 credit hours)
- EEL 5370 Operational Amplifiers (3 credit hours)
- EEL 5434 Microwave Optics and Devices (3 credit hours)
- EEL 5708 High-Performance Computer Architecture (3 credit hours)
- EEL 5722 Field Programmable Gate Array (FPGA) Design (3 credit hours)
- Additional electives selected in consultation with adviser

Doctor of Philosophy in Electrical Engineering

Total Hours Required for Ph.D.—Minimum of 72 credit hours beyond the bachelor's degree; minimum of 36 credit hours beyond the master's degree

The Doctor of Philosophy (Ph.D.) degree is primarily intended for students with a master's degree in Electrical Engineering or a closely related discipline who wish to pursue a career in research or academia. Specializations include Communications, Digital Signal Processing/Image Processing, Controls, Electro-Optics, Electromagnetics, Power Electronics and Electronics, Solid-State/Microelectronics, and VLSI Design.

Degree Requirements

[General College Requirements](#)

The Ph.D. degree requires a minimum of 72 credit hours beyond the bachelors degree. Of these 72 hours, a minimum of 36 credit hours should be regular course work and a minimum of 15 credit hours should be dissertation hours. The remaining 21 credit hours could be course work (including courses such as Independent Study or Directed Research) or dissertation hours.

The Ph.D. degree requires a minimum of 36 credit hours beyond the masters degree (depending on the number of transfer credits from the masters degree). Of these 36 hours, a minimum of 12 credit hours should be regular course work and a minimum of 15 credit hours should be dissertation hours. The remaining 9 credit hours could be course work (including courses such as Independent Study or Directed Research) or dissertation hours.

At least 6 credit hours must be taken outside the students program while at UCF. There is a residency requirement of two contiguous semesters in full-time graduate student status (minimum of 9 credit hours) after acceptance to the graduate program at UCF. The program of study must be developed in consultation with an adviser within the first 9 credit hours of course work and must meet with departmental approval, at which time transfer credit will be evaluated on a course-by-course basis. Students are required to pass a Qualifying Examination, after which the student must form a dissertation committee. The degree must be completed within seven years from the entry date to the doctoral program.

Transfer Credits

Up to 6 credit hours of 4000 level course work are acceptable if transferred from a master's degree program. A limited number of up to 36 credit hours may be transferred from a master's degree toward these requirements, including a maximum of 6 credit hours of 4000-level courses; no 3000-level courses; and no courses with grades less than "B" grades.

Qualifying Examination

Students are required to pass a qualifying examination, after which the student must form a dissertation committee. The degree must be completed within seven years of the entry date to the doctoral program. The prospective doctoral student must take a written qualifying exam before being admitted to full doctoral student status. This exam covers relevant material typically learned at the undergraduate and graduate levels, and serves to verify the student's capability and readiness for the Ph.D. program.

The exam consists of a written four-hour test, given on the first Friday of April and first Friday of November of each year. Open books and open notes are allowed, but published solution manuals for texts are not. It is the policy of the Electrical Engineering Program that any calculator used during the exam may not be used to store user-defined programs.

Exam Format

The student declares a major area prior to taking the exam by notifying the Electrical Engineering Graduate Secretary, or during the exam time. During the exam the student has to solve three problems in the declared major area and six other problems that can be selected from at least two and at most four other chosen areas. The areas from which the student can select problems from are the following:

- Circuits
- Communications
- Digital Signal Processing
- Controls/Power
- Digital Systems and Computer Architecture
- Electro-optics
- Electromagnetics
- Physical Electronics
- Electronics

Candidacy Examination

The Candidacy Examination evaluates the student's preparation to undertake research in his/her dissertation topic area. A student may sit for the Candidacy Examination upon: (1) Passing the Qualifying Examination; (2) Completing all conditions placed as a result thereof; and (3) Completing all but six credits or less of the courses prescribed in the plan of study. The Candidacy Examination consists of the following:

- A Candidacy Proposal developed by the student to identify the chosen area of research.
- An oral presentation of the Candidacy Proposal by the student to the dissertation committee.
- A written Candidacy Examination based on the student's chosen area of research may be required by the major professor. The format is determined by the major professor in consultation with the dissertation committee.

Upon successful completion of the Candidacy Examination, the student can be accepted into Candidacy status, allowing him/her to enroll for dissertation credit hours. The final step in the process is the Dissertation Defense Examination, which is an oral examination taken in defense of the written dissertation before the dissertation committee.

Dissertation Committee

The Dean, through the chairs, is responsible for committee formation, additions, and deletions. The doctoral committee must consist of a minimum of five members: three must be faculty members from within the student's department, and one must be at large from outside the Department of Electrical and Computer Engineering .

The committee chair must be a member of the department graduate faculty approved to direct dissertations. Joint faculty members serve as department-faculty committee members. Adjunct faculty and off-campus experts may serve as the outside-the-college person in the committee. Program areas may further specify additional committee membership. Graduate Studies reserves the right to review appointments to advisory committees, place a representative on any advisory committee, or appoint a co-adviser.

In unusual cases, with approval from the program chair, two professors may chair the committee jointly. Joint faculty members may serve as committee chairs, but off-campus experts and adjunct faculty may not serve as committee chairs. Particular programs may have more stringent requirements. All members vote on acceptance or rejection of the dissertation proposal and the final dissertation. The dissertation proposal and final dissertation must be approved by a majority of the advisory committee.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.

- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Doctor of Philosophy in Electrical Engineering

Michael Georgiopoulos, Ph.D. , Professor
Phone Number: 407-823-2786
gradece@mail.ucf.edu

Master of Science in Electrical Engineering

Michael Georgiopoulos, Ph.D. , Professor
Phone Number: 407-823-2786
gradece@mail.ucf.edu

Communications Track

Michael Georgiopoulos, Ph.D. , Professor
Phone Number: 407-823-2786
gradece@mail.ucf.edu

Controls/Power Track

Michael Georgiopoulos, Ph.D. , Professor
Phone Number: 407-823-2786
gradece@mail.ucf.edu

Digital Signal Processing Track

Michael Georgiopoulos, Ph.D. , Professor
Phone Number: 407-823-2786
gradece@mail.ucf.edu

Electro-Optics Track

Michael Georgiopoulos, Ph.D. , Professor
Phone Number: 407-823-2786
gradece@mail.ucf.edu

Electromagnetics Track

Michael Georgiopoulos, Ph.D. , Professor
Phone Number: 407-823-2786
gradece@mail.ucf.edu

Power Electronics and Electronics Track

Michael Georgiopoulos, Ph.D. , Professor
Phone Number: 407-823-2786
gradece@mail.ucf.edu

Solid State and Microelectronics Track

Michael Georgiopoulos, Ph.D. , Professor
Phone Number: 407-823-2786
gradece@mail.ucf.edu

VLSI Design Track

Michael Georgiopoulos, Ph.D. , Professor
Phone Number: 407-823-2786
gradece@mail.ucf.edu

Elementary Education

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Master of Arts in Elementary Education](#)

[Master of Education in Elementary Education](#)

[Mathematics Track](#)

[Primary Track](#)

[Contact Info](#)

Description

The College of Education offers a master's program in Elementary Education leading to a Master of Education (M.Ed.) degree or Master of Arts (M.A.) degree.

The M.Ed. degree is designed to meet the needs of the classroom teacher whose career goal is to remain in the classroom. It provides experiences in the foundations of education, an update of the student's skills and understanding related to current research and instructional trends in basic subject matter areas, and elective choices in specific areas.

Degrees Offered

Master of Arts in Elementary Education

Master of Education in Elementary Education

- Mathematics Track
- Primary Track

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

In addition to the general admission requirements, applicants must provide:

- GPA of 3.0 and Graduate Record Examination (GRE) of 840; if GPA is below 3.0, GRE of 1000 (in lieu of the GRE, a GMAT score of 500 or higher may be used for admission consideration)
- Applicants to the M.Ed. program must (1) have completed all course requirements for Florida state teacher certification in the program's subject area and/or grade range, or (2) present a Florida Professional Teaching Certificate upon admission to the program. Applicants who have graduated from an accredited university or college teacher certification program in another state or country, in the appropriate subject and/or grade range, may also be admitted to the M.Ed. program at the discretion of the program director.
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

Students may not switch from an M.A. program to an M.Ed. program, or vice versa, without going through the university's admission process. Courses used to gain initial state certification may not be transferred into an M.Ed. program.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Elementary Education	Feb 1	Jul 15	Dec 1	Apr 15
Master of Education in Elementary Education	Feb 1	Jul 15	Dec 1	Apr 15
Mathematics Track	Feb 1	Jul 15	Dec 1	Apr 15
Primary Track	Feb 1	Jul 15	Dec 1	Apr 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Elementary Education	Feb 1	Feb 1	Jul 1	
Master of Education in Elementary Education	Feb 1	Feb 1	Jul 1	
Mathematics Track	Feb 1	Feb 1	Jul 1	
Primary Track	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Elementary Education	Feb 1	Mar 1	Sep 1	
Master of Education in Elementary Education	Feb 1	Mar 1	Sep 1	
Mathematics Track	Feb 1	Mar 1	Sep 1	
Primary Track	Feb 1	Mar 1	Sep 1	

Master of Education in Elementary Education

Minimum Hours Required for M.Ed.—30 Credit Hours

Area A: Core—9 Credit Hours

- EDE 6933 Elementary Education Seminar I (2 credit hours)
- EDE 6935 Elementary Education Seminar II (1 credit hour)
- EDF 6233 Analysis of Classroom Teaching (3 credit hours)
- EME 5050 Fundamentals of Technology for Educators (3 credit hours) OR
- EME 6405 Application Software for Educational Settings (3 credit hours)

Area B: Specialization: Minimum of 12 Credit Hours

The adviser may approve courses taken as part of a UCF certificate program for this area of the M.Ed. (up to 12 credit hours). The adviser must approve elective courses for this area.

Select from the following:

- LAE 5195 CFWP Teacher Consultant (3 credit hours)
- LAE 5295 Writing Workshop I (1-3 credit hours)
- LAE 5415 Children's Literature Elementary Education (3 credit hours). (Use the course above only if no previous children's literature course has been taken.)
- LAE 6296 Writing Workshop II (3 credit hours)
- LAE 6417 Investigations in Children's Literature (3 credit hours)
- LAE 6616 Trends in Language Arts Education (3 credit hours)
- MAE 6517 Diagnosis/Remediation of Difficulties in Mathematics for the Classroom Teacher (3 credit hours)
- MAE 6641 Problem Solving and Critical Thinking Skills (3 credit hours)
- RED 6116 Trends in Reading Education (3 credit hours)
- SCE 5825 Space Science for Educators (3 credit hours)
- SCE 6616 Trends in Elementary School Science Education (3 credit hours)
- SCE 6146 Environmental Education for Educators (3 credit hours)
- SSE 6617 Trends in Elementary School Social Studies Education (3 credit hours)
- TSL 5345 Methods of ESOL Teaching (3 credit hours)
- TSL 6142 Critical Approaches to ESOL (3 credit hours)
- TSL 6440 Problems in Evaluation in ESOL (3 credit hours)
- EEC 5205 Programs and Trends in Early Childhood Education (3 credit hours)
- EEC 5206 Organization of Instruction in Early Childhood Education (3 credit hours)

Area C: Select Option 1 or 2 below—Minimum of 9 Credit Hours

Option 1: Thesis Option: No comprehensive exam needed for this option—9 Credit Hours

- EDE 6971 Thesis (6 credit hours)
- LAE 6792 Teacher Researcher (3 credit hours) OR
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)

Option 2: Non-Thesis Option: Comprehensive exam is required for this option—9 Credit Hours

- EDF 6432 Measurement and Evaluation in Education (3 credit hours) OR
- EDF 6446 Assessment of Learning (3 credit hours)
- AND 6 credit hours selected with the permission of the adviser

Primary Track

Minimum Hours Required for M.Ed.—36-39 Credit Hours (Primary Track)

The purpose of this track is to prepare students to become master teachers of, or consultants for, programs in age three through grade three. Course work includes a professional core of research, human development, and measurement and evaluation courses; field experiences and courses focusing on programs, creative activities, organization of instruction, individualizing, and perception; and an overview of the exceptional student. Students must have State of Florida certification in Elementary Education. This degree does not meet the requirements for early childhood education.

Area A: Core—12 or 15 Credit Hours

- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)

Select Option A or B

Option A—Research Project or Thesis—6 Credit Hours

- EDF 6401 Statistics for Educational Data (3 credit hours)
- EDE 6971 Thesis (2,1 credit hours) OR
- EDE 6909 Research Report (2,1 credit hours)

Option B—Non-Thesis—9 Credit Hours

- Electives approved by adviser (6 credit hours)
- EDF 6886 Multicultural Education (3 credit hours)

Area B: Specialization—24 Credit Hours

- EEC 5205 Programs and Trends in Early Childhood Education (3 credit hours)
- EEC 5206 Organization of Instruction in Early Childhood Education (3 credit hours)
- EEC 5208 Creative Activities in Early Childhood (3 credit hours)
- EEC 6269 Play Development, Intervention, and Assessment (3 credit hours)
- EEC 6406 Guiding and Facilitating Social Competence (3 credit hours)
- EEX 5750 Communication with Parents and Agencies (3 credit hours)
- EEX 6017 Typical and Atypical Applied Child Development (3 credit hours)
- EEX 6224 Observation and Assessment of Young Children (3 credit hours)

Mathematics Education Track

Minimum Hours Required for M.Ed.—33 Credit Hours (Mathematics Education Track)

This is a track for elementary teachers who serve as special mathematics laboratory teachers; as adjunct mathematics/learning disability teachers helping the regular classroom teacher in diagnosing, prescribing, and remediating the instruction of children identified as learning disabled in mathematics; or as mathematics specialists who are the curriculum resource instructional leaders in their school. Course work includes the development of competencies in diagnosing learning difficulties and error patterns in mathematics, organizing and managing laboratory experiences, using a wide variety of specific teaching techniques for all content strands in K-8 (pre-algebra) mathematics classroom individualized instruction programs.

This track is not approved for automatic certification by the state of Florida. The track may qualify students for certification in Middle School Mathematics if sufficient mathematics (8 credit hours) content courses and certain experience/methods requirements have been taken. To be certified as an Elementary Mathematics Specialist, a person must have a minimum of 18 credit hours in mathematics.

Area A: Core—12 or 15 Credit Hours

- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- EDF 6401 Statistics for Educational Data (3 credit hours) OR
- EDF 6432 Measurement and Evaluation in Education (3 credit hours)

Select one course from the following list.

- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- EDF 6517 Perspectives on Education (3 credit hours)
- EDF 6608 Social Factors in American Education (3 credit hours)
- MAE 6909 Research Report or two electives (2,1 or 6 credit hours)

Area B: Specialization—12 Credit Hours

- MAE 4634 Programs in Teaching of Mathematics (3 credit hours)
- MAE 6517 Diagnosis/Remediation of Difficulties in Mathematics for the Classroom Teacher (3 credit hours)
- MAE 6899 Seminar in Teaching Mathematics (3 credit hours)
- MAE 6946 Practicum (3 credit hours)

Area C: Electives—9 Credit Hours—Approved by adviser

- MAE 5318 Current Methods in Elementary School Mathematics (3 credit hours)
- MAE 6145 Mathematics Curriculum, K-12 (3 credit hours)
- MAE 6641 Problem Solving and Critical Thinking Skills (3 credit hours)

Master of Arts in Elementary Education

Minimum Hours Required for M.A.—36 Credit Hours

The Master of Arts in Elementary Education can be completed in the minimum 36 credit hours only if the student has completed previous initial certification in another area, including a supervised internship, and the state-approved beginning teacher program. Students without previous certification must complete all requirements listed. Please note that if this M.A. program provides your initial certification, 80 clock hours of field experience must be completed prior to enrolling in internship.

Area A: Seminars—3 Credit Hours

- EDE 6933 Elementary Education Seminar I (2 credit hours)
- EDE 6935 Elementary Education Seminar II (1 credit hour)

Area B—15 Credit Hours

- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- EDF 6432 Measurement and Evaluation in Education (3 credit hours)
- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- EDG 6236 Principles of Instruction (3 credit hours)
- One elective from EDF 6608, EDF 6517, or EDF 6886 (3 credit hours)

Area C: PR or CR EDE 6933—21 Credit Hours

- LAE 5319 Methods of Elementary School Language Arts (3 credit hours)

- LAE 5415 Children's Literature in Elementary Education (3 credit hours)
- MAE 5318 Current Methods in Elementary School Mathematics (3 credit hours)
- SCE 5716 Methods in Elementary School Science (3 credit hours)
- RED 5147 Developmental Reading (3 credit hours)
- RED 5514 Classroom Diagnosis and Development of Reading Proficiencies (PR: RED 5147) (3 credit hours)
- SSE 5115 Methods of Elementary School Social Science (3 credit hours)

Area D: Internship—6 Credit Hours

- EDE 6946 Graduate Internship (6 credit hours)

Satisfactory completion of Graduate Internship requires the student to demonstrate proficiency in all 12 Florida Educator Accomplished Practices at the pre-professional level in accordance with State Board of Education Rule 6A-5.065.

Co-requisites

- ARE 4313 Art in the Elementary School (3 credit hours)
- HLP 4722 Teaching Elementary School Health and Physical Education (3 credit hours)
- MUE 3210 Music in the Elementary School (3 credit hours)

Additional Program Graduation Requirements

- Complete a portfolio according to program guidelines. This portfolio requires demonstration of professional growth, reflection, and proficiency in the 12 Florida Educator Accomplished Practices.
- Pass all applicable sections of the Florida Teacher Certification Examination.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.

- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program coordinator of your major.

Contact Info

Master of Arts in Elementary Education

Enrique Ortiz, Ed.D. , Associate Professor
Phone Number: 407-823-5222
ortiz@mail.ucf.edu

Master of Education in Elementary Education

Enrique Ortiz, Ed.D. , Associate Professor
Phone Number: 407-823-5222
ortiz@mail.ucf.edu

Mathematics Track

Enrique Ortiz, Ed.D. , Associate Professor
Phone Number: 407-823-5222
ortiz@mail.ucf.edu

Primary Track

Enrique Ortiz, Ed.D. , Associate Professor
Phone Number: 407-823-5222
ortiz@mail.ucf.edu

English

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[Master of Arts in English](#)

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Description

The Department of English offers a Master of Arts (M.A.) degree with tracks in Creative Writing, Literature, Rhetoric and Composition, and Technical Writing. The department also houses the doctoral program in [Texts and Technology](#).

Each part of the graduate program emphasizes the enhancement of critical thinking and writing skills useful for career development in academic and professional settings. The program is designed for students interested in intellectual and practical questions of aesthetics, critique, culture, text, and interpretation.

Degrees Offered

Master of Arts in English

- Creative Writing Track
- English Literature Track
- Rhetoric and Composition Track
- Technical Writing Track

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

In addition to the general admission requirements, applicants must provide:

- Official score of at least 1000 (combined) on the Graduate Record Examination (GRE), which must have been taken within the last five years
- GPA of 3.0 or higher for the last 60 semester hours earned as an undergraduate
- Evidence of an earned bachelor's degree
- Two letters of recommendation
- Statement of background and goals
- Resume
- Creative writing applicants only: a portfolio of fiction, poetry, drama, or creative nonfiction
- Literature applicants only: a writing sample (documented critical essay)

- Rhetoric and Composition applicants only: an academic essay, preferably from an English class, that demonstrates argument and analysis.
- Technical writing applicants only: a piece of professional writing that is acceptable to the faculty
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in English	Jan 15	Jul 15	Dec 1	Apr 15
Creative Writing Track	Jan 15	Jul 15	Dec 1	Apr 15
English Literature Track	Jan 15	Jul 15	Dec 1	Apr 15
Rhetoric and Composition Track	Jan 15	Jul 15	Dec 1	Apr 15
Technical Writing Track	Jan 15	Jul 15	Dec 1	Apr 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in English	Jan 15	Feb 1	Jul 1	
Creative Writing Track	Jan 15	Feb 1	Jul 1	
English Literature Track	Jan 15	Feb 1	Jul 1	
Rhetoric and Composition Track	Jan 15	Feb 1	Jul 1	
Technical Writing Track	Jan 15	Feb 1	Jul 1	

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in English	Jan 15	Mar 1	Sep 1	
Creative Writing Track	Jan 15	Mar 1	Sep 1	
English Literature Track	Jan 15	Mar 1	Sep 1	
Rhetoric and Composition Track	Jan 15	Mar 1	Sep 1	
Technical Writing Track	Jan 15	Mar 1	Sep 1	

Master of Arts in English

A student with a baccalaureate degree in a subject other than English will be required to take graduate survey courses in British and American literature. Students must also prove proficiency in a foreign language at the first-year level prior to completing the degree program.

Students must select one of the tracks for their program of study: Creative Writing, Literature, Rhetoric and Composition, or Technical Writing. The M.A. degree requires completion of 33 credit hours minimum.

Creative Writing Track

Each student must complete at least 33 credit hours, including 6 credit hours of writing workshops. Near the end of the degree program, each candidate will write a creative thesis.

Required Creative Writing Courses—6 Credit Hours

- CRW 5020 Graduate Writing Workshop (3 credit hours)
- CRW 6025 Advanced Graduate Writing Workshop (3 credit hours)

Required Literature Courses—6 Credit Hours

- LIT 5039 Studies in Contemporary Poetry (3 credit hours)
- LIT 5097 Studies in Contemporary Fiction (3 credit hours)

Restricted Creative Writing Electives—6 Credit Hours

- CRW 5020 Graduate Writing Workshop (3 credit hours) *May be repeated for credit*
- CRW 5130 Form and Theory in Creative Writing (3 credit hours) *May be repeated for credit*
- CRW 5932 Teaching Creative Writing (3 credit hours)
- CRW 5937 Special Topics Seminar
- CRW 6025 Advanced Graduate Writing Workshop (3 credit hours) *May be repeated for credit*

Literature Electives—6 Credit Hours

- LIT 6009 Literary Genres (3 credit hours)
- LIT 6105 World Literature (3 credit hours)
- LIT 6246 Major Authors (3 credit hours)
- LIT 6365 Movements in Literature (3 credit hours)

Electives—3 Credit Hours

Thesis—6 Credit Hours

- CRW 6971 Thesis (6 credit hours)

The candidate will complete a book-length manuscript (fiction, poetry, or other genre) of publishable quality, written and revised in CRW 6971, Thesis, that will meet both departmental and university requirements for the thesis. There is no non-thesis option in Creative Writing.

Literature Track

Literature students are expected to be widely read in British and American literature, to be highly competent in writing, and to be familiar with the vocabularies of literary criticism and grammar. A student with a bachelor's degree in a subject other than English will be required to take graduate survey courses in British and American literature.

Each student must complete at least 33 credit hours, including one course in linguistics and six core courses. Near the end of the degree program, each candidate will write a comprehensive examination based on a prescribed reading list and (a) write a thesis or (b) complete 6 additional credit hours in 6000-level literature courses.

Required Courses—21 Credit Hours

- ENG 5009 Methods of Bibliography and Research (3 credit hours)
- ENG 5018 Literary Criticism (3 credit hours)
- LIN 5137 Linguistics (or an equivalent) (3 credit hours; may be waived if student has completed a course in linguistics at the 4000 level or above with a grade of "A" or "B")
- LIT 6009 Literary Genres (3 credit hours)
- LIT 6105 World Literature (3 credit hours)
- LIT 6246 Major Authors (3 credit hours)
- LIT 6365 Movements in Literature (3 credit hours)

Electives—6 Credit Hours

Comprehensive Examination

A written comprehensive exam is required. More information is available in the English Departments' "Graduate Student Handbook," available for download at www.english.ucf.edu.

Specialization

Choose A or B—6 Credit Hours

A. Thesis Option—The candidate will complete a formal thesis on a topic selected in consultation with an advisory committee and will meet both departmental and university requirements for the thesis. The student will also enroll in LIT 6971 Thesis for 6 credit hours.

B. Course Option—The candidate will also complete 6 additional hours in 6000-level literature courses.

Rhetoric and Composition Track

Each student must complete at least 33 credit hours, including four core classes. Near the end of the degree program, each candidate will write a comprehensive examination based on a prescribed reading list and (a) write a thesis or (b) complete a classroom-based research project.

Required Courses—12 Credit Hours

- ENC 5335 Rhetorical Traditions (3 credit hours)
- ENG 5009 Methods of Bibliography and Research (3 credit hours)
- ENC 5705 Theory and Practice in Composition (3 credit hours)
- ENC 5712 Studies in Literacy and Writing (3 credit hours)

Restricted Electives—12 credit hours

Students will choose courses in concert with an adviser from among the three concentration areas:

Rhetorical Foundations

- ENC 5337 Modern Rhetorical Theory (3 credit hours)
- ENC 5256 Gendered Rhetoric (3 credit hours)
- ENC 5XXX Rhetoric of Science (3 credit hours)
- ENC 6633 Rhetorical Movements (3 credit hours)
- ENC 6337 Contemporary Rhetoric and Composition Theory (3 credit hours)

Rhetoric in Practice

- ENC 5306 Persuasive Writing (3 credit hours)
- ENC 5237 Writing for the Business Professional (3 credit hours)
- ENC 6244 Teaching Technical Writing (3 credit hours)
- CRW 5932 Teaching Creative Writing (3 credit hours)
- ENC 5474 Teaching Practicum (3 credit hours)
- ENC 6702 Issues in Writing Assessment (3 credit hours)

Studies in Literacy and Writing

- LIN 5675 English Grammar and Usage (3 credit hours)
- LIN 5137 Linguistics (3 credit hours)
- ENC 5276 Writing/Consulting: Theory and Practice (3 credit hours)
- ENC 5945 Community Literacy Practicum (3 credit hours)
- ENC 5277 Teaching Writing with Computers (3 credit hours)
- ENC 5338 The Rhetorics of Public Debate (3 credit hours)

Advised Electives—6 credit hours

Students will work with an adviser to choose two other graduate level English courses or approved courses outside the department.

Comprehensive Examination

A written exam, based on a book list, consisting of essay questions

Specialization

Choose A or B—3 credit hours

A. Classroom Research Project Option—The candidate will enroll in ENC 6918 Directed Research for 3 credit hours and complete a research project approved by an advisory committee. This project will consist of a pedagogical research project of direct applicability to the field of Rhetoric & Composition.

B. Thesis Option—The candidate will complete a formal thesis on a topic selected in consultation with an advisory committee and will meet both departmental and university requirements for the thesis. The student will also enroll in ENC 6971 Thesis for 3 credit hours.

Technical Writing Track

Technical writing students are expected to have strong writing skills; the faculty may require entering students to take ENC 3241 to improve their writing skills. Students must also have some minimum technical writing exposure, either from education or work; the faculty may require entering students to take ENC 4293 to prepare them for graduate work in technical writing. Each student must complete at least 33 credit hours, as outlined below. Near the end of the degree program, each candidate will write a comprehensive examination and enroll in ENC 6971 or ENC 6918 (3 credit hours), completing a formal thesis or project approved by the faculty.

Required Courses—15 Credit Hours

- ENC 5214 Production and Publication Methods (3 credit hours)
- ENC 5337 Modern Rhetorical Theory (3 credit hours)
- ENC 6217 Technical Writing (3 credit hours)
- ENC 6261 Technical Writing: Theory and Practice (3 credit hours)
- ENG 5009 Methods of Bibliography and Research (3 credit hours)

Restricted Electives—9 Credit Hours

- ENC 5219 Graphics in Technical Writing (3 credit hours)
- ENC 5306 Persuasive Writing (3 credit hours)
- ENC 5344 Proposal Writing (3 credit hours)
- ENC 6244 Teaching Technical Writing (3 credit hours)
- ENC 6292 Project Management for Technical Writers (3 credit hours)
- ENC 6296 Computer Documentation (3 credit hours)

Advised Electives—6 Credit Hours

Two courses from outside the Department of English or other graduate-level English courses.

Comprehensive Examination

A written exam based on four of the core courses (excluding ENG 5009) and two concentration areas designed by the student. More information is available in the English Departments' "Graduate Student Handbook," available for download at www.english.ucf.edu.

Specialization

Choose A or B—3 Credit Hours

A. Thesis Option—The candidate will complete a formal thesis selected in consultation with an advisory committee and will meet both departmental and university requirements for the thesis. The student will enroll in ENC 6971 Thesis for 3 credit hours.

B. Special Project—The candidate will enroll in ENC 6918 Directed Research for 3 credit hours and complete a research project approved by an advisory committee. This project will be on a topic in technical communication and in a format other than that of a traditional thesis.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance

available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program coordinator of your major.

Contact Info

Master of Arts in English

James Campbell, Ph.D. , Associate Professor
Phone Number: 407-823-5254
englgrad@pegasus.cc.ucf.edu

Creative Writing Track

James Campbell, Ph.D. , Associate Professor
Phone Number: 407-823-5254
englgrad@pegasus.cc.ucf.edu

English Literature Track

James Campbell, Ph.D. , Associate Professor
Phone Number: 407-823-5254
englgrad@pegasus.cc.ucf.edu

Rhetoric and Composition Track

James Campbell, Ph.D. , Associate Professor
Phone Number: 407-823-5254
englgrad@pegasus.cc.ucf.edu

Technical Writing Track

James Campbell, Ph.D. , Associate Professor

Phone Number: 407-823-5254

englgrad@pegasus.cc.ucf.edu

English Language Arts Education

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[Master of Arts in English Language Arts Education](#)

[Community College Teaching Track](#)

[Master of Education in English Language Arts Education](#)

[Contact Info](#)

Description

The College of Education offers a Master of Education program in English Language Arts designed to meet the advanced knowledge and skill needs of the English classroom teacher.

The Master of Arts degree program is a secondary (grades 6-12) program for non-education majors or previously certified teachers in another field. The M.A. program also includes a Community College Teaching Track, which is designed for individuals planning to teach at that level and not requiring state teacher certification.

Degrees Offered

Master of Arts in English Language Arts Education

- Community College Teaching Track

Master of Education in English Language Arts Education

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

In addition to the general admission requirements, applicants must provide:

- GPA of 3.0 and Graduate Record Examination (GRE) cumulative score of 840; if GPA is below 3.0, GRE of 1000 (in lieu of the GRE, a GMAT score of 500 or higher may be used for admission consideration)
- Applicants to the M.Ed. program must (1) have completed all course requirements for Florida state teacher certification in the program's subject area and/or grade range, or (2) present a Florida Professional Teaching Certificate upon admission to the program. Applicants who have graduated from an accredited university or college teacher certification program in another state or country, in the appropriate subject and/or grade range, may also be admitted to the M.Ed. program at the discretion of the program director.
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

Students may not switch from an M.A. program to an M.Ed. program, or vice versa, without going through the university's admission process. Courses used to gain initial state certification may not be transferred into an M.Ed. program.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in English Language Arts Education	Feb 1	Jul 15	Dec 1	Apr 15
Community College Teaching Track	Feb 1	Jul 15	Dec 1	Apr 15
Master of Education in English Language Arts Education	Feb 1	Jul 15	Dec 1	Apr 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in English Language Arts Education	Feb 1	Feb 1	Jul 1	
Community College Teaching Track	Feb 1	Feb 1	Jul 1	
Master of Education in English Language Arts Education	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in English Language Arts Education	Feb 1	Mar 1	Sep 1	
Community College Teaching Track	Feb 1	Mar 1	Sep 1	
Master of Education in English Language Arts Education	Feb 1	Mar 1	Sep 1	

Master of Education in English Language Arts Education

Minimum Hours Required for M.Ed. — 36 Credit Hours

The Master of Education program is designed to meet the advanced knowledge and skill needs of English classroom teachers.

Area A: Core—18 Credit Hours

- EDF 6432 Measurement and Evaluation in Education (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- EDF 6155 Lifespan Human Development and Learning (3 credit hours)

Select one course:

- EDF 6608 Social Factors in American Education (3 credit hours) OR
- EDF 6886 Multicultural Education (3 credit hours)

Select Option A or B:

Option A: Research Report (6 credit hours)

- LAE 6792 Teacher Researcher (3 credit hours)
- ESE 6909 Research Report (2, 1 credit hours) OR

Option B: Two electives approved by adviser (6 credit hours)

Please Note: Students selecting Option B must pass a written comprehensive examination.

Area B: Specialization—18 Credit Hours

- LAE 6637 Research in Teaching English (3 credit hours)
- LAE 6936 Seminar in Language Arts Education (3 credit hours)

Select any four of the following:

- LAE 5295 Writing Workshop I (3 credit hours)
- LAE 5337 Literacy Strategies for Middle and Secondary Teaching (3 credit hours)
- LAE 5495 Assessing Writing (3 credit hours)
- LAE 6296 Writing Workshop II (3 credit hours)
- LAE 6366 Studies in Adolescent Literature (3 credit hours)
- LAE 6616 Trends in Language Arts Education (3 credit hours)

Master of Arts in English Language Arts Education

Minimum Hours Required for M.A.—42-45 Credit Hours

The Master of Arts program is a secondary (grades 6-12) program for non-education majors or previously certified teachers in another field.

Area A: Core—18 or 21 Credit Hours

- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- EDG 6236 Principles of Instruction (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- EDF 6517 Perspectives on Education (3 credit hours)
- EDG 6253 Curriculum Inquiry (3 credit hours)

- ESE 6909 Research Report (2,1 credit hours) or 2 approved electives (6 credit hours)

Area B: Specialization—15 Credit Hours

- LAE 5337 Literacy Strategies for Middle and Secondary Teaching (3 credit hours)
- LAE 5338 Teaching Writing in Middle and High School (3 credit hours)
- LAE 5346 Methods for Teaching English Language Arts (3 credit hours)
- LAE 5465 Literature for Adolescents (3 credit hours)
- LAE 6637 Research in Teaching English (3 credit hours)

Area C: Internship—9 Credit Hours

- ESE 6946 Graduate Internship I (3 credit hours)
- ESE 6946 Graduate Internship II (6 credit hours)

Satisfactory completion of graduate internships requires the student to demonstrate proficiency in all 12 Florida Educator Accomplished Practices at the pre-professional level in accordance with State Board of Education Rule 6A-5.065.

Co-requisites taken with ESE 6946 Graduate Internship I

- LAE 5346 Methods of Teaching English Language Arts (3 credit hours)
- LAE 5338 Teaching Writing in Middle and High School (3 credit hours)

Additional Graduation Requirements

- A comprehensive examination or another appropriate culminating activity is required of all master's degree students. Please contact the graduate adviser for more information.
- Complete a portfolio according to program guidelines. This portfolio requires demonstration of professional growth, reflection, and proficiency in the 12 Florida Educator Accomplished Practices.
- Students are required to take 30 credit hours of English course work to meet certification requirements to teach English, grades 6-12. Only six credit hours of independent study courses may be used to satisfy degree requirements. It is important to see an adviser if courses are difficult to schedule in content areas.
- Pass all applicable sections of the Florida Teacher Certification Examination.

Community College Teaching Track

The Community College Teaching Track in this program is designed for individuals whose goal is teaching English language arts at the community college level. Every attempt is made to build at least the required 18 hours of graduate-level English language arts courses into the program of study. Only six hours of independent study courses may be used to satisfy degree requirements. It is important to see an adviser if courses are difficult to schedule in the content area. Students electing this track will not meet state requirements for teacher certification in English grades 6-12.

Required Courses—42 Credit Hours Minimum

Area A: Core—15 Credit Hours

Students in this track should consult with the Community College Teaching Track adviser regarding Core requirements prior to registering for Core courses.

- EDF 6155 Lifespan Human Development and Learning (3 hours)
- EDF 6401 Statistics for Educational Data (3 hours) OR
- EDF 6432 Measurement and Evaluation in Education (3 hours)
- EDF 6481 Fundamentals of Graduate Research Education (3 hours)
- EDF 6517 History and Philosophy of American Education (3hours)
- ESE 6909 Research Report (2 hours)
- ESE 6909 Research Report (1 hour)

Area B: Specialization—27 Credit Hours

(Electives must be approved by adviser)

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program coordinator of your major.

Contact Info

Master of Arts in English Language Arts Education

Gail West, Ph.D., Associate Professor

Phone Number: 407-823-5695

gwest@mail.ucf.edu

Master of Education in English Language Arts Education

Gail West, Ph.D., Associate Professor

Phone Number: 407-823-5695

gwest@mail.ucf.edu

Community College Teaching Track

Ruby Evans, Ed.D. , Associate Professor

Phone Number: 407-823-1129

revans@mail.ucf.edu

Environmental Engineering

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Master of Science in Engineering](#)

[Environmental Sciences Track](#)

[Master of Science in Environmental Engineering](#)

[Doctor of Philosophy in Environmental Engineering](#)

[Contact Info](#)

Description

The Environmental Engineering program focuses on pollution control, pollution prevention, and the correction of pollution effects on natural and man-made environments. The program is noted for its strong faculty research interests, and areas of study include drinking water treatment, wastewater treatment, solid and hazardous waste management, atmospheric pollution control and modeling, community noise abatement, and stormwater management. The program's overall mission is to prepare students for careers in environmental engineering within federal, state, and local governments; higher education; consulting; and industry.

The program offers three advanced degrees: Master of Science in Environmental Engineering (M.S.Env.E.), Master of Science in Environmental Engineering Science (M.S.), and Doctor of Philosophy in Environmental Engineering (Ph.D.).

The M.S.Env.E. degree was created for students who have an undergraduate degree in environmental engineering or any other closely related degree in engineering. The M.S. is for students with science, math, or similar background, and usually requires that students take a number of undergraduate engineering courses as articulation to become fully prepared for graduate work in environmental engineering.

Applicants to the program are expected to be knowledgeable in topics including chemistry, process design, water resources, and air pollution.

The Ph.D. degree program requires applicants to have completed a master's degree in Environmental Engineering or a closely related discipline. It offers an intensive, individually tailored research program suitable for development of an academic or similar research-oriented career.

The program's overall mission is to prepare students for Environmental Engineering careers in federal, state, and local governments; higher education; consulting; and industry.

Other key objectives include:

- Producing graduates who have technical knowledge in critical areas of environmental engineering
- Providing a professional engineering education that challenges our graduates to think critically
- Forming and maintaining partnerships with industry, government agencies, and professional organizations
- Developing awareness of the changing environmental needs of society and the global environment.

Degrees Offered

Master of Science in Engineering

- Environmental Sciences Track

Master of Science in Environmental Engineering
Doctor of Philosophy in Environmental Engineering

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

In addition to the general admission requirements, applicants to this program must provide:

- Official scores on the Graduate Record Examination (GRE), which must have been taken within the last five years
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

In addition, applicants should note the following degree-specific requirements:

For the M.S.Env.E. and M.S. programs in environmental engineering:

- Students must have completed a Bachelor of Science degree. Those applying to the programs without a directly related undergraduate degree should closely check the prerequisites.
- For students with non-technical undergraduate degrees, it is recommended that a second undergraduate degree in Environmental Engineering be completed before applying to graduate school.
- Admittance to the program requires a combined verbal and quantitative score of 1000 on the Graduate Record Examination (GRE), and/or a GPA of 3.0 or greater in the last 60 attempted semester hours of undergraduate studies.

For the Ph.D. program in environmental engineering:

- Applicants must have a master's degree in Environmental Engineering or a closely related discipline from an accredited institution
- Admittance to the program requires a combined verbal and quantitative score of 1100 on the GRE and a GPA of about 3.0.
- Prospective students should forward a detailed resume, a letter outlining research interests and goals, and three letters of recommendation with their application.

Final articulation requirements will be determined by the department after students have been admitted and after discussions with their advisers.

The College of Engineering and Computer Science requires that you fill out a pre-application form (www.graduate.cecs.ucf.edu) before you complete the application for graduate admission. The deadlines for the pre-application form can be found on the Prospective Student Page on the College of Engineering and Computer Science website.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Environmental Engineering	Feb 1	Jul 15	Dec 1	Apr 15
Master of Science in Engineering				
Environmental Sciences Track	Feb 1	Jul 15	Dec 1	Apr 15
Master of Science in Environmental Engineering	Feb 1	Jul 15	Dec 1	Apr 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Environmental Engineering	Feb 1	Feb 1	Jul 1	
Master of Science in Engineering				
Environmental Sciences Track	Feb 1	Feb 1	Jul 1	
Master of Science in Environmental Engineering	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Environmental Engineering	Feb 1	Mar 1	Sep 1	
Master of Science in Engineering				
Environmental Sciences Track	Feb 1	Mar 1	Sep 1	
Master of Science in Environmental Engineering	Feb 1	Mar 1	Sep 1	

There are two options for the master's degree programs: the thesis option and the non-thesis option. The thesis option is available in all master's degree programs and requires a thesis that is equivalent to 6 credit hours out of a total of 30 credit hours. It is the required option for students supported on contracts and grants as well as any student receiving department financial support.

The non-thesis option is also available for all master's degree programs and requires 36 credit hours of course work and a comprehensive final oral and written examination as a requirement for graduation. This option is recommended only for part-time students on a limited access basis.

Master of Science in Environmental Engineering

The Master of Science in Environmental Engineering (M.S.Env.E.) degree requires either (a) 30 credit hours of acceptable graduate work, which includes a thesis (6 credit hours), or (b) 36 credit hours of acceptable graduate work, and a comprehensive final examination. The student develops an individualized program of study with a faculty adviser.

[General College Requirements](#)**Minimum Hours Required for M.S.Env.E.—30 or 36 Credit Hours**

Prerequisites for all students:

- Calculus through Differential Equations

Prerequisites for students with engineering undergraduate degrees in Civil, Environmental, Mechanical, Chemical Engineering (note: equivalent courses may be acceptable):

- CWR 4101C Hydrology (3 credit hours)
- EES 4111C Biological Process Control (3 credit hours)
- EES 4202C Chemical Process Control (3 credit hours)
- ENV 4120 Air Pollution Control (3 credit hours)
- ENV 4561 Environmental Engineering—Process Design (4 credit hours)

Prerequisites for students with undergraduate degrees in other Engineering disciplines:

- ENV 3001 Introduction to Environmental Engineering (3 credit hours)
- CWR 4101C Hydrology (3 credit hours)
- CWR 4203C Hydraulics (3 credit hours)
- EES 4111C Biological Process Control (3 credit hours)
- EES 4202C Chemical Process Control (3 credit hours)
- ENV 4120 Air Pollution Control (3 credit hours)
- ENV 4561 Environmental Engineering—Process Design (4 credit hours)

Prerequisites for students with appropriate Science or Math undergraduate degrees:

- ENV 3001 Introduction to Environmental Engineering (3 credit hours)
- CWR 3201 Engineering Fluid Mechanics (3 credit hours)
- CWR 4101C Hydrology (3 credit hours)
- CWR 4203C Hydraulics (3 credit hours)
- EES 4111C Biological Process Control (3 credit hours)
- EES 4202C Chemical Process Control (3 credit hours)
- EGN 3613 Engineering Economic Analysis (2 credit hours)
- ENV 4120 Air Pollution Control (3 credit hours)
- ENV 4561 Environmental Engineering—Process Design (4 credit hours)
- Or equivalent courses

Required Courses—15 Credit Hours

- CWR 5545 Water Resources Engineering (3 credit hours) or CWR 5125 Groundwater Hydrology (3 credit hours) or CWR 6235 Open Channel Hydraulics (3 credit hours)
- ENV 6015 Physical/Chemical Treatment Systems in Environmental Engineering (3 credit hours)
- ENV 6016 Biological Treatment Systems in Environmental Engineering (3 credit hours)
- ENV 6347 Hazardous Waste Incineration (3 credit hours) or ENV 6558 Industrial Waste Treatment (3 credit hours)
- ENV 6106 Theory and Practice of Atmospheric Dispersion Modeling (3 credit hours) or ENV 6126 Design of Air Pollution Controls (3 credit hours)

Elective Courses—9 or 21 Credit Hours

Courses that comprise the elective part of the program are selected in accordance with the general requirements of the College of Engineering and Computer Science and often include courses taken from the following two sub-discipline areas:

- Environmental Specialization—Any of the appropriate ENV graduate-level courses (5000 or 6000) with the consent of the student's adviser
- Water Resources Specialization—Any of the appropriate CWR graduate-level courses (5000 or 6000) with the consent of the student's adviser

Thesis—6 Credit Hours

Master of Science in Engineering

Environmental Sciences Track

The Master of Science in Environmental Engineering Sciences (M.S.) degree requires (a) 30 semester hours of acceptable graduate work, which includes a thesis (6 semester hours), or (b) 36 semester hours of acceptable graduate work with a comprehensive final examination. The student develops an individualized program of study with a faculty adviser.

[General College Requirements](#)

Prerequisites for all students:

- Calculus through Differential Equations

Prerequisites for students with engineering undergraduate degrees in Civil, Environmental, Mechanical, Chemical Engineering:

- CWR 4101C Hydrology (3 credit hours)
- EES 4111C Biological Process Control (3 credit hours)
- EES 4202C Chemical Process Control (3 credit hours)
- ENV 4120 Air Pollution Control (3 credit hours)
- ENV 4561 Environmental Engineering—Process Design (4 credit hours)
- Or equivalent courses

Prerequisites for students with undergraduate degrees in other Engineering disciplines:

- ENV 3001 Introduction to Environmental Engineering (3 credit hours)
- CWR 4101C Hydrology (3 credit hours)
- CWR 4203C Hydraulics (3 credit hours)
- EES 4111C Biological Process Control (3 credit hours)
- EES 4202C Chemical Process Control (3 credit hours)
- ENV 4120 Air Pollution Control (3 credit hours)
- ENV 4561 Environmental Engineering—Process Design (4 credit hours)
- Or equivalent courses

Prerequisites for students with appropriate Science or Math undergraduate degrees:

- ENV 3001 Introduction to Environmental Engineering (3 credit hours)
- CWR 3201 Engineering Fluid Mechanics (3 credit hours)
- CWR 4101C Hydrology (3 credit hours)
- CWR 4203C Hydraulics (3 credit hours)

- EES 4111C Biological Process Control (3 credit hours)
- EES 4202C Chemical Process Control (3 credit hours)
- EGN 3613 Engineering Economic Analysis (2 credit hours)
- ENV 4120 Air Pollution Control (3 credit hours)
- ENV 4561 Environmental Engineering—Process Design (4 credit hours)
- Or equivalent courses

Minimum Hours Required for M.S.—30 (Thesis Option) or 36 (Non-Thesis Option) Credit Hours

Required Courses—12 Credit Hours

- CWR 5545 Water Resources Engineering (3 credit hours) or CWR 5125 Groundwater Hydrology (3 credit hours) or CWR 6235 Open Channel Hydraulics (3 credit hours)
- ENV 6015 Physical/Chemical Treatment Systems in Environmental Engineering (3 credit hours) or ENV 6016 Biological Treatment Systems in Environmental Engineering (3 credit hours) or ENV 6558 Industrial Waste Treatment (3 credit hours)
- ENV 6106 Theory and Practice of Atmospheric Dispersion Modeling (3 credit hours) or ENV 6126 Design of Air Pollution Controls (3 credit hours) or ENV 6347 Hazardous Waste Incineration (3 credit hours)
- ENV 5071 Environmental Analysis of Transportation Systems (3 credit hours) or ENV 6519 Aquatic Chemical Processes (3 credit hours) or ENV 6616 Receiving Water Impacts (3 credit hours)

Elective Courses—12 or 24 Credit Hours

- Any of the appropriate ENV or CWR or appropriate graduate-level courses (5000 or 6000) with the consent of the student's adviser (3 credit hours each)

Thesis—6 Credit Hours

Doctor of Philosophy in Environmental Engineering

The Ph.D. degree requires a minimum of 36 to 42 credit hours beyond the master's degree, 18 of which will be dissertation credits, and 6 credit hours of which must be from courses taken outside the student's program while at UCF. In addition, a minimum of 12 credit hours of formal classroom work is required at UCF. A program of study must be developed with an advisory committee and meet with departmental approval at the beginning of the Ph.D. program, at which time transfer credit will be evaluated on a course-by-course basis.

[General College Requirements](#)

- Hours that must be taken in formal courses at UCF—12 credit hours
- Hours taken at the discretion of the adviser—6 credit hours or 12 credit hours*
- Dissertation—18 credit hours
- Minimum hours required for Ph.D.—36-42 credit hours beyond the master's degree

* The student must take 12 credit hours if the student completed a thesis with no additional course work past the minimum. Hours taken at the discretion of the adviser include research hours, special topics, directed studies, as well as additional formal courses.

Examinations

The student must pass three examinations. The first is the Ph.D. Qualifying Examination. This examination must be taken within the first year of study beyond the master's degree. In addition to the Qualifying Examination, the student must pass a Candidacy Examination and a Dissertation Defense Examination. The Candidacy Examination is normally taken near the end of the course work and consists of a written portion and an oral presentation of a research proposal. A copy of the written examination will be kept as part of the student's official record. The Dissertation Defense Examination is an oral examination taken as defense of the written dissertation.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program coordinator of your major.

Contact Info

Doctor of Philosophy in Environmental Engineering

David Cooper, Ph.D., P.E., Professor
Phone Number: 407-823-2841
gradcee@mail.ucf.edu

Master of Science in Engineering

David Cooper, Ph.D., P.E., Professor
Phone Number: 407-823-2841
gradcee@mail.ucf.edu

Master of Science in Environmental Engineering

David Cooper, Ph.D., P.E. , Professor
Phone Number: 407-823-2841
gradcee@mail.ucf.edu

Environmental Sciences Track

David Cooper, Ph.D., P.E. , Professor
Phone Number: 407-823-2841
gradcee@mail.ucf.edu

Exceptional Education

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Master of Arts in Exceptional Education](#)

[Varying Exceptionalities Track](#)

[Master of Education in Exceptional Education](#)

[Varying Exceptionalities Track](#)

[Contact Info](#)

Description

The College of Education offers a master's program in exceptional education leading to a Master of Education (M.Ed.) degree or a Master of Arts (M.A.) degree.

The M.Ed. degree prepares exceptional education teachers to work in programs serving K-12 students with varying exceptionalities. It is designed for teachers already certified in an area of exceptional education.

The M.A. program is for non-education majors or previously certified teachers in another field. The varying exceptionalities option leads to certification in varying exceptionalities learning (VE) and prepares graduates to teach in the areas of VE, specific learning disabilities (SLD), mental handicaps (MH), and emotional handicaps (EH). Graduates must be eligible for certification by the completion of the degree program.

Degrees Offered

Master of Arts in Exceptional Education

- Varying Exceptionalities Track

Master of Education in Exceptional Education

- Varying Exceptionalities Track

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

In addition to the general admission requirements, applicants must provide:

- Official scores on the Graduate Record Examination (GRE), which must have been taken within the last five years
- GPA of 3.0 and GRE of 840; if GPA is below 3.0, GRE of 1000 (in lieu of the GRE, a GMAT score of 500 or higher may be used for admission consideration)
- Applicants to the M.Ed. program must (1) have completed all course requirements for Florida state teacher certification in the program's subject area and/or grade range, or (2) present a Florida Professional Teaching Certificate upon admission to the program. Applicants who have graduated

from an accredited university or college teacher certification program in another state or country, in the appropriate subject and/or grade range, may also be admitted to the M.Ed. program at the discretion of the program director.

- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

Students may not switch from an M.A. program to an M.Ed. program, or vice versa, without going through the university's admission process. Courses used to gain initial state certification may not be transferred into an M.Ed. program.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Exceptional Education	Feb 1	Jul 15	Dec 1	Apr 15
Varying Exceptionalities Track	Feb 1	Jul 15	Dec 1	Apr 15
Master of Education in Exceptional Education	Feb 1	Jul 15	Dec 1	Apr 15
Varying Exceptionalities Track	Feb 1	Jul 15	Dec 1	Apr 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Exceptional Education	Feb 1	Feb 1	Jul 1	
Varying Exceptionalities Track	Feb 1	Feb 1	Jul 1	
Master of Education in Exceptional Education	Feb 1	Feb 1	Jul 1	
Varying Exceptionalities Track	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Exceptional Education	Feb 1	Mar 1	Sep 1	
Varying Exceptionalities Track	Feb 1	Mar 1	Sep 1	

Master of Education in Exceptional Education	Feb 1	Mar 1	Sep 1	
Varying Exceptionalities Track	Feb 1	Mar 1	Sep 1	

Master of Education in Exceptional Education

Minimum Hours Required for M.Ed.—33-36 Credit Hours

The Master of Education degree prepares exceptional education teachers to work in programs serving K-12 students with varying exceptionalities. It is designed for teachers already certified in an area of exceptional education.

Varying Exceptionalities Track

Area A: Core—9-12 Credit Hours

- EDF 6432 Measurement and Evaluation in Education (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- EEX 6971 Thesis OR two of the following three approved electives*
- ELD 6248 Instructional Strategies for Students with Learning Disabilities (3 credit hours)
- EMR 6365 Teaching Students with Mental Disabilities (3 credit hours)
- EED 6226 Theory and Application for EH (3 credit hours)

Area B: Specialization—24 Credit Hours

- EEX 6061 Instructional Strategies PreK-6 (3 credit hours)
- EEX 6065 Programming for Students with Disabilities at the Secondary Level (3 credit hours)
- EEX 6107 Teaching Spoken and Written Language (3 credit hours)
- EEX 6266 Assessment and Curriculum Prescriptions for the Exceptional Population (3 credit hours)
- EEX 6342 Seminar—Critical Issues in Special Education (3 credit hours)
- EEX 6524 Organization and Collaboration in Special Ed (3 credit hours)
- EEX 6612 Methods of Behavioral Management (3 credit hours)
- EEX 6863 Supervised Teaching Practicum with Exceptional Children or Elective (approved by adviser) (3 credit hours)

Culminating experience includes a comprehensive examination. Please see your adviser. Approved electives include ELD 6248, EMR 6362, EED 6226, or other course approved by adviser.

Master of Arts in Exceptional Education

Minimum Hours Required for M.A.—36-39 Credit Hours

The M.A. program is for non-education majors or previously certified teachers in another field. In addition to the 36 hours, students must complete co-requisite and prerequisite courses. The varying exceptionalities option leads to certification in varying exceptionalities learning (VE) and prepares graduates to teach in the areas of VE, specific learning disabilities (SLD), mental handicaps (MH), and emotional handicaps (EH). Graduates must be eligible for certification by the completion of the degree program.

Varying Exceptionalities Track

Area A: Core—9-12 Credit Hours

- EDF 6432 Measurement and Evaluation in Education (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- EEX 6908 Research Report OR two of the following three approved electives
- ELD 6248 Instructional Strategies for Students with Learning Disabilities (3 credit hours)
- EMR 6365 Teaching Students with Mental Disabilities (3 credit hours)
- EED 6226 Theory and Application for the EH (3 credit hours)

Area B: Specialization—27 Credit Hours

- EEX 6061 Instructional Strategies PreK-6 (3 credit hours)
- EEX 6065 Programming for Students with Disabilities at the Secondary Level (3 credit hours)
- EEX 6107 Teaching Spoken and Written Language (3 credit hours)
- EEX 6266 Assessment and Curriculum Prescriptions for the Exceptional Population (3 credit hours)
- EEX 6342 Seminar—Critical Issues in Special Education (3 credit hours)
- EEX 6524 Organization & Collaboration in Special Ed (3 credit hours)
- EEX 6612 Methods of Behavioral Management (3 credit hours)
- EEX 6946 Graduate Internship (6 credit hours)

Co-requisites

Prescribed by the college to meet state certification requirements or as support for degree program. Waiver/substitutions for co-requisites must meet departmental standards and be approved by the chair of the department.

- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- EDG 6236 Principles in Instruction (3 credit hours)
- MAE 5318 Current Methods in Elementary School Mathematics (3 credit hours)
- RED 5147 Developmental Reading (3 credit hours)

Students must also choose one of the following courses:

- EDF 6517 Perspectives on Education (3 credit hours)
- EDF 6608 Social Factors in American Education (3 credit hours)
- EDF 6886 Multicultural Education (3 credit hours)

Prerequisite

- EEX 5051 Exceptional Children in the Schools (3 credit hours)

As a culminating activity, students must complete the College of Education portfolio and comprehensive examinations. Please see your adviser.

Additional Program Graduation Requirements

Pass all applicable sections of the Florida Teacher Certification Examination.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Master of Arts in Exceptional Education

Lee Cross, Ph.D. , Associate Professor
Phone Number: 407-823-5477
lcross@mail.ucf.edu

Master of Education in Exceptional Education

Lee Cross, Ph.D. , Associate Professor
Phone Number: 407-823-5477
lcross@mail.ucf.edu

Varying Exceptionalities Track

Lee Cross, Ph.D. , Associate Professor
Phone Number: 407-823-5477
lcross@mail.ucf.edu

Varying Exceptionalities Track

Lee Cross, Ph.D. , Associate Professor
Phone Number: 407-823-5477
lcross@mail.ucf.edu

Forensic Science

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Master of Science in Forensic Science](#)

[Forensic Analysis Track](#)

[Forensic Biochemistry Track](#)

[Contact Info](#)

Description

Forensic Science is a burgeoning field of study that is partially driven by today's explosion of television programs and media coverage of advancements in the forensic sciences. However, beyond the media glamour is the very serious endeavor of applying science to the administration of law. The significant new challenge of countering terrorism through the forensic analysis of evidence leading to the identification of groups or individuals responsible for terrorist acts will play a significant role in driving the future need for highly trained forensic analysts, as will the need for new rapid and accurate DNA-based methods of identifying victims of mass disasters.

The Forensic Science MS degree is comprised of 32 hours of study beyond the BS degree with intensive specialization in one of two tracks, Forensic Analysis or Forensic Biochemistry. The full-time student should complete the degree in two years of continuous full-time study, while non-resident students will generally be expected to finish the degree in four years. The Forensic Science MS degree is a research-based degree requiring original and independent research by each student that results in a written thesis to be defended before a committee consisting of two UCF faculty members and at least one other acknowledged forensic expert in the field.

Degrees Offered

Master of Science in Forensic Science

- Forensic Analysis Track
- Forensic Biochemistry Track

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

The student must hold a BS degree in Forensic Science or a physical science. All students will be expected to hold a BS degree in Forensic Science or another physical science, based on at least 30 hours of college level science subjects, that provides the background required to be successful in the proposed program. Acceptable non-Forensic Science BS degrees may include Chemistry, Physics, Molecular Biology and Chemical Engineering. The Forensic Science Graduate Committee will evaluate the background of potential students applying for admission into the program. All students must meet the UCF entry requirements for graduate study: a GPA of 3.0 or greater over the last 60 attempted hours of a baccalaureate degree or a GRE of at least 1,000 (combined verbal-quantitative portions).

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Science in Forensic Science	Feb 1	Mar 15		
Forensic Analysis Track	Feb 1	Mar 15		
Forensic Biochemistry Track	Feb 1	Mar 15		

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Science in Forensic Science	Feb 1	Feb 1		
Forensic Analysis Track	Feb 1	Feb 1		
Forensic Biochemistry Track	Feb 1	Feb 1		

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Science in Forensic Science	Feb 1	Mar 1		
Forensic Analysis Track	Feb 1	Mar 1		
Forensic Biochemistry Track	Feb 1	Mar 1		

Master of Science in Forensic Science—32 Credit Hours

Forensic Science is a highly interdisciplinary science, as reflected in the following program of study. The interdisciplinary nature of the program makes it imperative that students seek advising from faculty members on the content of courses to ensure that they have the appropriate background to master the course content. Up to 6 hours of graduate credit for advanced courses taken at another approved institution can be accepted with approval of the program administrator. A maximum of 6 semester credit hours at the 4000 level will be accepted.

Foundation Courses (9 credit hours)

- CHS 5596 The Forensic Expert in the Courtroom (3 credit hours)
- CHS 5xxx Principles of Forensic Science (3 credit hours)

- CHS 6513: Quality Assurance Principles for Forensic Scientists (3 credit hours)

Forensic Analysis Track (16 credit hours)

- STA 5206: Statistical Analysis (3 credit hours) or equivalent
- CHM 5235: Applied Molecular Spectroscopy (3 credit hours)
- CHM 5xxx: Atomic Spectroscopic Methods (3 credit hours)
- CHS 6xxx: Forensic Analysis Laboratory (4 credit hours)
- Specialization within the track, choose one of the following
 - CHS 6xxx: Explosives and Accelerants Analysis (3 credit hours)
 - CHS 6xxx: Forensic Micro-analytical Techniques (3 credit hours)

Forensic Biochemistry Track (16 credit hours)

- CHS 6535L: Forensic DNA Analysis of Biological Materials (3 credit hours)
- CHS6535: Forensic Molecular Biology (3 credit hours)
- CHS6536 Population Genetics and Genetic Data Analysis for Forensic Scientists (3 credit hours)
- PCB 5665C: Human Genetics (4 credit hours)
- BCH 6xxx Advanced Biochemistry (3 credit hours)

Thesis Research

- CHM 6971: Thesis Research (7 hours or as needed to meet the required 32 hours)

The grounding in scientific research methodology provided by the Thesis requirement is a central focus of the proposed program. Students will conduct research either on site or at the professional laboratories where they work. In either case, a member of the UCF Forensic Science faculty will act as research advisor and approve the research topic. This research culminated in the writing and presentation of the thesis. The student will present their thesis for examination by a committee consisting of two UCF faculty members and at least one other acknowledged forensic expert in the field. The thesis must be judged worthy of publication by the review committee, and may not be submitted for examination until so deemed. The student's research advisor will select the thesis examination committee. For non-resident students, the thesis advisor will visit the student's laboratory, where their research is to be performed, before the research begins and on a regular basis until the work is complete.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free

Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.

- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Master of Science in Forensic Science

Michael Sigman, Ph.D. , Associate Professor
Phone Number: 407-823-3420
msigman@mail.ucf.edu

Forensic Analysis Track

Michael Sigman, Ph.D. , Associate Professor
Phone Number: 407-823-3420
msigman@mail.ucf.edu

Forensic Biochemistry Track

Jack Ballantyne, Ph.D. , Associate Professor
Phone Number: 407-823-0163
jballant@mail.ucf.edu

Health Sciences

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Master of Science in Health Sciences](#)

[Health Services Administration Track](#)

[Contact Info](#)

Description

The Department of Health Professions offers a Master of Science in Health Sciences: Health Services Administration degree. Health services administration involves managing one or more of the administrative aspects of a health services organization. It encompasses the business management side of health care, including human resources, marketing, sales, accounting, information systems, planning, and facility management. Health care is America's fastest-growing service industry, and health care executives are in demand to administer the acute and long-term care needs of an aging population and to serve as consultants to businesses and industrial organizations.

Degrees Offered

- Master of Science in Health Sciences
- Health Services Administration Track

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

In addition to the general admission requirements, applicants must provide:

- A bachelor's degree from a regionally accredited college or university and a GPA of at least 3.0 on a 4.0 scale for the last 60 attempted semester hours of credit earned for the bachelor's degree, and
- Graduate Record Examination (GRE) score of at least 840 (a Graduate Management Admission Test [GMAT] score of 400 may be used to satisfy this requirement); or
- GPA of at least 2.75 for the last 60 attempted semester hours and a GRE score of at least 1000 (a GMAT score of 500 may be used to satisfy this requirement).
- A Law School Admission Test (LSAT) score of 150 or a Medical College Admission Test (MCAT®) score of 27 may also be used to satisfy this requirement.
- Completion of undergraduate course work including knowledge of the U.S. health care systems, finance, economics, and personal computers. These recommended courses may be taken after admission to the program.
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

Admission into graduate status is determined for the fall, spring, and summer semesters. After acceptance, all students must meet with their academic adviser to plan a program of study.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Science in Health Sciences				
Health Services Administration Track	Feb 1	Jul 15	Dec 1	Apr 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Science in Health Sciences				
Health Services Administration Track	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Science in Health Sciences				
Health Services Administration Track	Feb 1	Mar 1	Sep 1	

Master of Science in Health Sciences

Health Services Administration Track

Minimum Hours Required for M.S. in HS (HSA)—48 Credit Hours

Recommended Preparatory Courses—9 Credit Hours

- HSA 3170 Health Care Finance (3 credit hours)
- HSA 3430 Health Care Economics (3 credit hours)
- HSA 4700 Health Sciences Research Methods or equivalent (3 credit hours)

Required Courses—48 Credit Hours

- HSA 5198 Health Care Computer Applications (3 credit hours)
- HSA 6108 Health Care Organization and Management II (3 credit hours)
- HSA 6119 Health Care Organizational and Management (3 credit hours)
- HSA 6128 Health Care Services Management (3 credit hours)
- HSA 6155 Health Economics and Policy (3 credit hours)
- HSA 6185 Health Care Human Resources (3 credit hours)
- HSA 6385 Health Care Quality Management (3 credit hours)
- HSA 6505 Risk Management in Health Care (3 credit hours)
- HSA 6925 Capstone in HSA (3 credit hours)
- HSC 6636 Issues and Trends in the Health Professions (3 credit hours)
- HSC 6656 Health Care Ethics (3 credit hours)
- HSC 6911 Scientific Inquiry in the Health Profession (3 credit hours)
- PHC 6000 Epidemiology (3 credit hours)
- PHC 6146 Health Planning and Policy (3 credit hours)
- PHC 6160 Health Care Finance (3 credit hours)
- PHC 6420 Case Studies in Health Law (3 credit hours)

Comprehensive Examination Experience—3 Credit Hours

A final written examination experience is required of all students in the program. This experience will be completed through successful completion of the capstone symposium course (HSA 6925). All students must successfully complete the comprehensive examination experience with a score of "B" (3.0) or higher to graduate.

Program Options

Students wishing to supplement their educational experience should contact their academic adviser to discuss options such as internships, thesis and research reports, and special topics courses (HSA 6938) that are occasionally offered.

The HSA Program is attractive to working professionals with its flexibility in course offerings and times and locations of courses. Students have the ability to choose from among four campuses to complete their degree: Palm Bay, Cocoa, Daytona Beach, and Orlando. Some courses may be offered via the web, during evening hours, and often on weekends.

Minimum Grade Requirements for Graduation

A grade point average of at least 3.0 ("B") is required for graduation. Additionally, a student may earn no more than two grades of "C" to graduate. A student who earns a third grade of "C" may be disqualified from further Health Services Administration studies. A final decision on disqualification will be made by majority vote of the HSA faculty. In any course repeated, a student must earn a grade of "B" or better. A student who earns a grade of "D" or below will be disqualified from further HSA graduate studies. The Health Services Administration Program does not use plus/minus grading.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info**Master of Science in Health Sciences**

Dawn Oetjen, Ph.D. , Assistant Professor
Phone Number: 407-823-3729
doetjen@mail.ucf.edu

Health Services Administration Track

Dawn Oetjen, Ph.D. , Assistant Professor
Phone Number: 407-823-3729
doetjen@mail.ucf.edu

History

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Master of Arts in History](#)

[Accelerated Graduate Program in History Track](#)

[Public History Track](#)

[Contact Info](#)

Description

The Master of Arts in History is designed to serve the needs of a variety of students, including those who plan to pursue a Ph.D., those wishing to improve their proficiency as secondary school teachers, and those who seek to enrich their intellectual lives.

Students are served by departmental members whose areas of research include classical history, early Christianity, African history, American cultural and social history, local history, the South, the American Civil War, the American frontier, women and gender roles, Asian history, Middle-Eastern history, 20th-century mass movements, Nazism and anti-Semitism in Central Europe, Latin American history, and European history, as well as other areas.

The Department of History also offers an accelerated undergraduate/graduate program for highly qualified undergraduate majors in history.

Degrees Offered

Master of Arts in History

- Accelerated Graduate Program in History Track
- Public History Track

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

In addition to the general admission requirements, applicants should note the following minimal requirements for admission to the program:

- An undergraduate degree in History (or an equivalent)
- GPA of 3.0 for the last 60 attempted semester hours of undergraduate study and a 3.0 GPA in history courses
- A score of 1000 on the verbal-quantitative sections of the Graduate Record Examination (GRE), with a score of 500 or higher on the verbal section
- A written statement describing student's personal goals and objectives in seeking a graduate degree in history
- Three letters of recommendation from former professors who can address applicant's ability to undertake graduate-level history courses

- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

Additional Notes on Admissions

Applicants who hold an undergraduate degree in History but do not have a GPA of 3.0 in the last 60 attempted semester hours, or a GPA of 3.0 in their history courses, or do not score 1000 or more on the combined verbal-quantitative sections of the GRE with a score of 500 in the verbal portion may take up to 9 hours of graduate courses as non-degree-seeking students. To be admitted into the graduate program, however, they must earn a GPA of 3.3 or better in the graduate-level history courses they take under this status.

Applicants who meet all of the above requirements but do not have an undergraduate degree in History must complete 12 hours of history course work at the 3000 and 4000 level, with a GPA in these courses of at least 3.25, before entering the graduate program. These courses will not count toward the graduate degree. The History Department Graduate Committee can waive this requirement, in whole or in part, when applicants present evidence that they are capable of successfully completing graduate history courses, either by submitting a portfolio documenting relevant past work or volunteer experience or by providing a sample of their own written work, which indicates that they have the research and writing skills needed to do graduate-level work in history.

If, in addition, applicants do not meet one of the other requirements for entry, they must complete 12 hours of course work at the 3000 and 4000 level with a GPA of 3.5 before they can be admitted to the graduate program.

Notes on Admission to the Accelerated Undergraduate and Graduate Program in History

The accelerated undergraduate/graduate program in history allows highly qualified undergraduate majors in history to begin taking graduate-level courses that will count toward their master's degree while completing their baccalaureate degree program. Students apply for admission to the combined undergraduate and graduate program at the end of their junior year or after 12 hours of upper-level history course work.

Rather than online application, hard copy (paper) applications are submitted directly to the Department of History.

In addition to the general graduate admissions requirements, the program requires a 3.5 GPA or better in history courses and a 3.25 or better overall GPA, a GRE score of 1050 on the combined verbal and quantitative sections of the exam and a score of at least 550 on the verbal section, an essay indicating reasons for wishing to complete the combined bachelor's/master's program, and three letters of recommendation from history department faculty. Students will be formally admitted to the master's program following receipt of the bachelor's degree.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in History	Feb 1	Jul 15	Dec 1	Apr 15
Accelerated Graduate Program in History Track	Feb 1	Jul 15	Dec 1	Apr 15
Public History Track	Feb 1	Jul 15	Dec 1	Apr 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in History	Feb 1	Feb 1	Jul 1	
Accelerated Graduate Program in History Track	Feb 1	Feb 1	Jul 1	
Public History Track	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in History	Feb 1	Mar 1	Sep 1	
Accelerated Graduate Program in History Track	Feb 1	Mar 1	Sep 1	
Public History Track	Feb 1	Mar 1	Sep 1	

Master of Arts in History

Requirements for M.A.—36 Credit Hours Minimum

The Master of Arts in History requires 36 credit hours with no graduate credit given for any grade lower than “B-.”

Required Courses—12 Credit Hours

- HIS 6159 Historiography (3 credit hours)
- HIS 6905 History Capstone Class (3 credit hours)
- HIS 6971 Thesis (6 credit hours)

Courses in Area of Concentration—18 Credit Hours

- Eastern Hemisphere: African, Asian, European, or Middle Eastern; or
- Western Hemisphere: Caribbean, North American, or South American

Outside Area of Concentration in History—6 Credit Hours

Accelerated Undergraduate and Graduate Program in History

The accelerated undergraduate/graduate program in History allows highly qualified undergraduate majors in history to begin taking graduate-level courses that will count toward their master’s degree while completing their baccalaureate degree program. Participation will enable completion of the Bachelor of Arts and Master of Arts degrees in five instead of six years for students enrolled in full-time course work. The B.A. is awarded after completion of 36 hours of history courses and all other university requirements, and the M.A. is awarded upon completion of the master’s program. Courses designated in General Education Program and Common Program Prerequisites are usually completed in the first 60 hours (see history major requirements in the Undergraduate Catalog).

The departmental residency requirement is at least 18 semester hours of regularly scheduled 3000- or 4000-level courses taken from the UCF History Department. Students may substitute up to 9 hours of 5000- or 6000-level courses to meet this requirement.

Additional Notes on the Accelerated Undergraduate and Graduate Program in History

- Students who change degree programs and select this major must adopt the most current catalog.
- Students must earn at least a “B-” in each undergraduate and graduate history course for them to be counted toward the major.
- Students must compile a portfolio of their written work in history (completed inside and outside the classroom).
- Students admitted to the combined bachelor’s/master’s program may take one 5000-level course the first semester of their senior year.
- After successfully completing one 5000-level course, students will be eligible to take HIS 6159 Historiography and another 5000-level course or the 6000-level seminar following the 5000-level colloquium they have already completed.
- Students may substitute these 9 hours of graduate-level work for 9 hours of 3000- or 4000-level undergraduate
- Students need to pay fees at the graduate rate for the graduate courses they take.

Schedule for Students Enrolled Full-time:

- Students complete 9 hours of graduate-level courses in their senior year.
- Students enroll in at least 3 credit hours of graduate-level courses the summer after they receive their bachelor’s degree.
- Students enroll in 9 hours of graduate-level courses in both spring and fall semesters during their master’s program.
- Students complete the Capstone course, pass their preliminary exams, and fulfill their foreign language requirement by the end of their first year in the master’s program.
- Students complete and defend a master’s thesis in 6 hours.

Undergraduate Requirements

Please see the current edition of the Undergraduate Catalog.

Graduate Requirements

Please see graduate program requirements noted above.

Public History Track

Required Courses—15 Credit Hours

- HIS 5067 Introduction to Public History (3 credit hours)
- HIS 6159 Historiography (3 credit hours)
- HIS 6905 History Capstone Class (3 credit hours)
- HIS 6971 Thesis/Research Project (6 credit hours)

Area of Concentration (Western Hemisphere)—15 Credit Hours including 9 credit hours of Public History courses or internships

Outside Area of Concentration (Eastern Hemisphere)—6 Credit Hours

Foreign Language Competency

Students will also be expected to demonstrate a reading competency in one foreign language. The foreign language examination must be completed one semester prior to the thesis defense.

Examination Requirements

Each candidate for the Master of Arts in History must pass written examinations in two fields upon conclusion of regular course work and before beginning a thesis. These examinations must be taken and passed as part of the requirements for the capstone course. Each student will also submit a thesis prospectus and preliminary bibliography, which the three members of the student's thesis committee judge acceptable as the preliminary step to beginning the thesis. An oral defense of the written exams and the thesis prospectus and bibliography is also a requirement of the capstone course.

Thesis Defense

The final step in completing the thesis requirement is a one-hour oral defense before the thesis committee.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program coordinator of your major.

Contact Info

Master of Arts in History

Hong Zhang, Ph.D., Associate Professor

Phone Number: 407-823-2224

hisgrad@pegasus.cc.ucf.edu

Accelerated Graduate Program in History Track

Hong Zhang, Ph.D., Associate Professor
Phone Number: 407-823-2224
hisgrad@pegasus.cc.ucf.edu

Public History Track

Hong Zhang, Ph.D., Associate Professor
Phone Number: 407-823-2224
hisgrad@pegasus.cc.ucf.edu

Hospitality and Tourism Management

[Description](#)

[Degree Offered](#)

[Admission](#)

[Master of Science in Hospitality and Tourism Management](#)

[Contact Info](#)

Description

The master's program in Hospitality and Tourism Management produces graduates with the following skills:

- Capable of recognizing, directing, coping effectively with and managing uncertainty and diversity in a changing society.
- Masters of the spoken and written word who will operate from a continually growing and dynamic knowledge base that enables them to make effective decisions.
- Technically capable of assuming professional leadership positions in addressing concerns and issues faced by the convention and conference, food service and restaurant operations, vacation ownership resort, theme park and attraction, tourism, and lodging management sectors of the industry.
- A level of professional preparation that will enable them to assume top managerial positions in hospitality enterprises.
- Prepared to benefit from advanced study at the doctoral level.

The program offers thesis and non-thesis options. The thesis option is intended for students who are interested in the scientific study of the various aspects of the hospitality and tourism industry and who may anticipate pursuing a doctoral degree or a professional research position. The non-thesis option is intended for students who anticipate a leadership position in the hospitality and tourism industry. The emphasis of the non-thesis option is on coursework and practical experience.

The Rosen School of Hospitality Management aims to provide students with an outstanding graduate hospitality management educational experience, and serve other stakeholders with continuing education, research, and service. The School is committed to UCF goals by providing intellectual leadership through quality hospitality education, international prominence by means of educational and research programs, promotion of a global perspective, nurturing inclusiveness and diversity, and partnerships with local, national, and international hospitality and tourism constituencies.

Degrees Offered

Master of Science in Hospitality and Tourism Management

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Graduate Catalog](#). Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

Admission to graduate study in the Rosen School of Hospitality Management is open to individuals with a bachelor's degree in any discipline from a regionally accredited college or university. Admission decisions will not be based on race, gender or ethnicity.

Admission is restricted each semester to individuals showing high promise of success in postgraduate studies. In addition to the requirements noted below, other indicators of promise include the applicant's extracurricular activities, work experience, job responsibilities, and leadership experience, which will be considered in making admissions decisions.

In addition to the general admission requirements, applicants must provide:

- Official scores on the Graduate Record Examination (GRE) or Graduate Management Admission Test (GMAT), which must have been taken within the last five years.
- GPA of 3.0 or GRE of 1000 or GMAT of 475.
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.
- A one to two page essay concerning your career goals.
- A current copy of your resume.
- Three letters of recommendation.

Prerequisites

For students with undergraduate majors in Hospitality Management or Business Administration, there will be no undergraduate course prerequisites, provided they have successfully completed an undergraduate course in statistics with a grade of "C" or higher.

For industry professionals with an undergraduate degree in a discipline other than Hospitality Management or Business Administration, the following three undergraduate courses are required to be completed with a grade of "B" or higher within the first year of course work in the program:

- HFT 3540 Guest Services Management I
- HFT 4295 Strategic Management in Hospitality Industry
- HFT 3431 Hospitality Industry Managerial Accounting

These students would also have to have successfully completed an undergraduate course in statistics with a grade of "C" or higher within the first year of course work in the program.

For applicants with undergraduate degrees in disciplines other than Hospitality Management or Business Administration and no significant hospitality industry experience, the following five undergraduate courses are required to be completed with a grade of "B" or higher within the first year of course work in the program:

- HFT 1000 Introduction to the Hospitality and Tourism Industry
- HFT 3540 Guest Services Management I
- HFT 4295 Strategic Management in Hospitality Industry
- HFT 2403 Hospitality Industry Financial Accounting
- HFT 3431 Hospitality Industry Managerial Accounting

These students would also have successfully completed an undergraduate course in statistics with a grade of "C" or higher within the first year of course work in the program.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Science in Hospitality and Tourism Management	Feb 1	Jul 15	Dec 1	Apr 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Science in Hospitality and Tourism Management	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Science in Hospitality and Tourism Management	Feb 1	Mar 1	Sep 1	

Master of Science in Hospitality and Tourism Management (M.S.)

39 credit hours non-thesis option / 36 credit hours thesis option

The course work for the master's degree consists of core courses, restricted electives, and thesis research for those students choosing the thesis option.

Core Courses (27 credit hours)

- HFT 6245 Managing Hospitality and Guest Services Organizations (3 credit hours)
- HFT 6251 The Management of Lodging Operations (3 credit hours)
- HFT 6710 International Tourism Management (3 credit hours)
- FSS 6365 Management of Food Service Operations (3 credit hours)
- HFT 6477 Financial Analysis of Hospitality Enterprises (3 credit hours)
- HFT 6596 Strategic Marketing in Hospitality and Tourism (3 credit hours)
- HFT 6228 Critical Issues in Hospitality Human Resources (3 credit hours)
- HFT 6586 Research Methods in Hospitality and Tourism (3 credit hours)
- HFT 6296 Hospitality/Tourism Strategic Issues (3 credit hours)

Restricted Electives (9-12 credit hours)

The restricted electives in the thesis option consist of six credit hours of thesis research, and one course (three credit hours) from the specified list below. The restricted electives in the non-thesis option consist of four courses (12 credit hours) from the list. A maximum of three credit hours of restricted elective may be taken as an independent study.

- HFT 6446 Hospitality/Tourism Information Technology (3 credit hours)
- HFT 6533 Hospitality/Tourism Industry Brand Management (3 credit hours)
- HFT 6608 Hospitality/Tourism Law and Ethics Seminar (3 credit hours)
- HFT 6476 Feasibility Studies for the Hospitality/Tourism Enterprises (3 credit hours)
- HFT 6259 Case Studies in Lodging Management (3 credit hours)

- HFT 6319 Convention Center Management (3 credit hours)
- HFT 6636 Hospitality/Tourism Risk Management (3 credit hours)
- HFT 6267 Case Studies in Restaurant Management (3 credit hours)
- HFT 6347 Advanced Vacation Ownership Resort Planning (3 credit hours)
- HFT 6526 Vacation Ownership Resort Sales Management (3 credit hours)
- HFT 6528 Convention and Conference Sales and Services (3 credit hours)
- HFT 6707 Travel and Tourism Economics (3 credit hours)
- HFT 6797 Event Administration (3 credit hours)
- HFT 6971 Thesis (research for thesis option only; 6 credit hours)
- HFT 6247 Organizational Communication in Hospitality/Tourism Enterprises (3 credit hours)

Culminating Experience

An appropriate culminating academic experience is required of all master's degree candidates.

For those students on the thesis option, a thesis defense is required. Thesis defenses will be approved by a majority vote of the thesis advisory committee. Further approval is required by the Dean of the Rosen School of Hospitality Management and UCF Graduate Studies before final acceptance of the thesis in fulfilling degree requirements.

For students in the non-thesis option, an appropriate culminating academic experience is the successful completion of HFT 6596 Strategic Marketing in Hospitality and Tourism, a required course in the curriculum that is designated as a capstone course. This capstone course acquaints students with the principles of strategic decision-making in various sectors of the tourism and hospitality industry. Students are required to apply skills, knowledge, and understanding in order to identify areas of concern encountered by managers responsible for formulating and implementing operational strategies.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Randall Upchurch, Ph.D. , Associate Professor

Phone Number: 407-903-8024

hospitality@mail.ucf.edu

Industrial Chemistry

[Description](#)

[Degree Offered](#)

[Admission](#)

[Master of Science in Industrial Chemistry](#)

[Contact Info](#)

Description

The Master of Science in Industrial Chemistry (M.S.) program prepares students for careers in the chemical industry. The curriculum is designed to provide a broad overall perspective of the industry and an awareness of economic and engineering considerations while placing the primary emphasis upon chemistry and the application of chemical principles to the development of products and processes.

The Master of Science in Industrial Chemistry degree at the University of Central Florida is aimed at preparing students for careers in the chemical industry. The curriculum for the Industrial Chemistry program is designed to provide a broad overall perspective of the industry and an awareness of economic and engineering considerations while placing the primary emphasis upon chemistry and the application of chemical principles to the development of products and processes.

A Master of Science in Forensic Science Program has been approved by the UCF Board of Trustees and will be offered in Spring 2004.

Degrees Offered

Master of Science in Industrial Chemistry

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

In addition to the general graduate admission requirements, applicants should note:

- The Graduate Record Examination (GRE) is required of all applicants to this program. Minimal requirements for admission include a grade point average (GPA) of 3.0 for the last 60 attempted semester hours of undergraduate study or a score of at least 1000 on the combined quantitative-verbal sections of the GRE.
- The departmental evaluation requires two letters of recommendation for both industrial chemistry and forensic science applicants. In addition, forensic science applicants must provide a resume with employment history.
- Proficiency examinations are given to all incoming graduate students. The results of these exams are used in planning the student's program of study. Deficiencies may require remedial course work.
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Science in Industrial Chemistry	Feb 1	Jul 15	Dec 1	Apr 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Science in Industrial Chemistry	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Science in Industrial Chemistry	Feb 1	Mar 1	Sep 1	

Master of Science in Industrial Chemistry

Requirements for M.S.—30 Credit Hours

Required Core Courses—17 Credit Hours

- CHM 6710 Applied Analytical Chemistry (2 credit hours)
- CHS 6240 Chemical Thermodynamics (2 credit hours)
- CHS 6251 Applied Organic Synthesis (2 credit hours)
- CHM 6440 Kinetics and Catalysis (2 credit hours)
- CHS 6260 Chemical Unit Operations and Separations (2 credit hours)
- CHM 6938 Graduate Chemistry Seminar (2 credit hours)

Other Requirements

- CHM 6971 Thesis (6 credit hours)

Electives for Industrial Chemistry—7 Credit Hours

Choose from the following list (all elective courses must be approved by the student's advisory committee):

- CHM 5225 Advanced Organic Chemistry (3 credit hours)
- CHM 5235 Applied Molecular Spectroscopy (3 credit hours)
- CHM 5305 Applied Biological Chemistry (3 credit hours)
- CHM 5450 Polymer Chemistry (3 credit hours)
- CHM 5451C Techniques in Polymer Science (3 credit hours)

- CHM 5580 Advanced Physical Chemistry (3 credit hours)
- CHM 6711 Chemistry of Materials (3 credit hours)
- CHS 6261 Chemical Process and Product Development (2 credit hours)
- CHM/CHS Special topics courses

Examination Requirements

Satisfactory completion of a final examination (oral defense of thesis) is required.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Kevin Belfield, Ph.D. , Associate Professor
Phone Number: 407-823-5728
chemistry@mail.ucf.edu

Industrial Engineering and Management Systems

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Master of Science in Engineering](#)

[Engineering Management Track](#)

[Human Engineering/Ergonomics Track](#)

[Interactive Simulation and Training Systems Track](#)

[Manufacturing Engineering Track](#)

[Operations Research Track](#)

[Quality Engineering Track](#)

[Simulation Modeling and Analysis Track](#)

[Systems Engineering and Management Track](#)

[Master of Science in Industrial Engineering](#)

[Doctor of Philosophy in Industrial Engineering](#)

[Contact Info](#)

Description

The Department of Industrial Engineering and Management Systems, one of the ten largest in the U.S., offers a Master of Science in Industrial Engineering (M.S.I.E.) degree, a Master of Science (M.S.) degree, and a Doctor of Philosophy (Ph.D.) in Industrial Engineering. Industrial engineering focuses on the design and improvement of systems, products, and processes. A total systems approach is used to optimize the various aspects of operations in both manufacturing and service industries. Industrial engineers use many analytical approaches to improve productivity, safety, and quality of working life while reducing operating costs.

The Master of Science degree programs are designed to produce highly skilled industrial engineers, engineering managers, technical professionals, and leaders for the global economy. The M.S. program offers specialization tracks in the areas of Engineering Management, Human Engineering/Ergonomics, Operations Research, Manufacturing Engineering, Quality Engineering, Interactive Simulation and Training Systems, and Simulation Modeling and Analysis.

The Ph.D. program is designed to produce highly skilled researchers with both broad knowledge of industrial engineering and in-depth knowledge of specialty fields for careers in academia, industry, and government. The program allows a student to thoroughly study some aspect of industrial engineering, such as manufacturing, engineering management, operations research, simulation modeling, interactive simulation, quality, or human engineering/ergonomics.

The industrial engineering graduate programs are structured to support the emergence of Central Florida as a national center of high technology as well as supporting the diverse service industries in the region and throughout the nation.

Degrees Offered

Master of Science in Engineering

- Engineering Management Track
- Human Engineering/Ergonomics Track
- Interactive Simulation and Training Systems Track

- Manufacturing Engineering Track
- Operations Research Track
- Quality Engineering Track
- Simulation Modeling and Analysis Track
- Systems Engineering and Management Track

Master of Science in Industrial Engineering
Doctor of Philosophy in Industrial Engineering

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

Master's degree programs

In addition to the general UCF graduate admission requirements, and the College of Engineering and Computer Science Master's programs admission requirements, applicants must provide:

- Official scores on the Graduate Record Examination (GRE), which must have been taken within the last five years, with a total score of 1000 or higher on the combined verbal and quantitative sections and a minimum GPA of 2.8 in the last 60 attempted semester hours of undergraduate studies; or a GPA of 3.0 for the last 60 attempted semester hours of undergraduate study. All students must complete the GRE regardless of GPA.
- Students who have previous GMAT scores may use them in place of the GRE. The minimum acceptable GMAT score is 550.
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

Students who have submitted all admission materials but do not have a 3.0 GPA or 1000 GRE or 220 TOEFL (if applicable) may be admitted on a provisional basis and be required to demonstrate acceptable performance (minimum GPA of 3.25) in a nine credit hour trial program of graduate courses. Students interested in scholarship support must have submitted a complete application by the priority deadline.

Doctoral degree program

In addition to the general UCF graduate admission requirements, and the College of Engineering and Computer Science Doctoral program admission requirements, applicants must provide:

- Evidence of a master's degree in Industrial Engineering or a closely related discipline from a recognized institution, and have demonstrated above average performance at the master's level
- Curriculum Vitae/Resume accompanied by goals statement
- Three letters of recommendation
- Official scores on the Graduate Record Examination (GRE), which must have been taken within the last five years, with a total score of 1000 or higher on the combined verbal-quantitative sections
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

Additional Information (Ph.D.)

Selected outstanding applicants who have a GPA of at least 3.4 in the last 60 attempted semester hours of their undergraduate degrees and have very high GRE scores will be considered for direct entrance as pre-

doctoral students with Bachelor of Science degrees. Scholarships may be awarded based on the student's GPA, GRE scores, and curriculum vitae.

Students must complete any needed articulation course work and pass a Ph.D. qualifying examination in order to be admitted as a regular doctoral student. This exam is normally taken within the first year after all articulation work is completed. The department makes decisions about the continuation in the program based in part on qualifying examination results. In addition, the student must pass a Candidacy Examination, a Dissertation Proposal Examination and a Dissertation Defense Examination.

The College of Engineering and Computer Science requires that you fill out a pre-application form (www.graduate.cecs.ucf.edu) before you complete the application for graduate admission. The deadlines for the pre-application form can be found on the Prospective Student Page on the College of Engineering and Computer Science website.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Industrial Engineering	Feb 1	Jul 15	Dec 1	Apr 15
Master of Science in Engineering	Feb 1	Jul 15	Dec 1	Apr 15
Engineering Management Track	Feb 1	Jul 15	Dec 1	Apr 15
Human Engineering/Ergonomics Track	Feb 1	Jul 15	Dec 1	Apr 15
Interactive Simulation and Training Systems Track	Feb 1	Jul 15	Dec 1	Apr 15
Manufacturing Engineering Track	Feb 1	Jul 15	Dec 1	Apr 15
Operations Research Track	Feb 1	Jul 15	Dec 1	Apr 15
Quality Engineering Track	Feb 1	Jul 15	Dec 1	Apr 15
Simulation Modeling and Analysis Track	Feb 1	Jul 15	Dec 1	Apr 15
Systems Engineering and Management Track	Feb 1	Jul 15	Dec 1	Apr 15
Master of Science in Industrial Engineering	Feb 1	Jul 15	Dec 1	Apr 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Industrial Engineering	Feb 1	Feb 1	Jul 1	
Master of Science in Engineering	Feb 1	Feb 1	Jul 1	

Engineering Management Track	Feb 1	Feb 1	Jul 1	
Human Engineering/Ergonomics Track	Feb 1	Feb 1	Jul 1	
Interactive Simulation and Training Systems Track	Feb 1	Feb 1	Jul 1	
Manufacturing Engineering Track	Feb 1	Feb 1	Jul 1	
Operations Research Track	Feb 1	Feb 1	Jul 1	
Quality Engineering Track	Feb 1	Feb 1	Jul 1	
Simulation Modeling and Analysis Track	Feb 1	Feb 1	Jul 1	
Systems Engineering and Management Track	Feb 1	Feb 1	Jul 1	
Master of Science in Industrial Engineering	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Industrial Engineering	Feb 1	Mar 1	Sep 1	
Master of Science in Engineering	Feb 1	Mar 1	Sep 1	
Engineering Management Track	Feb 1	Mar 1	Sep 1	
Human Engineering/Ergonomics Track	Feb 1	Mar 1	Sep 1	
Interactive Simulation and Training Systems Track	Feb 1	Mar 1	Sep 1	
Manufacturing Engineering Track	Feb 1	Mar 1	Sep 1	
Operations Research Track	Feb 1	Mar 1	Sep 1	
Quality Engineering Track	Feb 1	Mar 1	Sep 1	
Simulation Modeling and Analysis Track	Feb 1	Mar 1	Sep 1	
Systems Engineering and Management Track	Feb 1	Mar 1	Sep 1	
Master of Science in Industrial Engineering	Feb 1	Mar 1	Sep 1	

M.S.I.E. and M.S. Degrees

30 credit hour program with thesis / 36 credit hour program non-thesis

The M.S.I.E. degree requires either an undergraduate degree in Industrial Engineering or another engineering discipline. It is offered as a 36 credit hour program without a thesis; however, Bachelor of Science in Industrial Engineering (B.S.I.E.) graduates may elect a 30 credit hour program that includes a

thesis. The M.S. degree requires an undergraduate degree in Engineering or a closely related discipline and is also available with thesis (30 credit hours) or non-thesis (36 credit hours) options. Thesis students conduct an oral defense of their theses. Non-thesis students must pass an oral comprehensive examination at the end of their program of study.

A program of study must be developed with the graduate program coordinator and meet with departmental approval. Required courses vary depending on the program and are supplemented by electives that may include courses offered by other departments. A student with an undergraduate degree outside of the selected departmental discipline may be required to satisfy an articulation program.

Many of the graduate courses offered by the department or required in the M.S.I.E./M.S. programs (except for those with laboratories) are offered by the Florida Engineering Educational Delivery System (FEEDS), which provides videotape versions available at UCF's remote campuses, KSC, and other industrial/academic sites.

Most students working full time take six credit hours per semester; students on assistantships must take nine credit hours per semester to satisfy the university's requirement for full-time status. At that rate, the program can be completed in six semesters or less. However, students with more time available and an early start on a thesis can finish the program in three semesters.

[General College Requirements](#)

Master of Science in Industrial Engineering (M.S.I.E.) Requirements

The M.S.I.E. curriculum builds on an undergraduate Engineering degree to develop a stronger systems focus and analytical capability.

The following two options are available for students with a B.S.I.E.:

Option 1: Generalist—The following requirements must be satisfied:

- EIN 5117 Management Information Systems I (3 credit hours)
- EIN 5140 Project Engineering (3 credit hours)
- EIN 6357 Advanced Engineering Economic Analysis OR ESI 6358 Decision Analysis (3 credit hours)
- ESI 5219 Engineering Statistics (3 credit hours)
- ESI 5236 Reliability Engineering (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)
- Three 6000-level electives and three other electives (non-thesis option), or
- 6000-level elective, thesis, and one additional elective

Option 2: Follow the requirements for any M.S. track.

The following courses are required for students with other Bachelor of Science degrees in Engineering:

Prerequisites

- Any higher-level computer language
- EIN 3314C Work Measurement and Design (3 credit hours)
- EIN 4333C Industrial Control Systems (3 credit hours)
- EIN 4391C Manufacturing Engineering (3 credit hours)

Program of Study

- EIN 4364C Industrial Facilities Planning and Design (3 credit hours)
- EIN 5117 Management Information Systems I (3 credit hours)
- EIN 5140 Project Engineering (3 credit hours)
- EIN 5248C Ergonomics (3 credit hours)
- EIN 6357 Advanced Engineering Economic Analysis (3 credit hours)
- ESI 5219 Engineering Statistics (3 credit hours)
- ESI 5316 Operations Research (3 credit hours)

- ESI 5531 Discrete Systems Simulation (3 credit hours)
- ESI 6225 Quality Design and Control (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)
- Two 6000-level electives

Master of Science in Engineering

The M.S. curriculum offers tracks in Engineering Management, Human Engineering/Ergonomics, Operations Research, Manufacturing Engineering, Quality Engineering, Interactive Simulation and Training Systems, and Simulation Modeling and Analysis. The M.S. degree requires a minimum of 30-36 credit hours.

Engineering Management Track

Engineering management focuses on effective decision-making in engineering and technological organizations. Addressing the needs of engineers and scientists moving into management positions, engineering management complements their technical backgrounds with the human aspects, organizational and financial issues, project considerations, resource allocation, and the extended analytical tools required for effective decision-making and program management. This program is designed for technically qualified individuals who plan to assume a management role in project or program-oriented environments in industry or government. It provides the analytical, organizational, and managerial skills to bridge the gap between a technical specialty and technical management.

Prerequisites

- Mathematics through Calculus III (MAC 2313)
- High-level computer language and microcomputer familiarity

Required Courses—12 Credit Hours

- EIN 5108 The Environment of Technical Organizations (3 credit hours)
- EIN 5140 Project Engineering (3 credit hours)
- EIN 6322 Engineering Management (3 credit hours)
- ESI 5219 Engineering Statistics (3 credit hours)

Restricted Electives—9 Credit Hours

Select three of the following:

- EIN 5117 Management Information Systems I (3 credit hours)
- EIN 5251 Human-Computer Interaction: Usability Evaluation (3 credit hours)
- EIN 6357 Advanced Engineering Economic Analysis (3 credit hours)
- EIN 6339 Operations Engineering (3 credit hours)
- ESI 6224 Quality Management (3 credit hours)
- ESI 6358 Decision Analysis (3 credit hours)

Thesis Option—9 Credit Hours

- EIN 6971 Thesis (6 credit hours)
- Additional elective (3 credit hours)

Non-Thesis Option—15 Credit Hours

- Electives (15 credit hours), including two 6000-level courses

Minimum Hours Required for M.S.—30 (thesis option) or 36 (non-thesis option)

Human Engineering/Ergonomics Track

As technology has become more sophisticated, the need to design for the human user has become more difficult, yet even more important. Human engineering and ergonomics assists in ensuring that as technology advances, the abilities, limitations, and needs of humans are considered in the system design. This not only supports the needs of the user, it also optimizes the efficiency and usability of the system designed. Traditionally, ergonomics has been associated with biomechanical issues and work measurement and performance issues in physical system design, as well as occupational and industrial safety. The broader focus of human engineering encompasses those issues as well as incorporating the reaction and effectiveness of human interaction with systems, both physical systems and virtual systems such as computer-based models. This option is designed for students who have an undergraduate degree in Engineering or a closely related discipline. The program is designed to provide students with the necessary knowledge in human engineering and ergonomics to effectively design tasks, industrial systems, and work environments that maximize human performance, safety, and overall productivity.

Prerequisites

- MAC 2313 Mathematics through Calculus III
- EIN 3314C Work Measurement and Design
- EIN 4243C Human Engineering (or equivalent)(Undergraduate course may be included in program of study as an elective.)

Required Courses—12 Credit Hours

- EIN 5248C Ergonomics (3 credit hours)
- EIN 6249C Biomechanics (3 credit hours) or EIN 6270C Work Physiology (3 credit hours)
- ESI 5219 Engineering Statistics (3 credit hours)
- EIN 5251 Human-Computer Interaction: Usability Evaluation (3 credit hours)

Restricted Electives—9 Credit Hours

Select three of the following courses.

- EIN 5140 Project Engineering (3 credit hours)
- EIN 6215 System Safety Engineering and Management (3 credit hours)
- EIN 6258 Human Computer Interaction (3 credit hours)
- ESI 6358 Decision Analysis (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)
- Psychology Elective (3 credit hours)

Thesis Option—9 Credit Hours

- EIN 6971 Thesis (6 credit hours)
- Additional Elective (3 credit hours)

Non-Thesis Option—15 Credit Hours

- Electives (15 credit hours)

Minimum Hours Required for M.S.—30 (thesis option) or 36 (non-thesis option)

Interactive Simulation and Training Systems Track

The Interactive Simulation and Training Systems track focuses on providing a fundamental understanding of significant topics relative to systems and the requirements, design, development, and use of such systems for knowledge transfer in the technical environment. Additionally, the Interactive Simulation and Training Systems track addresses the evolving and multiple discipline application of interactive simulation by providing a wealth of electives to support development of individual student interests and talents. In conjunction with industrial organizations involved in simulation in the Central Florida region, military organizations, UCF's Institute for Simulation and Training and other governmental organizations, the program provides exposure to both military and commercial interactive simulation and training systems. The track's emphasis is on the application and development of interactive simulation and training systems to meet various requirements including, but not limited to: simulators, skill trainers, organizational learning systems, computer and web-based interactive simulation systems and other novel interactive simulation efforts. The interactive simulation and training systems curriculum prepares individuals with an undergraduate degree in engineering, science, education, psychology, mathematics or other related disciplines for careers in simulation, focusing particularly on the interactive simulation and training systems industries.

Prerequisites

- Computer programming capability
- Mathematics through Differential Equations (MAP 2302)

Required Courses—9 Credit Hours

- EIN 5255 Interactive Simulation (3 credit hours)
- EIN 5317 Training System Design (3 credit hours)
- ESI 5219 Engineering Statistics (3 credit hours)

Restricted Elective—12 Credit Hours

Select four of the following courses.

- EIN 6645 Real-Time Simulation Agents (3 credit hours)
- EIN 6649C Intelligent Tutoring Training System Design (3 credit hours)
- ESI 5531 Discrete Systems Simulation (3 credit hours)
- ESI 6532 Object-Oriented Simulation (3 credit hours)
- EIN 6258 Human Computer Interaction(3 credit hours)
- EIN 5140 Project Engineering (3 credit hours)

Thesis Option—9 Credit Hours

- EIN 6971 Thesis (6 credit hours)
- Elective (3 credit hours)

Non-Thesis Option—15 Credit Hours

- Electives (15 credit hours; at least 6 hours at 6000 level)

Minimum Hours Required for M.S.—30 (thesis option) or 36 (non-thesis option)

Manufacturing Systems Engineering Track

The design and operation of manufacturing systems requires a broad knowledge of manufacturing processes and systems, an understanding of the information base required for effective system operation, and the integration of information with those processes and systems to improve productivity. The Manufacturing Systems Engineering graduate program provides that basic knowledge and supports education in new manufacturing concepts such as concurrent design and manufacturing, the virtual factory, and agile manufacturing. The Manufacturing Systems Engineering curriculum builds on an undergraduate degree in Engineering, Mathematics, Computer Science, or an allied field to develop a strong understanding of manufacturing engineering, manufacturing systems, and the tools required to design, improve, and manage those systems.

Required Courses

- EIN 6336 Production and Inventory Control (3 credit hours)
- EIN 5368C Integrated Factory Automation Systems (3 credit hours)
- ESI 5219 Engineering Statistics (3 credit hours)
- EGN 5858C Prototyping and Product Realization (3 credit hours) or EIN 6399 Concurrent Engineering (3 credit hours)

Restricted Electives—12 Credit Hours

Select three of the following courses:

- EIN 6339 Operations Engineering (3 credit hours)
- EIN 5140 Project Engineering (3 credit hours)
- EIN 5607C Computer Control of Manufacturing Systems (3 credit hours)
- EIN 5248C Ergonomics (3 credit hours)
- ESI 5316 Operations Research (3 credit hours)
- ESI 5236 Reliability Engineering (3 credit hours)
- ESI 6225 Quality Design and Control (3 credit hours)

Thesis Option—9 Credit Hours

- EIN 6971 Thesis (6 credit hours)
- Additional Elective (3 credit hours)

Non-Thesis Option—15 Credit Hours

- Electives (15 credit hours)

High Performance Internal Combustion Engine Optimization Focus

Students selecting to pursue a focus on High Performance Internal Combustion Engine Optimization must take the following course work.

Required Courses—12 Credit Hours

- EGN 5720 Internal Combustion Engine Analysis and Optimization (3 credit hours)

- EGN 6721C Experimental Methods for High Performance Engine Manufacturing (3 credit hours)
- EIN 5607C Computer Control of Manufacturing Systems (3 credit hours)
- ESI 5219 Engineering Statistics (3 credit hours)*

Restricted Electives—9 Credit Hours

Select three of the following courses:

- EIN 5368C Integrated Factory Automation Systems (3 credit hours)
- EIN 5140 Project Engineering (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)
- ESI 5236 Reliability Engineering (3 credit hours)
- ESI 6225 Quality Design and Control (3 credit hours)
- EGN 5858C Prototyping and Product Realization (3 credit hours) or EIN 6399 Concurrent Engineering (3 credit hours)

Thesis Option—9 Credit Hours

- EIN 6971 Thesis (6 credit hours)
- Additional Elective (3 credit hours)

Non-Thesis Option—15 Credit Hours

- Electives (15 credit hours)

Operations Research Track

Operations Research uses mathematics and computer-based systems to model operational processes and decisions in order to develop and evaluate alternatives that will lead to gains in efficiency and effectiveness. Drawing on probability, statistics, simulation, optimization, and stochastic processes, Operations Research provides many of the analytic tools used by industrial engineers as well as by other analysts to improve processes, decision-making, and management by individuals and organizations. This track is designed for students who have an undergraduate degree in engineering, mathematics, or science. The Operations Research curriculum builds on an undergraduate Engineering, Mathematics, or Science degree to develop a strong modeling and analytical capability to improve processes and decision-making.

Prerequisites

- Mathematics through Differential Equations (MAP 2302)
- Operations Research (ESI 4312)
- Higher level computer programming and microcomputer familiarity

Required Courses—12 Credit Hours

- ESI 5219 Engineering Statistics (3 credit hours)
- ESI 6427 Linear Programming and Extensions (3 credit hours) or ESI 5419C Engineering Applications of Linear and Nonlinear Optimization (3 credit hours)
- ESI 6358 Decision Analysis (3 credit hours)
- ESI 6336 Queuing Systems (3 credit hours)

Restricted Electives—9 Credit Hours

Select three of the following:

- EIN 6336 Production and Inventory Control (3 credit hours)
- ESI 5236 Reliability Engineering (3 credit hours)
- ESI 5316 Operations Research (3 credit hours)
- ESI 5531 Discrete Systems Simulation (3 credit hours)
- ESI 6217 Statistical Aspects of Digital Simulation (3 credit hours)
- ESI 6532 Object-oriented Simulation (3 credit hours)

Thesis Option—9 Credit Hours

- EIN 6971 Thesis (6 credit hours)
- Electives (3 credit hours)

Non-Thesis Option—15 Credit Hours

- Electives (15 hours; at least 3 credit hours at the 6000 level)

Minimum Hours Required for M.S.—30 (thesis option) or 36 (non-thesis option) Credit Hours

Quality Engineering Track

Quality Engineering focuses on improving product and process quality in manufacturing and service industries. Quality Engineering provides both the quantitative tools for measuring quality and the managerial focus and organizational insight required to implement effective continuous improvement programs and incorporate the voice of the customer. The Quality Engineering curriculum builds on an undergraduate degree in Engineering, Science, Mathematics, or a closely related discipline to provide the necessary knowledge to plan, control, and improve the product assurance function in government, military, service, or manufacturing organizations. Up to nine hours of transfer credit may be used in the program of study.

Required Courses—12 Credit Hours

- ESI 5219 Engineering Statistics (3 credit hours)
- ESI 5236 Reliability Engineering (3 credit hours)
- ESI 6224 Quality Management (3 credit hours)
- ESI 6225 Quality Design and Control (3 credit hours)

Restricted Electives—9 Credit Hours

Select three of the following:

- EIN 5140 Project Engineering (3 credit hours)
- ESI 5227 Total Quality Improvement (3 credit hours)
- EIN 6336 Production and Inventory Control (3 credit hours)
- ESI 5316 Operations Research (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)

- EIN 5368C Integrated Factory Automation Systems (3 credit hours)

Thesis Option—9 Credit Hours

- EIN 6971 Thesis (6 credit hours)
- Additional Elective (3 credit hours)

Non-Thesis Option—15 Credit Hours (at least 3 credit hours at the 6000 level)

- Electives (15 credit hours)

Minimum Hours Required for M.S.—30 (thesis option) or 36 (non-thesis option) Credit Hours

Simulation Modeling and Analysis Track

Simulation Modeling and Analysis focuses on providing a fundamental understanding of the functional and technical design requirements for simulation in manufacturing and service industries. The track is based on a systems modeling paradigm and provides coding and development capability in the context of a broader systems framework. Significant exposure to design and analysis aspects is a core element of the track. The Simulation Modeling and Analysis curriculum prepares individuals with an undergraduate degree in Engineering, Science, Mathematics, or a closely related discipline for careers in simulation, focusing particularly on using simulation as an analysis and design tool for the manufacturing and service industries.

Prerequisites

- Computer programming capability in FORTRAN, C, or C++
- Mathematics through Differential Equations (MAP 2302)
- Operations Research (ESI 4312)*

* This requirement may be met by taking ESI 5316 as part of the program of study.

Required Courses—18 Credit Hours

- ESI 5531 Discrete Systems Simulation (3 credit hours)
- ESI 6532 Object-Oriented Simulation (3 credit hours)
- ESI 5219 Engineering Statistics (3 credit hours)
- ESI 6217 Statistical Aspects of Digital Simulation (3 credit hours)

Restricted Electives—9 Credit Hours

Select three of the following:

- EIN 5255 Interactive Simulation (3 credit hours)
- EIN 5317 Training System Design (3 credit hours)
- EIN 6258 Human-Computer Interaction (3 credit hours)
- EIN 6645 Real-Time Simulation Agents (3 credit hours)
- ESI 6336 Queuing Systems (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours) (3 credit hours)

Thesis Option—9 Credit Hours

- EIN 6971 Thesis (6 credit hours)
- Additional Elective (3 credit hours)

Non-Thesis Option—15 Credit Hours

- Electives (15 credit hours) including three hours at the 6000-level

Minimum Hours Required for M.S.—30 (thesis option) or 36 (non-thesis option) Credit Hours

Systems Engineering and Management Track

This Systems Engineering and Management program is designed for the working professional and will offer an accelerated process for obtaining a Master of Science degree in 21 months. This is a special program that is not currently available to all students. In order to assure consistency, the program is offered to students in cohort groups on site and only at KSC. This program structure will provide the many educational services typically included in executive style programs. As we expect that some students may not have an industrial engineering background, the program focuses on the "systems" viewpoint.

Required Courses—36 Credit Hours

To successfully complete the degree program students must complete 36 credit hours of course work which includes two 3-credit hour capstone experience courses. Active participation in the program will require the students to take courses in a lock step sequence as a cohort group, to provide the professional interaction, intellectual stimulation, support and networking opportunities for participants in the program.

- EIN 5140 Project Engineering (3 credit hours)
- EIN 5117 Management Information Systems I (3 credit hours)
- ESI 6358 Decision Analysis (3 credit hours)
- ESI 6224 Quality Management (3 credit hours)
- ESI 5531 Discrete Systems Simulation (3 credit hours)
- ESI 6551C Systems Engineering (3 credit hours)
- EIN 6339 Operations Engineering (3 credit hours)
- EIN 6357 Advanced Engineering Economic Analysis (3 credit hours)
- EIN 5108 The Environment of Technical Organizations (3 credit hours)
- EIN 6322 Engineering Management (3 credit hours)
- EIN 6938 Space Industry Capstone Experience I (3 credit hours)
- EIN 6938 Space Industry Capstone Experience I (3 credit hours)

Thesis Option Not Available

Non-Thesis Option—36 Credit Hours

Doctor of Philosophy in Industrial Engineering

The Ph.D. is primarily intended for a student with a master's degree in Industrial Engineering or a closely related discipline. The program is intended to allow a student to study in depth, with emphasis on some aspect of industrial engineering, such as manufacturing, engineering management, operations research, simulation and modeling, interactive simulation, quality, or human engineering/ergonomics.

Admission Requirements

Students must satisfy regular university admissions criteria, have a Masters degree in Industrial Engineering or a closely related discipline from a recognized institution, and have demonstrated above average performance at the Masters level. Students must submit an application for graduate admission, including a resume, goals statement, and three letters of recommendation. Minimum admission requirements are a score of at least 1000 on the GRE and a TOEFL score of at least 220 for international students who have not completed a BS degree at an English speaking institution.

In addition, selected outstanding applicants who have a GPA of at least 3.4 in the last 60 attempted semester hours of their undergraduate degrees and have very high GRE scores will be considered for direct entrance as Pre-Doctoral students from their Bachelor's degrees. Students meeting these criteria and the approval of the Doctoral Committee will be admitted as Pre-Doctoral students. Scholarships are awarded based on the student's GPA and GRE scores and resume.

Students must complete any needed articulation course work and pass a Ph.D. Qualifying Examination. This examination is normally taken within the first year and a half. The Department makes decisions about continuing support in the program based in part on Qualifying Examination results.

[General College Requirements](#)

Degree Requirements

The Ph.D. degree requires a minimum of 81 credit hours of graduate course work, 24 of which will be dissertation hours. For students entering with an MS degree, the minimum required additional hours (including dissertation) will be 45 (if the student's MS degree had 36 hours of study) or 51 hours (if the student's MS degree had 30 hours). Graduate course work includes 5000 or higher level courses, with a maximum of 12 credit hours of independent study or directed research. A total of 30 to 33 credit hours are specified in required Industrial Engineering subjects. Additional course work is usually taken in the student's research area. Up to 6 credit hours of 4000-level work are acceptable if transferred from a master's degree program. While at UCF, at least 6 credit hours must be taken outside of the student's area of specialization. There is a residency requirement of two continuous semesters in full-time graduate student status (minimum of 9 credit hours) after acceptance into the doctoral program at UCF.

As a pre-doctoral student at the beginning of the Ph.D. program, a preliminary program of study must be developed with the graduate program coordinator and meet with departmental approval. At this time transfer credit will be evaluated on a course-by-course basis. After completion of the Qualifying Examination and admission as a doctoral student, the official program of study is developed with an adviser and must meet with departmental approval. The student's dissertation committee approves the final program of study after passing the Candidacy Examination. The degree must be completed within seven years from the date of admission as a pre-doctoral student and within four years of passing the Candidacy Examination.

Transfer Credits

A maximum of 36 semester credit hours, including up to 6 thesis credit hours, may be transferred from a master's degree and other graduate course work toward these requirements. Limitations: a maximum of 6 credit hours of 4000-level courses from a master's degree; no 3000-level courses; and no courses with grades less than "B."

Examinations

In addition to the Qualifying Examination, the student must pass a Candidacy Examination, a Dissertation Proposal Examination, and a Dissertation Defense Examination. The Candidacy Examination may be taken any time after successful completion of the qualifying examination and typically consists of a written and oral presentation of a research area to the Dissertation Committee followed by a written examination to determine if the student has the breadth and depth of knowledge required to conduct research in the

proposed area. The Dissertation Proposal Examination consists of a written and oral presentation of a detailed dissertation proposal. The Dissertation Defense Examination is an oral examination taken in defense of the written dissertation.

Prerequisites/Corequisites

Students must have background in the following areas.

- A high level structured programming language
- Calculus through Differential Equations

Required Courses—21 Credit Hours

- EIN 5140 Project Engineering (3 credit hours)
- EIN 6336 Production and Inventory Control (3 credit hours)
- EIN 6357 Advanced Engineering Economic Analysis (3 credit hours)
- ESI 5219 Engineering Statistics (3 credit hours)
- ESI 5316 Operations Research (3 credit hours)
- ESI 5531 Discrete Systems Simulation (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)

Articulation

Students without a BSIE (or MSIE from UCF) degree or without the F.E. or the P.E. in I.E. have 4 additional required courses. These students must take at least one course from each of the following areas and a second course from one of the areas.

Ergonomics

- EIN 6270 Work Physiology (3 credit hours)
- EIN 6264C Industrial Hygiene (3 credit hours)
- EIN 6258 Human-Computer Interaction (3 credit hours)
- EIN 6249C Biomechanics (3 credit hours)
- EIN 6215 Systems Safety Engineering and Management (3 credit hours)
- EIN 5251 Human-Computer Interaction: Usability Evaluation (3 credit hours)
- EIN 5248C Ergonomics (3 credit hours)

Quality/Manufacturing

- ESI 6225 Quality Design and Control (3 credit hours)
- ESI 6224 Quality Management (3 credit hours)
- ESI 5236 Reliability Engineering (3 credit hours)
- ESI 5227 Total Quality Improvement (3 credit hours)
- EIN 6398 Advanced and Nontraditional Manufacturing Processes (3 credit hours)
- EIN 6330 Quality Control in Automation (3 credit hours)
- EIN 5607C Computer Control of Manufacturing System (3 credit hours)
- EIN 5415C Tool Engineering and Manufacturing Analysis (3 credit hours)
- EIN 5392C Manufacturing Systems Engineering (3 credit hours)
- EIN 5368C Integrated Factory Automation Systems (3 credit hours)
- EGN 5858C Prototyping and Product Realization (3 credit hours)
- EGN 5855C Metrology (3 credit hours)

Other

- EIN 5117 Management Information Systems I (3 credit hours)
- ESI 6336 Queuing Systems (3 credit hours)
- ESI 6358 Decision Analysis (3 credit hours)
- ESI 5359 Risk Assessment and Management (3 credit hours)
- EIN 5381 Engineering Logistics (3 credit hours)
- EIN 5388 Forecasting (3 credit hours)

Required Specialization Core—9-12 Credit Hours

Select one of the following areas of specialization.

Industrial Engineering

- EIN 5117 Management Information Systems I (3 credit hours)
- ESI 6225 Quality Design and Control (3 credit hours)
- ESI 6427 Linear Programming and Extensions (3 credit hours)

Interactive Simulation

- EIN 5255 Interactive Simulation (3 credit hours)
- EIN 5317 Training System Design (3 credit hours)
- EIN 6645 Real-Time Simulation Agents (3 credit hours)
- EIN 6649C Intelligent Tutoring Training System Design (3 credit hours)

Simulation Modeling and Analysis

- ESI 6217 Statistical Aspects of Digital Simulation (3 credit hours)
- ESI 6532 Object-oriented Simulation (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)

Operations Research

- ESI 6336 Queuing Systems (or STA 5825 Stochastic Processes and Applied Probability Theory) (3 credit hours)
- ESI 6427 Linear Programming and Extensions (3 credit hours)
- STA 6236 Regression Analysis (3 credit hours)

Quality

- ESI 5227 Total Quality Improvement (3 credit hours) or ESI 6224 Quality Management (3 credit hours)
- ESI 5236 Reliability Engineering (3 credit hours)
- ESI 6225 Quality Design and Control (3 credit hours)

Human Engineering/Ergonomics

- EIN 5248C Ergonomics (3 credit hours)
- EIN 6249C Biomechanics (3 credit hours)
- EIN 6258 Human Computer Interaction (3 credit hours)

Manufacturing

- EIN 5368C Integrated Factory Automation Systems (3 credit hours)
- EIN 5392C Manufacturing Systems Engineering (3 credit hours)
- EIN 6399 Concurrent Engineering (3 credit hours)

Management Systems

- EIN 5108 The Environment of Technical Organizations (3 credit hours)
- EIN 5117 Management Information Systems I (3 credit hours)
- EIN 6322 Engineering Management (3 credit hours)
- EIN 6339 Operations Engineering (3 credit hours)

Two courses at UCF outside of student's area of specialization—6 Credit Hours

Electives—24-30 Credit Hours

Dissertation—24 Credit Hours

Dissertation Committee

- The Dean, through the Chairs, is responsible for committee formation, additions, and deletions. The doctoral committee must consist of a minimum of five members: three must be faculty members from within the students department, and one must be at large from outside the Industrial Engineering Management Systems Department. The committee Chair must be a member of the department graduate faculty approved to direct dissertations. Faculty members with joint appointments in IEMS serve as department-faculty committee members. Adjunct faculty and off-campus experts may serve as the outside-the-department person in the committee as well as serve as co-chairs of the committee, with the approval of the program coordinator. Program areas may further specify additional committee membership. The Office of Graduate Studies reserves the right to review appointments to advisory committees, place a representative on any advisory committee, or appoint a co-adviser.
- In unusual cases, with approval from the program Chair, two professors may chair the committee jointly. Joint faculty members may serve as committee chairs, but off-campus experts and adjunct faculty may not serve as committee chairs.
- All members vote on acceptance or rejection of the dissertation proposal and the final dissertation. The dissertation proposal and final dissertation must be approved by a majority of the advisory committee.

IEMS Graduate Courses by Areas of Study

Engineering Management

- EIN 5108 The Environment of Technical Organizations (3 credit hours)
- EIN 5117 Management Information Systems I (3 credit hours)
- EIN 5140 Project Engineering (3 credit hours)
- EIN 5356 Cost Engineering (3 credit hours)
- EIN 5381 Engineering Logistics (3 credit hours)
- EIN 6322 Engineering Management (3 credit hours)
- EIN 6339 Operations Engineering (3 credit hours)
- EIN 6357 Advanced Engineering Economic Analysis (3 credit hours)
- EIN 6933 Systems Acquisition (3 credit hours)
- ESI 5451 Network Based Project Planning, Scheduling, and Control (3 credit hours)

Ergonomics

- EIN 5248C Ergonomics (3 credit hours)
- EIN 5251 Human Computer Interaction: Usability Evaluation (3 credit hours)
- EIN 6215 System Safety Engineering and Management (3 credit hours)
- EIN 6249C Biomechanics (3 credit hours)
- EIN 6258 Human Computer Interaction (3 credit hours)
- EIN 6264C Industrial Hygiene (3 credit hours)
- EIN 6270C Work Physiology (3 credit hours)
- EIN 6935 Advanced Ergonomics Topics (3 credit hours)

Manufacturing/Operations Management

- EGN 5720 Internal Combustion Engine Analysis and Optimization (3 credit hours)
- EGN 5855C Metrology (3 credit hours)
- EGN 6721C Experimental Methods for High Performance Engine Manufacturing (3 credit hours)
- EIN 5368C Integrated Factory Automation Systems (3 credit hours)
- EIN 5388 Forecasting (3 credit hours)
- EIN 5392C Manufacturing Systems Engineering (3 credit hours)
- EIN 5415C Tool Engineering and Manufacturing Analysis (3 credit hours)
- EIN 5607C Computer Control of Manufacturing Systems (3 credit hours)
- EIN 6336 Production and Inventory Control (3 credit hours)
- EIN 6398 Advanced and Nontraditional Manufacturing Processes (3 credit hours)
- EIN 6399 Concurrent Engineering (3 credit hours)
- EIN 6417 Precision Engineering (3 credit hours)
- EIN 6418C Electronics Manufacturing (3 credit hours)
- EIN 6425 Scheduling and Sequencing (3 credit hours)
- EIN 6930 Manufacturing Engineering Seminar (3 credit hours)
- EIN 6936 Seminar in Advanced Industrial Engineering (3 credit hours)

Operations Research

- ESI 5315 Research Foundations for IE and OR Modeling (3 credit hours)
- ESI 5316 Operations Research (3 credit hours)
- ESI 5359 Risk Assessment and Management (3 credit hours)
- ESI 5419C Engineering Applications of Linear and Nonlinear Optimization (3 credit hours)
- ESI 6336 Queuing Systems (3 credit hours)
- ESI 6358 Decision Analysis (3 credit hours)
- ESI 6427 Linear Programming and Extensions (3 credit hours)
- ESI 6437 Nonlinear Mathematical Programming and Dynamic Programming (3 credit hours)
- ESI 6448 Network Analysis and Integer Programming (3 credit hours)
- ESI 6551C Systems Engineering (3 credit hours)
- ESI 6921 Seminar in Advanced Operations Research (3 credit hours)
- ESI 6941 Operations Research Practicum (6 credit hours)

Simulation

- EIN 5255 Interactive Simulation (3 credit hours)
- EIN 5317 Training System Design (3 credit hours)
- EIN 6524 Simulation Modeling Paradigms (3 credit hours)

- EIN 6529 Simulation Design and Analysis (3 credit hours)
- EIN 6645 Real-Time Simulation Agents (3 credit hours)
- EIN 6647 Intelligent Simulation (3 credit hours)
- EIN 6649C Intelligent Tutoring Training System Design (3 credit hours)
- ESI 5531 Discrete Systems Simulation (3 credit hours)
- ESI 6217 Statistical Aspects of Digital Simulation (3 credit hours)
- ESI 6529 Advanced Systems Simulation (3 credit hours)
- ESI 6532 Object-oriented Simulation (3 credit hours)
- ESI 6546 Process Simulation (3 credit hours)

Statistics and Quality Control

- EIN 6330 Quality Control in Automation (3 credit hours)
- ESI 5227 Total Quality Improvement (3 credit hours)
- ESI 5236 Reliability Engineering (3 credit hours)
- ESI 6224 Quality Management (3 credit hours)
- ESI 6225 Quality Design and Control (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)
- ESI 5219 Engineering Statistics (3 credit hours)

Other

- EIN 5936 Seminar in Industrial Engineering: Doctoral Research (1 credit hour)

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Doctor of Philosophy in Industrial Engineering

Ahmad Elshennawy, Ph.D. , Associate Professor
Phone Number: 407-823-2204
gc-iems@mail.ucf.edu

Master of Science in Engineering

Ahmad Elshennawy, Ph.D. , Associate Professor
Phone Number: 407-823-2204
gc-iems@mail.ucf.edu

Master of Science in Industrial Engineering

Ahmad Elshennawy, Ph.D. , Associate Professor
Phone Number: 407-823-2204
gc-iems@mail.ucf.edu

Engineering Management Track

Ahmad Elshennawy, Ph.D. , Associate Professor
Phone Number: 407-823-2204
gc-iems@mail.ucf.edu

Human Engineering/Ergonomics Track

Ahmad Elshennawy, Ph.D. , Associate Professor
Phone Number: 407-823-2204
gc-iems@mail.ucf.edu

Interactive Simulation and Training Systems Track

Ahmad Elshennawy, Ph.D. , Associate Professor
Phone Number: 407-823-2204
gc-iems@mail.ucf.edu

Manufacturing Engineering Track

Ahmad Elshennawy, Ph.D. , Associate Professor
Phone Number: 407-823-2204
gc-iems@mail.ucf.edu

Operations Research Track

Ahmad Elshennawy, Ph.D. , Associate Professor
Phone Number: 407-823-2204
gc-iems@mail.ucf.edu

Quality Engineering Track

Ahmad Elshennawy, Ph.D. , Associate Professor
Phone Number: 407-823-2204
gc-iems@mail.ucf.edu

Simulation Modeling and Analysis Track

Ahmad Elshennawy, Ph.D. , Associate Professor
Phone Number: 407-823-2204
gc-iems@mail.ucf.edu

Systems Engineering and Management Track

Ahmad Elshennawy, Ph.D. , Associate Professor
Phone Number: 407-823-2204
gc-iems@mail.ucf.edu

Instructional Technology/Media

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Master of Arts in Instructional Technology/Media - Educational Technology Track](#)

[Master of Arts in Instructional Technology/Media - Instructional Systems Track](#)

[Master of Education in Instructional Technology/Media - Educational Media Track](#)

[Contact Info](#)

Description

The College of Education offers master's programs in instructional technology leading to a Master of Education (M.Ed.) degree or a Master of Arts (M.A.) degree.

The M.Ed. program offers a track in educational media, while the M.A. program offers tracks in educational technology and instructional systems. Each track has its own graduate program coordinator and specific admission and degree requirements.

The M.Ed. program is web-based and leads to certification as a school media specialist. The educational media track is designed to offer skills in administration, production, instructional design, organization, selection, evaluation and research that relate to school library media programs. It stresses knowledge and applications of both present and future innovations and technologies for education. This program is designed for the student who has completed course work for basic teaching certification in Florida, and at least one year of successful classroom experience is preferred.

The M.A. program's Educational Technology Track is designed for classroom teachers looking for ways to increase their technological skills and become highly skilled at successfully integrating technology into the curriculum. Teachers who graduate from this program have the skills to become K-12 technology coordinators, technology instructors at the community college and university level, online instructors, computer teachers, instructional designers, and more. The program provides an opportunity for study, research, and professional training, and requires a great deal of independent thinking – emphasis is placed on the cultivation of scholarly attitudes and methods.

The Instructional Systems Track (also leading to an M.A. degree) is designed for those who wish to work in business, industry, government, or other settings where training takes place. Instructional technologists analyze training problems and requirements and design, develop, evaluate, and manage instructional programs.

Degrees Offered

Master of Arts in Instructional Technology/Media - Educational Technology Track

Master of Arts in Instructional Technology/Media - Instructional Systems Track

Master of Education in Instructional Technology/Media - Educational Media Track

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

In addition to the general graduate admission requirements, applicants should note the following degree and track-specific requirements:

Master of Education in Instructional Technology/Media

Students must complete several essay statements and submit three references. The essay statements can be found on the educational media website (pegasus.cc.ucf.edu/~edmedia) within Admissions Procedures: Online Educational Media Masters Program. An interview with the educational media program coordinator may be required.

Master of Arts in Instructional Technology/Media

To be considered for admission to the Educational Technology Track, you must submit a completed graduate application, including three letters of recommendation. In addition, you will need to submit a student information form, which can be obtained from the track website (pegasus.cc.ucf.edu/~edtech). An interview may be necessary.

To be considered for admission to the Instructional Systems Track, you must submit a completed graduate application, including three letters of recommendation from those familiar with your professional competencies and/or academic record, a goal statement, and resume. A personal interview may also be required. For further information, see pegasus.cc.ucf.edu/~instsys.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Instructional Technology/Media - Educational Technology Track	Feb 1	Jul 15	Dec 1	Apr 15
Master of Arts in Instructional Technology/Media - Instructional Systems Track	Feb 1	Jul 15	Dec 1	Apr 15
Master of Education in Instructional Technology/Media - Educational Media Track	Feb 1	Jul 15	Dec 1	Apr 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Instructional Technology/Media - Educational Technology Track	Feb 1	Feb 1	Jul 1	
Master of Arts in Instructional Technology/Media - Instructional Systems Track	Feb 1	Feb 1	Jul 1	
Master of Education in Instructional Technology/Media - Educational Media Track	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Instructional Technology/Media - Educational Technology Track	Feb 1	Mar 1	Sep 1	
Master of Arts in Instructional Technology/Media - Instructional Systems Track	Feb 1	Mar 1	Sep 1	
Master of Education in Instructional Technology/Media - Educational Media Track	Feb 1	Mar 1	Sep 1	

Master of Education in Instructional Technology/Media**Educational Media Track****Minimum Hours Required for M.Ed.—39-42 Credit Hours****Area A: Core—12 or 15 Credit Hours**

- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- EDF 6401 Statistics for Educational Data (3 credit hours) (currently not offered online) or
- EDF 6432 Measurement and Evaluation in Education (3 credit hours)

Option A—Research Report

- EME 6909 Research Report (2,1 credit hours)

Option B—Non-Thesis Option

- EME 6062 Research in Instructional Technology (3 credit hours)
- EME Elective (approval of Ed Media faculty) (3 credit hours)

Area B: Specialization—24 Credit Hours

- EME 5051 Technologies of Instruction and Information Management (3 credit hours)
- EME 5208 Production Techniques for Instructional Settings (3 credit hours)
- EME 5225 Media for Children and Young Adults (3 credit hours)
- EME 6105 Collection Development Policies and Procedures (3 credit hours)
- EME 6605 Role of the Media Specialist in Curriculum and Instruction (3 credit hours)
- EME 6706 Administrative Principles in Media Centers (3 credit hours)
- EME 6805 Organization of Media and Information (3 credit hours)
- EME 6807 Information Sources and Services (3 credit hours)

Area C: Elective—3 Credit Hours

- EME 6209 Multimedia Instructional Systems II (3 credit hours)
- EME 6058 Current Trends in Educational Media (3 credit hours)
- EME 5408 Computer Applications in Instructional Systems (3 credit hours)
- LAE 4464 Survey of Adolescent Literature (3 credit hours)
- LAE 5415 Children's Literature in Elementary Education (3 credit hours)
- EME/other Elective with approval of Ed Media faculty

Area D: Internship

- EME 6946 Graduate Internship (Only required if the student has no media center experience) (3 credit hours)

Master of Arts in Instructional Technology/Media

< systems. instructional and technology educational tracks: two offers program Arts >

Educational Technology Track

Minimum Hours Required for M.A.—36-39 Credit Hours

This program is designed for classroom teachers who want to apply technological tools to the learning process as well as develop leadership skills necessary to become site-based technology coordinators in K-12 schools. For those not currently certified in education by the Florida Department of Education, an additional course in the foundations of education area is required. The program does not lead to any current certification in Florida, nor is any add-on certification or endorsement currently available in this area.

Area A: Core—9-12 Credit Hours

- EDF 6432 Measurement and Evaluation in Education (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)

Option A—Research Report

- EME 6909 Research Report (2,1 credit hours)

Option B—Non-thesis Option

- EME 6062 Research in Instructional Technology (3 credit hours)
- Elective (3 credit hours)

Area B: Specialization—18 Credit Hours

- EME 5050 Fundamentals of Technology for Educators (3 credit hours)
- EME 5052 Electronic Resources for Education (3 credit hours)
- EME 6405 Application Software for Educational Settings (3 credit hours)
- EME 6507 Multimedia in the Classroom (3 credit hours)
- EME 6602 Integrating Technology into the Curriculum (3 credit hours)
- EME 6707 Technology Leadership and Coordination in the Schools (3 credit hours)

Area C: Extension—6 Credit Hours

Electives in current certification area, technology, or other as approved by adviser. Courses not listed below require adviser approval.

- EME 5208 Production Techniques for Instructional Settings (3 credit hours)
- EME 6053 Current Trends in Instructional Technology (3 credit hours)
- EME 6207 Multimedia Instructional Systems I (3 credit hours)
- EME 6209 Multimedia Instructional Systems II (3 credit hours)
- EME 6457 Distance Education: Technology Process Product (3 credit hours)
- EME 6607 Planned Change in Instructional Technology (3 credit hours)
- EME 6613 Instructional System Design (3 credit hours)

Area D: Practicum—3 Credit Hours

- EME 6940 Theory into Practice in Educational Technology (3 credit hours)

Instructional Systems Track

Minimum Hours Required for M.A.—39-42 Credit Hours

Area A: Core—6 or 9 Credit Hours

- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)

Select Option A, B, or C:

Option A

- EME 6909 Research Report (2,1 credit hours)

Option B

- EME 6971 Thesis (3 credit hours)

Option C

- EME 6062 Research in Instructional Technology (3 credit hours)
- Elective approved by adviser (3 credit hours)

Area B: Specialization—24 Credit Hours

- EME 5054 Instructional Systems Technology: A Survey of Applications (3 credit hours)
- EME 5056 Communication for Instructional Systems — Process (3 credit hours)
- EME 5057 Communication for Instructional Systems — Application (3 credit hours)
- EME 5408 Computer Applications in Instructional Systems (3 credit hours)
- EME 6313 Media Systems Design (3 credit hours)
- EME 6613 Instructional System Design (3 credit hours)
- EME 6705 Administration of Instructional Systems (3 credit hours)
- EME 6946 Graduate Internship in Instructional Systems (3 credit hours) OR COE 6946 Cooperative Education (3 credit hours)

Area C: Elective—9 Credit Hours

NOTE: Courses not listed below require advisor approval.

- EIN 5255 Interactive Simulation (3 credit hours)
- EME 6053 Current Trends in Instructional Technology (3 credit hours)
- EME 6207 Multimedia Instructional Systems I (3 credit hours)
- EME 6209 Multimedia Instructional Systems II (3 credit hours)
- EME 6457 Distance Education: Technology Process Product (3 credit hours)
- EME 6607 Planned Change in Instructional Technology (3 credit hours)
- INP 6317 Organizational Psychology and Motivation (3 credit hours)

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Master of Arts in Instructional Technology/Media - Educational Technology Track

Glenda Gunter, Ph.D. , Associate Professor
Phone Number: 407-823-3502
ggunter@mail.ucf.edu

Master of Arts in Instructional Technology/Media - Instructional Systems Track

Atsusi "2c" Hirumi, Ph.D. , Associate Professor

Phone Number: 407-823-1760

hirumi@mail.ucf.edu

Master of Education in Instructional Technology/Media - Educational Media Track

Judy Lee, Ph.D. , Associate Professor

Phone Number: 407-823-6139

jlee@pegasus.cc.ucf.edu

K-8 Mathematics and Science Education

[Description](#)

[Degree Offered](#)

[Admission](#)

[Master of Education in K-8 Mathematics and Science Education](#)

[Contact Info](#)

Description

The K-8 Mathematics and Science Education program offers a Master of Education (M.Ed.) degree only. The K-8 Mathematics and Science Education program is designed to improve the quality of teaching and learning in mathematics and science in grades K-8. The graduates of the K-8 Mathematics and Science program form a strong infrastructure of teachers focusing on long-term impact in schools while helping students succeed in mathematics and science classrooms.

The mathematics and science education programs are dedicated to providing all graduates with exceptional pedagogical and subject matter knowledge and skills by focusing on research-based, state-of-the-art best practices in secondary mathematics and science education.

Degrees Offered

Master of Education in K-8 Mathematics and Science Education

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

Additional Admissions Information

Students must satisfy the admissions criteria specified for admission to the graduate program. These requirements are:

- GPA of 3.0 or higher for the last 60 semester hours earned as an undergraduate
- Official score of at least 1000 (combined verbal and quantitative portions) on the Graduate Record Examination (GRE), which must have been taken within the last five years (in lieu of the GRE, a GMAT score of 500 or higher may be used for admission consideration)
- Three years of teaching experience
- Recommendation letter by school principal
- A professional Florida teaching certificate in one of the following areas: elementary education, mathematics education (middle school or secondary), or science education (middle school or secondary)
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

K-8 Mathematics and Science Education program applications are accepted for admission to the summer term only. For best consideration, students applying for Lockheed Martin/UCF Academy for Mathematics and Science fellowships must apply for admission by the Fall Priority deadline date.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Education in K-8 Mathematics and Science Education	Feb 1			Apr 15

Master of Education in K-8 Mathematics and Science Education

36 Minimum Credit Hours Required

Area A: Core—15 Credit Hours

- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- IDS 6934 Using Technology in Mathematics and Science (3 credit hours)
- IDS 6937 Reflecting on Instruction of Mathematics and Science (3 credit hours)
- IDS 6939 Reforming Curriculum in Mathematics and Science Education (3 credit hours)
- IDS 6933 Seminar in Teaching Mathematics and Science (3 credit hours)

Area B: Content Pedagogy—12 Credit Hours

- MAE 6641 Problem Solving and Critical Thinking Skills (3 credit hours)
- SCE 5825 Space Science for Educators (3 credit hours)
- SCE 6146 Environmental Education for Educators (3 credit hours)
- Elective (3 credit hours)

Area C: Supervision—3 Credit Hours

- EDS 5356 Supervision of Professional Laboratory Experiences (3 credit hours)

Area D: Thesis—6 Credit Hours

- IDS 6971 Thesis

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance

available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program coordinator of your major.

Contact Info

Michael Hynes, Ph.D. , Associate Dean
Phone Number: 407-823-6076
hynes@mail.ucf.edu

Liberal Studies

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Master of Arts in Liberal Studies](#)

[Accelerated Graduate Program in Liberal Studies Track](#)

[Maya Studies Track](#)

[Master of Science in Liberal Studies](#)

[Contact Info](#)

Description

Liberal Studies offers interdisciplinary master's degrees with more than thirty concentrations and certificate affiliations available for constructing a program of study. Liberal Studies undergraduate students may be eligible for the accelerated undergraduate and graduate program in Liberal Studies. Liberal Studies also offers a specialized Maya Studies Track in combination with the Maya Studies Certificate.

Degrees Offered

Master of Arts in Liberal Studies

- Accelerated Graduate Program in Liberal Studies Track
- Maya Studies Track

Master of Science in Liberal Studies

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

Additional Admissions Information

Applicants should note the following minimal requirements for admission to the program:

- GPA of 3.0 (on a 4.0 scale) for the last 60 attempted semester hours of undergraduate study earned toward the baccalaureate, or
- A score of 1000 on the verbal-quantitative sections of the Graduate Record Examination (GRE). (Note that a GRE score must be submitted with the application whether the 3.0 GPA threshold is met or not.)
- A written statement describing student's goals and objectives in seeking a Liberal Studies graduate degree, including preliminary ideas about which concentration might be chosen
- Three letters of recommendation, at least one from an academic office
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited US institution, an official score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required

- Interview with a Liberal Studies Graduate adviser

The Master of Arts and Master of Science in Liberal Studies programs award interdisciplinary degrees that incorporate three core courses as a common basis of study. The core courses bring together knowledge from various fields, traditions, and cultures, enhancing and extending the educational experience. The programs are intended to develop research abilities, substantive knowledge, critical thinking, and advanced skills, through the diverse concentrations of study. Individualized advising, carefully selected classes and program construction, and a commitment to the student are central to these programs.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Liberal Studies	Feb 1	Jun 30	Nov 15	Mar 30
Accelerated Graduate Program in Liberal Studies Track	Feb 1	Jun 30	Nov 15	Mar 30
Maya Studies Track	Feb 1	Jun 30	Nov 15	Mar 30
Master of Science in Liberal Studies	Feb 1	Jul 15	Nov 15	Mar 30

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Liberal Studies	Feb 1	Feb 1	Jul 1	
Accelerated Graduate Program in Liberal Studies Track	Feb 1	Feb 1	Jul 1	
Maya Studies Track	Feb 1	Feb 1	Jul 1	
Master of Science in Liberal Studies	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Liberal Studies	Feb 1	Mar 1	Sep 1	
Accelerated Graduate Program in Liberal Studies Track	Feb 1	Mar 1	Sep 1	
Maya Studies Track	Feb 1	Mar 1	Sep 1	
Master of Science in Liberal	Feb 1	Mar 1	Sep 1	

Studies

Master of Arts in Liberal Studies

Degree-seeking students in the Master of Arts in Liberal Studies program and in the Master of Science in Liberal Studies may elect to follow either a thesis or a non-thesis course of study. The degree of Master of Arts or Master of Science is conferred when the student has fulfilled the requirements of either the thesis or non-thesis option. Students pursuing the Maya Studies Track must take the thesis option. Students must earn course grades of "B-" or better to get credit toward the masters degree.

Requirements for M.A.—33 Credit Hours Minimum

Required Courses—9 Credit Hours

- IDS 6308 Ways of Knowing (3 credit hours)
- IDS 6669 Interdisciplinary Approaches to Research (3 credit hours)
- IDS 6351 Critical Thinking and Writing (3 credit hours)

Concentration/Graduate Certificate Program—18 Credit Hours

A minimum of 18 semester hours of course work must be completed. Course selection is done in consultation and with approval of the program director.

Thesis Option—6 Credit Hours

Completion of an approved elective or directed research, and a minimum of 3 semester hours of thesis credit, and a successful completion of a thesis are required.

Non-Thesis Option—6 Credit Hours

Six semester hours of approved graduate electives and passing a comprehensive written examination are required.

Concentrations

These concentrations include formally identified courses of study, certificate programs, and individualized courses of study.

- American History
- American Studies
- Art and Culture in Society
- Business and Government Writing
- Communication
- Comparative Cultural Studies: The Hispanic World
- English
- English for Speakers of Other Languages
- History
- The Human Condition
- Humanities
- International Studies

- Issues of Social Concern
- Leadership Studies
- Political Science
- Psychology
- Public Administration
- Public Policy Analysis
- Race, Ethnicity, and Class
- Sociology

Graduate Certificate Programs

- Aging Studies
- Arts Management
- Computer Forensics
- Conservation Biology
- Contemporary Humanities
- Crime Analysis
- Domestic Violence
- Education
- Gender Studies
- Maya Studies
- Nonprofit Management
- Professional Writing
- Public Administration
- SAS Data Mining
- Teaching English as a Foreign Language
- Theoretical and Applied Ethics

NOTE: Students pursuing the Master of Arts in Liberal Studies degree program must take a majority of the 33 required credit hours be earned in traditional liberal arts courses. Students pursuing the Master of Science in Liberal Studies must take at least fifteen credits in their concentration in work that is traditionally from Master of Science courses.

Maya Studies Track

Maya Studies Track—33 Credit Hours Minimum

Core Courses—9 Credit Hours

- IDS 6308 Ways of Knowing (3 credit hours)
- IDS 6669 Interdisciplinary Approaches to Research (3 credit hours)
- IDS 6351 Critical Thinking and Writing (3 credit hours)

Concentration—18 Credit Hours*

Required—6 Credit Hours

- ANG 6168 The Ancient Maya (3 credit hours)
- ANG 6324 Contemporary Maya (3 credit hours)

Elective Courses—12 Credit Hours

- ANG 5166 Problems in Maya Studies (3 credit hours)

- ANG 5167 Maya Hieroglyphs (3 credit hours)
- ANG 5228 Maya Iconography (3 credit hours)
- ANT 5165 Field Research in Maya Studies (3 credit hours)
- CPO 5334 Contemporary Politics of the Maya Region (3 credit hours)
- ANG 5110 Archaeological Theory and Method (3 credit hours)

Thesis—6 Credit Hours

Students must complete an approved elective or directed research, a minimum of 3 credit hours of thesis, and a thesis.

* To receive the Graduate Certificate in Maya Studies, an application to the Maya Studies certificate program is required.

Accelerated Undergraduate and Graduate Program in Liberal Studies

Web address: www.cas.ucf.edu/liberal_studies/

The accelerated undergraduate and graduate program in Liberal Studies allows a student to earn a bachelor of arts or bachelor of science degree and a master of arts degree in as few as five years including summer sessions. Students can earn nine hours of graduate credit toward the master's degree while still an undergraduate, and then an additional twenty-four credits after earning the bachelor's degree.

Students majoring in Liberal Studies who have compiled a superior record can apply for the program. This unique course of study requires close advising with program advisors and approval by the Master of Arts in Liberal Studies program.

Admission Requirements

Acceptance to the university does not constitute admission to the combined bachelor's/master's program. An additional application to the program must be submitted and the student accepted. Contact the Liberal Studies Program or visit the website for application information. All applicants must meet the following criteria:

- A student must have a grade point average of 3.25 or higher at UCF in their last 30 semester hours before applying in the second semester of their junior year.
- The student must have earned at least 75 semester hours by the time of application and 30 upper level credit hours by the end of the application semester. Decision about admission to the program will depend partially on the grades earned in the application semester if the 30 upper level (and 75 overall) credits were not earned previously.
- A Graduate Record Examination score of 1050 or above (usually taken at the latest in the second semester of the junior year).

Degree Requirements

The combined bachelor's/master's program involves a minimum of 144 credit hours for completion of both the B.A./B.S. and M.A. degrees. Students must earn course grades of "B-" or better to get credit toward the masters degree.

Liberal Studies Undergraduate Degree

The Liberal Studies undergraduate program offers several tracks in the degree program. Details about the program and the official requirements are detailed in the [Undergraduate Catalog](#). Nine hours of graduate courses must be integrated into the undergraduate program with the assistance of the program advisors.

Liberal Studies Graduate Degree

Core Courses—9 Credit Hours

- IDS 6308 Ways of Knowing (3 credit hours)
- IDS 6669 Interdisciplinary Approaches to Research (3 credit hours)
- IDS 6351 Critical Thinking and Writing (3 credit hours)

Concentration—18 Credit Hours

Choose one from the many concentrations and certificate affiliation programs that are part of the Master of Arts in Liberal Studies Program.

Elective—3 Credit Hours

Thesis Option—6 Credit Hours

Successful completion of an approved elective or directed research, a minimum of 3 credit hours of thesis credit, and successful completion of a thesis are required.

Non-Thesis Option—6 Credit Hours

Six credit hours of approved graduate electives and passing a comprehensive written examination are required.

Master of Science in Liberal Studies

The Master of Science in Liberal Studies degree is designed for students interested in the interdisciplinary experience of Liberal Studies who complete their concentration through courses traditionally associated with M.S. degrees. Students completing their concentration through certificates in Computer Forensics, Conservation Biology, Nonprofit Management, and others normally would be eligible for the M.S. degree. The overall credit-hour requirements are the same as for the Master of Arts in Liberal Studies. These requirements are detailed in the prior section.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.

- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Master of Arts in Liberal Studies

Elliot Vittes, Director of Liberal Studies, Ph.D.

Phone Number: 407-823-2745

mls@mail.ucf.edu

Master of Science in Liberal Studies

Elliot Vittes, Director of Liberal Studies, Ph.D.

Phone Number: 407-823-2745

mls@mail.ucf.edu

Accelerated Graduate Program in Liberal Studies Track

Elliot Vittes, Director of Liberal Studies, Ph.D.

Phone Number: 407-823-2745

mls@mail.ucf.edu

Maya Studies Track

Elliot Vittes, Director of Liberal Studies, Ph.D.

Phone Number: 407-823-2745

mls@mail.ucf.edu

Management

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Master of Science in Management](#)

[Human Resources/Change Management Track](#)

[Contact Info](#)

Description

The College of Business Administration offers a Master of Science in Management degree that provides an alternative to the MBA degree for students who desire specialized study and the development of a high level of professional proficiency in a functional area of business. The primary track in the Management program is Human Resources and Change Management. Students completing the master's program in Human Resources and Change Management will be prepared to work in organizations in such areas as human resources, strategic planning, organizational effectiveness, staffing, compensation, and employee relations.

In addition, the College offers a doctoral (Ph.D.) program in Business Administration that includes a [Management track](#).

Degrees Offered

Master of Science in Management

- Human Resources/Change Management Track

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Graduate Catalog](#). Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

In addition to the general admission requirements, applicants to this program must provide:

- Official score of at least 500 on the Graduate Management Admission Test (GMAT) OR 1000 (verbal and quantitative) on the GRE.
- Evidence of prior GPA of 3.0.
- Three letters of recommendation.
- Essay (for details, see the college website).
- Resume.
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 230 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

Both GPA and Test Scores must be officially reported to the Division of Graduate Studies.

For consideration for college financial assistance, apply at least one month before the application deadline.

The MSM program offers an alternative to students who want to pursue graduate study in business, but who also desire a focus on management. The program is designed to appeal to those currently in management positions who want to develop additional expertise, as well as those who seek to move into the management track as a vehicle for career advancement.

The program is based on the belief that successful change involves aligning a firm's people and process with an ever-changing environment. As a result, the goals of our program are to provide you with the knowledge required to successfully anticipate, plan, and carry out changes. One main component of the program will be a focus on developing practices and methods that align human resources activities with organizational strategies. The second component will help you develop skills in recognizing the need for change, the factors that improve a firm's ability to absorb change, along with effective and appropriate responses to those changes.

Students with a wide variety of backgrounds, including those with degrees in economics, education, hospitality, nursing, psychology, and business, are encouraged to apply to this program. Students without an undergraduate degree in business must take a series of background courses by completing the MBA foundation core. Those who have these background courses may begin immediately in the core courses and elective courses listed below.

[Academic Standards in the College of Business Administration](#)

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Science in Management				
Human Resources/Change Management Track	Feb 1	Jun 15	Nov 1	Mar 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Science in Management				
Human Resources/Change Management Track	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Science in Management				
Human Resources/Change Management Track	Feb 1	Mar 1	Sep 1	

Master of Science in Management

Human Resources and Change Management Track—30 Credit Hours Minimum

Required Courses—18 Credit Hours

- MAN 6285 Change Management (3 credit hours)
- MAN 6305 Human Resources Management (3 credit hours)
- MAN 6311 Advanced Topics in Human Resources Management (3 credit hours)
- ECO 6416 Applied Business Research Tools (3 credit hours)
- MAN 6395 Leadership Development and Coaching (3 credit hours)
- MAN 6385 Strategic Human Resources Management (3 credit hours)

Elective Courses—12 Credit Hours

- MAN 6286 Innovation and Strategic Change (3 credit hours)
- MAN 6323 Human Resources Information Systems (3 credit hours)
- MAN 6448 Conflict Resolution and Negotiation (3 credit hours)
- MAN 6915 Applied Field Project (3 credit hours)
- MBA Core Class
- Other 6000-level Approved Electives (e.g., Industrial and Organizational Psychology)

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Master of Science in Management

Foard Jones, Ph.D. , Associate Professor

Phone Number: 407-823-2925

cbagrad@bus.ucf.edu

Human Resources/Change Management Track

Foard Jones, Ph.D. , Associate Professor

Phone Number: 407-823-2925

cbagrad@bus.ucf.edu

Management Information Systems

[Description](#)

[Degree Offered](#)

[Admission](#)

[Master of Science in Management Information Systems](#)

[Contact Info](#)

Description

The College of Business Administration offers a Master of Science in Management Information Systems degree, as well as a doctoral (Ph.D.) program in Business Administration that includes a Management Information Systems Track.

The MIS master's program provides another alternative to the MBA degree for students who desire specialized study and the development of a high level of professional proficiency in information technology. These areas include: programming, systems analysis and design, systems implementation, database administration, telecommunications, and e-commerce. Students completing the MS/MIS degree program will be prepared to work in organizations in such areas as software developers, systems analysts, database administrators, and network managers.

The Master of Science in Management Information Systems program prepares students in the technical and managerial topics essential for a successful career in the information technology (IT) field. This field is characterized by rapid advances in technology (hardware, software, telecommunications), intense international competition, faster product life cycles, and complex and specialized markets.

In such turbulent environments, the information requirements of organizations are becoming increasingly more challenging. Forward-looking companies must invest wisely in IT and the human expertise necessary to make them competitive and successful in the future. Individuals are needed who can design and manage large and complex information systems, and who can communicate effectively with customers and management.

Our goal is to develop specialists who are attuned to the latest principles, methods, and techniques of both technology and management. The MS/MIS program at the University of Central Florida is designed to meet the challenge of producing individuals who are capable of leading such companies successfully into the future.

Degrees Offered

Master of Science in Management Information Systems

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Graduate Catalog](#). Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

[Admission to Master's Programs in the College of Business Administration](#)

In addition to the general admission requirements, applicants must provide:

- A GPA of 3.0 (all foreign transcripts must be evaluated) and GMAT of at least 500 or GRE of 1000 (Quantitative and Verbal Sections).

- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 230 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.
- Three letters of recommendation.
- An essay; for details, see the college website.
- A resume.

Both GPA and Test Scores must be officially reported to the Division of Graduate Studies.
For consideration for college financial assistance, apply at least one month before the application deadline.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Science in Management Information Systems	Feb 1	Jun 15	Nov 1	Mar 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Science in Management Information Systems	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Science in Management Information Systems	Feb 1	Mar 1	Sep 1	

Master of Science in Management Information Systems

Minimum Hours Required for MS/MIS—30 Credit Hours

Business Foundation—10.5 Credit Hours

An undergraduate degree in business, or satisfactory completion of the following 1.5-hour courses fulfills this requirement.

- ACG 5005 Accounting Foundations (1.5 credit hours)

- ECO 5006 Economic Foundations (1.5 credit hours)
- ECO 5414 Statistical Foundations (1.5 credit hours)
- FIN 5407 Financial Foundations (1.5 credit hours)
- MAN 5021 Management Foundations (1.5 credit hours)
- MAR 5055 Marketing Foundations (1.5 credit hours)

Prerequisites

The following prerequisites (or equivalents) should be completed before enrolling in 6000-level graduate courses.

- ISM 5256 Concepts of Business Programming (3 credit hours)
- ISM 5123 Concepts of Systems Analysis and Design (3 credit hours)
- ISM 6938 Special Topic (3 credit hours)
OR ISM 4212 Database Systems (3 credit hours)

MIS Degree Requirements

The major consists of 30 hours from three core areas: the business core, the MIS core and the MIS electives. All courses can be completed by a full-time student in one calendar year and by a part-time student in two calendar years. ISM 6305, typically taken in the last semester, serves as a capstone course and culminating experience in the program.

Business Core—12 Credit Hours

- MAN 6245 Organizational Behavior and Development (3 credit hours)
- MAN 6305 Human Resources Management (3 credit hours)
- 2 additional 6000-level business courses (6 credit hours)

Management Information Systems Core—12 Credit Hours

- ISM 6121 Advanced Information Systems Analysis and Design (3 credit hours)
- ISM 6217 Advanced Database Administration (3 credit hours)
- ISM 6305 Information Resources Management (3 credit hours)
- ISM 6227 Management of Telecommunications (3 credit hours)

Electives—6 Credit Hours

- ISM 6485 Electronic Commerce (3 credit hours)
- ISM 6930 Seminar in Management Information Systems (3 credit hours)
- ISM 6XXX Business Applications of Data Mining (3 credit hours)
- ISM 6908 Independent Study (3 credit hours)

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Paul Cheney, Ph.D. , Professor
Phone Number: 407-823-3173/3174
cbagrad@bus.ucf.edu

Materials Science and Engineering

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Master of Science in Materials Science and Engineering](#)

[Doctor of Philosophy in Materials Science and Engineering](#)

[Contact Info](#)

Description

The University of Central Florida offers master's and doctoral programs in Materials Science and Engineering. Fields of emphasis and research for materials science and engineering include crystal growth, glass processing, phase transformation, high temperature materials, environmental degradation, materials characterization, electron microscopy, and microelectronic materials.

The Master of Science degree in Materials Science and Engineering (M.S.M.S.E.) is intended primarily for a student with a bachelor's degree in mechanical, materials, or aerospace engineering or a closely related discipline obtained from a recognized accredited institution.

The Doctor of Philosophy (Ph.D.) degree is intended for a student with a master's degree in mechanical or aerospace engineering, electrical engineering, materials science and engineering, or closely related disciplines such as chemistry, optics, physics, and biology. The program provides an applied research-based education suitable for seeking employment in industry or academia. Industries with strong materials emphases include construction and design firms, microchip development companies, space-related technology firms, medical products manufacturers, and automotive and sports-related companies.

Degrees Offered

Master of Science in Materials Science and Engineering

Doctor of Philosophy in Materials Science and Engineering

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

Additional Admissions Information

The Master of Science degree in Materials Science and Engineering (M.S.M.S.E.) is intended primarily for a student with a bachelor's degree in mechanical, materials, or aerospace engineering or a closely related discipline obtained from a recognized institution. Minimum requirements for admission to regular status are a 3.0 grade point average (4.0=A) in the last 60 attempted hours of undergraduate study at an accredited institution, a combined score of 1000 on the quantitative and verbal portions of the Graduate Record Examination (GRE), and for international students (except those who are from countries where English is the only official language or those who have earned a degree from an accredited American college or university), a score of 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL).

In certain circumstances a provisional admission may be extended to students who have a grade point average below 3.0 but otherwise meet university requirements. Additional courses may be required to

correct deficiencies. Students should contact the MMAE graduate program coordinator for more information.

All students are expected to identify an adviser and file an official degree program of study prior to the completion of 9 credit hours of study. Students should consult with the M.M.A.E. graduate program coordinator for assistance in filling out a program of study. A program of study, satisfying track requirements, must be developed prior to the completion of 9 credit hours and meet with departmental approval. The M.S.M.E. degree is offered as a thesis or a non-thesis option.

The thesis option requires 30 credit hours, at least half of which must be at the 6000 level and will include 6 credit hours of thesis credit. A student pursuing the thesis option may not register for thesis credit hours until an advisory committee has been appointed and the committee has reviewed the program of study and the proposed thesis topic.

The non-thesis option is primarily designed to meet the needs of part-time students and requires 36 credit hours of course work, at least 15 of which must be at the 6000 level. In addition, students pursuing the non-thesis option are required to pass a final comprehensive exam and to take EML 6085 Research Methods in MMAE as part of their 36-credit-hour course requirement.

A student with an undergraduate degree outside of the selected departmental discipline may be required to satisfy an articulation program. Substitutions to the program of study must meet with the approval of the adviser and the department. Further information is available in the *Master's Degree General Procedures* manual available from the M.M.A.E. Department.

The College of Engineering and Computer Science requires that you fill out a pre-application form (www.graduate.cecs.ucf.edu) before you complete the application for graduate admission. The deadlines for the pre-application form can be found on the Prospective Student Page on the College of Engineering and Computer Science website.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Materials Science and Engineering	Feb 1	Jul 15	Dec 1	Apr 15
Master of Science in Materials Science and Engineering	Feb 1	Jul 15	Dec 1	Apr 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Materials Science and Engineering	Feb 1	Feb 1	Jul 1	
Master of Science in Materials Science and Engineering	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Materials Science and Engineering	Feb 1	Mar 1	Sep 1	
Master of Science in Materials Science and Engineering	Feb 1	Mar 1	Sep 1	

Master of Science in Materials Science and Engineering

Prerequisites (or equivalent)

- Mathematics through Differential Equations (MAP 2302)
- Modeling Methods in Mechanical and Aerospace Engineering (EML 3034)
- Structure and Properties of Materials (EGN 3365)
- Mechanics of Materials (EGN 3331) or Thermodynamics (EGN 3343)
- Experimental Techniques in Mechanics and Materials (EMA 3012C)

Minimum Hours Required for M.S.M.S.E.—30 (thesis option) or 36 (non-thesis option) Credit Hours

[General College Requirements](#)

Required Courses—15 Credit Hours

All students must take the following five required courses.

- EMA 5104 Intermediate Structure and Properties of Materials (3 credit hours)
- EMA 5106 Metallurgical Thermodynamics (3 credit hours)
- EMA 6126 Physical Metallurgy (3 credit hours)
- EMA 6626 Mechanical Behavior of Materials (3 credit hours)
- EMA 5XXX Rate Processes in Materials (3 credit hours)

Students must take at least four courses from the option list below. Additional courses to satisfy total semester hour requirements (30 credit hours thesis option, 36 credit hours non-thesis option) may be taken from the list of representative electives below or from the remaining MMAE course offering. Students should consult with their faculty adviser (or graduate coordinator if they do not have a faculty adviser) prior to registering for classes. Note that thesis option students must take 6 credit hours of thesis and non-thesis option students must take Research Methods in MMAE. Thesis students must continue to enroll in one hour of thesis course work (XXX 6971) until the thesis requirement is satisfied, beyond the minimum of 6 credit hours of thesis.

Representative Electives—12-18 Credit Hours

- EMA 5108 Surface Science (3 credit hours)
- EMA 5140 Introduction to Ceramic Materials (3 credit hours)
- EMA 5326 Corrosion Science and Engineering (3 credit hours)
- EMA 5504 Modern Characterization of Materials (3 credit hours)
- EMA 6130 Phase Transformation in Metals and Alloys (3 credit hours)
- EMA 6136 Diffusion in Solids (3 credit hours)
- EMA 5585 Materials Science of Thin Film (3 credit hours)
- EMA 6516 X-ray Diffraction and Crystallography (3 credit hours)

- EMA 6XXX Electrical, Optical and Magnetic Properties (3 credit hours)
- EMA 5586 Photovoltaic Solar Energy Materials (3 credit hours)
- EMA 5584 Biomaterials (3 credit hours)
- EMA 6149 Imperfections in Crystals (3 credit hours)
- EMA 6628 Materials Failure Analysis (3 credit hours)
- EMA 5505 Scanning Electron Microscopy (3 credit hours)
- EMA 5060 Polymer Science and Engineering (3 credit hours)
- EMA 6518 Transmission Electron Microscopy (3 credit hours)
- EMA 5705 High Temperature Materials (3 credit hours)
- EML 5291 MEMS Materials (3 credit hours)
- EMA 6605 Materials Processing Techniques (3 credit hours)
- EMA 6129 Solidification and Microstructure Evolution (3 credit hours)
- EMA 5610 Laser Materials Processing (3 credit hours)
- EMA 5587C Characterization and Reliability of PV Cells (3 credit hours)
- EMA 5937C Physics of Failure and Reliability of Microelectronics Packages (3 credit hours)
- EML 6085 Research Methods in MMAE (3 credit hours)

Doctor of Philosophy in Materials Science and Engineering

The Doctor of Philosophy (Ph.D.) degree is intended for a student with a master's degree in mechanical or aerospace engineering, electrical engineering, materials science and engineering, or closely related disciplines such as chemistry, optics, physics and biology. The program provides an applied research-based education suitable for seeking employment in industry or academia. Industries with strong materials emphases include construction and design firms, microchip development companies, space-related technology firms, medical products manufacturers, and automotive and sports-related companies. The program is based upon a solid core emphasizing the foundation of materials science and engineering with advanced knowledge in state-of-the-art applications. Doctoral students will be expected to apply their knowledge and research skills to removing barriers to critical technology advancement. The current interdisciplinary research collaboration between this program and Optics, Chemistry, Physics, and Electrical Engineering will provide many opportunities for gaining an interdisciplinary knowledge base needed to be competitive in industry. Students in this program will be encouraged to spend a summer internship with a relevant central Florida high technology industry.

Admission Requirements

A master's degree is normally expected, but not required from applicants. A bachelor's degree with a grade point average of 3.0 (A = 4.0) on the last 60 attempted hours of undergraduate course work from an accredited institution and a combined score of at least 1000 on the verbal and quantitative portions of the GRE are required for admission. International students whose native language is not English will have to present a TOEFL (Test of English as a Foreign Language) score of 220 to be considered. Students must submit an application for graduate admission, including a resume, goals statement, and three letters of recommendation.

[Application Deadlines](#)

Degree Requirements

[General College Requirements](#)

Graduate Student Entering the Ph.D. Program with a B.S.

For a graduate student with a B.S. degree, the following are the minimum Materials Science and Engineering Ph.D. program requirements: 72 credit hours of graduate course work, of which 57 credit

hours are the minimum hours of course work (may include up to 12 credit hours of directed research with approved Program of Study) and 15 credit hours are the minimum hours of dissertation. The rest of the hours in the Ph.D. program can be chosen by the student in consultation with the adviser and the dissertation committee and with the approval of the graduate program coordinator. These may include doctoral directed research hours or doctoral dissertation hours.

Minimum Course Work (may include up to 12 credit hours of directed research)—57 Credit Hours

Doctoral Dissertation—15 Credit Hours

Minimum Hours Required for Ph.D.—72 Credit Hours

Graduate Student Entering the Ph.D. Program with an M.S.

For a graduate student with an M.S. degree the following are the minimum Materials Science and Engineering Ph.D. program requirements: 36 credit hours of graduate course work beyond the masters degree, of which 21 credit hours are the minimum number of hours of course work and 15 credit hours are the minimum hours of doctoral dissertation hours. The rest of the hours in the Ph.D. program can be chosen by the student in consultation with the adviser and the dissertation committee and with the approval of the graduate program coordinator. These credit hours may include doctoral directed research hours or doctoral dissertation hours. Non-thesis M.S. degree students may take up to 9 credit hours of directed research, while M.S. thesis option students may take up to 12 credit hours of directed research toward fulfillment of additional minimum course work beyond the M.S.

Minimum Course Work (may include up to 12 credit hours of directed research)—21 (27) Credit Hours*

Doctoral Dissertation—15 Credit Hours

Minimum Hours Required for Ph.D.—36 (42) Credit Hours*

* For students who have completed a thesis option at the master's level with no additional course work, the minimum requirement for course work will be 27 hours.

NOTES:

- UCF requires that a full-time Ph.D. student be registered for 9 hours Fall and Spring semesters and 6 credit hours Summer semester.
- The University of Central Florida requires that a Ph.D. student be registered for 3 hours of doctoral dissertation hours upon completion of the candidacy exam and every semester thereafter until graduation.
- The MMAE department requires that a Ph.D. student submits his/her candidacy exam the academic semester immediately following his/her successfully passing the Ph.D. Qualifying Exam.
- No more than 12 credit hours of directed doctoral research may be taken toward fulfilling degree program of study course work requirements.
- Unless a completed (signed) program of study (POS) itemizing the study plan is approved prior to the end of the first semester of studies, the graduate program coordinator of the MMAE department may choose not to accept any part of the course work (including independent studies and/or directed research) taken by the student on a program of study subsequently submitted by the student.

Examinations

Both a Qualifying Exam and Candidacy Exam are required. Further information on these examinations are contained in the *Ph.D. Degree General Procedures* manual available from the MMAE Department (<http://www-mmae.engr.ucf.edu>).

Dissertation Committee

- The Dean, through the Chairs, is responsible for committee formation, additions, and deletions. The doctoral committee must consist of a minimum of five members: three must be faculty

members from within the student's department, and one must be at large from outside the Mechanical, Materials, and Aerospace Engineering Department. The committee Chair must be a member of the department graduate faculty approved to direct dissertations. Joint faculty members serve as department-faculty committee members as well as chairs of dissertation committees. Adjunct faculty and off-campus experts may serve as the outside-the-college person in the committee. Program areas may further specify additional committee membership. The Office of Graduate Studies reserves the right to review appointments to advisory committees, place a representative on any advisory committee, or appoint a co-adviser.

- In unusual cases, with approval from the program Chair, two professors may chair the committee jointly. Joint faculty members may serve as committee chairs, but off-campus experts and adjunct faculty may not serve as committee chairs.
- All members vote on acceptance or rejection of the dissertation proposal and the final dissertation. The dissertation proposal and final dissertation must be approved by a majority of the advisory committee.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

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- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Doctor of Philosophy in Materials Science and Engineering

Ruey-hung (Ray) Chen, Ph.D. , Associate Professor

Phone Number: 407-823-2416

gradmmae@mail.ucf.edu

Master of Science in Materials Science and Engineering

Ruey-hung (Ray) Chen, Ph.D. , Associate Professor

Phone Number: 407-823-2416

gradmmae@mail.ucf.edu

Mathematics

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Master of Science in Mathematical Science](#)

[Industrial Mathematics Track](#)

[Doctor of Philosophy in Mathematics](#)

[Contact Info](#)

Description

The University of Central Florida offers a Master of Sciences degree in Mathematical Science and a Doctor of Philosophy degree in Mathematics. Both degrees are intended to provide a broad base in applied and industrial mathematics.

Research interests of the faculty include applied analysis, differential equations, methods of mathematical physics, nonlinear waves, probability and mathematical statistics, functional analysis, numerical analysis, approximation theory, nonlinear dynamics, fluid mechanics, wave propagation, algebra, number theory, combinatorics and graph theory, inverse problems, special functions and orthogonal polynomials, financial mathematics, and medical imaging.

Degrees Offered

Master of Science in Mathematical Science

- Industrial Mathematics Track

Doctor of Philosophy in Mathematics

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

Master of Science in Mathematical Science

The Master of Science degree in Mathematical Science is intended to provide a broad base in applied and industrial mathematics. Research interests of the faculty include applied analysis, differential equations, methods of mathematical physics, nonlinear waves, probability and mathematical statistics, functional analysis, numerical analysis, approximation theory, nonlinear dynamics, fluid mechanics, wave propagation, algebra, number theory, and combinatorics and graph theory, inverse problems, special functions and orthogonal polynomials, financial mathematics, and medical imaging.

A track in Industrial Mathematics is offered to prepare graduate students to pursue careers in industry by providing them with high quality professional training in branches of mathematics that are valuable to high-technology industry. Graduates of the program will be able to pursue a wide variety of industrial jobs at the local and national levels.

The Graduate Record Examination (GRE) is required of all applicants to these programs. Admission requirements are the standard university criteria of either: (1) at least the equivalent of a 3.0 (out of 4.0) grade point average (GPA) for the last 60 attempted semester hours of credit earned toward the baccalaureate; or (2) a GRE score of at least 1000 for the combined verbal-quantitative sections of the General (Aptitude) Test; or (3) a prior graduate degree from an accredited institution. GRE results must be less than five years old. Transfer of credits from other programs will be considered on a course-by-course basis. The department requires international students and students whose native language is not English to have a minimum score of 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL).

Additionally, students entering the graduate program with regular status are assumed to have a working knowledge of undergraduate calculus, differential equations, linear algebra (or matrix theory), boundary value problems, statistics, computer programming, and maturity in the language of advanced calculus (at the level of MAA 4226). Those students who find they are not adequately prepared in one or more of these areas can select appropriate courses from the undergraduate curriculum to make up such deficiencies. Such courses, unless specially approved, will not count toward the graduate degree. Applicants not qualified for regular status may be admitted initially to the university in a nondegree-seeking status, although only nine hours in this status can be transferred into a graduate program.

Doctor of Philosophy in Mathematics

Students in this program specialize in many different aspects of mathematics, including propagation through random media, nonlinear waves, graph theory, operator algebra and frame theory, tomography, approximation theory, differential equations, nonlinear dynamics and mathematical physics, as well as abstract algebra, real and complex analysis, and probability theory. In response to this wide variety of interests, the program offers more flexibility in the composition of the core as well as the qualifying examination. The program is comprehensive with opportunities for prospective students to pursue research in a variety of disciplines.

The goal of the program is to produce students with a broad base who will attain distinction in their fields of research. In order to achieve this, the program has a required core as well as a set of electives providing cross-disciplinary subjects. All Ph.D. students are required to take electives outside the department.

Admission to the Ph.D. program in Mathematics is formalized by the university upon the recommendation of the Department of Mathematics. Applicants must complete an online application for graduate admission (available at www.graduate.ucf.edu/), including a resume, goal statement, and three letters of recommendation.

The Graduate Record Examination (GRE) is required of all applicants to this program. Admission requirements are the standard university criteria of either: (1) at least the equivalent of a 3.0 (out of 4.0) grade point average (GPA) for the last 60 attempted semester hours of credit earned toward the baccalaureate; or (2) a GRE score of at least 1000 for the combined verbal-quantitative sections of the General (Aptitude) Test; or (3) a prior graduate degree from an accredited institution. GRE results must be less than five years old. Transfer of credits from other programs will be considered on a course-by-course basis. The department requires international students and students whose native language is not English to have a minimum score of 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL).

Additionally, students entering the graduate program with regular status are assumed to have a working knowledge of undergraduate calculus, differential equations, linear algebra and matrix theory, boundary value problems, statistics, computer programming, and maturity in the language of advanced calculus (at the level of MAA 4226). Those students who find they are not adequately prepared in one or more of these areas can select appropriate courses from the undergraduate curriculum to make up such deficiencies. Such courses, unless specially approved, will not count toward the graduate degree. Applicants not qualified for regular status may be admitted initially to the university in a non-degree-seeking status, although only nine hours in this status can be transferred into a graduate program.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Mathematics	Feb 1	Jul 15	Dec 1	Apr 15
Master of Science in Mathematical Science	Feb 1	Jul 15	Dec 1	Apr 15
Industrial Mathematics Track	Feb 1	Jul 15	Dec 1	Apr 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Mathematics	Feb 1	Feb 1	Jul 1	
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International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Mathematics	Feb 1	Mar 1	Sep 1	
Master of Science in Mathematical Science	Feb 1	Mar 1	Sep 1	
Industrial Mathematics Track	Feb 1	Mar 1	Sep 1	

Master of Science in Mathematical Science

There are two options for the master's degree, thesis and non-thesis. In either option, a student should find an adviser who participates in designing a program of study. A program of study is presented to either the Graduate Curriculum Committee or the graduate program director for approval.

Electives

Electives should be chosen in consultation with the graduate program director or the student's thesis adviser and may be chosen from the suggested options: discrete mathematics, general applied mathematics, image processing and computer graphics, mathematical optics, mathematical physics, pure mathematics, rational mechanics, signal analysis, and statistics. A list of courses for these elective options can be obtained from the graduate program director. Approved graduate courses outside the department may also

be used. The student can take up to six credit hours of approved 4000-level mathematics courses. If a student takes MAP 4363 (Applied Boundary Value Problems I), then MAP 5435 (Advanced Mathematics for Engineers) cannot be applied toward the graduate program of study.

Thesis Option

In this option, the Mathematical Science degree requires a total of at least 30 semester hours composed of at least 27 semester hours of course work and 3 semester hours of thesis. An oral defense of the thesis will be required. It is strongly recommended that the student select a thesis adviser by the completion of 18 semester hours of course work.

Requirements for M.S. with Thesis Option—30 Credit Hours Minimum

A typical plan of study:

- MAA 5210 Topics in Advanced Calculus (4 credit hours)
- MAA 5405 Complex Variables (3 credit hours)
- MAP 5336 Ordinary Differential Equations and Applications (3 credit hours)
- MAP 5385 Applied Numerical Mathematics (3 credit hours)
- MAP 5407 Applied Mathematics I (3 credit hours)
- MAS 5145 Advanced Linear Algebra and Matrix Theory (3 credit hours)

Electives (9 credit hours)

- MAP 6971 Thesis (3 credit hours)

Non-Thesis Option

In this option the student takes 36 credit hours of course work with at least 21 in the Department of Mathematics. The student must pass a comprehensive written examination given in the final semester of the student's program, based on the program of study. The examination will be on four of the six courses in the plan of study. The examination will be supervised by a committee composed of the adviser and at least two other faculty members from the Department of Mathematics. A "P" or "NP" (or "S" or "U") grade is given on the examination. The examination may be repeated twice if necessary.

Requirements for M.S. with Non-Thesis Option—36 Credit Hours

A typical plan of study:

- MAA 5210 Topics in Advanced Calculus (4 credit hours)
- MAA 5405 Complex Variables (3 credit hours)
- MAP 5336 Ordinary Differential Equations and Applications (3 credit hours)
- MAP 5385 Applied Numerical Mathematics (3 credit hours)
- MAP 5407 Applied Mathematics I (3 credit hours)
- MAS 5145 Advanced Linear Algebra and Matrix Theory (3 credit hours)

Electives (18 credit hours)

Industrial Mathematics Track

A track in Industrial Mathematics is offered to prepare graduate students to pursue careers in industry by providing them with high quality professional training in branches of mathematics that are valuable to high-technology industry. Graduates of the program will be able to pursue a wide variety of jobs at the local and national levels.

This track offers a thesis or non-thesis option. In either option, a student will work with an adviser to design a program of study. A program of study is presented to either the Graduate Curriculum Committee or the program director for approval. If a student has an industry sponsor, the student's program of study will be developed in consultation with a representative from his sponsoring company. Students are expected to obtain hands-on experience by working at sponsoring companies during summer semesters.

The following courses are required as pre-requisites to this track: Calculus with Analytic Geometry I, II, and III; Differential Equations; Elementary Linear and Matrix Algebra (or a course equivalent); Numerical Calculus (or a course equivalent); and Statistics.

Required Courses

- MAP 5407 Applied Mathematics I (3 credit hours)
- MAP 5117 Mathematical Modeling (3 credit hours)
- MAP 5385 Applied Numerical Mathematics (3 credit hours)
- MAP 6111 Mathematical Statistics (3 credit hours)
- MAT 5711 Scientific Computing (3 credit hours)

Electives

Electives should be chosen in consultation with the graduate program coordinator and the student's adviser. A list of elective courses can be obtained from the graduate program director. Approved graduate courses outside the department may also be used. The student can take up to six credit hours of approved 4000-level mathematics courses.

Thesis Option

The thesis option requires 27 credit hours of courses, including the required courses and 3 credit hours of thesis. The student must take at least 15 credit hours from the Mathematics Department and at least 6 credit hours from outside the department (with the approval of the adviser or the graduate program director). It is recommended that the thesis topics have potential for industrial applications. An oral defense of the thesis will be required.

Requirements for M.S. with Thesis Option—30 Credit Hours Minimum

Non-Thesis Option

The non-thesis option requires 36 credit hours of courses, including the required courses and a written comprehensive examination. The student must take at least 21 credit hours from the Mathematics Department and at least 9 credit hours from outside the department (with the approval of the adviser or the graduate program director). The comprehensive examination will be given in the final semester of the student's program of study, based on the program of study. The examination will be on the required courses with the exclusion of Scientific Computing. The examination will be supervised by a committee composed of the adviser and at least two other faculty members from the Department of Mathematics. A pass/fail grade is given on the examination; and it may be repeated twice if necessary.

Requirements for M.S. with Non-Thesis Option—36 Credit Hours

Doctor of Philosophy in Mathematics

The Doctor of Philosophy (Ph.D.) program consists of at least 75 semester hours of course work, of which a minimum of 15 hours are required for the dissertation. In addition to the dissertation hours, the program requirements include 18 hours of core courses, 6-12 hours of course work at the graduate level outside the department, and the remainder made up of electives and independent study courses. No more than 12 semester hours of independent study or independent research may be credited toward the degree.

Electives should be chosen in consultation with the student's advisory committee and may be chosen from the suggested options: Discrete Mathematics, General Applied Mathematics, Image Processing and Computer Graphics, Mathematical Optics, Mathematical Physics, Pure Mathematics, Rational Mechanics, Signal Analysis, and Statistics. A list of courses for these elective options can be obtained from the graduate program coordinator. If a student takes MAP 4363 (Applied Boundary Value Problems I), then MAP 5435 (Advanced Mathematics for Engineers) cannot be applied toward the graduate program of study.

Courses taken outside the department are to be in a single area of application of mathematics that is related to the student's doctoral work. These courses are to be selected in consultation with the student's advisory committee. Students are encouraged to include in their plan of study a maximum of 12 semester hours of course work outside the department. Students can take up to 6 semester hours of approved 4000-level mathematics courses. In addition to the 75 semester hours of the program, a minimum of 3 credit hours of an approved computer language are required. The language and computer courses may have been taken at any point in the student's post-secondary career.

Core Courses—18 Semester Hours

Students must take six of the following courses. The choices must be approved by the graduate coordinator.

- MAA 5405 Complex Variables (3 credit hours)
- MAA 5416 Foundations of Analysis (3 credit hours)
- MAA 6404 Complex Analysis (3 credit hours)
- MAP 5336 Ordinary Differential Equations and Applications (3 credit hours)
- MAP 5407 Applied Mathematics I (3 credit hours)
- MAP 6110 Measure and Probability (3 credit hours)
- MAP 6356 Partial Differential Equations (3 credit hours)
- MAP 6408 Applied Mathematics II (3 credit hours)
- MAP 6506 Functional Analysis (3 credit hours)
- MAS 5311 Abstract Algebra with Applications (3 credit hours)

Electives—42 Semester Hours

Dissertation—15 Semester Hours

Minimum Hours Required for Ph.D.—75 Semester Hours

Examinations

In accordance with university requirements, a prospective doctoral student has to successfully pass the following examinations:

- Qualifying Examination
- Candidacy Examination
- Dissertation Defense

Qualifying Examination

The qualifying examination is a written examination that will be administered twice a year. Students must obtain permission from the graduate program director to take the examination. Students normally start taking this exam at the end of the first year and are expected to have completed the exams by the end of the second year unless a written request for a postponement has been approved by the Graduate Committee at least two months prior to the examination date. To be eligible to take the Ph.D. Qualifying Examination, the student must have a minimum grade point average of 3.0 (out of 4.0) in all work beyond baccalaureate.

Depending on the choice of core courses, students may choose to complete qualifying exams in either one of the following two groups of courses:

- MAA 5416 Foundations of Analysis (3 credit hours)
- MAA 6404 Complex Analysis (3 credit hours)
- MAP 6506 Functional Analysis (3 credit hours)
- MAS 5311 Abstract Algebra with Applications (3 credit hours)

Or

- MAA 5405 Complex Variables (3 credit hours)
- MAP 5336 Ordinary Differential Equations and Applications (3 credit hours)
- MAP 5407 Applied Mathematics I (3 credit hours)
- MAP 6356 Partial Differential Equations (3 credit hours)

After passing the qualifying exam, the student must select a dissertation adviser. Finding a dissertation adviser is the responsibility of the student and should be done as soon as possible. In consultation with the dissertation adviser, the student should form an advisory committee. The dissertation adviser will be the chair of the student's advisory committee. This committee will approve a plan of study for the doctoral student and will recommend which courses outside the department should be taken.

Candidacy Examination

The candidacy examination will be administered by the student's committee and will be tailored to the student's individual program. It can be attempted anytime after passing the qualifying examination, and after the student has begun research but prior to the end of the third year following the qualifying examination. The candidacy examination can be taken no more than two times.

Dissertation Defense

Upon completion of a student's research, the student's committee will schedule an oral defense of the dissertation. The student has seven years from the date of admission to the doctoral program to complete the dissertation.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted

- as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
 - For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Doctor of Philosophy in Mathematics

Ram Mohapatra, Ph.D. , Professor
Phone Number: 407-823-5822
mathgrad@mail.ucf.edu

Master of Science in Mathematical Science

Ram Mohapatra, Ph.D. , Professor
Phone Number: 407-823-5822
mathgrad@mail.ucf.edu

Industrial Mathematics Track

Ram Mohapatra, Ph.D. , Professor
Phone Number: 407-823-5822
mathgrad@mail.ucf.edu

Mathematics Education

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Master of Arts in Mathematics Education](#)

[Community College Teaching Track](#)

[Middle School Mathematics Track](#)

[Master of Education in Mathematics Education](#)

[Contact Info](#)

Description

The Mathematics Education program offers two advanced degrees: the Master of Education in Mathematics Education (M.Ed.) and the Master of Arts in Mathematics Education (M.A.).

The M.Ed. degree is designed to meet the advanced knowledge and skill needs of the classroom teacher of mathematics. The M.A. degree was created for non-education majors or previously certified teachers in another field. The M.A. degree also includes a Community College Teaching Track, which is designed for individuals planning to teach at that level and not requiring state teacher certification.

The primary mission of this department is to provide quality professional education for those entering careers as educators and trainers and for practicing teachers seeking to enhance their professional knowledge and skills through advanced studies.

Degrees Offered

Master of Arts in Mathematics Education

- Community College Teaching Track
- Middle School Mathematics Track

Master of Education in Mathematics Education

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

In addition to the general admission requirements, applicants to this program must provide:

- Official scores on the Graduate Record Examination (GRE), which must have been taken within the last five years
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.
- Applicants to the M.Ed. program must (1) have completed all course requirements for Florida state teacher certification in the program's subject area and/or grade range, or (2) present a Florida

Professional Teaching Certificate upon admission to the program. Applicants who have graduated from an accredited university or college teacher certification program in another state or country, in the appropriate subject and/or grade range, may also be admitted to the M.Ed. program at the discretion of the program director.

Applicants are expected to have a minimum cumulative GRE score of about 840 and an undergraduate GPA of about 3.0; if the GPA is below 3.0, the GRE score should be 1000 or higher (in lieu of the GRE, a GMAT score of 500 or higher may be used for admission consideration).

Students may not switch from an M.A. program to an M.Ed. program, or vice versa, without going through the university's admission process. Courses used to gain initial state certification may not be transferred into an M.Ed. program.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Mathematics Education	Feb 1	Jul 15	Dec 1	Apr 15
Community College Teaching Track	Feb 1	Jul 15	Dec 1	Apr 15
Middle School Mathematics Track	Feb 1	Jul 15	Dec 1	Apr 15
Master of Education in Mathematics Education	Feb 1	Jul 15	Dec 1	Apr 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Mathematics Education	Feb 1	Feb 1	Jul 1	
Community College Teaching Track	Feb 1	Feb 1	Jul 1	
Middle School Mathematics Track	Feb 1	Feb 1	Jul 1	
Master of Education in Mathematics Education	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
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Master of Arts in Mathematics Education	Feb 1	Mar 1	Sep 1	
Community College Teaching Track	Feb 1	Mar 1	Sep 1	
Middle School Mathematics Track	Feb 1	Mar 1	Sep 1	
Master of Education in Mathematics Education	Feb 1	Mar 1	Sep 1	

Master of Education in Mathematics Education

33 Minimum Credit Hours Required

Area A: Core—12 or 15 Credit Hours

- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- MAE 6909 Research Report or 2 approved electives (2,1 or 6 credit hours)

Select one of the following courses:

- EDF 6401 Statistics for Educational Data (3 credit hours) OR
- EDF 6432 Measurement and Evaluation in Education (3 credit hours)

Select one of the following courses:

- EDF 6155 Lifespan Human Development and Learning (3 credit hours) OR
- EDF 6517 Perspectives on Education (3 credit hours) OR
- EDF 6608 Social Factors in American Education (3 credit hours)

Area B: Specialization—6 Credit Hours—Approved by adviser

Area C: Curriculum Core—15 Credit Hours—Approved by adviser

Master of Arts in Mathematics Education

36 Minimum Credit Hours Required

Students must choose one of three options:

- Option 1: Secondary (grades 6-12)
- Option 2: Middle School Education Track (grades 5-9)
- Option 3: Community College Teaching Track

Area A: Core (Options 1 and 2) —18 Credit Hours

- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- EDG 6236 Principles of Instruction (3 credit hours)
- EDF 6432 Measurement and Evaluation in Education (3 credit hours)

- EDF 6608 Social Factors in American Education (3 credit hours)
- LAE 5337 Literacy Strategies for Middle and Secondary Teaching (3 credit hours)
- TSL 5345 Methods of ESOL Teaching (3 credit hours)

Area B: Specialization—12 Credit Hours

Option 1: Secondary (grades 6-12)

- MAE 5336 Current Methods in Secondary School Mathematics (3 credit hours)
- IDS 6933 Seminar in Teaching Mathematics and Science (3 credit hours)
- Electives approved by adviser (6 credit hours)

Students are required to have 30 credit hours of mathematics course work to meet certification requirements to teach mathematics in grades 6-12. Only six hours of independent study courses may be used to satisfy degree requirements. It is important to see an adviser if courses are difficult to schedule in content areas.

Option 2: Middle School Mathematics Track (grades 5-9)

- MAE 5327 Teaching Middle School Mathematics (3 credit hours)
- IDS 6933 Seminar in Teaching Mathematics and Science (3 credit hours)
- Electives approved by adviser (6 credit hours)

Students are required to have 18 credit hours of mathematics course work to meet certification requirements to teach mathematics in grades 5-9. Only six hours of independent study courses may be used to satisfy degree requirements. It is important to see an adviser if courses are difficult to schedule in content areas.

Area C: Internship (Options 1 and 2)—6 Credit Hours

- MAE 6946 Graduate Internship (6 credit hours)

Satisfactory completion of the Graduate Internship requires the student to demonstrate proficiency in all 12 Florida Educator Accomplished Practices at the pre-professional level in accordance with State Board of Education Rule 6A-5.065.

Additional Program Graduation Requirements (Options 1 and 2)

- All students must complete a portfolio according to program guidelines. This portfolio requires demonstration of professional growth, reflection, and proficiency in the 12 Florida Educator Accomplished Practices.
- Pass all applicable sections of the Florida Teacher Certification Examination.

Option 3: Community College Teaching Track

The Community College Teaching Track in this program is designed for individuals whose goal is teaching mathematics at the community college level. Every attempt is made to build at least the required 18 hours of graduate-level mathematics courses into the program of study. Only six hours of independent study courses may be used to satisfy degree requirements. It is important to see an adviser if courses are difficult

to schedule in the content area. Students electing this track will not meet state requirements for teacher certification in middle school (grades 5-9) or secondary (grades 6-12) mathematics.

Required Courses—42 Credit Hours Minimum

Area A: Core—15 Credit Hours

Students in this track should consult with the Community College Teaching Track adviser regarding Core requirements prior to registering for Core courses.

- EDF 6155 Lifespan Human Development and Learning (3 hours)
- EDF 6401 Statistics for Educational Data (3 hours) OR
- EDF 6432 Measurement and Evaluation in Education (3 hours)
- EDF 6481 Fundamentals of Graduate Research Education (3 hours)
- EDF 6517 History and Philosophy of American Education (3 hours)
- ESE 6909 Research Report (2 hours)
- ESE 6909 Research Report (1 hour)

Area B: Specialization—27 Credit Hours

(Electives must be approved by adviser)

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Master of Arts in Mathematics Education

Douglas Brumbaugh, Ed.D. , Professor
Phone Number: 407-823-2045
brumbad@pegasus.cc.ucf.edu

Master of Education in Mathematics Education

Douglas Brumbaugh, Ed.D. , Professor
Phone Number: 407-823-2045
brumbad@pegasus.cc.ucf.edu

Community College Teaching Track

Ruby Evans, Ed.D. , Associate Professor
Phone Number: 407-823-1129
revans@mail.ucf.edu

Middle School Mathematics Track

Enrique Ortiz, Ed.D. , Associate Professor
Phone Number: 407-823-5222
ortiz@mail.ucf.edu

Mechanical Engineering

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Master of Science in Mechanical Engineering](#)

[Computer-Aided Mechanical Engineering Track](#)

[Mechanical Systems Track](#)

[Miniature Engineering Systems Track](#)

[Professional Track](#)

[Thermofluids Track](#)

[Doctor of Philosophy in Mechanical Engineering](#)

[Contact Info](#)

Description

The Master of Science degree in Mechanical Engineering (M.S.M.E.) is intended primarily for a student with a bachelor's degree in mechanical or aerospace engineering or a closely related discipline obtained from a recognized accredited institution. The master's program offers the following tracks: Computer-Aided Mechanical Engineering, Mechanical Systems, Miniature Engineering Systems, Professional, and Thermofluids.

The Doctor of Philosophy (Ph.D.) degree is intended for a student with a master's degree in mechanical or aerospace engineering or a closely related discipline. The doctoral program is intended to allow a student to study in depth, with emphasis on research in Aerospace Systems, Materials Science and Engineering, Mechanical Systems, or Thermofluids.

Degrees Offered

Master of Science in Mechanical Engineering

- Computer-Aided Mechanical Engineering Track
- Mechanical Systems Track
- Miniature Engineering Systems Track
- Professional Track
- Thermofluids Track

Doctor of Philosophy in Mechanical Engineering

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

Master of Science in Mechanical Engineering (M.S.M.E.)

The Master of Science degree in Mechanical Engineering (M.S.M.E.) is intended primarily for a student with a bachelor's degree in mechanical or aerospace engineering or a closely related discipline obtained from a recognized institution. Minimum requirements for admission to regular status are a 3.0 grade point average (A=4.0) in the last 60 attempted hours of undergraduate study from an accredited institution, a combined score of 1000 on the quantitative and verbal portions of the Graduate Record Examination (GRE), and for international students (except those who are from countries where English is the only official language or those who have earned a degree from an accredited U.S. college or university), a score of 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL).

In certain circumstances a provisional admission may be extended to students who have a grade point average below 3.0 but otherwise meet university requirements. Additional courses may be required to correct deficiencies. Students should contact the M.M.A.E. graduate program coordinator for further information.

The College of Engineering and Computer Science requires that you fill out a pre-application form (www.graduate.cecs.ucf.edu) before you complete the application for graduate admission. The deadlines for the pre-application form can be found on the Prospective Student Page on the College of Engineering and Computer Science website.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Mechanical Engineering	Feb 1	Jul 15	Dec 1	Apr 15
Master of Science in Mechanical Engineering	Feb 1	Jul 15	Dec 1	Apr 15
Computer-Aided Mechanical Engineering Track	Feb 1	Jul 15	Dec 1	Apr 15
Mechanical Systems Track	Feb 1	Jul 15	Dec 1	Apr 15
Miniature Engineering Systems Track	Feb 1	Jul 15	Dec 1	Apr 15
Professional Track	Feb 1	Jul 15	Dec 1	Apr 15
Thermofluids Track	Feb 1	Jul 15	Dec 1	Apr 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Mechanical Engineering	Feb 1	Feb 1	Jul 1	
Master of Science in Mechanical Engineering	Feb 1	Feb 1	Jul 1	
Computer-Aided Mechanical	Feb 1	Feb 1	Jul 1	

Engineering Track			
Mechanical Systems Track	Feb 1	Feb 1	Jul 1
Miniature Engineering Systems Track	Feb 1	Feb 1	Jul 1
Professional Track	Feb 1	Feb 1	Jul 1
Thermofluids Track	Feb 1	Feb 1	Jul 1

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Mechanical Engineering	Feb 1	Mar 1	Sep 1	
Master of Science in Mechanical Engineering	Feb 1	Mar 1	Sep 1	
Computer-Aided Mechanical Engineering Track	Feb 1	Mar 1	Sep 1	
Mechanical Systems Track	Feb 1	Mar 1	Sep 1	
Miniature Engineering Systems Track	Feb 1	Mar 1	Sep 1	
Professional Track	Feb 1	Mar 1	Sep 1	
Thermofluids Track	Feb 1	Mar 1	Sep 1	

Master of Science in Mechanical Engineering

Degree Requirements

[General College Requirements](#)

All students are expected to identify an adviser and file an official degree program of study prior to the completion of 9 credit hours of study. Students should consult with the M.M.A.E. graduate program coordinator for assistance in filling out a program of study. The M.S.M.E. degree is offered as a thesis or a non-thesis program in each of the five departmental tracks: Computer-Aided Mechanical Engineering, Mechanical Systems, Miniature Engineering Systems, Professional, and Thermofluids. A program of study, satisfying track requirements, must be developed prior to the completion of 9 credit hours and meet with departmental approval.

The thesis option requires 30 credit hours, at least half of which must be at the 6000 level and will include 6 credit hours of thesis credit. A student pursuing the thesis program may not register for thesis credit hours until an advisory committee has been appointed and the committee has reviewed the program of study and the proposed thesis topic.

The non-thesis option is primarily designed to meet the needs of part-time students and requires 36 credit hours of course work, at least 15 of which must be at the 6000 level. In addition, students pursuing the non-thesis option are required to pass a final comprehensive exam and to take EML 6085 Research Methods in MMAE as part of their 36-credit-hour course requirement.

A student with an undergraduate degree outside of the selected departmental discipline may be required to satisfy an articulation program. Substitutions to the program of study must meet with the approval of the

adviser and the department. Further information is available in the *Master's Degree General Procedures* manual available from the M.M.A.E. Department (<http://www-mmae.engr.ucf.edu>).

Computer-Aided Mechanical Engineering Track

Prerequisites (or equivalent)

- Mathematics through Differential Equations (MAP 2302)
- Modeling Methods in Mechanical and Aerospace Engineering (EML 3034)
- Thermodynamics of Mechanical Systems (EML 3101)
- Structure and Properties of Materials (EGN 3365)
- Machine Design and Analysis (EML 3500)

Required Courses—12 Credit Hours

All students must take the following four required courses.

- EML 5060 Mathematical Methods in Mechanical, Materials and Aerospace Engineering (3 credit hours)
- EML 5211 Continuum Mechanics (3 credit hours)
- EML 5271 Intermediate Dynamics (3 credit hours)
- EML 6067 Finite Elements in Mechanical, Materials and Aerospace Engineering I (3 credit hours)

Students must take at least four courses from the track specialty courses below. Additional courses to satisfy total credit hour requirements (30 credit hours thesis option, 36 credit hours non-thesis option) may be taken from the list of representative electives below or from the remaining M.M.A.E. course offerings. Students should consult with their faculty adviser (or graduate program coordinator if they do not have a faculty adviser) prior to registering for classes. Note that thesis option students must take 6 credit hours of thesis and non-thesis option students must take Research Methods in MMAE. Thesis students must continue to enroll in one credit hour of thesis course work (XXX 6971) until the thesis requirement is satisfied, beyond the minimum of 6 credit hours of thesis.

Track Specialty Courses—12 Credit Hours Minimum

- EGN 5858C Prototyping and Product Realization (3 credit hours)
- EML 5025C Engineering Design Practice (3 credit hours)
- EML 5532C Computer-Aided Design for Manufacture (3 credit hours)
- EML 6062 Boundary Element Methods in Engineering (3 credit hours)
- EML 6725 Computational Fluid Dynamics and Heat Transfer I (3 credit hours)
- EML 6547 Engineering Fracture Mechanics in Design (3 credit hours)
- EML 6305C Experimental Mechanics (3 credit hours)
- EML 5237 Intermediate Mechanics of Materials (3 credit hours)

Representative Electives—6-12 Credit Hours

- EAS 6138 Advanced Gas Dynamics (3 credit hours)
- EAS 6185 Turbulent Flow (3 credit hours)
- EML 5105 Gas Kinetics and Statistical Thermodynamics (3 credit hours)
- EML 5402 Turbomachinery (3 credit hours)
- EML 6155 Convection Heat Transfer (3 credit hours)

- EML 6712 Mechanics of Viscous Flow (3 credit hours)
- EML 5066 Computational Methods in Mechanical, Materials and Aerospace Engineering (3 credit hours)
- EML 5131 Combustion Phenomena (3 credit hours)
- EML 5152 Intermediate Heat Transfer (3 credit hours)
- EML 5713 Intermediate Fluid Mechanics (3 credit hours)
- EML 5532C Computer-Aided Design for Manufacture (3 credit hours)
- EML 6154 Conduction Heat Transfer (3 credit hours)
- EML 5237 Intermediate Mechanics of Materials (3 credit hours)
- EML 5546 Engineering Design with Composite Materials (3 credit hours)
- EMA 5106 Metallurgical Thermodynamics (3 credit hours)
- EMA 5108 Surface Science (3 credit hours)
- EMA 5326 Corrosion Science and Engineering (3 credit hours)
- EMA 6628 Materials Failure Analysis (3 credit hours)
- EML 6971 Thesis (6 credit hours)
- EML 6085 Research Methods in MMAE (required for non-thesis option) (3 credit hours)

Comprehensive Examination

Minimum Hours Required for M.S.M.E.—30 (thesis option) or 36 (non-thesis option) Credit Hours

Mechanical Systems Track

Prerequisites (or equivalent)

- Mathematics through Differential Equations (MAP 2302)
- Modeling Methods in Mechanical and Aerospace Engineering (EML 3034)
- Machine Design and Analysis (EML 3500)
- Vibration Analysis (EML 4220)
- Experimental Techniques in Mechanics and Materials (EMA 3012C)
- Feedback Control (EML 3312C)

Required Courses—12 Credit Hours

All students must take the following four required courses.

- EML 5060 Mathematical Methods in Mechanical, Materials, and Aerospace Engineering (3 credit hours)
- EML 5271 Intermediate Dynamics (3 credit hours)
- EML 5211 Continuum Mechanics (3 credit hours)
- EML 6067 Finite Elements in Mechanical and Aerospace Engineering I (3 credit hours)

Students must take at least four courses from the track specialty courses below. Additional courses to satisfy total semester hour requirements (30 credit hours thesis option, 36 credit hours non-thesis option) may be taken from the list of representative electives below or from the remaining M.M.A.E. course offering. Students should consult with their faculty adviser (or graduate program coordinator if they do not have a faculty adviser) prior to registering for classes. Note that thesis option students must take 6 credit hours of thesis and non-thesis option students must take Research Methods in MMAE. Thesis students must continue to enroll in one credit hour of thesis course work (EML 6971) until the thesis requirement is satisfied, beyond the minimum of 6 credit hours of thesis.

Track Specialty Courses—9 Credit Hours (Minimum)

- EML 6305C Experimental Mechanics (3 credit hours)
- EML 5237 Intermediate Mechanics of Materials (3 credit hours)
- EML 6223 Advanced Vibrational Systems (3 credit hours)
- EML 6653 Theory of Elasticity (3 credit hours)
- EML 6XXX Plates and Shells (3 credit hours)
- EML 6547 Engineering Fracture Mechanics in Design (3 credit hours)

Representative Electives—12-18 Credit Hours

- EML 5311 System Control (3 credit hours)
- EML 5546 Engineering Design with Composite Materials (3 credit hours)
- EML 6068 Finite Elements in Mechanical and Aerospace Engineering II (3 credit hours)
- EML 6062 Boundary Element Methods in Engineering (3 credit hours)
- EML 6227 Nonlinear Vibrations (3 credit hours)
- EMA 5104 Intermediate Structure and Properties of Materials (3 credit hours)
- EMA 5504 Modern Characterization of Materials (3 credit hours)
- EMA 6628 Materials Failure Analysis (3 credit hours)
- EML 5025C Engineering Design Practice (3 credit hours)
- EML 5066 Computational Methods in Mechanical, Materials and Aerospace Engineering (3 credit hours)
- EML 5224 Acoustics (3 credit hours)
- EML 5228C Modal Analysis (3 credit hours)
- EML 5245 Tribology (3 credit hours)
- EML 5532C Computer-Aided Design for Manufacture (3 credit hours)
- EML 5572 Probabilistic Methods in Mechanical Design (3 credit hours)
- EML 6808 Analysis and Control of Robot Manipulators (3 credit hours)
- EML 6226 Analytical Dynamics (3 credit hours)
- EML 6971 Thesis (3 credit hours)
- EML 6058 Research Methods in MMAE (for non-thesis option) (3 credit hours)

Comprehensive Examination

Minimum Hours Required for M.S.M.E.—30 (thesis option) or 36 (non-thesis option) Credit Hours

Miniature Engineering Systems Track

Required Courses

- EML 5060 Mathematical Methods in Mechanical, Materials and Aerospace Engineering (3 credit hours)
- EML 5290 Introduction of MEMS and Micromachining (3 credit hours)
- EML 6296 MEMS Mechanism and Design (3 credit hours)
- EEL 6326C MEMS Fabrication Laboratory (3 credit hours), or EEL 5355C Fabrication of Solid-State Devices (3 credit hours)

Track Specialty Courses (at least 6 credit hours)

- EML 5292 Fundamental Phenomena and Scaling Laws in Miniature Engineering Systems (3 credit hours)
- EML 5291 MEMS Materials (3 credit hours)
- EML 6299 Advanced Topics on Miniaturization (3 credit hours)

- EML 6297 MEMS Characterization (3 credit hours)
- EML 6295 Sensors and Actuators for Micro Mechanical Systems (3 credit hours)

Elective Courses (3 courses from the following list or from Specialty List)

- EML 5211 Continuum Mechanics (3 credit hours)
- EML 5025C Engineering Design Practice (3 credit hours)
- EMA 5104 Intermediate Structure and Properties of Materials (3 credit hours)
- ENG 5858C Prototyping and Product Realization (3 credit hours)
- EML 5271 Intermediate Dynamics (3 credit hours)
- EML 5152 Intermediate Heat Transfer (3 credit hours)
- EML 6712 Mechanics of Viscous Flow (3 credit hours)
- EML 6155 Convective heat Transfer (3 credit hours)
- EML 5713 Intermediate Fluid Mechanics (3 credit hours)
- EML 6725 Computational Fluid Dynamics (3 credit hours)
- EML 6104 Classical Thermodynamics (3 credit hours)
- EML 5402 Turbomachinery (3 credit hours)
- EML 5532C Computer-Aided Design for Manufacture (3 credit hours)
- EAS 5407 Mechatronics (3 credit hours)
- EML 6157 Radiation Heat Transfer (3 credit hours)
- EML 5245 Tribology (3 credit hours)
- EMA 5108 Surface Sciences (3 credit hours)
- EMA 5504 Modern Characterization of Materials (3 credit hours)
- EMA 5584 Biomaterials (3 credit hours)
- EML 5311 System Control (3 credit hours)
- EML 5105 Gas Kinetics and Statistical Thermodynamics (3 credit hours)
- EEL 5625 Applied Control System (3 credit hours)
- EML 5546 Engineering Design with Composite Materials (3 credit hours)
- EML 6203 Advanced Vibrational Systems (3 credit hours)
- EML 6027 Finite Element Modeling I (3 credit hours)

Students on the thesis option will take at least 6 credit hours of thesis. Students with non-thesis option need to (1) take three more courses from the Track Specialty or Elective lists, (2) take EML 6085 (Research Methods), and (3) pass the MS Comprehensive Examination.

Comprehensive Examination

Minimum Hours Required for M.S.M.E.—30 (thesis option) or 36 (non-thesis option) Credit Hours

Professional Track

Prerequisites (or equivalent)

- Mathematics through Differential Equations (MAP 2302)
- Modeling Methods in Mechanical and Aerospace Engineering (EML 3034)
- Thermodynamics of Mechanical Systems (EML 3101)
- Structure and Properties of Materials (EGN 3365)
- Mechanics of Materials (EGN 3331)

Required Courses—12 Credit Hours

All students must take the following four required courses.

- EML 5060 Mathematical Methods in Mechanical, Materials, and Aerospace Engineering (3 credit hours)
- EML 5211 Continuum Mechanics (3 credit hours)
- EML 5271 Intermediate Dynamics (3 credit hours)
- EML 6067 Finite Elements in Mechanical, Materials and Aerospace Engineering I (3 credit hours)

Students must take at least four courses from the track specialty courses below. Additional courses to satisfy total semester hour requirements (30 credit hours thesis option, 36 credit hours non-thesis option) may be taken from the list of representative electives below or from the remaining M.M.A.E. course offering. Students should consult with their faculty adviser (or graduate program coordinator if they do not have a faculty adviser) prior to registering for classes. This track is intended mainly for part-time students and may be taken under non-thesis or thesis options. Thesis option students must take 6 credit hours of thesis and non-thesis option students must take Research Methods in MMAE. Thesis students must continue to enroll in one credit hour of thesis course work (EML 6971) until the thesis requirement is satisfied, beyond the minimum of 6 credit hours of thesis.

Track Specialty Courses—12 Credit Hours Minimum

- EMA 6628 Materials Failure Analysis (3 credit hours)
- EML 5131 Combustion Phenomena (3 credit hours)
- EML 5402 Turbomachinery (3 credit hours)
- EML 5532C Computer-Aided Design for Manufacture (3 credit hours)
- EML 6062 Boundary Element Methods in Engineering (3 credit hours)
- EML 6155 Convection Heat Transfer (3 credit hours)
- EML 6226 Analytical Dynamics (3 credit hours)
- EML 6305C Experimental Mechanics (3 credit hours)
- EML 6547 Engineering Fracture Mechanics in Design (3 credit hours)
- EML 6712 Mechanics of Viscous Flow (3 credit hours)
- EML 6725 Computational Fluid Dynamics and Heat Transfer I (3 credit hours)

Representative Electives—6-12 Credit Hours

- EML 5025C Engineering Design Practice (3 credit hours)
- EML 5105 Gas Kinetics and Statistical Thermodynamics (3 credit hours)
- EAS 6138 Advanced Gas Dynamics (3 credit hours)
- EAS 6185 Turbulent Flow (3 credit hours)
- EML 5066 Computational Methods in Mechanical, Materials and Aerospace Engineering (3 credit hours)
- EML 5131 Combustion Phenomena (3 credit hours)
- EML 5152 Intermediate Heat Transfer (3 credit hours)
- EML 5713 Intermediate Fluid Mechanics (3 credit hours)
- EML 6068 Finite Elements in Mechanical, Materials, and Aerospace Engineering II (3 credit hours)
- EML 6726 Computational Fluid Dynamics and Heat Transfer II (3 credit hours)
- EML 5237 Intermediate Mechanics of Materials (3 credit hours)
- EML 5546 Engineering Design with Composite Materials (3 credit hours)
- EMA 5106 Metallurgical Thermodynamics (3 credit hours)
- EMA 5108 Surface Science (3 credit hours)
- EMA 5326 Corrosion Science and Engineering (3 credit hours)
- EML 6971 Thesis (6 credit hours)

- EML 6085 Research Methods in MMAE (required for non-thesis option) (3 credit hours)

Comprehensive Examination

Minimum Hours Required for M.S.M.E.—30 (thesis option) or 36 (non-thesis option) Credit Hours

Thermofluids Track

Prerequisites (or equivalent)

- Mathematics through Differential Equations (MAP 2302)
- Modeling Methods in Mechanical and Aerospace Engineering (EML 3034)
- Thermodynamics of Mechanical Systems (EML 3101)
- Measurements in Thermal Systems (EML 4304C)
- Fluid Mechanics II (EML 4703)
- Heat Transfer (EML 4142)

Required Courses—12 Credit Hours

All students must take the following four required courses.

- EML 5060 Mathematical Methods in Mechanical, Materials and Aerospace Engineering (3 credit hours)
- EML 6712 Viscous Flow (3 credit hours)
- EML 5152 Intermediate Heat Transfer (3 credit hours)
- EML 6104 Classical Thermodynamics (3 credit hours)

Students must take at least four courses from the track specialty courses below. Additional courses to satisfy total semester hour requirements (30 credit hours thesis option, 36 credit hours non-thesis option) may be taken from the list of representative electives below or from the remaining M.M.A.E. course offering. Students should consult with their faculty adviser (or graduate program coordinator if they do not have a faculty adviser) prior to registering for classes. Note that thesis option students must take 6 credit hours of thesis and non-thesis option students must take Research Methods in MMAE. Thesis students must continue to enroll in one credit hour of thesis course work (EML 6971) until the thesis requirement is satisfied, beyond the minimum of 6 credit hours of thesis.

Track Specialty Courses—9 Credit Hours Minimum

- EML 5402 Turbomachinery (3 credit hours)
- EML 6155 Convection Heat Transfer (3 credit hours)
- EML 6157 Radiation Heat Transfer (3 credit hours)
- EML 6725 Computational Fluid Dynamics and Heat Transfer I (3 credit hours)
- EML 5131 Combustion Phenomena (3 credit hours)
- EML 6154 Conduction Heat Transfer (3 credit hours)
- EAS 6185 Turbulent Flow (3 credit hours)
- EAS 6138 Advanced Gas Dynamics (3 credit hours)

Representative Electives—12-18 Credit Hours

- EAS 5302 Direct Energy Conversion (3 credit hours)
- EAS 5315 Rocket Propulsion (3 credit hours)

- EML 5025C Engineering Design Practice (3 credit hours)
- EML 5066 Computational Methods in Mechanical, Materials and Aerospace Engineering (3 credit hours)
- EML 5105 Gas Kinetics and Statistical Thermodynamics (3 credit hours)
- EML 5713 Intermediate Fluid Mechanics (3 credit hours)
- EML 6062 Boundary Element Methods in Engineering (3 credit hours)
- EML 6124 Two-Phase Flow (3 credit hours)
- EML 6158 Gaseous Radiation Heat Transfer (3 credit hours)
- EML 6144 Boiling and Condensation Heat Transfer (3 credit hours)
- EML 6726 Computational Fluid Dynamics and Heat Transfer II (3 credit hours)
- EML 6971 Thesis (6 credit hours)
- EML 6085 Research Methods in MMAE (required for non-thesis option) (3 credit hours)

Comprehensive Examination

Minimum Hours Required for M.S.M.E.—30 (thesis option) or 36 (non-thesis option) Credit Hours

Doctor of Philosophy (Ph.D.) in Mechanical Engineering

The Doctor of Philosophy (Ph.D.) degree is intended for students with a master's degree in mechanical or aerospace engineering or a closely related discipline. The program is designed to allow students to study in depth, with emphasis on research in Aerospace Systems, Materials Science and Engineering, Mechanical Systems, or Thermofluids.

Admission Requirements

In addition to satisfying the admission requirements for the M.S.M.E. degree, admission to the Ph.D. program requires that the student possess a master's degree in mechanical or aerospace engineering or a closely related discipline from an accredited institution. Students must submit an application for graduate admission, including a resume, goals statement, and three letters of recommendation.

Admission to doctoral status requires that the student (1) pass a Ph.D. Qualifying Examination in one of the four departmental disciplines of Aerospace Systems, Materials Science and Engineering, Mechanical Systems, or Thermofluids; (2) establish a Doctoral Advisory Committee; and (3) submit a departmentally approved Program of Study. These steps are normally completed within the first year of study beyond the master's degree.

International students, except those who are from countries where English is the only official language or those who have earned a degree from an accredited American college or university, are required to submit a score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language.

[Application Deadlines](#)

Degree Requirements

[General College Requirements](#)

Graduate Student Entering the Ph.D. Program with a B.S.

For a graduate student with a B.S. degree, the following are the minimum Mechanical Engineering Ph.D. program requirements: 72 credit hours of graduate course work, of which 57 credit hours are the minimum hours of course work (may include up to 12 credit hours of directed research with approved Program of Study) and 15 credit hours are the minimum hours of dissertation. The rest of the hours in the Ph.D. program can be chosen by the student in consultation with the adviser and the dissertation committee and

with the approval of the graduate program coordinator. These may include doctoral directed research hours or doctoral dissertation hours.

Minimum Course Work (may include up to 12 credit hours of directed research)—57 Credit Hours

Doctoral Dissertation—15 Credit Hours

Minimum Hours Required for Ph.D.—72 Credit Hours

Graduate Student Entering the Ph.D. Program with an M.S.

For a graduate student with an M.S. degree the following are the minimum Mechanical Engineering Ph.D. program requirements: 36 credit hours of graduate course work beyond the masters degree, of which 21 credit hours are the minimum number of hours of course work and 15 credit hours are the minimum hours of doctoral dissertation hours. The rest of the hours in the Ph.D. program can be chosen by the student in consultation with the adviser and the dissertation committee and with the approval of the graduate program coordinator. These credit hours may include doctoral directed research hours or doctoral dissertation hours. Non-thesis M.S. degree students may take up to 9 credit hours of directed research, while M.S. thesis option students may take up to 12 credit hours of directed research toward fulfillment of additional minimum course work beyond the M.S.

Minimum Course Work (may include up to 12 credit hours of directed research)—21 (27) Credit Hours*

Doctoral Dissertation—15 Credit Hours

Minimum Hours Required for Ph.D.—36 (42) Credit Hours*

* For students who have completed a thesis option and a total of 30 credit hours at the master's level, the minimum requirement for course work will be 27 hours.

NOTES:

- UCF requires that a full-time Ph.D. student be registered for 9 hours Fall and Spring semesters and 6 credit hours Summer semester.
- The University of Central Florida requires that a Ph.D. student be registered for at least 3 hours of doctoral dissertation hours upon completion of the candidacy exam and every semester thereafter until graduation.
- The M.M.A.E. department requires that a Ph.D. student submits his/her candidacy exam the academic semester immediately following his/her successfully passing the Ph.D. Qualifying Exam.
- No more than 12 credit hours of directed doctoral research may be taken toward fulfilling degree program of study course work requirements.
- Unless a completed (signed) program of study (POS) itemizing the study plan is approved prior to the end of the first semester of studies, the graduate program coordinator of the M.M.A.E. department may choose not to accept any part of the course work (including independent studies and/or directed research) taken by the student on a program of study subsequently submitted by the student.

Examinations

In addition to the Qualifying Examination discussed above, the student must pass a Candidacy Examination and a Dissertation Defense Examination. The Candidacy Examination is taken near the end of the course work and consists of a written and oral presentation of a research proposal. The Dissertation Defense Examination is an oral examination taken in defense of the written dissertation. Further information on these examinations and other requirements of the Ph.D. program are contained in the *Ph.D. Degree General Procedures* manual available from the M.M.A.E. Department (<http://www-mmae.engr.ucf.edu>).

Dissertation Committee

- The Dean, through the Chairs, is responsible for committee formation, additions, and deletions. The doctoral committee must consist of a minimum of five members: three must be faculty

members from within the student's department, and one must be at large from outside the Mechanical, Materials, and Aerospace Engineering Department. The committee Chair must be a member of the department graduate faculty approved to direct dissertations. Joint faculty members serve as department-faculty committee members as well as chairs of dissertation committees. Adjunct faculty and off-campus experts may serve as the outside-the-college person in the committee. Program areas may further specify additional committee membership. UCF Graduate Studies reserves the right to review appointments to advisory committees, place a representative on any advisory committee, or appoint a co-ser.

- In unusual cases, with approval from the program Chair, two professors may chair the committee jointly. Joint faculty members may serve as committee chairs, but off-campus experts and adjunct faculty may not serve as committee chairs.
- All members vote on acceptance or rejection of the dissertation proposal and the final dissertation. The dissertation proposal and final dissertation must be approved by a majority of the advisory committee.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Doctor of Philosophy in Mechanical Engineering

Ruey-hung (Ray) Chen, Ph.D. , Associate Professor
Phone Number: 407-823-2416
gradmmae@mail.ucf.edu

Master of Science in Mechanical Engineering

Ruey-hung (Ray) Chen, Ph.D. , Associate Professor
Phone Number: 407-823-2416
gradmmae@mail.ucf.edu

Computer-Aided Mechanical Engineering Track

Ruey-hung (Ray) Chen, Ph.D. , Associate Professor
Phone Number: 407-823-2416
gradmmae@mail.ucf.edu

Mechanical Systems Track

Ruey-hung (Ray) Chen, Ph.D. , Associate Professor
Phone Number: 407-823-2416
gradmmae@mail.ucf.edu

Miniature Engineering Systems Track

Ruey-hung (Ray) Chen, Ph.D. , Associate Professor
Phone Number: 407-823-2416
gradmmae@mail.ucf.edu

Professional Track

Ruey-hung (Ray) Chen, Ph.D. , Associate Professor
Phone Number: 407-823-2416
gradmmae@mail.ucf.edu

Thermofluids Track

Ruey-hung (Ray) Chen, Ph.D. , Associate Professor
Phone Number: 407-823-2416
gradmmae@mail.ucf.edu

Modeling and Simulation

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Master of Science in Modeling and Simulation](#)

[Doctor of Philosophy in Modeling and Simulation](#)

[Contact Info](#)

Description

The University of Central Florida offers interdisciplinary master's and doctoral degrees in Modeling and Simulation (M&S). The Master of Science (M.S.) in Modeling and Simulation prepares scientists who can work with interdisciplinary teams to use simulation and modeling in solving important problems in both the public and private sectors. The Doctor of Philosophy (Ph.D.) in Modeling and Simulation is primarily intended for students with an academic or work background in mathematics, engineering, or computer science who wish to pursue a career in academia, defense, entertainment, or manufacturing.

Simulation is the quintessential utility tool. In one way or another, just about every engineering or scientific field uses simulation as an exploration, modeling, or analysis technique. Simulation is not limited to engineering or science. Simulation is used in training, management, and concept exploration. Simulation entails constructing human-centered, equipment-centered, and/or stand-alone computer-based models or systems of existing as well as conceptual systems or processes. The purpose of simulation is to evaluate the behavior of the human(s), organization, equipment, and/or systems under study through the evaluation of output from the corresponding simulation construct. Due to the scale and complexity of modeling and simulation, practitioners have developed both generalized and specialized skills. Input from industry and government M&S users and developers has been instrumental in identifying the key competencies for M&S professionals and has been critical to the development of this curriculum.

Degrees Offered

Master of Science in Modeling and Simulation

Doctor of Philosophy in Modeling and Simulation

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Graduate Catalog](#). Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

Master of Science in Modeling and Simulation

Students who enter the Master of Science in Modeling and Simulation program are expected to have an academic and/or work background that has prepared them in mathematics (introductory calculus and probability and statistics) and computer "literacy," including proficiency with word processing, spreadsheet, and database programs, and, preferably, familiarity with at least one higher order programming language (e.g., C++). Students with undergraduate degrees in engineering, computer science, or mathematics will generally have this background. For students with less technical academic preparation,

a core course, MAP 5106 Introduction to Quantitative Aspects of Modeling and Simulation, will prepare them to pursue several, but not all, of the focus areas. For example, these students could pursue the Simulation Management or Human Systems focus areas, but would need a number of prerequisite courses in mathematics, statistics, and computer science to pursue more technical focus areas such as Simulation Infrastructure. MAP 5106 Introduction to Quantitative Aspects of Modeling and Simulation has a math prerequisite of a one semester introduction to calculus course (e.g., MAC 2233 Concepts of Calculus or MAC 2241 Calculus for Life Sciences).

Admission requirements include:

- GPA of 3.0 in last 60 hours of study
- GRE of 1000
- TOEFL of 220 (computer test), for international students only
- Resume and goal statement
- Introductory calculus and statistics

Both GPA and Test Scores must be officially reported to UCF Graduate Studies. Applications are encouraged for the Fall and Spring terms only.

Doctor of Philosophy in Modeling and Simulation

The Doctor of Philosophy (Ph.D.) in Modeling and Simulation is an interdisciplinary program primarily intended for students with an academic or work background in mathematics, engineering, or computer science who wish to pursue a career in academia, defense, entertainment, or manufacturing. Applicants must satisfy the admission criteria specified for graduate program admissions to UCF. These requirements are a 3.0 GPA or 1000 on the combined verbal-quantitative portions of the GRE; international students must have a Test of English as a Foreign Language (TOEFL) score of at least 220 (computer-based test). Selected outstanding applicants who have a GPA of at least 3.4 in the last 60 attempted semester hours of their undergraduate degrees and at least 1200 on the combined verbal-quantitative portion of the GRE may be considered for direct entrance as doctoral students from their bachelor's degrees. Students meeting these criteria and the approval of the Academic Advisory Board may be admitted into the program.

Applications are encouraged for the Fall and Spring terms only.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Modeling and Simulation	Feb 1	Jul 15	Dec 1	
Master of Science in Modeling and Simulation	Feb 1	Jul 15	Dec 1	

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in	Feb 1	Feb 1	Jul 1	

Modeling and Simulation				
Master of Science in Modeling and Simulation	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Modeling and Simulation	Feb 1	Mar 1	Sep 1	
Master of Science in Modeling and Simulation	Feb 1	Mar 1	Sep 1	

Master of Science in Modeling and Simulation

Graduates of the Modeling and Simulation M.S. program will be able to establish depth in one of seven focus areas and have the diverse training necessary to enable them to work in varied capacities in government agencies, or in the defense, entertainment, and manufacturing industries. They will have an interdisciplinary core body of knowledge on modeling approaches, human factors, computing infrastructure, and visual representation and will be capable of critically reviewing the literature in the field. They will have developed the capacity to solve complex problems by building simulation models, designing and carrying out experiments, collecting data, analyzing results, and managing M&S programs. They will be able to clearly communicate their findings to their peers.

The program offers seven focus areas from which students must choose their program of study:

- Quantitative Aspects of Simulation
- Simulation Infrastructure
- Simulation Management
- Computer Visualization in M&S
- Simulation Modeling and Analysis
- Interactive Simulation/Intelligent Systems
- Human Systems in M&S

These M&S focus areas have been identified and discussed with M&S leaders from industry and government. Each of these focus areas represents an area in which UCF has considerable faculty expertise, expertise that has developed and grown as UCF has grown with the M&S field in our community. Government and industry leaders in M&S endorse these focus areas because of their importance to the continued growth of the M&S field. For all of the focus areas, opportunities are available for students to work with researchers and M&S faculty on research and development projects. Descriptions of these focus areas are provided under "Curriculum".

In addition to UCF university-wide requirements for master's degrees, the Modeling and Simulation M.S. has special requirements because of its interdisciplinary nature. Courses will introduce students to the interdisciplinary aspects of the field and require students from different disciplines to work together in teams. Students may select from seven M&S focus areas in planning their program of study. Courses for the focus areas, including the cornerstone courses, are listed below. Cornerstone courses are required to be taken before the restricted electives can be taken. The culminating experience for graduates of the masters program will be the project, paper, and presentation done as part of required core course, IDS 6938 Simulation Research Methods and Practicum. This project will serve as a capstone experience and will be reviewed by outside experts.

Non-Thesis Option

The non-thesis option requires 36 credit hours, including:

- Required core courses (9 credit hours)
- Cornerstone courses for two focus areas (6 credit hours)
- Electives for focus area (21 credit hours)

Thesis Option

The thesis option requires 30 credit hours, including:

- Required core courses (9 credit hours)
- Cornerstone courses for focus areas (6 credit hours)
- Electives from focus area (9 credit hours)
- Thesis (6 credit hours)

Required Interdisciplinary Core

Three core courses will provide an interdisciplinary framework for all students. Teams of program faculty will teach these core courses. A brief description of the proposed core courses follows.

- IDS 5717C Introduction to Modeling and Simulation. Introduction to the theory and practice of modeling and simulation with an emphasis on multidisciplinary scientific underpinnings. Led by one instructor augmented by a team.
- IDS 5719 Introduction to Quantitative Aspects of Modeling and Simulation. An introduction to matrix algebra, probability and statistics, and high level programming languages for the M&S student who does not have a strong background in these areas. Students who have this background may select an elective instead.
- IDS 6938 Simulation Research Methods and Practicum. Pre-requisite or concurrent: ESI 5219 Engineering Statistics, PSY 6216 Advanced Research Methodology I, or equivalent. Project course in which interdisciplinary teams conduct and manage research projects on fundamental and applied issues in modeling and simulation and training. This course will be taught by a team of M&S faculty.

Quantitative Aspects of Simulation Focus Area

The Quantitative Aspects of Simulation focus area caters to those who seek to develop skill in the application of advanced quantitative methods to modeling and simulation. Building on backgrounds in mathematics or statistics they will gain experience in modeling and simulation. Graduates will be able to apply mathematics and statistics to build multidisciplinary models and simulations. Typical courses include: Mathematical Modeling, Statistical Aspects of Digital Simulation, Advanced Systems Simulation, and Splines and Data Fitting.

Cornerstone Course

- MAP 5117 Mathematical Modeling (3 credit hours)

Restricted Electives

- EML 6062 Boundary Element Methods in Engineering (3 credit hours)
- EML 6067 Finite Elements in Mechanical, Materials, and Aerospace Engineering I (3 credit hours)
- ESI 6217 Statistical Aspects of Digital Simulation (3 credit hours)
- ESI 6358 Decision Analysis (3 credit hours)
- ESI 6529 Advanced Systems Simulation (3 credit hours)
- ESI 6546 Process Simulation (3 credit hours)
- MAP 5117 Mathematical Modeling (3 credit hours)
- MAP 5385 Applied Numerical Mathematics (3 credit hours)
- MAP 5407 Applied Mathematics I (3 credit hours)
- MAP 6118 Introduction to Nonlinear Dynamics (3 credit hours)
- MAP 6207 Optimization Theory (3 credit hours)
- MAP 6408 Applied Mathematics II (3 credit hours)
- MAP 6445 Approximation Techniques (3 credit hours)
- MAP 6465 Wavelets and Their Applications (3 credit hours)
- STA 6246 Linear Models (3 credit hours)
- STA 5703 Data Mining Methodology I (3 credit hours)
- STA 6704 Data Mining Methodology II (3 credit hours)
- STA 6326 Theoretical Statistics I (3 credit hours)
- STA 6327 Theoretical Statistics II (3 credit hours)
- STA 6714 Data Preparation (3 credit hours)
- STA 6236 Regression Analysis (3 credit hours)
- STA 6329 Statistical Applications of Matrix Algebra (3 credit hours)
- STA 6246 Linear Models (3 credit hours)
- ESI 5219 Engineering Statistics (3 credit hours)

Simulation Infrastructure Focus Area

The Simulation Infrastructure focus area caters to those who wish to gain an in-depth understanding of the basic components of simulation systems and their patterns of configuration and communication, including hardware and software issues. They will gain experience in the development of distributed simulation and training environments. Graduates will be able to implement such systems or manage a team capable of developing such systems. Typical courses include Performance Models of Computers and Networks, Simulation Design and Analysis, High Performance Computer Architecture, and Analysis of Computer and Communication Systems.

Cornerstone Course

- CDA 5530 Performance Models of Computers and Networks (3 credit hours)

Restricted Electives

- CDA 5106 Advanced Computer Architecture I (3 credit hours)
- CDA 5501 Computer Communication Networks Architecture (3 credit hours)
- CDA 6107 Advanced Computer Architecture II (3 credit hours)
- COP 6615 Operating Systems Theory (3 credit hours)
- COT 5405 Design and Analysis of Algorithms (3 credit hours)
- EEL 5708 High Performance Computer Architecture (3 credit hours)
- EEL 5762 Performance Analysis of Computer and Communication Systems (3 credit hours)
- EEL 5891 Continuous System Simulation I (3 credit hours)
- EEL 6785 Computer Network Design (3 credit hours)

- EEL 6878 Modeling and Artificial Intelligence (3 credit hours)
- EEL 6893 Continuous System Simulation II (3 credit hours)
- ISM 6217 Advanced Database Administration (3 credit hours)
- EEL 5881 Software Engineering I (3 credit hours)
- EEL 6883 Software Engineering II (3 credit hours)
- EEL 6885 Software Engineering Quality Assurance Methods (3 credit hours)

Simulation Management Focus Area

The Simulation Management focus area caters to those who wish to gain expertise in the management of projects related to modeling, simulation, and training. A graduate will be prepared to manage such projects for military agencies or MS&T companies. Typical courses include Environment of Technical Organizations, Modeling and Simulation of Real-Time Processes, Management Information Systems, and Project Engineering. A course sequence in simulation-based acquisition is being developed.

Cornerstone Course

- EIN 5108 The Environment of Technical Organizations (3 credit hours)

Restricted Electives

- EEL 6887 Software Engineering Life-Cycle Control (3 credit hours)
- EIN 5117 Management Information Systems I (3 credit hours)
- EIN 5140 Project Engineering (3 credit hours)
- EIN 5381 Engineering Logistics (3 credit hours)
- EIN 6322 Engineering Management (3 credit hours)
- EIN 6339 Operations Engineering (3 credit hours)
- EIN 6357 Advanced Engineering Economic Analysis (3 credit hours)
- ESI 5316 Operations Research (3 credit hours)
- ESI 6358 Decision Analysis (3 credit hours)
- EML 5025C Engineering Design Practice (3 credit hours)
- ESI 6224 Quality Management (3 credit hours)

Computer Visualization in M&S Focus Area

The Computer Visualization in M&S focus area caters to those who wish to gain expertise in technical aspects of computer graphic systems, virtual environments, and human-centered simulation systems. A graduate will have knowledge and experience in applying the state-of-the-art in computer graphics and other human-interface technologies. Typical courses include Computer Graphics Systems, Computer Vision, Machine Perception, Human-Virtual Environment Interaction, and Sensation and Perception. Some students in this focus area will also have an interest in UCF's Digital Media program.

Cornerstone Course

- CAP 5725 Computer Graphics I (3 credit hours)

Restricted Electives

- CAP 5415 Computer Vision (3 credit hours)
- CAP 6411 Computer Vision Systems (3 credit hours)

- CAP 6412 Advanced Computer Vision (3 credit hours)
- EEL 5771C Engineering Applications of Computer Graphics (3 credit hours)
- EEL 5820 Image Processing (3 credit hours)
- EEL 5825 Pattern Recognition (3 credit hours)
- EEL 6843 Machine Perception (3 credit hours)
- EIN 6258 Human Computer Interaction (3 credit hours)

Simulation Modeling and Analysis Focus Area

The Simulation Modeling and Analysis focus area caters to those who desire to gain expertise in using simulation as a tool for effective design, planning, analysis, and decision making. The emphasis of this track is on problem definition, model formulation, design of simulation experiments, and model-based analysis. A graduate will be prepared to work with corporate and government decision makers as they model and evaluate the impacts of proposed policies and system designs. Typical courses include Discrete System Simulation, Experimental Design, and Object-Oriented Simulation.

Cornerstone Course

- ESI 5531 Discrete Systems Simulation (3 credit hours)

Restricted Electives

- EEL 5891 Continuous System Simulation I (3 credit hours)
- EEL 6878 Modeling and Artificial Intelligence (3 credit hours)
- EEL 6893 Continuous System Simulation II (3 credit hours)
- EIN 6524 Simulation Modeling Paradigms (3 credit hours)
- EIN 6529 Simulation Design and Analysis (3 credit hours)
- ESI 6217 Statistical Aspects of Digital Simulation (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)
- ESI 6529 Advanced Systems Simulation (3 credit hours)
- ESI 6532 Object-oriented Simulation (3 credit hours)
- ESI 6546 Process Simulation (3 credit hours)

Interactive Simulation/Intelligent Systems Focus Area

The Interactive Simulation/Intelligent Systems focus area responds to the needs of those who wish to pursue or are currently pursuing careers in the training simulation/simulator industries. Graduates specializing in this focus area possess the basic tools to create system designs for simulators and simulator-based training systems and to apply expert systems and other intelligent systems in a simulation setting. Typical required courses include Training Systems Engineering, Simulation of Real-Time Processes, and Intelligent Simulation.

Cornerstone Course

- EIN 5255 Interactive Simulation (3 credit hours)

Restricted Electives

- CAP 5512 Evolutionary Computation (3 credit hours)
- CAP 5636 Advanced Artificial Intelligence (3 credit hours)

- CAP 6637 Affective Computing with Artificial Intelligence (3 credit hours)
- EEL 5874 Expert Systems and Knowledge Engineering (3 credit hours)
- EEL 6875 Engineering of Artificial Intelligence Systems (3 credit hours)
- EEL 6876 Current Topics in Artificial Intelligence in Engineering Systems (3 credit hours)
- EEL 6895 Current Issues in Real-Time Simulation (3 credit hours)
- EIN 5251 Human-Computer Interaction: Usability Evaluation (3 credit hours)
- EIN 5317 Training System Design (3 credit hours)
- EIN 5602C Expert Systems in Industrial Engineering (3 credit hours)
- EIN 6645 Real-Time Simulation Agents (3 credit hours)
- EIN 6647 Intelligent Simulation (3 credit hours)
- EIN 6946 Simulation Practicum (3 credit hours)
- EIN 6649C Intelligent Tutoring Training System Design (3 credit hours)
- TTE 6270 Intelligent Transportation Systems (3 credit hours)

Human Systems in M&S Focus Area

The Human Systems in M&S focus area caters to those who wish to gain expertise in the content and techniques of human behavior in simulation systems, including human factors, human-computer interaction, virtual worlds, statistical and quantitative procedures, experimental design, computer techniques, and other research methodologies. Typical problem areas for R&D include human-in-the-loop simulation; team performance under stress; and use of visual, audio, haptic, and other sensory input/output modalities to coordinate human-machine activities. Typical courses include Human Factors, Training Systems Engineering, Human Computer Interaction, Intelligent Simulation, and Distributed Learning.

Cornerstone Course

- EXP 5256 Human Factors I (3 credit hours)
OR
- EIN 5251 Human Computer Interaction: Usability Evaluation (3 credit hours)

Restricted Electives

- EIN 5248C Ergonomics (3 credit hours)
- EIN 6215 System Safety Engineering and Management (3 credit hours)
- EIN 6258 Human Computer Interaction (3 credit hours)
- EME 5051 Technologies of Instruction and Information Management (3 credit hours)
- EME 6457 Distance Education: Technology Process Product (3 credit hours)
- EME 6613 Instructional System Design (3 credit hours)
- EXP 5208 Sensation and Perception (3 credit hours)
- EXP 6255 Human Performance (3 credit hours)
- EXP 6257 Human Factors II (3 credit hours)
- EXP 6258 Human Factors III (3 credit hours)
- EXP 6506 Human Cognition and Learning (3 credit hours)
- EXP 6541 Advanced Human-Computer Interaction (3 credit hours)
- INP 6215 Assessment Centers and Leadership (3 credit hours)
- INP 6317 Organizational Psychology and Motivation (3 credit hours)
- INP 6605 Training and Performance Appraisal (3 credit hours)
- PSY 6216 Advanced Research Methodology I (3 credit hours)
- IDS 5718 Science and Technology of Dynamic Media (3 credit hours)

Doctor of Philosophy in Modeling and Simulation

The Ph.D. degree consists of at least 72 semester hours of course work, including a minimum of 15 dissertation hours. The core will consist of four required courses and two restricted courses. These six core courses and a research seminar will provide an interdisciplinary framework for all students. In addition, students are required to take three of the seven focus area cornerstone courses.

Required Core—12 Credit Hours

- IDS 5717C Introduction to Modeling and Simulation (3 credit hours)
- IDS 5719 Quantitative Aspects of Modeling and Simulation (3 credit hours)
- EIN 6258 Human Computer Interaction (3 credit hours)
- IDS 6938 Simulation Research Methods and Practicum (3 credit hours)

Restricted Core—6 Credit Hours

- EIN 5255 Interactive Simulation (3 credit hours) or EEL 5891 Continuous System Simulation I (3 credit hours)
- ESI 5531 Discrete Systems Simulation (3 credit hours) or ESI 6532 Object-oriented Simulation (3 credit hours)

Focus Area Cornerstone Courses—9 Credit Hours

- CAP 5725 Computer Graphics I (3 credit hours)
- CDA 5530 Performance Models of Computers and Networks (3 credit hours)
- EIN 5108 The Environment of Technical Organizations (3 credit hours)
- EIN 5255 Interactive Simulation (3 credit hours)
- ESI 5531 Discrete Systems Simulation (3 credit hours)
- EXP 5256 Human Factors I (3 credit hours)
- MAP 5117 Mathematical Modeling (3 credit hours)

Quantitative Aspects of Simulation Focus Area—Minimum 9 Credit Hours

The Quantitative Aspects of Simulation focus area caters to those who seek to develop skill in the application of advanced quantitative methods to modeling and simulation. Building on backgrounds in mathematics or statistics they will gain experience in modeling and simulation. Graduates will be able to apply mathematics and statistics to build multidisciplinary models and simulations. Typical courses include: Mathematical Modeling, Statistical Aspects of Digital Simulation, Advanced Systems Simulation, and Splines and Data Fitting.

Cornerstone Course

- MAP 5117 Mathematical Modeling (3 credit hours)

Restricted Electives

- EML 6062 Boundary Element Methods in Engineering (3 credit hours)
- EML 6067 Finite Elements in Mechanical, Materials, and Aerospace Engineering I (3 credit hours)
- ESI 6217 Statistical Aspects of Digital Simulation (3 credit hours)

- ESI 6358 Decision Analysis (3 credit hours)
- ESI 6529 Advanced Systems Simulation (3 credit hours)
- ESI 6546 Process Simulation (3 credit hours)
- MAP 5117 Mathematical Modeling (3 credit hours)
- MAP 5385 Applied Numerical Mathematics (3 credit hours)
- MAP 5407 Applied Mathematics I (3 credit hours)
- MAP 5396 Splines and Data Fitting (3 credit hours)
- MAP 6118 Introduction to Nonlinear Dynamics (3 credit hours)
- MAP 6207 Optimization Theory (3 credit hours)
- MAP 6408 Applied Mathematics II (3 credit hours)
- MAP 6445 Approximation Techniques (3 credit hours)
- MAP 6465 Wavelets and Their Applications (3 credit hours)
- STA 5825 Stochastic Processes and Applied Probability Theory (3 credit hours)
- STA 6246 Linear Models (3 credit hours)
- STA 5703 Data Mining Methodology I (3 credit hours)
- STA 6704 Data Mining Methodology II (3 credit hours)
- STA 6326 Theoretical Statistics I (3 credit hours)
- STA 6327 Theoretical Statistics II (3 credit hours)
- STA 6714 Data Preparation (3 credit hours)
- STA 6236 Regression Analysis (3 credit hours)
- STA 6329 Statistical Matrix Algebra (3 credit hours)
- ESI 5219 Engineering Statistics (3 credit hours)

Simulation Infrastructure Focus Area—Minimum 9 Credit Hours

The Simulation Infrastructure focus area caters to those who wish to gain an in-depth understanding of the basic components of simulation systems and their patterns of configuration and communication, including hardware and software issues. They will gain experience in the development of distributed simulation and training environments. Graduates will be able to implement such systems or manage a team capable of developing such systems. Typical courses include Performance Models of Computers and Networks, Simulation Design and Analysis, High Performance Computer Architecture, and Analysis of Computer and Communication Systems.

Cornerstone Course

- CDA 5530 Performance Models of Computers and Networks (3 credit hours)

Restricted Electives

- CDA 5106 Advanced Computer Architecture I (3 credit hours)
- CDA 5501 Computer Communication Networks Architecture (3 credit hours)
- CDA 6107 Advanced Computer Architecture II (3 credit hours)
- COP 6615 Operating Systems Theory (3 credit hours)
- COT 5405 Design and Analysis of Algorithms (3 credit hours)
- EEL 5708 High Performance Computer Architecture (3 credit hours)
- EEL 5762 Performance Analysis of Computer and Communication Systems (3 credit hours)
- EEL 5891 Continuous System Simulation I (3 credit hours)
- EEL 6785 Computer Network Design (3 credit hours)
- EEL 6878 Modeling and Artificial Intelligence (3 credit hours)
- EEL 6893 Continuous System Simulation II (3 credit hours)
- EEL 5881 Software Engineering I (3 credit hours)

- EEL 6885 Software Engineering Quality Assurance Methods (3 credit hours)

Simulation Management Focus Area—Minimum 9 Credit Hours

Management focus area caters to those who wish to gain expertise in the management of projects related to modeling, simulation, and training. A graduate will be prepared to manage such projects for military agencies or MS&T companies. Typical courses include Environment of Technical Organizations, Modeling and Simulation of Real-Time Processes, Management Information Systems, and Project Engineering. A course sequence in simulation-based acquisition is being developed.

Cornerstone Course

- EIN 5108 The Environment of Technical Organizations (3 credit hours)

Restricted Electives

- EEL 6887 Software Engineering Life-Cycle Control (3 credit hours)
- EIN 5117 Management Information Systems I (3 credit hours)
- EIN 5140 Project Engineering (3 credit hours)
- EIN 5381 Engineering Logistics (3 credit hours)
- EIN 6322 Engineering Management (3 credit hours)
- EIN 6339 Operations Engineering (3 credit hours)
- EIN 6357 Advanced Engineering Economic Analysis (3 credit hours)
- ESI 5316 Operations Research (3 credit hours)
- ESI 6358 Decision Analysis (3 credit hours)
- ESI 6224 Quality Management (3 credit hours)
- EML 5025 Engineering Design Practicum (3 credit hours)

Computer Visualization in M&S Focus Area—Minimum 9 Credit Hours

The Computer Visualization in M&S focus area caters to those who wish to gain expertise in technical aspects of computer graphic systems, virtual environments, and human-centered simulation systems. A graduate will have knowledge and experience in applying the state-of-the-art in computer graphics and other human-interface technologies. Typical courses include Computer Graphics Systems, Computer Vision, Machine Perception, Human-Virtual Environment Interaction, and Sensation and Perception. Some students in this focus area will also have an interest in UCF's Digital Media program.

Cornerstone Course

- CAP 5725 Computer Graphics I (3 credit hours)

Restricted Electives

- CAP 5415 Computer Vision (3 credit hours)
- CAP 6411 Computer Vision Systems (3 credit hours)
- CAP 6412 Advanced Computer Vision (3 credit hours)
- EEL 5771C Engineering Applications of Computer Graphics (3 credit hours)
- EEL 5820 Image Processing (3 credit hours)

- EEL 5874 Expert Systems and Knowledge Engineering (3 credit hours)
- EEL 6843 Machine Perception (3 credit hours)
- EIN 6258 Human Computer Interaction (3 credit hours)

Simulation Modeling and Analysis Focus Area—Minimum 9 Credit Hours

The Simulation Modeling and Analysis focus area caters to those who desire to gain expertise in using simulation as a tool for effective design, planning, analysis, and decision-making. The emphasis of this track is on problem definition, model formulation, design of simulation experiments, and model-based analysis. A graduate will be prepared to work with corporate and government decision makers as they model and evaluate the impacts of proposed policies and system designs. Typical courses include Discrete System Simulation, Experimental Design, and Object-Oriented Simulation.

Cornerstone Course

- ESI 5531 Discrete Systems Simulation (3 credit hours)

Restricted Courses

- EEL 5891 Continuous System Simulation I (3 credit hours)
- EEL 6878 Modeling and Artificial Intelligence (3 credit hours)
- EEL 6893 Continuous System Simulation II (3 credit hours)
- EIN 6524 Simulation Modeling Paradigms (3 credit hours)
- EIN 6529 Simulation Design and Analysis (3 credit hours)
- ESI 6217 Statistical Aspects of Digital Simulation (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)
- ESI 6529 Advanced Systems Simulation (3 credit hours)
- ESI 6532 Object-oriented Simulation (3 credit hours)
- ESI 6546 Process Simulation (3 credit hours)

Interactive Simulation/Intelligent Systems Focus Area—Minimum 9 Credit Hours

The Interactive Simulation/Intelligent Systems focus area responds to the needs of those who wish to pursue or are currently pursuing careers in the training simulation/simulator industries. Graduates specializing in this focus area possess the basic tools to create system designs for simulators and simulator-based training systems and to apply expert systems and other intelligent systems in a simulation setting. Typical required courses include Training Systems Engineering, Simulation of Real-Time Processes, and Intelligent Simulation.

Cornerstone Course

- EIN 5255 Interactive Simulation (3 credit hours)

Restricted Electives

- CAP 5512 Evolutionary Computation (3 credit hours)
- CAP 5636 Advanced Artificial Intelligence (3 credit hours)

- CAP 6637 Affective Computing with Artificial Intelligence (3 credit hours)
- EEL 5874 Expert Systems and Knowledge Engineering (3 credit hours)
- EEL 6875 Engineering of Artificial Intelligence Systems (3 credit hours)
- EEL 6876 Current Topics in Artificial Intelligence in Engineering Systems (3 credit hours)
- EEL 6895 Current Issues in Real-Time Simulation (3 credit hours)
- EIN 5251 Human-Computer Interaction: Usability Evaluation (3 credit hours)
- EIN 5317 Training System Design (3 credit hours)
- EIN 5602C Expert Systems in Industrial Engineering (3 credit hours)
- EIN 6645 Real-Time Simulation Agents (3 credit hours)
- EIN 6647 Intelligent Simulation (3 credit hours)
- EIN 6649C Intelligent Tutoring Training System Design (3 credit hours)
- EIN 6946 Simulation Practicum (3 credit hours)
- TTE 6270 Intelligent Transportation Systems (3 credit hours)

Human Systems in M&S Focus Area—Minimum 9 Credit Hours

The Human Systems in M&S focus area caters to those who wish to gain expertise in the content and techniques of human behavior in simulation systems, including human factors, human-computer interaction, virtual worlds, statistical and quantitative procedures, experimental design, computer techniques, and other research methodologies. Typical problem areas for R&D include human-in-the-loop simulation; team performance under stress; and use of visual, audio, haptic, and other sensory input/output modalities to coordinate human-machine activities. Typical courses include Human Factors, Training Systems Engineering, Human Computer Interaction, Intelligent Simulation, and Distributed Learning.

Cornerstone Course

- EXP 5256 Human Factors I (3 credit hours)
OR
- EIN 5251 Human Computer Interaction: Usability Evaluation (3 credit hours)

Restricted Electives

- EIN 5248C Ergonomics (3 credit hours)
- EIN 6215 System Safety Engineering and Management (3 credit hours)
- EIN 6258 Human Computer Interaction (3 credit hours)
- EME 5051 Technologies of Instruction and Information Management (3 credit hours)
- EME 6457 Distance Education: Technology Process Product (3 credit hours)
- EME 6613 Instructional System Design (3 credit hours)
- EXP 5208 Sensation and Perception (3 credit hours)
- EXP 6255 Human Performance (3 credit hours)
- EXP 6257 Human Factors II (3 credit hours)
- EXP 6258 Human Factors III (3 credit hours)
- EXP 6506 Human Cognition and Learning (3 credit hours)
- EXP 6541 Advanced Human-Computer Interaction (3 credit hours)
- INP 5825 Human-Computer Interface (HCI) Design: A Team Approach (3 credit hours)
- INP 6215 Assessment Centers and Leadership (3 credit hours)
- INP 6317 Organizational Psychology and Motivation (3 credit hours)
- INP 6605 Training and Performance Appraisal (3 credit hours)
- PSY 6216 Advanced Research Methodology I (3 credit hours)
- IDS 5718 Science and Technology of Dynamic Media (3 credit hours)

Qualifying examination

A written test is required covering content of the four core courses. This may be waived if the student is first or second author of: (1) a refereed journal article dealing with modeling and simulation, or (2) a proposal to a major funding agency such as the National Science Foundation which is rated as technically acceptable.

Students in the Modeling & Simulation program must also demonstrate consistent, strong performance in their required core courses, restricted core courses, and focus area corner stone courses. Specifically, students must receive a grade of B (3.0 out of 4.0) or better in each required core, restricted core, and focus area corner stone course that appear on their approved program of study. Additionally, students must earn a combined GPA of 3.5 (out of 4.0) in these required core, restricted core and focus area corner stone courses.

Students who do not qualify for the PhD program through course work will be required to remedy any deficiencies identified by the M&S faculty. This remediation which must be approved by the Academic Advisory Committee, will normally be some combination of additional course work with a final grade stipulation and directed project work. Students who are not successful in their remediation will be permanently disqualified from the M&S PhD program.

Candidacy Examination

The Candidacy Examination evaluates the student's preparation to undertake the research in the student's dissertation topic. A student may sit for the Candidacy Examination upon: (1) Passing the Qualifying Examination; (2) Completing all conditions placed as a result thereof; and (3) Completing all but six (6) credits or less of the courses prescribed in the plan of study.

The Candidacy Examination is based on the following:

- The Candidacy **Proposal** developed by the student to identify the chosen area of research.
- **Literature Review** on the topic of the dissertation.
- An **Oral Defense** of the candidacy proposal to the dissertation committee.

Dissertation Committee

Students have the responsibility to select a dissertation adviser from a list of Modeling and Simulation faculty authorized to direct dissertations. The Program Director, assisted by the Program Academic Committee, will assist the student and his/her advisers with committee formation, additions, and deletions. The doctoral committee will consist of a minimum of five members. All committee members should hold a doctoral degree and be in fields related to the dissertation topic. At least three members must be Modeling and Simulation faculty (one to serve as chair) from at least two colleges. At least one member must be from outside the M&S faculty. Non-Modeling and Simulation faculty, adjunct faculty, and off-campus experts may serve on the committee, but not as chair. At UCF, UCF Graduate Studies has the right to review appointments to advisory committees, place a representative on any advisory committee, or appoint a co-adviser.

In unusual cases, with approval from the Program Director, two committee members may chair the committee jointly. All members vote on acceptance or rejection of the dissertation proposal and the final dissertation. The dissertation proposal and final dissertation must be approved with at most one dissenting member of the advisory committee. A student is normally given only one opportunity to pass the final dissertation defense, but the Program Director upon the recommendation of the Dissertation Committee may approve a second attempt.

Transfer Credits

The doctoral program will allow up to 30 credit hours to be transferred into the program, whether from UCF or another institution.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Doctor of Philosophy in Modeling and Simulation

Peter Kincaid, Ph.D.

Phone Number: 407-882-1330

pkincaid@ist.ucf.edu

Master of Science in Modeling and Simulation

Peter Kincaid, Ph.D.

Phone Number: 407-882-1330

pkincaid@ist.ucf.edu

Molecular Biology and Microbiology

[Description](#)

[Degree Offered](#)

[Admission](#)

[Master of Science in Molecular and Microbiology](#)

[Contact Info](#)

Description

The Department of Molecular Biology and Microbiology offers the Master of Science degree program for students to further their knowledge in the field and prepare for professional careers in medical fields, higher education, and research.

Degrees Offered

Master of Science in Molecular and Microbiology

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Graduate Catalog. Applicants are encouraged to [apply online](#). Please be sure to submit all requested material by the established deadline(s).

Additional Admissions Information

The minimum requirements for consideration for graduate status in the M.S. Program in Molecular Biology and Microbiology are a grade point average (GPA) of at least 3.0 for the last 60 attempted semester hours of undergraduate study and a score of at least 1000 on the combined quantitative-verbal sections of the Graduate Record Exam (GRE). A course-by-course transcript evaluation is required of all students who attended a college or university outside the United States. For information and instructions about transcript evaluations, please see [Transcripts and Evaluations](#) on the Graduate Students website. Additionally, the department requires three letters of recommendation plus a written statement of research experience, area of interest, and immediate and long-range goals. Personal interviews are helpful but not required. The department requires international students and students whose native language is not English to have a minimum score of 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL).

Applicants who fail to meet either the minimum program GPA or GRE requirement may occasionally be accepted if there is other convincing evidence of potential for high achievement and success. Applicants failing to satisfy minimum program criteria should submit a GRE Subject Biochemistry, Cell and Molecular Biology Test score at or above the 50th percentile. In no case will GRE scores (verbal, quantitative, or advanced) older than five years be accepted.

Applicants need not have an undergraduate degree in molecular biology or microbiology but are expected to have the equivalent of 16 semester hours of credit in the biological sciences including a course in general microbiology, biochemistry or molecular biology or cell biology, plus one year of organic chemistry, one year of physics, basic university mathematics and statistics, and laboratory skills equivalent to the minimum required of our own undergraduates. Minor deficiencies may be remedied after acceptance by enrollment at the first opportunity in an appropriate course.

Applicants wishing to be considered for fellowship nominations for Fall must complete the application by February 1 or earlier.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Science in Molecular and Microbiology	Feb 1	Jul 15	Dec 1	Apr 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Science in Molecular and Microbiology	Feb 1	Feb 1		

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Science in Molecular and Microbiology	Feb 1	Mar 1		

Master of Science in Molecular Biology and Microbiology

The course and credit requirements consist of a minimum of 30 semester hours of credit, including 6 credits of thesis, 2 credits of graduate seminar, BSC 6431 The Practice of Biomolecular Science (1 credit hour), and such other courses as specified by the student's thesis advisory committee in the approved Program of Study. At least 24 semester hours of course work must be earned exclusive of thesis. Students are required to take the two-semester core course Structure-Function-Relationships of Biomolecular Science I and II. A research thesis is required for the degree of Master of Science in Molecular Biology and Microbiology. During the first two semesters students are expected to familiarize themselves with the research programs of the faculty. Students are expected to have an in-depth discussion with at least three faculty members before choosing a laboratory for thesis research. The student and the Thesis Adviser/Major Professor will jointly recommend an advisory committee composed of at least four members. The committee composition must reflect expertise relevant to the student's thesis research and must be approved by the Graduate Committee. Students wishing to change the composition of the Thesis Advisory Committee must also obtain approval from the Graduate Committee.

- BSC 6431 Practice of Biomolecular Science (1 credit hour)
- BSC 6432 Structure-Function-Relationships of Biomolecular Science I (5 credit hours)
- BSC 6433 Structure-Function-Relationships of Biomolecular Science II (5 credit hours)
- MCB 5205 Infectious Processes (3 credit hours)
- MCB 5225 Molecular Biology of Disease (3 credit hours)
- MCB 5505 Molecular Virology (3 credit hours)
- MCB 5527 Genetic Engineering and Biotechnology (3 credit hours)
- MCB 5654 Applied Microbiology (3 credit hours)
- MCB 5932 Current Topics in Molecular Biology (3 credit hours)

- MCB 6226 Molecular Diagnostics (3 credit hours)
- MCB 6407C Laboratory Methods in Molecular Biology (5 credit hours)
- MCB 6417C Microbial Metabolism (3 credit hours)
- MCB 6528 Plant Molecular Biology (3 credit hours)
- MCB 6938 Seminar (1-2 credit hours)
- MCB 6971 Thesis (1-6 credit hours)
- PCB 5238 Immunopathology (3 credit hours)
- PCB 5239 Tumor Biology (3 credit hours)
- PCB 5275 Signal Transduction Mechanisms (3 credit hours)
- PCB 5937 Special Topics: Human Endocrinology (3 credit hours)
- PCB 6596 Bioinformation and Genomics (3 credit hours)
- ZOO 5745C Essentials of Neuroanatomy (4 credit hours)

Examinations

A written comprehensive examination to test the understanding of the basic concepts in the field and relevant applications is required of all students in the M.S. program. This comprehensive examination will use questions provided by the Program Faculty. The comprehensive examination will be offered once each in the Fall and Spring semesters, and may be taken for a maximum of two times.

An oral thesis defense is required. The defense will be in the format of:

- A 50-minute presentation of the thesis work, including a 5-minute introduction
- A 10-minute free period for the general audience to ask questions
- A 1-hour close-door examination by the Thesis Advisory Committee and the program faculty present

The oral thesis defense will be evaluated by the Thesis Advisory Committee. Approval will require a majority consenting vote from the Thesis Advisory Committee AND consenting votes from the Graduate Coordinator and the Department Chair.

Students will be evaluated on the progress in thesis research by the thesis advisory committee for Fall and Spring. Two consecutive unsatisfactory evaluations will result in reversion to non-degree status.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based

- fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
 - For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Karl X. Chai, Ph.D. , Associate Professor

Phone Number: 407-823-5932

kxchai@mail.ucf.edu

Music Education

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Master of Arts in Music Education](#)

[Community College Teaching Track](#)

[Master of Education in Music Education](#)

[Contact Info](#)

Description

The Master of Education in Music Education program, offered in cooperation with the Department of Music, is for students who are certified to teach music (K-12). The program, organized to increase knowledge and improve teaching skills, includes advanced work in research and educational foundations; a practicum in music education; and courses in foundations of music education, general music, teaching performance and curriculum. Advanced courses in music history, music theory, conducting and performance are included.

The Master of Arts program is offered for students who have completed a baccalaureate degree who seek certification in music (K-12). The program is organized to develop basic teaching skills as well as advanced work in research and educational foundations, courses in foundations of music education, and methods of teaching music. Supervised internship experiences are included. In most cases, music specialization requirements for certification are met by the B.A. degree. The M.A. program also includes a Community College Teaching Track, which is designed for individuals planning to teach at that level and not requiring state teacher certification.

Degrees Offered

Master of Arts in Music Education

- Community College Teaching Track

Master of Education in Music Education

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

In addition to the general admission requirements, applicants must provide:

- Official Graduate Record Examination (GRE) score of at least 840 from test taken within the last five years (If GPA is below 3.0, GRE of 1000; in lieu of the GRE, a GMAT score of 500 or higher may be used for admission consideration)
- GPA of 3.0 or higher in last 60 hours of undergraduate study
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220

(computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

- Applicants to the M.Ed. program must (1) have completed all course requirements for Florida state teacher certification in the program's subject area and/or grade range, or (2) present a Florida Professional Teaching Certificate upon admission to the program. Applicants who have graduated from an accredited university or college teacher certification program in another state or country, in the appropriate subject and/or grade range, may also be admitted to the M.Ed. program at the discretion of the program director.

Students may not switch from an M.A. program to an M.Ed. program, or vice versa, without going through the university's admission process. Courses used to gain initial state certification may not be transferred into an M.Ed. program.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Music Education	Feb 1	Jul 15	Dec 1	Apr 15
Community College Teaching Track	Feb 1	Jul 15	Dec 1	Apr 15
Master of Education in Music Education	Feb 1	Jul 15	Dec 1	Apr 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Music Education	Feb 1	Feb 1	Jul 1	
Community College Teaching Track	Feb 1	Feb 1	Jul 1	
Master of Education in Music Education	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Music Education	Feb 1	Mar 1	Sep 1	
Community College Teaching Track	Feb 1	Mar 1	Sep 1	
Master of Education in Music	Feb 1	Mar 1	Sep 1	

Education

Master of Education in Music Education

Minimum Hours Required for M.Ed.—36 Credit Hours

Area A: Core—12-15 Credit Hours

- EDF 6401 Statistics for Educational Data (3 credit hours) OR
- EDF 6432 Measurement and Evaluation in Education (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)

Select one course from the following list:

- EDF 6155 Lifespan Human Development and Learning (3 credit hours) OR
- EDF 6517 Perspectives on Education (3 credit hours) OR
- EDF 6608 Social Factors in American Education (3 credit hours)

Research Report or Course Option:

- MUE 6909 Research Report (2,1 credit hours)
- Two elective courses approved by advisor (6 credit hours)

Area B: Specialization—12 Credit Hours*

Courses, including performance, music history, music theory, conducting, to be approved by adviser. Music courses may be selected from the following offerings:

- MUG 4103 Advanced Conducting (2 credit hours)
- MUH 4211 History and Literature I (3 credit hours)
- MUH 4212 History and Literature II (3 credit hours)
- MUS 5365 Music and Technology (3 credit hours)
- MUT 5381 Arranging and Composing Music (3 credit hours)
- Seminar in music

* Graduate performance and advanced conducting courses are available only after admission to the graduate program and successful completion of 9 credit hours of the graduate program.

Area C: Curriculum Core: Music Education—12 Credit Hours

- MUE 6349 Advanced General Music (3 credit hours)
- MUE 6946 Practicum in Music Education (3 credit hours)
- MUE 6XXX Electives approved by adviser (6 credit hours)

Additional Program Graduation Requirements

Take a placement examination in music history, music theory, and sight singing (or completion of equivalent courses).

- MUH 4218 Review of Music History (1 credit hour)
- MUT 4031 Review of Music Theory (1 credit hour)

Students will complete a culminating Comprehensive Experience in Music Education. The purpose of this experience is to provide an opportunity for each student to synthesize and apply knowledge and experience acquired through the program of study. This experience is generally scheduled during the final semester of the program.

Master of Arts in Music Education

This program is offered for students who have completed a baccalaureate degree in music and seek certification in music (K-12). The Master of Arts program is organized to develop basic teaching skills as well as advanced work in research and educational foundations, courses in foundations of music education and methods of teaching music. Supervised internship experiences are included. In most cases, music specialization requirements for certification are met by the B.A. degree.

Minimum Hours Required for M.A.—36 Credit Hours

Area A: Core—15 or 18 Credit Hours

- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- EDG 6236 Principles of Instruction (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- EDF 6432 Measurement and Evaluation in Education (3 credit hours)

Select one course from the following list:

- EDF 6517 Perspectives on Education (3 credit hours) OR
- EDF 6608 Social Factors in American Education (3 credit hours) OR
- EDF 6886 Multicultural Education (3 credit hours)
- MUE 6909 Research Report or 2 approved electives (2,1 or 6 credit hours)

Area B: Specialization—12 Credit Hours*

Courses, including performance, music history, music theory, conducting, to be approved by adviser. Music courses may be selected from the following offerings:

- MUG 4103 Advanced Conducting (2 credit hours)
- MUH 4211 History and Literature I (3 credit hours)
- MUH 4212 History and Literature II (3 credit hours)
- MUS 5365 Music and Technology (3 credit hours)
- MUT 5381 Arranging and Composing Music (3 credit hours)
- Seminar in music

* Graduate performance and advanced conducting courses are available only after admission to the graduate program and successful completion of 9 credit hours of the graduate program.

Area C: Internship—9 Credit Hours

- MUE 6946 Practicum in Music Education (or equivalent) (3 credit hours)
- MUE 6946 Practicum in Music Education (6 credit hours)

Satisfactory completion of Graduate Internships requires the student to demonstrate proficiency in all 12 Florida Educator Accomplished Practices at the pre-professional level in accordance with State Board of Education Rule 6A-5.065.

Co-requisites

Music specialization requirements for certification must be met by either a B.A. in Music or additional course work to be determined by adviser upon review of student's transcript.

- MUE 4311 Elementary School Music Methods (2 credit hours)
- MUE 4330 Secondary School Music Methods (2 credit hours)

Additional Program Graduation Requirements

Take a placement examination in music history, music theory and sight singing (or completion of equivalent courses).

- MUH 4218 Review of Music History (1 credit hour)
- MUT 4031 Review of Music Theory (1 credit hour)

Complete a portfolio according to program guidelines. This portfolio requires demonstration of professional growth, reflection, and proficiency in the 12 Florida Educator Accomplished Practices. Pass all applicable sections of the Florida Teacher Certification Examination. Students are required to have credit in 30 hours of music course work to meet certification requirements to teach music in grades K-12. Only six hours of independent study courses may be used to satisfy degree requirements. It is important to see an adviser if courses are difficult to schedule in content areas.

Community College Teaching Track

The Community College Teaching Track in this program is designed for individuals whose goal is teaching music at the community college level. Every attempt is made to build at least the required 18 hours of graduate-level music courses into the program of study. Only six hours of independent study courses may be used to satisfy degree requirements. It is important to see an adviser if courses are difficult to schedule in the content area. Students electing this track will not meet state requirements for teacher certification in music grades K-12.

Required Courses—42 Credit Hours Minimum

Area A: Core—15 Credit Hours

Students in this track should consult with the Community College Teaching Track adviser regarding Core requirements prior to registering for Core courses.

- EDF 6155 Lifespan Human Development and Learning (3 hours)
- EDF 6401 Statistics for Educational Data (3 hours) OR
- EDF 6432 Measurement and Evaluation in Education (3 hours)
- EDF 6481 Fundamentals of Graduate Research Education (3 hours)
- EDF 6517 History and Philosophy of American Education (3hours)
- ESE 6909 Research Report (2 hours)
- ESE 6909 Research Report (1 hour)

Area B: Specialization—27 Credit Hours

(Electives must be approved by adviser)

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Master of Arts in Music Education

Mary Palmer, Ed.D. , Professor
Phone Number: 407-823-3397
mpalmer@mail.ucf.edu

Master of Education in Music Education

Mary Palmer, Ed.D. , Professor
Phone Number: 407-823-3397
mpalmer@mail.ucf.edu

Community College Teaching Track

Ruby Evans, Ed.D. , Associate Professor
Phone Number: 407-823-1129
revans@mail.ucf.edu

Nonprofit Management

[Description](#)

[Degree Offered](#)

[Admission](#)

[Master of Nonprofit Management](#)

[Contact Info](#)

Description

The Department of Public Administration's Master of Nonprofit Management (M.N.M.) degree program provides opportunities for students to prepare for employment or to advance their careers as administrators in nonprofit management. The program is intended to produce graduates equipped with the management skills and analytical skills needed for successful careers in the nonprofit sector.

Degrees Offered

Master of Nonprofit Management

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

The Graduate Record Examination (GRE) is required of all graduate students. Minimum requirements for regular admission are (1) a grade point average (GPA) of 3.0 for the last 60 attempted semester hours of undergraduate study, (2) a grade point average of 3.0 in a previous graduate degree, or (3) a total score of 1000 or higher on the verbal-quantitative sections of the GRE.

A limited number of students who do not meet these requirements but who do have at least a 2.5 GPA and an 800 GRE score may be admitted on a provisional basis. These students must demonstrate proven public sector leadership experience, present strong recommendations from either academic or professional advisers, and provide a clear statement of education goals. More specific information on provisional admissions may be obtained from the department.

Individuals whose native language is other than English are required to have a minimum score of 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL).

Students are expected to be computer literate upon entry to the program or are expected to obtain these skills immediately upon admission to the program. This program is completely online, so computer skills are necessary to access the courses.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Nonprofit Management	Feb 1	Jul 15	Dec 1	Apr 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Nonprofit Management	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Nonprofit Management	Feb 1	Mar 1	Sep 1	

Master of Nonprofit Management

The Master of Nonprofit Management (M.N.M.) program consists of 33 credit hours. Each student completes a core of nine required courses (27 credit hours), with the option of a thesis or two electives (6 credit hours). Courses and credit hours used for undergraduate degrees cannot also be counted toward the M.N.M. degree.

Minimum Hours Required for M.N.M.—33 Credit Hours

Minimum Core Requirements—27 Credit Hours

- PAD 5142 Nonprofit Organizations (3 credit hours)
- PAD 5145 Volunteerism in Nonprofit Management (3 credit hours)
- PAD 5146 Nonprofit Resource Development (3 credit hours)
- PAD 5850 Grant and Contract Management (3 credit hours)
- PAD 6149 Nonprofit Administration (3 credit hours)
- PAD 6327 Public Program Evaluation Techniques (3 credit hours)
- PAD 6208 Nonprofit Financial Management (3 credit hours)
- PAD 6417 Human Resource Management (3 credit hours)
- PAD 6335 Strategic Planning and Management (3 credit hours)

Thesis Option—6 Credit Hours

Students may choose to do a thesis with the consent of the academic adviser. PAD 6971 Thesis Research is designed to guide students in conducting research in the area of nonprofit management. For this option, students select a thesis committee and write a research proposal consisting of a literature review and a detailed methodological plan. Once the proposal is approved, students collect, analyze, and interpret the data. To complete the requirements for this option, students must present and defend their research to their committee and their peers.

Elective Option—6 Credit Hours

Students may take two elective courses (three hours each) with the prior approval of the program director. The elective courses are to be in the student's area of interest, such as public administration, criminal justice, health care or social work.

Exit Requirements

Students must achieve a grade of "B" (3.0) or better in every course listed under minimum core requirements.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Mary Ann Feldheim, Ph.D. , Assistant Professor
Phone Number: 407-823-2604
mfeldhei@mail.ucf.edu

Nursing

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Master of Science in Nursing](#)

[Adult Nurse Practitioner Track](#)

[Clinical Nurse Practitioner Track](#)

[Family Nurse Practitioner Track](#)

[Leadership and Management Track](#)

[Pediatric Nurse Practitioner Track](#)

[Contact Info](#)

Description

The Master of Science in Nursing (MSN) programs are designed to build upon the student's baccalaureate nursing education and professional experience. The Master of Science program is accredited by the Commission on Collegiate Nursing Education (CCNE).

This program prepares students to:

- Analyze social, economic, ethical, cultural, legal, and political issues influencing nursing practice and health care in a global context.
- Collaborate with leaders in nursing and other disciplines to improve the quality of professional nursing practice and the health care system.
- Develop and implement leadership, management, and teaching strategies for the improvement of health and health care.
- Develop practice models of evidence-based nursing practice incorporating nursing research.
- Influence health and public policy to improve health of communities.
- Participate in lifelong learning activities.
- Participate in research and disseminate research findings through presentation and publication.
- Synthesize advanced knowledge from the sciences, the humanities, and nursing theories to support advanced nursing practice.
- Plan, evaluate and implement the delivery of health care using critical thinking skills.
- Practice in an advanced nursing role.
- Synthesize advanced knowledge from the sciences, the humanities, and nursing theories for advanced practice nursing.

The school also offers an RN to MSN plan of study, an accelerated program for RNs (registered nurses) who do not hold a Bachelor of Science in Nursing (BSN). This program is designed for students who have met general education requirements, who have demonstrated above-average performance in prior undergraduate course work, and who have the potential for success in graduate school.

A similar program, the Nurse Practitioner to MSN plan of study, is designed for RNs who are licensed in Florida with active status as an advanced registered nurse practitioner (ARNP) but have not completed a master's degree in nursing.

The goals of the programs are to prepare advanced nurse practitioners and nursing leaders and managers to assume leadership positions in a variety of health care settings. Graduates of the programs are eligible to sit for specialty certification examinations, and nurse practitioner graduates are eligible for licensure as an ARNP in Florida.

Degrees Offered

Master of Science in Nursing

- Adult Nurse Practitioner Track
- Clinical Nurse Practitioner Track
- Family Nurse Practitioner Track
- Leadership and Management Track
- Pediatric Nurse Practitioner Track

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Graduate Catalog](#). Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

Students are admitted to the programs in fall and spring semesters. To study full time, nurse practitioner and leadership/management students should apply for fall admission; clinical nurse specialist students should apply for spring admission. Part-time plans of study are available for both fall and spring admission cycles.

In addition to the general admission requirements, applicants to this program must provide:

- A bachelor's degree in nursing from a program accredited by the National League for Nursing Accreditation Commission (NLNAC) or the Commission on Collegiate Nursing Education (CCNE)
- An overall grade point average of 3.0 for upper-division undergraduate work (usually the last 60 attempted semester hours) and a combined Graduate Record Exam (GRE) score of 900 on the verbal and quantitative sections of the exam; or, an overall grade point average of 2.8 for upper-division undergraduate work and a combined GRE score of 1000 on the verbal and quantitative exams. Students with a GPA of 3.0 who receive a GRE score less than 900 may be reviewed for restricted or provisional admission status. See the [Admissions](#) section of the graduate catalog.
- Copy of Florida registered nurse license
- Completion of undergraduate courses in statistics and health assessment (If health assessment content was integrated into other nursing course work, written documentation must be obtained from the school or college of nursing.)
- UCF Immunization Form (upon acceptance to the program, a School of Nursing immunization form will be required).
- A personal statement describing interest in the field and career goals
- A resume (no longer than 2 pages)
- Three letters of recommendation evaluating potential for graduate study preferably by nursing instructors, nurse employers or nurses with advanced degrees
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required or a passing score on the Commission on Graduates of Foreign Nursing Schools (CGFNS)

Admission to the program is competitive, based on evaluation of the applicant's abilities, past performance, recommendations, and the match of UCF's programs with career goals. The School of Nursing accepts the most qualified students. Since enrollment is limited, not all students who apply may be accepted, even if minimum requirements are met.

Students may take classes as a nursing non-degree-seeking, post-baccalaureate student on a space-available basis. Deadlines for application for this status are earlier than those posted by the university. Students must designate on their application that they are applying to the School of Nursing in order to facilitate

processing of files. Students will be notified in writing from the School of Nursing regarding acceptance as a non-degree-seeking student. Students who are accepted will be assisted with registration for available courses. Successful completion of post-baccalaureate courses does not guarantee admission to the graduate program.

Admissions Requirements: ARNP to MSN Plan

The ARNP to MSN plan is designed for RNs who are licensed in the state of Florida with active status as an ARNP but have not completed a master's degree in nursing.

For an RN to ARNP with a BSN, admissions requirements include:

- Documentation of completion of a certificate program for nurse practitioners
- Other requirements are the same as the MSN program

For an RN to ARNP without a BSN, admissions requirements include:

- Documentation of completion of a certificate program for nurse practitioners
- Other requirements are the same as the RN to MSN program

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Science in Nursing	Feb 1	Apr 30	Oct 15	
Adult Nurse Practitioner Track	Feb 1	Apr 30	Oct 15	
Clinical Nurse Practitioner Track	Feb 1	Apr 30	Oct 15	
Family Nurse Practitioner Track	Feb 1	Apr 30	Oct 15	
Leadership and Management Track	Feb 1	Apr 30	Oct 15	Mar 15
Pediatric Nurse Practitioner Track	Feb 1	Apr 30	Oct 15	

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Science in Nursing	Feb 1	Feb 1	Jul 1	
Adult Nurse Practitioner Track	Feb 1	Feb 1	Jul 1	
Clinical Nurse Practitioner Track	Feb 1	Feb 1	Jul 1	
Family Nurse Practitioner Track	Feb 1	Feb 1	Jul 1	
Leadership and Management	Feb 1	Feb 1	Jul 1	

Track

Pediatric Nurse Practitioner Track	Feb 1	Feb 1	Jul 1
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International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Science in Nursing	Feb 1	Mar 1	Sep 1	
Adult Nurse Practitioner Track	Feb 1	Mar 1	Sep 1	
Clinical Nurse Practitioner Track	Feb 1	Mar 1	Sep 1	
Family Nurse Practitioner Track	Feb 1	Mar 1	Sep 1	
Leadership and Management Track	Feb 1	Mar 1	Sep 1	
Pediatric Nurse Practitioner Track	Feb 1	Mar 1	Sep 1	

Master of Science in Nursing**Degree Requirements**

- Nursing Leadership and Management—43 Credit Hours
- Adult or Pediatric Nurse Practitioner—47 Credit Hours
- Clinical Nurse Specialist—49 Credit Hours
- Family Nurse Practitioner—49 Credit Hours

Graduate students must complete a minimum of 43-49 credit hours of graduate-level course work, depending on major. Either a thesis or research scholarly work is required.

Required Courses for All Students—14-17 Credit Hours

- NGR 5744 Health Care Systems, Policy and Health Professionals (1 credit hour)
- NGR 5746 Cultural, Legal, Ethical, and Political Issues of Advanced Practice Nursing (1 credit hour)
- NGR 5745 Professional Obligations and Activities of Advanced Practice Nursing (1 credit hour)
- NGR 5800 Nursing Theory/Research I (4 credit hours)
- NGR 5801 Nursing Research II/Statistics (4 credit hours)
- NGR 6971/6813 Thesis or Research Scholarly Work (3-6 credit hours)

Core Requirements for Nurse Practitioner Tracks—17-20 Credit Hours

- NGR 5003 Advanced Health Assessment, Health Promotion, and Diagnostic Reasoning (3 credit hours)
- NGR 5004L Advanced Health Assessment, Health Promotion, and Diagnostic Reasoning Clinical (2 credit hours)
- NGR 5141 Pathophysiological Bases for Advanced Nursing Practice (3 credit hours)

- NGR 6192 Pharmacology for Advanced Nursing Practice (3 credit hours)
- NGR 6941 Advanced Practice Practicum (6 credit hours)
- Nursing Graduate Elective (0-3 credit hours)

Requirements for Adult Nurse Practitioner Track—13 Credit Hours

- NGR 6240 Adult I for APNs (3 credit hours)
- NGR 6240L Adult I Clinical for APNs (3 credit hours)
- NGR 6242 Adult II for APNs (2 credit hours)
- NGR 6242L Adult II Clinical for APNs (2 credit hours)
- NGR 6334 Women's Health for APNs (2 credit hours)
- NGR 6482L Women's Health for APNs Clinical (1 credit hour)

Requirements for Clinical Nurse Specialist Track—32-35 Credit Hours

- NGR 5003 Advanced Health Assessment, Health Promotion, and Diagnostic Reasoning (3 credit hours)
- NGR 5004L Advanced Health Assessment, Health Promotion, and Diagnostic Reasoning Clinical (2 credit hours)
- NGR 5141 Pathophysiological Bases for Advanced Nursing Practice (3 credit hours)
- NGR 5720 Organizational Dynamics (3 credit hours)
- NGR 6192 Pharmacology for Advanced Nursing Practice (3 credit hours)
- NGR 6752 Clinical Nurse Specialist I (3 credit hours)
- NGR 6752L Clinical Nurse Specialist I Practicum (3 credit hours)
- NGR 6753 Clinical Nurse Specialist II (2 credit hours)
- NGR 6753L Clinical Nurse Specialist II Practicum (3 credit hours)
- NGR 6722 Financial Management and Resource Development (3 credit hours)
- NGR 6XXX Clinical Nurse Specialist Advanced Practicum (4 credit hours)
- Elective (0-3 credit hours)

Requirements for Family Nurse Practitioner Track—15 Credit Hours

- NGR 6240 Adult I for APNs (3 credit hours)
- NGR 6240L Adult I Clinical for APNs (3 credit hours)
- NGR 6242 Adult II for APNs (2 credit hours)
- NGR 6331 Pediatrics I for APNs (2 credit hours)
- NGR 6331L Pediatrics I Clinical for APNs (2 credit hours)
- NGR 6334 Women's Health for APNs (2 credit hours)
- NGR 6482L Women's Health for APNs Clinical (1 credit hour)

Requirements for Nursing Leadership and Management Track—26-29 Credit Hours

- NGR 5720 Organizational Dynamics (3 credit hours)
- NGR 5871 Health Care Informatics (3 credit hours)
- NGR 6722 Financial Management and Resource Development (3 credit hours)
- NGR 6723 Nursing Leadership and Management I (3 credit hours)
- NGR 6723L Nursing Leadership Role Specialization Practicum I (2 credit hours)
- NGR 6724 Nursing Leadership and Management II (3 credit hours)
- NGR 6724L Nursing Leadership Role Specialization Practicum II (3 credit hours)

- Electives (6-9 credit hours)

Requirements for Pediatric Nurse Practitioner Track—13 Credit Hours

- NGR 6331 Pediatrics I for APNs (2 credit hours)
- NGR 6331L Pediatrics I Clinical for APNs (2 credit hours)
- NGR 6332 Pediatrics II for APNs (3 credit hours)
- NGR 6332L Pediatrics II Clinical for APNs (3 credit hours)
- NGR 6335 Focused Pediatrics for APNs (2 credit hours)
- NGR 6335L Focused Pediatrics Clinical for APNs (1 credit hours)

RN to MSN Program

Also, see the undergraduate catalog.

The RN to MSN plan is a program for RNs who do not hold a baccalaureate degree in Nursing (BSN). This program is designed for students who have met general education requirements, have demonstrated above-average performance in prior undergraduate course work (minimum of 3.0 grade point average), and have the potential for success in graduate school. Students will meet both BSN and MSN objectives.

Available for all tracks in the graduate program: Nursing Leadership and Management, Family Nurse Practitioner, Adult Nurse Practitioner, Pediatric Nurse Practitioner, and Clinical Nurse Specialist. Up to 15 credit hours can be applied toward meeting requirements of both BSN and MSN programs.

Admission Requirements—Limited Access

Students must first be accepted by UCF Undergraduate Admissions. Acceptance to the university does not constitute admission to the accelerated RN-MSN program. Separate application to this limited-access program must be made. Application forms and information are available from the School of Nursing or at <http://www.cohpa.ucf.edu/nursing>. All applicants must meet the following criteria:

- Graduate of a state-approved or accredited associate degree or diploma nursing program
- Licensure as an RN
- Completion of UCF general education requirements or AA degree from a state of Florida school, including CLAST (or exempt)
- Completion of prerequisites for the RN-BSN program
- Minimum cumulative grade point average of 3.0
- Letter of intent to pursue accelerated master's
- Three professional references from people who can judge abilities for graduate school, preferably nurse instructors, nurse employers, or nurses with advanced degrees
- A resume (no longer than two pages)

Interim Requirements

- Completion of the GRE by the end of the second semester in the program
- A minimum combined GRE score of 900 on the verbal/quantitative exams

Admission Requirements for Graduate Nursing Phase

(To be met during the semester the BSN is awarded)

- A separate application must be made to UCF Graduate Studies

- Completion of requirements/credits for the baccalaureate degree in nursing, including health assessment course
- Completion of all UCF School of Nursing course work to date with a minimum grade point average of 3.0
- Must meet university requirements for undergraduate degree completion (refer to the UCF undergraduate catalog)
- Updated resume

RN to MSN Program of Study

Courses Taken Toward BSN

- NUR 3065 Health Assessment (3 credit hours)
- NUR 3809 Transitional Concepts in Nursing I (3 credit hours)
- NUR 4636 Community as the Continuum of Care (3 credit hours)
- NUR 4636L Clinical for Community as the Continuum of Care (2 credit hours)
- NUR 4827 Leadership and Management Principles (3 credit hours)
- NUR 4836 Professional Development Seminar in Nursing (3 credit hours) (for NUR 4084)
- NUR 4837 Health Care Issues, Policy, and Economics (3 credit hours)

Validated credit for previous nursing courses—28 Credit Hours

Courses Shared BSN/MSN

- An individualized plan of study is developed for each student admitted to the RN to MSN option.
- Students may take NGR 5800 Nursing Theory/Research I instead of NUR 3165 Critical Inquiry, if they have taken NUR 4836. The credits for this course are applied to both the BSN and MSN programs.
- Students pursuing the MSN in the Nursing Leadership and Management Track may take the following courses:
 - NUR 4838L Directed Practice in Nursing Administration (for NUR 4945L Directed Nursing Practice)
 - NGR 5720 Organizational Dynamics (for NUR 4827 Leadership and Management Principles)
 - NGR 5871 Health Care Informatics
 - NGR/HSA graduate elective in area of concentration (e.g., nursing, health services administration for nursing elective)
- Students pursuing the MSN in the Family/Adult/Pediatric Nurse Practitioner or Clinical Nurse Specialist tracks may take the following courses:
 - NGR 5003 Advanced Health Assessment, Health Promotion, and Diagnostic Reasoning
 - NGR 5004L Advanced Health Assessment, Health Promotion, and Diagnostic Reasoning Clinical (for NUR 4945L Directed Nursing Practice and undergraduate nursing elective)
 - NGR 5141 Pathophysiological Bases for Advanced Nursing Practice (for undergraduate nursing elective)
 - NGR/HSA XXXX—Graduate elective in area of concentration (e.g., nursing, health services administration)

Courses Taken Toward MSN

Students will follow the degree requirements of the selected MSN track. The baccalaureate degree will be awarded when program requirements for the BSN are met and students have completed a minimum of 120 hours of credit. Students must apply online to UCF Graduate Studies for admission to the MSN program.

The MSN will be awarded on completion of the total program of study. Students who do not meet ongoing program requirements or decide not to continue in the program may withdraw from the RN to MSN plan and complete course work for the BSN degree.

Nurse Practitioner to MSN Plan

The Nurse Practitioner to MSN plan is designed for RNs who are licensed in the state of Florida with active status as an Advanced Registered Nurse Practitioner but have not completed a master's degree in nursing. This plan is offered to experienced NPs who wish to remain in their specialty area. If NPs desire to change or add a specialty (e.g., from adult to family), an individualized plan of study can be developed to meet certification requirements.

There are two options in the NP to MSN plan. Option 1 is for RNs who already have completed a baccalaureate degree in nursing. Option 2 is for those RNs who do not have a baccalaureate degree in nursing.

Option 1—Active RN/ARNP license in Florida with baccalaureate in nursing

Admission and Graduate Requirements

- Documentation of completion of a certificate program for nurse practitioners.
- Other requirements are the same as the Master of Science in Nursing program.

Degree Requirements

NP to MSN students with a BSN must complete a minimum of 31 credit hours of graduate-level course work. Either a thesis or research scholarly work is required.

Required Courses

- NGR 5003 Advanced Health Assessment, Health Promotion, and Diagnostic Reasoning (3 credit hours)
- NGR 5004L Advanced Health Assessment, Health Promotion, and Diagnostic Reasoning Clinical (2 credit hours)
- NGR 5141 Pathophysiological Bases for Advanced Nursing Practice (3 credit hours)
- NGR 5744 Health Care Systems, Policy and Health Professionals (1 credit hour)
- NGR 5746 Cultural, Legal, Ethical, and Political Issues of Advanced Practice Nursing (1 credit hour)
- NGR 5745 Professional Obligations & Activities of Advanced Practice Nursing (1 credit hour)
- NGR 5800 Nursing Theory/Research I (4 credit hours)
- NGR 5801 Nursing Research II/Statistics (4 credit hours)
- NGR 6192 Pharmacology for Advanced Nursing Practice (3 credit hours). May be waived for elective credits if recent (within last 3 years) pharmacology course taken.
- NGR 6813 Research Scholarly Work (3 credit hours) or NGR 6971 Thesis (3-6 credit hours)
- NGR 6941 Advanced Practice Practicum (3 credit hours)
- Graduate Elective (0-3 credit hours)

Option 2—Active RN/ARNP license in Florida without baccalaureate in nursing

Admission and Graduation Requirements

- Documentation of completion of a certificate program for nurse practitioners.
- Other requirements are the same as the RN to MSN track.

Degree Requirements

NP to MSN students without a BSN must complete requirements for both the BSN and MSN. Twelve to fifteen credits will be applied toward meeting requirements of both degrees. Either a thesis or research scholarly work is required.

Courses Taken Toward BSN

- NUR 3809 Transitional Concepts in Nursing I (3 credit hours)
- NUR 4636 Community as the Continuum of Care (3 credit hours)
- NUR 4636L Clinical for Community as the Continuum of Care (2 credit hours)
- NUR 4827 Leadership and Management Principles (3 credit hours)
- NUR 4836 Professional Development Seminar in Nursing (3 credit hours)
- NUR 4837 Healthcare Issues, Policy, and Economics (3 credit hours)
- Validated credit from previous RN and NP courses (28 hours)

Courses Shared BSN/MSN

- NGR 5003 Advanced Health Assessment, Health Promotion, and Diagnostic Reasoning (3 credit hours)
- NGR 5004L Advanced Health Assessment, Health Promotion, and Diagnostic Reasoning Clinical (2 credit hours)
- NGR 5141 Pathophysiological Bases for Advanced Nursing Practice (3 credit hours)
- NGR 5800 Nursing Theory/Research I (4 credit hours)
- NGR Elective (3 credit hours)

Courses Taken Toward MSN

- NGR 5744 Health Care Systems, Policies, & Health Professionals (1 credit hour)
- NGR 5745 Professional Obligations and Activities of Advanced Practice Nursing (1 credit hour)
- NGR 5746 Cultural, Legal, Ethical, and Political Issues of Advanced Practice Nursing (1 credit hour)
- NGR 5801 Nursing Research II/Statistics (4 credit hours)
- NGR 6192 Pharmacology for Advanced Nursing Practice (3 credit hours) May be waived for elective credits if recent (within last 3 years) pharmacology course taken.
- NGR 6813 Research Scholarly Work (3 credit hours) or NGR 6971 Thesis (6 credit hours)
- NGR 6941 Advanced Practice Practicum (variable 1-6)
- Graduate Elective (0-3 credit hours)

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info**Master of Science in Nursing**

Jean Kijek, Ph.D. , Associate Professor
Phone Number: 407-823-2744
gradnurs@mail.ucf.edu

Adult Nurse Practitioner Track

Jean Kijek, Ph.D. , Associate Professor
Phone Number: 407-823-2744
gradnurs@mail.ucf.edu

Clinical Nurse Practitioner Track

Jean Kijek, Ph.D. , Associate Professor
Phone Number: 407-823-2744
gradnurs@mail.ucf.edu

Family Nurse Practitioner Track

Jean Kijek, Ph.D. , Associate Professor
Phone Number: 407-823-2744
gradnurs@mail.ucf.edu

Leadership and Management Track

Jean Kijek, Ph.D. , Associate Professor
Phone Number: 407-823-2744
gradnurs@mail.ucf.edu

Pediatric Nurse Practitioner Track

Jean Kijek, Ph.D. , Associate Professor
Phone Number: 407-823-2744
gradnurs@mail.ucf.edu

Nursing - Ph.D.

[Description](#)

[Degree Offered](#)

[Admission](#)

[Doctor of Philosophy in Nursing](#)

[Contact Info](#)

Description

The doctoral program in Nursing (Ph.D.) is designed to prepare nurse scientists to assume positions as nursing faculty members, leaders in the application of innovative technologies to nursing education and clinical care, executive leaders in healthcare systems, and scientists who contribute to the body of nursing knowledge through their research.

The program has three areas of focus:

1. Vulnerable populations within Florida's multicultural environment
2. Application of innovative technologies to nursing education and clinical care
3. Healthcare systems and policy

The objectives of the PhD program are to prepare nurse scholars who:

1. Possess a body of knowledge about the theory, processes, and methods of inquiry in the discipline of nursing.
2. Contribute to disciplinary and interdisciplinary knowledge in nursing and healthcare from the basis of sound conceptual, methodological, and ethical decision-making.
3. Contribute to knowledge generation and testing in the nursing care of vulnerable populations, application of innovative technologies in nursing and healthcare, and clinical and executive leadership in healthcare systems and policy.

Degrees Offered

Doctor of Philosophy in Nursing

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Graduate Catalog](#). Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

Students are admitted to the program in the Fall.

Requirements for admission to the program include the following:

- A bachelors and/or a master's degree in nursing from accredited institutions.
- Licensure as a Registered Nurse in the state of Florida.
- A GRE score of at least 1000 on the combined verbal and quantitative sections.
- A written essay of no more than 500 words addressing goals for doctoral study.
- A personal interview.

- Research interests that match faculty expertise.
- Undergraduate GPA of 3.2/4.0 and/or graduate GPA of 3.5/4.0.
- A curriculum vitae (no longer than 3 pages).
- Three letters of recommendation evaluating potential for doctoral study preferably by nursing instructors, nurse employers or nurses with advanced degrees.
- For international students only: A score of 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) or passing score on CGFNS (Commission on Graduates of Foreign Nursing Schools).

Admission to the program is competitive, based on evaluations of the applicant’s abilities, past performance, recommendations and match of UCF programs with the applicant’s career goals. The School of Nursing accepts the most qualified students.

Transfer of Courses

- Courses may be transferred into the plan of study according to UCF policies. Courses must be comparable to those taught at UCF.
- A grade of at least a “B” is required to transfer credit.
- Students must obtain a petition from the School of Nursing and submit the completed petition to the Graduate Admissions, Progression, and Graduation Committee in order to transfer courses.

Admission to Candidacy and Examinations

The process for candidacy will start the appointment of the dissertation advisory committee. The first part toward admission to candidacy is successful completion of the candidacy examination. The second part is oral defense of the student’s dissertation proposal. When these are accomplished, the student becomes a doctoral candidate and is eligible to enroll in dissertation credits. When candidacy status is obtained, the student will enroll in at least three semester credits of dissertation credit until successful oral defense of the dissertation is made and all graduation requirements are completed. The University requires a minimum of 15 dissertation credits. Post-candidacy status is subject to the rules and regulations of the University of Central Florida Graduate Catalog.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Nursing	Feb 1	Feb 1		

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Nursing	Feb 1	Feb 1		

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Nursing	Feb 1	Feb 1		

Doctor of Philosophy in Nursing

Degree Requirements

The minimum number of credits for award of the PhD in Nursing is 57 credits beyond the master's degree in nursing.

Required Courses for All Students

Foundation Areas (9 credits)

- NGR 7820 Innovative Technologies in Healthcare (3 credit hours)
- NGR 7661 Healthcare for Vulnerable Populations (3 credit hours)
- NGR 7190 Healthcare Systems and Policy (3 credit hours)

Knowledge Development (9 credits)

- NGR 7115 Philosophical and Theoretical Foundations of Nursing Science (3 credit hours)
- NGR 7123 Concept Development in Nursing (3 credit hours)
- NGR 7XXX Dissertation Seminar (3 credits)

Research (15 credits)

- NGR 7817 Quantitative Methods for Nursing Research I (3 credit hours)
- NGR 7816 Quantitative Methods for Nursing Research II (3 credit hours)
- NGR 7823 Psychometrics and Measurement for Nursing Research (3 credit hours)
- NGR 7815 Qualitative Methods in Nursing Research (3 credit hours)
- NGR 7XXX Advanced Directed Research (3 credits)

Supporting courses (9 credits)

The supporting coursework is designed to permit students to gain additional expertise in the area chosen for the dissertation. At least two of the three courses must be taken outside of the School of Nursing.

Dissertation Research (15 credits)

The dissertation research addresses the design and conduct of research on a specific topic within one of the three foundational areas: vulnerable populations, innovative technologies, or healthcare systems and policy. Students will conduct the dissertation in areas of faculty interest and expertise.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Jean Kijek, Ph.D. , Associate Professor
Phone Number: 407-823-2744
gradnurs@mail.ucf.edu

Optics

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Master of Science in Optics](#)

[Doctor of Philosophy in Optics](#)

[Contact Info](#)

Description

The School of Optics offers interdisciplinary graduate programs in optical science and engineering leading to a master's (M.S.) or doctoral (Ph.D.) degree in optics. The School of Optics is one of only three graduate optics academic departments in the nation, and has grown into an internationally recognized institute with more than 20 full-time faculty members and more than 100 graduate students. It is housed in a state-of-the-art building dedicated to optics research and education.

Research activities cover all aspects of optics, photonics, and lasers, and the Center for Research and Education in Optics and Lasers (CREOL) is an integral part of the school. Current research areas include: linear and nonlinear guided-wave optics and devices, high speed photonic telecommunications, solid state laser development, nonlinear optics, laser-induced damage, quantum-well optoelectronics, photonic information processing, infrared systems, optical diagnostics, optical system design, image analysis, virtual reality, medical imaging, diffractive optics, optical crystal growth and characterization, high intensity lasers, x-ray optics, EUV sources, optical glasses, laser materials processing, free-electron lasers, and light matter interaction.

The M.S. program is intended for students with a bachelor's degree in optics, electrical engineering, physics, or closely related fields. The Ph.D. program is intended for students with a master's degree in optics, electrical engineering, physics, or closely related fields who wish to pursue a career in research or academia.

The program's mission is to:

- Provide the highest-quality education in optical science and engineering
- Conduct scholarly, fundamental, and applied research
- Aid in the development of Florida's and the nation's technology-based industries

Degrees Offered

Master of Science in Optics

Doctor of Philosophy in Optics

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

The School strongly encourages applications from minority and diverse populations. Race, national origin, and gender are not used in the evaluation of students for admission into graduate and professional programs.

All applicants for programs in the School of Optics are recommended to complete the pre-application process. The pre-application is located at www.creol.ucf.edu/academics/prospective/application

Master of Science in Optics

The M.S. program is intended for students with a bachelor's degree in optics, electrical engineering, physics, or closely related fields. In addition to the general admission requirements, applicants to the M.S. program must provide:

- Official scores on the Graduate Record Examination (GRE), which must have been taken within the last five years. A competitive GRE score on the verbal and quantitative portions is required.
- A GPA of 3.0 for the last 60 attempted semester hours of undergraduate study.
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.
- Three letters of recommendation
- Students with degrees in related fields may be required to take undergraduate articulation courses determined by the program coordinator on a case-by-case basis.

Doctor of Philosophy in Optics

The Ph.D. program is intended for students with a master's degree in optics, electrical engineering, physics, or closely related fields who wish to pursue a career in research or academia. In addition to the general admission requirements, applicants to the Ph.D. program must provide:

- Three letters of recommendation
- Goals statement
- Resume
- Official scores on the Graduate Record Examination (GRE), which must have been taken within the last five years. A competitive GRE score on the verbal and quantitative portions is required.
- A GPA of 3.0 in the M.S. program.
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.
- Students with degrees in related fields may be required to take undergraduate articulation courses determined by the program coordinator on a case-by-case basis.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Optics	Feb 1	Jul 15	Dec 1	Apr 15
Master of Science in Optics	Feb 1	Jul 15	Dec 1	Apr 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Optics	Feb 1	Feb 1	Jul 1	
Master of Science in Optics	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Optics	Feb 1	Mar 1	Sep 1	
Master of Science in Optics	Feb 1	Mar 1	Sep 1	

Master of Science in Optics

36 Minimum Credit Hours Required

The M.S. program is intended for students with a bachelor's degree in optics, electrical engineering, physics, or closely related fields. Students with degrees in related fields may be required to take undergraduate articulation courses determined by the program coordinator on a case-by-case basis. There are no specifically required courses for the M.S. degree, and students are allowed considerable freedom in planning their study programs. However, it is strongly recommended that students include at least five courses from the Ph.D. core courses (designated below) in their program of study. The M.S. program offers both a thesis and a non-thesis option.

Additional notes on the curriculum:

- A minimum of two optics graduate laboratory courses must be part of the program. One required optics laboratory may be waived if the student can demonstrate an equivalent hands-on laboratory experience.
- Up to nine credit hours of appropriate graduate courses from accredited universities may be transferred with approval from the school. Only courses with grades of "B" or better can be transferred.
- A maximum of three credit hours of 4000-level courses may be applied to the M.S. or the Ph.D. program.

Thesis Option

The thesis option requires at least six credit hours of thesis, a minimum of fifteen credit hours in approved optics courses, and a minimum of six credit hours of approved optics laboratory courses. The remaining credit hours consist of appropriately selected optics, engineering, and science courses. Independent study and directed research credit hours are not allowed toward the degree requirements. The student must prepare an approved program of study and form a thesis committee upon completion of nine credit hours. The M.S. thesis committee consists of three members, with at least two faculty members from the School of Optics. Students are required to write a thesis and pass an oral exam based primarily on the topics of the thesis and course work.

Non-Thesis Option

The non-thesis option requires a minimum of 21 course credit hours in approved optics courses and a minimum of six credit hours of approved optics laboratory courses. The remaining credit hours consist of

appropriately selected optics, engineering, and science courses. Up to three credit hours of directed research or independent study may be included with prior approval of the school. Students must prepare an approved program of study upon completion of nine credit hours. Students are required to pass a final oral comprehensive examination based primarily on the subject matter of the courses taken. The purpose of the exam is for the student to demonstrate his or her basic knowledge of the fundamentals of optics and photonics.

Program	Thesis	Non-Thesis
Optics courses (minimum)	15	21
Optics laboratory (minimum)	6	6
Engineering/Sciences electives (maximum)	9	9
Research/Independent Study (maximum)	0	3
Comprehensive exam	No	Yes
Thesis (minimum)	6	0
Total hours required (minimum)	36	36

The following optics courses are approved to meet the optics course requirements of the program.

Recommended Core Courses

- OSE 5111 Optical Wave Propagation (3 credit hours)
- OSE 5115 Interference and Diffraction (3 credit hours)
- OSE 5203 Fundamentals of Applied Optics (3 credit hours)
- OSE 5312 Fundamentals of Optical Science (3 credit hours)
- OSE 6432 Fundamentals of Photonics (3 credit hours)

Approved Laboratory Courses

- OSE 5234L Applied Optics Laboratory (3 credit hours)
- OSE 6455L Photonics Laboratory (3 credit hours)
- OSE 6526L Laser Engineering Laboratory (3 credit hours)

Electives

- OSE 5041 Introduction to Wave Optics (3 credit hours)
- OSE 5143 Fiber Optics Communication (3 credit hours)
- OSE 5414 Fundamentals of Optoelectronic Devices (3 credit hours)
- OSE 5421 Integrated Optics (3 credit hours)
- OSE 5511 Laser Principles (3 credit hours)
- OSE 5630C Thin Film Optics (3 credit hours)
- OSE 6118 Optical Propagation in Inhomogeneous Media (3 credit hours)
- OSE 6211 Fourier Optics (3 credit hours)
- OSE 6225 Radiation and Detection (3 credit hours)
- OSE 6265 Optical Systems Design (3 credit hours)
- OSE 6334 Nonlinear Optics (3 credit hours)
- OSE 6335 Nonlinear Guided Wave Optics (3 credit hours)
- OSE 6347 Quantum Optics (3 credit hours)
- OSE 6445 High Speed Photonics (3 credit hours)
- OSE 6473 Optical Networks (3 credit hours)
- OSE 6528 Specific Laser Systems (3 credit hours)
- OSE 6457 Photonic Signal Processing (3 credit hours)

- OSE 6560 Laser Engineering (3 credit hours)
- OSE 6817 Advanced Topics in Electro-Optics (3 credit hours)
- EEL 6564 Statistical Optics with Applications (3 credit hours)
- EMA 5610 Laser Materials Processing (3 credit hours)
- PHY 5455 Modern X-Ray Science (3 credit hours)
- PHZ 5505 Plasma Physics (3 credit hours)

Doctor of Philosophy in Optics

72 Minimum Credit Hours Required (including minimum 15 credit hours of dissertation)

The Ph.D. program is intended for students with a master's degree in optics, electrical engineering, physics, or closely related fields who wish to pursue a career in research or academia. Students with degrees in related fields may be required to take undergraduate articulation courses determined by the program coordinator on a case-by-case basis.

The program of study must include at least thirty credit hours in approved optics courses and six credit hours in approved optics laboratory courses. The remaining 21 credit hours may consist of appropriately selected optics, engineering, and science electives, independent study, seminars, research, and dissertation. Students are required to pass a qualifying examination, a candidacy examination, form a dissertation committee, and submit an approved program of study typically by the end of the second academic year in the program before being admitted to full doctoral status. The Ph.D. core courses are not required, but they have been designed to include a significant portion of the material upon which the qualifying examination is based. Consequently, students are strongly encouraged to include most of these courses in their programs of study.

Additional notes on the curriculum:

- At least six credit hours must be outside the major.
- One required optics laboratory may be waived if the student can demonstrate an equivalent hands-on laboratory experience.
- A maximum of 12 credit hours of combined independent study and directed research credit hours are allowed in the program of study, but they may not be applied toward the optics course requirements.
- Up to 36 credit hours of appropriate graduate courses in an M.S. program from accredited universities may be transferred with approval from the school. Only courses with grades of "B" or better can be transferred.

Program	Credit Hours
Optics courses (minimum)	30
Optics laboratory (minimum)	6
Engineering/Science electives (maximum)	21
Research/Independent Study (maximum)	12
Dissertation (minimum)	15
Total hours required (minimum)	72

Optics Courses

The following optics courses are approved to meet the optics course requirements of the program.

Recommended Core Courses

- OSE 5111 Optical Wave Propagation (3 credit hours)
- OSE 5115 Interference and Diffraction (3 credit hours)
- OSE 5203 Fundamentals of Applied Optics (3 credit hours)
- OSE 5312 Fundamentals of Optical Science (3 credit hours)
- OSE 6432 Fundamentals of Photonics (3 credit hours)

Approved Laboratory Courses

- OSE 5234L Applied Optics Laboratory (3 credit hours)
- OSE 6455L Photonics Laboratory (3 credit hours)
- OSE 6526L Laser Engineering Laboratory (3 credit hours)

Electives

- OSE 5041 Introduction to Wave Optics (3 credit hours)
- OSE 5143 Fiber Optics Communication (3 credit hours)
- OSE 5414 Fundamentals of Optoelectronic Devices (3 credit hours)
- OSE 5421 Integrated Optics (3 credit hours)
- OSE 5511 Laser Principles (3 credit hours)
- OSE 5630C Thin Film Optics (3 credit hours)
- OSE 6118 Optical Propagation in Inhomogeneous Media (3 credit hours)
- OSE 6211 Fourier Optics (3 credit hours)
- OSE 6225 Radiation and Detection (3 credit hours)
- OSE 6265 Optical Systems Design (3 credit hours)
- OSE 6334 Nonlinear Optics (3 credit hours)
- OSE 6335 Nonlinear Guided Wave Optics (3 credit hours)
- OSE 6347 Quantum Optics (3 credit hours)
- OSE 6445 High Speed Photonics (3 credit hours)
- OSE 6457 Photonic Signal Processing (3 credit hours)
- OSE 6473 Optical Networks (3 credit hours)
- OSE 6528 Specific Laser Systems (3 credit hours)
- OSE 6560 Laser Engineering (3 credit hours)
- OSE 6817 Advanced Topics in Electro-Optics (3 credit hours)
- EEL 6564 Statistical Optics with Applications (3 credit hours)
- EMA 5610 Laser Materials Processing (3 credit hours)
- PHY 5455 Modern X-Ray Science (3 credit hours)
- PHZ 5505 Plasma Physics (3 credit hours)

Qualifying Examination

Before students are eligible to take the candidacy examination, they must first pass a written qualifying examination, which for full-time students is normally taken at the end of the first year of graduate study. The purpose of the qualifying exam is for the student to demonstrate mastery of the fundamentals of optics, photonics, and lasers. The exam is administered by the doctoral qualifying examination committee, which consists of several faculty members representing the appropriate disciplines, appointed by the director or designee. The committee's duties include the preparation and grading of the examination material, and it may solicit input from other interested faculty. The exam is a closed book written exam in the general area of electromagnetic foundations of optics, interference, diffraction, coherence, fundamentals of applied optics, optical science, and photonics. Students who do not pass the qualifying examination in two attempts will not continue in the program

Candidacy Examination

Students are required to successfully complete the candidacy examination before admission to full doctoral status. The purpose of the candidacy exam is for the student to demonstrate his or her readiness for the Ph.D. program through preliminary research work in the chosen field of study. The candidacy exam is administered by the students dissertation advisory committee and is comprised of written and oral portions. The candidacy exam is normally taken near the completion of required course work. Students must pass the candidacy exam before registering for doctoral dissertation hours (OSE 7980).

Dissertation

Within one year after passing the general candidacy examination, and after the student has begun research, the student will write a dissertation proposal and present it to the dissertation advisory committee for its approval. The proposal must include the research performed to date and the research planned to complete the dissertation. The committee, which consists of three faculty members from the School of Optics and one faculty member from outside the school, must be approved by the director or designee and will meet annually to review the students progress. The student's advisory committee also administers the dissertation oral defense examination.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Doctor of Philosophy in Optics

David Hagan, Ph.D., Associate Professor
Phone Number: 407-823-6986
gradprog@creol.ucf.edu

Master of Science in Optics

David Hagan, Ph.D., Associate Professor
Phone Number: 407-823-6986
gradprog@creol.ucf.edu

Physical Education

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Master of Arts in Physical Education](#)

[Exercise Physiology Track](#)

[Sports and Fitness Track](#)

[Teaching Physical Education Track](#)

[Contact Info](#)

Description

The College of Education offers a Master of Arts in Physical Education program with tracks in Exercise Physiology, Teaching Physical Education, and Sports and Fitness. Two options are available in the Exercise Physiology Track: the first option emphasizes experience in clinical exercise physiology, adult fitness programs, and related areas; the second option emphasizes the development of strength and conditioning programs for wellness centers. The Teaching Physical Education Track is designed to prepare people for initial certification in the teaching of physical education. The Sports and Fitness Track is designed for students wishing to develop knowledge and skills to work in areas such as coaching or fitness.

Degrees Offered

Master of Arts in Physical Education

- Exercise Physiology Track
- Sports and Fitness Track
- Teaching Physical Education Track

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

Additional Admissions Information

Master of Arts in Physical Education: Exercise Physiology Track

Students may follow one of two general options in pursuit of a master's degree in the Exercise Physiology Track of the Master of Arts in Physical Education program. Option one in the specialization emphasizes experience in the area of clinical exercise physiology, adult fitness programs, and related areas. Students will work toward training certification as an Exercise Physiologist through the American College of Sports Medicine. This option will prepare students for the clinical exercise physiology examination (RCEP). The second option emphasizes the development of strength and conditioning programs for wellness centers. Course requirements include a common core plus specialized courses in exercise physiology and wellness. Acceptance into the exercise physiology track is contingent upon having successfully completed basic mathematics, physics, chemistry, biology, human anatomy, and physiology that will allow the student to be

successful in master's level courses. Courses in undergraduate exercise physiology courses are desired. A major in Exercise Science, Physical Education, Physical Therapy, Athletic Training, Biological Science, or related areas would usually include the course requirements listed. Deficiencies in content may require the completion of additional course work. The program of study developed by the adviser will reflect these additional requirements.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Physical Education	Feb 1	Jul 15	Dec 1	Apr 15
Exercise Physiology Track	Feb 1	Jul 15	Dec 1	Apr 15
Sports and Fitness Track	Feb 1	Jul 15	Dec 1	Apr 15
Teaching Physical Education Track	Feb 1	Jul 15	Dec 1	Apr 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Physical Education	Feb 1	Feb 1	Jul 1	
Exercise Physiology Track	Feb 1	Feb 1	Jul 1	
Sports and Fitness Track	Feb 1	Feb 1	Jul 1	
Teaching Physical Education Track	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Physical Education	Feb 1	Mar 1	Sep 1	
Exercise Physiology Track	Feb 1	Mar 1	Sep 1	
Sports and Fitness Track	Feb 1	Mar 1	Sep 1	
Teaching Physical Education Track	Feb 1	Mar 1	Sep 1	

Master of Arts in Physical Education (M.A.)

Sports and Fitness Track

The Sports and Fitness track of the Master of Arts in Physical Education offers students the opportunity to develop knowledge and skills to work in areas such as coaching or fitness. It is very common for physical educators to coach in youth, school, and recreational programs as well as work in the fitness industry teaching in YMCAs, fitness and wellness centers. Often these jobs supplement the teaching salary income. Graduate Certificate programs are available in Coaching, Sports Leadership, and Health and Wellness.

Minimum Hours Required for the M.A.—33 Credit Hours

Area A: Core —12-15 Credit Hours

- PET 6416 Administrative Principles of Sport and Physical Education (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- *PET 6910 Problem Analysis—Review of Literature (3 credit hours)
- *PET 6946 Practicum, Clinical Practice (3 credit hours)

Research Report Option*

- PET 6909 Research Report (3-6 credit hours)

In consultation with an adviser, the student could continue the research started in PET 6910. Students choosing this option would choose fewer hours in the specialization area.

*Can be taken after 2/3 of specialization is completed.

Area B: Specialization—12-18 Credit Hours

Select courses from the following:

- PET 5355 Exercise and Health (3 credit hours)
- PET 5635 Advanced Human Injuries (3 credit hours)
- PET 5766 Advanced Coaching Theory (3 credit hours)
- PET 6391 Training and Conditioning Techniques for Coaches (3 credit hours)
- PET 6217 Peak Performance in Sports (3 credit hours)
- PET 6330 Kinesiology (3 credit hours)
- PET 6088 Wellness Development in Children (3 credit hours)
- PET 6089 Personal and Organizational Wellness (3 credit hours)
- PET 6505 Wellness Technology in Physical Education (3 credit hours)

Courses from other colleges or programs can be substituted with adviser approval.

Exercise Physiology Track

Minimum Hours Required for M.A.—39 Credit Hours

Area A: Core—9 or 12 Credit Hours

- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- PET 6910 Problem Analysis—Review of Literature (3 credit hours)*
- PET 6946 Practicum, Clinical Practice (3 credit hours)*

* Can be taken only after 2/3 of program is completed.

Area B: Specialization—27 Credit Hours—Approved by Advisor

Courses must be selected in consultation with an adviser. Courses from other colleges may be chosen as well. NOTE: Credit in human anatomy is a prerequisite or co-requisite for many PET courses. Consult with an adviser.

- HUN 5937 Nutrition and Exercise Physiology (3 credit hours)
- PCB 4805 Endocrinology (3 credit hours)
- PCB 6727 Comparative Animal Physiology (3 credit hours)
- GEY 5600 Physiology of Aging
- PET 6086 Exercise as Preventive Medicine (3 credit hours)
- PET 6357C Environmental Perturbation and Human Performance (3 credit hours)
- PET 6367 Bioenergetics of Human Movement and Performance (3 credit hours)
- PET 6381 Physiology of Neuromuscular Mechanisms (3 credit hours)
- PET 6388 Cardiovascular Physiology (3 credit hours)
- PET 6690 Exercise Testing and Prescription for Special Populations (3 credit hours)
- Approved Elective

Area C: Thesis Option—6 Credit Hours

- PET 6971 Thesis (6 credit hours)

Teaching Physical Education Track

The Teaching Physical Education Track of the Master of Arts in Physical Education program prepares students for teaching careers in physical education. Since graduates of this program must pass a state of Florida certification examination, the program's educational design enables students to possess the skills for successful completion of the certification process. The intent of the curriculum is to enable students to become efficient and effective teachers of physical education.

Minimum Hours Required for the M.A.—33 Credit Hours

Area A: Core—12 Credit Hours*

- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- EDF 6608 Social Factors in American Education (3 credit hours)
- EDF 6432 Measurement and Evaluation in Education (3 credit hours)
- EDG 6236 Principles of Instruction (3 credit hours)
- NOTE: The Core may be taken as a certificate program. See Initial Teacher Professional Preparation Graduate Certificate.

Area B: Specialization—21 Credit Hours

- PET 4050C Motor Development and Learning or PET 6505 Wellness Technology in Physical Education (3 credit hours)
- PET 6330 Kinesiology (3 credit hours)
- PET 6416 Administrative Principles of Sport and Physical Education (3 credit hours)
- PET 5355 Exercise and Health (3 credit hours)
- PET 4640 Adapted Physical Education or PET 6645 Advanced Studies in Adapted Physical Education (3 credit hours)
- PET 5635 Advanced Human Injuries (3 credit hours)

- PET 6062C Perceptual Motor Development or PET 5766 Advanced Coaching Theory (3 credit hours)

Area C: Co-requisite Courses—15 Credit Hours

The state requires particular courses for certification that are offered only at the undergraduate level. These courses may have been taken as part of the undergraduate degree. If previous credit in these areas has not been earned, these requirements must be completed with the masters program to complete the UCF state-approved program of study in physical education.

- 9 semester hours in instructional design and content of physical education
- 6 semester hours in internship

NOTE: Credit in Anatomy is not required by the state, but it is a prerequisite to many courses in this program.

Additional Program Graduation Requirements

Complete a portfolio according to program guidelines. This portfolio satisfies the comprehensive examination requirement for this non-thesis masters program. This portfolio requires demonstration of professional growth, reflection, and proficiency in the 12 Florida Educator Accomplished Practices. Pass all applicable sections of the Florida Teacher Certification Examination. The certification in Physical Education at the present time is either K-8 or 6-12. Soon changes within this program will be made to comply with state mandates to begin certifying K-12.

Additional Program Graduation Requirement

A comprehensive examination or another appropriate culminating activity is required of all masters students. Please contact your advisor.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.

- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Master of Arts in Physical Education

Ted Angelopoulos, Ph.D. , Associate Professor
Phone Number: 407-823-0364
tangelop@mail.ucf.edu

Exercise Physiology Track

Ted Angelopoulos, Ph.D. , Associate Professor
Phone Number: 407-823-0364
tangelop@mail.ucf.edu

Sports and Fitness Track

Patricia Higginbotham, Ed.D. , Associate Professor
Phone Number: 407-823-2050
higginbp@mail.ucf.edu

Teaching Physical Education Track

Patricia Higginbotham, Ed.D. , Associate Professor
Phone Number: 407-823-2050
higginbp@mail.ucf.edu

Physical Therapy

[Description](#)

[Degree Offered](#)

[Admission](#)

[Master of Science in Physical Therapy](#)

[Contact Info](#)

Description

The mission of the University of Central Florida, Program in Physical Therapy, is to educate students to become competent, compassionate, and able to practice in a variety of healthcare settings. The graduates will be highly dedicated professionals with excellent patient care skills, communication, critical thinking, patient education and advocacy, management and research skills.

The Goals of the Program are to:

- Strive as a faculty, to meet the needs of the changing healthcare environment, continually improve our skills, and be good role models in all areas
- Prepare Physical Therapists who demonstrate commitment to their profession through active participation in their communities and strong advocacy for patients
- Inspire physical therapy students throughout the educational process at UCF to be intellectually aware of their responsibilities as a growing professional in the community
- Contribute to the achievements of faculty and students and produce measurable improvements in higher learning
- Foster an environment of creativity, cultural diversity and innovation, preparing students to be active leaders in the profession

Degrees Offered

Master of Science in Physical Therapy

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Graduate Catalog](#). Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

Before applying to the program, the applicant must:

- Apply to the University of Central Florida, Program in Physical Therapy through UCF Graduate Studies (www.graduate.ucf.edu).
- Earn a total score of 1000 on the verbal and quantitative portions of the GRE and a 2.75 GPA for the last 60 attempted semester hours earned toward a bachelor's degree (Each applicant must submit official GRE results, regardless of score.)
- Applicants from countries where English is not the official language, or applicants whose bachelor's degree is not from an accredited U.S. institution, must score at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL).

- Submit three letters of recommendation, including one from a practicing PT.
- Submit an essay or personal statement.
- Submit a current resume.
- Earn a minimum of thirty hours of volunteer/work experience under the direct supervision of a licensed physical therapist in the field of physical therapy.

The program in Physical Therapy (M.S.) is a two-year (seven consecutive semesters), professional curriculum designed to prepare entry-level therapists to practice in a variety of settings. The professional curriculum is a full-time program with no opportunity to take courses other than those prescribed by the curriculum. The professional program includes clinical practicums and internships ranging from four weeks to twelve weeks long. Applicants need to note that one or more of the clinical practicums may be assigned at a site sufficiently removed from the Orlando area to require the student to provide transportation and housing. Admissions decisions will be made only once per academic year. Incoming students will begin the program in Summer Semester.

Students who successfully complete the course of study will be granted the M.S. degree, enabling the graduate to seek membership in the American Physical Therapy Association and to qualify for Physical Therapy licensure. UCF's Program in Physical Therapy received accreditation of its Master of Science in Physical Therapy from the Commission on Accreditation of Physical Therapy Education.

Approximately 34 students are admitted to the program each year. The demographics of the class that entered in 2003 include an average age of 24 years and an overall grade point average of 3.2 (on a 4.0 scale).

Acceptance and registration to study at UCF does not constitute admission to the program in Physical Therapy. Students may apply online to the University of Central Florida at or through UCF Graduate Studies.

Before entering the program, the applicant must:

- Earn a bachelor's degree
- Complete program prerequisites with at least a 2.75 grade point average and no grade less than a "C."

Program Prerequisites

Before application to the program, each of the following prerequisite courses must be completed with a minimum grade of "C," and a GPA of 2.75 in the prerequisites.

- General Psychology (3 credits)
- Developmental Psychology (3 credits)
- Statistical Methods (Science Majors) (3 credits)

All of the following require labs:

- Biology (8 credits) **OR** Anatomy and Physiology (8 credits)
- Chemistry (8 credits)
- Physics (8 credits)

Qualified applicants will be selected to participate in the interview process.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Science in Physical Therapy				Jan 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Science in Physical Therapy				Dec 1

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Science in Physical Therapy				Dec 1

Master of Science in Physical Therapy

Degree Requirements

Summer Term 1

- PHT 5003 Foundations of Physical Therapy I (2 credit hours)
- PHT 5115 Gross Anatomy/Neuroscience I (2 credit hours)
- PHT 5115L Gross Anatomy/Neuroscience I Lab (2 credit hours)
- PHT 5125 Clinical Kinesiology (2 credit hours)
- PHT 5125L Clinical Kinesiology Lab (2 credit hours)
- PHT 5156 Physiology of Therapeutic Exercise (2 credit hours)
- PHT 5156L Physiology of Therapeutic Exercise Lab (2 credit hours)

Fall Term 1

- PHT 5118 Gross Anatomy/Neuroscience II (2 credit hours)
- PHT 5118L Gross Anatomy/Neuroscience II Lab (2 credit hours)
- PHT 5240 Physical Assessment (1 credit hour)
- PHT 5240L Physical Assessment Lab (2 credit hours)
- PHT 5260 Patient Care Skills (2 credit hours)
- PHT 5260L Patient Care Skills Lab (1 credit hour)
- PHT 6242 Orthopedic Physical Therapy (2 credit hours)
- PHT 6242L Orthopedic Physical Therapy Lab (1 credit hour)

Spring Term 1

- PHT 5218 Theories and Procedures I (2 credit hours)
- PHT 5218L Theories and Procedures I Lab (1 credit hour)

- PHT 5241 Therapeutic Exercises I (2 credit hours)
- PHT 5241L Therapeutic Exercise Lab I (2 credit hours)
- PHT 5805 Clinical Education I (1 credit hour)
- PHT 6606 Research Methods in Physical Therapy (2 credit hours)
- PHT 6716C Advanced Orthopedic Physical Therapy (2 credit hours)

Summer Term 2

- PHT 5005 Foundations of Physical Therapy II (2 credit hours)
- PHT 5306 Pathology/Pharmacology (2 credit hours)
- PHT 5718 Neurological Physical Therapy (2 credit hours)
- PHT 5718L Neurological Physical Therapy Lab (1 credit hour)
- PHT 5722C Physical Therapy Integration I (2 credit hours)
- PHT 6219 Theories and Procedures II (2 credit hours)
- PHT 6219L Theories and Procedures II Lab (1 credit hour)

Fall Term 2

- PHT 6719 Advanced Neurological Physical Therapy (2 credit hours)
- PHT 6719L Advanced Neurological Physical Therapy Lab (1 credit hour)
- PHT 6245 Therapeutic Exercise II (2 credit hours)
- PHT 6245L Therapeutic Exercise II Lab (1 credit hour)
- PHT 6322C Pediatric Physical Therapy (2 credit hours)
- PHT 6381C Cardiopulmonary Physical Therapy (2 credit hours)
- PHT 6618 Research Applications in Physical Therapy (2 credit hours)

Spring Term 2

- PHT 6374 Gerontology in Physical Therapy (2 credit hours)
- PHT 6521 Management of Physical Therapy Services (3 credit hours)
- PHT 6723C Physical Therapy Integration II (2 credit hours)
- PHT 6822 Advanced Clinical Applications I (1 credit hour)
- PHT 6938 Special Topics: Wound Care (1 credit hour)

Summer Term 3

- PHT 6823 Advanced Clinical Applications II (1 credit hour)

Master of Science in Physical Therapy Awarded—75 Credit Hours

Examinations

This non-thesis program requires a final comprehensive examination on course work in the program of study. In addition, comprehensive examinations may be required at the end of each year of the program. Participation in a research project may also be required of each student.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

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- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
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- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Gerald V. Smith, P.T., Ph.D. , Associate Professor
Phone Number: 407-823-3470
ptinfo@mail.ucf.edu

Physics

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Master of Science in Physics](#)

[Doctor of Philosophy in Physics](#)

[Contact Info](#)

Description

The University of Central Florida offers master's and doctoral programs in Physics. Research opportunities are available in condensed matter physics, nanostructure devices, surface science, optical physics, complex systems, biophysics, atomic and molecular physics, and planetary/space science.

Degrees Offered

Master of Science in Physics

Doctor of Philosophy in Physics

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

The Graduate Record Examination (GRE) is required of all applicants, and the Physics Subject Test of the GRE is recommended. Minimum requirements for admission to the Physics graduate programs are the standard university criteria of a 3.0 (A = 4.0) grade point average (GPA) for the last 60 attempted credit hours of credit earned toward the baccalaureate, or a GRE score of at least 1000 on the combined verbal-quantitative sections of the General (Aptitude) Test. Applicants must complete an online application for graduate admission (available at www.graduate.ucf.edu). Applicants to the doctoral program must also include a resume, goal statement, and three letters of recommendation. International students and students whose native language is not English must score at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL). Students entering the graduate program with regular status are normally expected to have completed course work generally required for a bachelor's degree in physics, including mechanics, electricity and magnetism, thermal/statistical physics, and quantum mechanics.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Physics	Feb 1	Jul 15	Dec 1	

Master of Science in Physics	Feb 15	Jul 15	Dec 1	

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Physics	Feb 1	Feb 1	Jul 1	
Master of Science in Physics	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Doctor of Philosophy in Physics	Feb 1	Mar 1	Sep 1	
Master of Science in Physics	Feb 1	Mar 1	Sep 1	

Master of Science in Physics

The Master of Science in Physics degree in Physics is flexibly designed to prepare students for the widest possible range of industrial careers or further study at the doctoral level, according to student interests and goals. With a 12 credit common core, the students 18 remaining required credit hours are planned in consultation with an academic advisor. These may include courses from other departments.

Requirements for M.S.—30 Credit Hours Minimum

Core Courses—12 Credit Hours

All students are required to take:

- PHY 5606 Quantum Mechanics I (3 credit hours)
- PHY 5346 Electrodynamics I (3 credit hours)
- PHZ 5156 Computational Physics (3 credit hours)
- PHY 5846C Methods of Experimental Physics (3 credit hours)

Elective Courses—18 Credit Hours

Elective selection is intended to be very flexible in order to meet student needs and interests. Electives may be chosen following one of the suggested specializations below, or a different program of study may be followed with academic advisor approval.

Materials Physics Specialization

- PHY 6624 Quantum Mechanics II (3 credit hours)
- PHY 6347 Electrodynamics II (3 credit hours)
- PHY 5524 Statistical Physics (3 credit hours)
- PHZ 5405 Condensed Matter Physics (3 credit hours)

- PHY 6427 Condensed Matter Physics II (3 credit hours)
- PHZ 5505 Plasma Physics (3 credit hours)
- PHY 5933 Selected Topics in Biophysics of Macromolecules (3 credit hours)
- PHY 5140C Ion Solid Interactions (3 credit hours)
- PHY 5455 Modern X-ray Science (3 credit hours)
- EEL 5355C Fabrications of Solid-State Devices (3 credit hours)

Other graduate courses from Optics, Materials Science, Physics, Optical Science and Engineering, Electrical Engineering or Industrial Chemistry.

Optical Physics Specialization

- PHY 6624 Quantum Mechanics II (3 credit hours)
- PHY 6347 Electrodynamics II (3 credit hours)
- OSE 5111 Optical Wave Propagation (3 credit hours)
- OSE 5115 Interference and Diffraction (3 credit hours)
- OSE 6526L Laser Engineering Laboratory (3 credit hours)
- OSE 6455L Photonics Laboratory (3 credit hours)
- PHY 5524 Statistical Physics (3 credit hours)
- OSE 6347 Quantum Optics (3 credit hours)
- OSE 5312 Fundamentals of Optical Science (3 credit hours)

Other graduate courses from Optics, Materials Science, Physics, Optical Science and Engineering, Electrical Engineering or Industrial Chemistry.

Space Physics Specialization

- PHY 6624 Quantum Mechanics II (3 credit hours)
- PHY 6347 Electrodynamics II (3 credit hours)
- PHY 5524 Statistical Physics (3 credit hours)
- PHZ 5505 Plasma Physics (3 credit hours)
- AST 5165 Planetary Atmospheres (3 credit hours)
- EAS 5315 Rocket Propulsion (3 credit hours)
- EAS 6405 Advanced Flight Dynamics (3 credit hours)
- EAS 6507 Topics of Astrodynamics (3 credit hours)
- OSE 5041 Introduction to Wave Optics (3 credit hours)
- EEL 5820 Image Processing (3 credit hours)
- EEL 6823 Image Processing II (3 credit hours)
- Other graduate courses from Optics, Materials Science, Physics, Optical Science and Engineering, Electrical Engineering or Industrial Chemistry.

Theory/Computational Physics Specialization

- PHY 6246 Classical Mechanics (3 credit hours)
- PHY 6624 Quantum Mechanics II (3 credit hours)
- PHY 6347 Electrodynamics II (3 credit hours)
- PHY 5524 Statistical Physics (3 credit hours)
- PHY 6667 Advanced Quantum Mechanics (3 credit hours)
- PHZ 5405 Condensed Matter Physics (3 credit hours)
- PHY 6427 Condensed Matter Physics II (3 credit hours)
- PHZ 5505 Plasma Physics (3 credit hours)
- OSE 6347 Quantum Optics (3 credit hours)
- OSE 5312 Fundamentals of Optical Science (3 credit hours)

Other courses from Physics, Math, Optics, Materials Science, Engineering, Computer Science.

Thesis Option—6 Credit Hours

The Master of Science in Physics candidate who has chosen the thesis option is required to conduct a program of original scientific research or some investigation involving a creative element and to submit a written thesis detailing these investigations. An oral defense and examination of the thesis is required. These six credit hours count toward the 18 hours of required electives for the degree.

Non-Thesis Option

This requirement is met by the student completing 18 credit hours of electives and a written comprehensive exit examination.

Doctor of Philosophy in Physics

The Department of Physics at the University of Central Florida offers a Doctor of Philosophy (Ph.D.) degree. The department is characterized by rapid growth and dynamic partnerships. This activity, which is fueled by the university's focus on industrial partnerships and research, strengthens the department and provides research and employment opportunities for our students.

Degree Requirements

The Doctor of Philosophy degree in Physics requires a total of 72 credit hours for completion. A specific set of eight required core courses (24 hours), five electives (15 hours), and a minimum of 15 hours of dissertation are part of those 72 hours. Electives are informally organized into specializations. A different mix of electives may be selected by the student in consultation with the student's adviser. The remaining 18 hours may consist of appropriately selected research, dissertation, and elective courses. In addition, each student is required to participate in the Physics Colloquium/Seminar program. No more than 6 credit hours of independent study may be credited toward the Doctor of Philosophy degree.

Core Courses—24 Credit Hours

All students are required to take the core courses.

- PHY 5606 Quantum Mechanics I (3 credit hours)
- PHY 6624 Quantum Mechanics II (3 credit hours)
- PHY 5346 Electrodynamics I (3 credit hours)
- PHY 6347 Electrodynamics II (3 credit hours)
- PHZ 5156 Computational Physics (3 credit hours)
- PHY 5846C Methods of Experimental Physics (3 credit hours)
- PHY 5524 Statistical Physics (3 credit hours)
- PHY 6938 Graduate Research Seminar (3 credit hours)

Elective Courses—15 Credit Hours

The required 15 credit elective hours are determined by the students chosen specialization.

General Physics Specialization

The General Physics Specialization emphasizes strong preparation in physics fundamentals. It is intended to prepare students for careers in theoretical physics teaching at the college level. A number of active research programs exist in the department to accommodate such students.

The following courses are recommendations.

- PHY6246 Classical Mechanics (3 credit hours)
- PHY 6667 Advanced Quantum Mechanics (3 credit hours)
- PHZ 5405 Condensed Matter Physics (3 credit hours)
- PHY 6428 Condensed Matter Physics II (3 credit hours)
- PHZ 5505 Plasma Physics (3 credit hours)
- PHZ 5304 Nuclear and Particle Physics (3 credit hours)
- PHZ 6234 Atomic Physics (3 credit hours)
- OSE 6347 Quantum Optics (3 credit hours)
- OSE 5312 Fundamentals of Optical Science (3 credit hours)

Other courses from Physics, Math, Optics, Materials Science, Engineering.

Condensed Matter Physics Specialization

The Condensed Matter Physics Specialization is intended to prepare students for careers in materials physics, nanoscale science and technology, semiconductors, and soft condensed matter physics. It emphasizes strong experimental preparation with hands-on courses in advanced materials characterization and processing instrumentation. Related research programs at UCF include magnetic nanostructures, soft condensed matter, electronic and optoelectronic devices, and nanoscale characterization.

Recommended Courses

- PHZ 5405 Condensed Matter Physics (3 credit hours): electronic bands, phonons, conductors, insulators, semiconductors
- PHY 6425 Condensed Matter Physics II (3 credit hours): quantum magnetism, soft condensed matter, low-dimensional systems
- Two "studio lab" courses: PHY 5140C Ion-solid interactions (3 credit hours) and PHZ 5425C Electron-solid Interactions (3 credit hours)
- One approved elective selected from Materials Science, Physics, Optical Science and Engineering, Electrical Engineering, or Industrial Chemistry

Optical Physics Specialization

The Optics Specialization coordinator is Dr. David Hagan, School of Optics. Students are recommended to take at least one course from:

- OSE 5111 Optical wave propagation (3 credit hours)
- OSE 5115 Interference and Diffraction (3 credit hours)

At least one of the following laboratory courses:

- OSE 6526L Laser Engineering Laboratory (3 credit hours)
- OSE 6455L Photonics Laboratory (3 credit hours)

The remaining courses (up to three) may be elected from other graduate course in Optics see (www.creol.ucf.edu).

Dissertation

All students require a minimum of 15 credit hours of dissertation.

Dissertation Proposal—Prepared in consultation with dissertation adviser. The fifteen-page written proposal is presented orally to the student's dissertation committee within one year after the candidacy exam.

Dissertation Defense—The final oral defense of the dissertation is administered by the student's dissertation committee following completion of a written dissertation describing the student's research.

Examinations

Placement Exam—The Physics field test or Physics Subject GRE is taken during the first year, for advisement purposes only.

Candidacy Exam—Part 1, written exam covering the common core. Part 2, oral exam based on upper division undergraduate material. Taken at the end of the second year. After passing the candidacy examination, the student can register for dissertation hours (PHY 7980). Before passing the candidacy, research credit can be earned as PHY 6918.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, apply early.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- Assistantships (including teaching, research, and general graduate assistantships) include tuition support. Students must be enrolled full-time and be in good academic standing to hold an assistantship.

Contact Info

Doctor of Philosophy in Physics

Robert Peale, Ph.D. , Professor
Phone Number: 407-823-5208
graduate@physics.ucf.edu

Master of Science in Physics

Robert Peale, Ph.D. , Professor
Phone Number: 407-823-5208
graduate@physics.ucf.edu

Political Science

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Master of Arts in Political Science](#)

[Environmental Politics Track](#)

[International Studies Track](#)

[Political Analysis and Policy Track](#)

[Contact Info](#)

Description

The University of Central Florida offers a Master of Arts in Political Science degree program that is designed to accommodate a range of professional and intellectual needs. These include: (1) preparing students to enter positions in government and the private sector in which the ability to comprehend, influence, and respond to government policy is critical; (2) preparing students, through the M.A., for pursuit of a Ph.D. degree in political science at other institutions; and (3) providing a well-rounded substantive curriculum for secondary school teachers seeking higher degrees and for teachers in community colleges.

The Political Analysis and Policy Track provides an in-depth understanding of political life in the American case and in comparative perspective: The nature of institutions and public policy, the role of political organizations, and the effect of mass political behavior. This track is recommended for students who want to enter community college teaching or who wish to seek a doctorate at another institution.

The Environmental Politics Track gives students the necessary analytic and substantive tools for understanding the evolving environmental debate in the United States, with particular emphasis on the ecologically sensitive state of Florida. This track is recommended for students with a special interest in the science and politics of environmental policy.

The International Studies Track is a multidisciplinary curriculum that develops skills and perspectives essential for effective participation in the emerging multicultural social and business environment. This track is recommended for students who are seeking careers in a variety of fields in both the public and private sectors: government, education, international trade, the military, and international service organizations.

Degrees Offered

Master of Arts in Political Science

- Environmental Politics Track
- International Studies Track
- Political Analysis and Policy Track

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

In addition to the minimum requirements for admission to UCF, any student wishing to enroll in graduate courses in political science must meet the department's requirements for graduate status (either regular or conditional graduate status) or must hold regular graduate status in another program at UCF. Students who have not been accepted into a degree-seeking program at UCF may not enroll in political science graduate courses.

Requirements for regular status are:

- At least 12 credit hours of undergraduate course work in political science, including Scope and Methods of Political Science (POS 3703) or its equivalent. Students must have a grade of "B" or better in this course work.
- Three letters of recommendation from individuals who can attest to the applicant's potential for graduate work. These letters should address the applicant's ability to think analytically and to communicate clearly.
- An example of written work, such as an undergraduate term paper.
- An undergraduate grade point average of at least 3.0 overall OR a combined (quantitative and verbal) GRE score of at least 1000

Please note: All applicants must submit official GRE scores.

International students and students whose native language is not English must score at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL).

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Political Science	Feb 1	Jul 15	Dec 1	Apr 15
Environmental Politics Track	Feb 1	Jul 15	Dec 1	Apr 15
International Studies Track	Feb 1	Jul 15	Dec 1	Apr 15
Political Analysis and Policy Track	Feb 1	Jul 15	Dec 1	Apr 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Political Science	Feb 1	Feb 1	Jul 1	
Environmental Politics Track	Feb 1	Feb 1	Jul 1	
International Studies Track	Feb 1	Feb 1	Jul 1	
Political Analysis and Policy Track	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Master of Arts in Political Science	Feb 1	Mar 1	Sep 1	
Environmental Politics Track	Feb 1	Mar 1	Sep 1	
International Studies Track	Feb 1	Mar 1	Sep 1	
Political Analysis and Policy Track	Feb 1	Mar 1	Sep 1	

Master of Arts in Political Science

The Political Analysis and Policy Track and the International Studies Track require 30 credit hours (24 hours of course work plus 6 hours of thesis). The Environmental Politics Track requires 33 credit hours (27 hours of course work plus 6 hours of thesis).

Political Analysis and Policy Track

Requirements for M.A., Political Analysis and Policy Track—30 Credit Hours

A program of study in the Political Analysis and Policy Track consists of the following course work.

Core Requirements—12 Credit Hours

- POS 6746 Quantitative Methods in Political Research (3 credit hours)
- POS 6045 Seminar in American Politics (3 credit hours)
- POT 6007 Seminar in Political Theory (3 credit hours)
- INR 6007 Seminar in International Politics (3 credit hours) OR
- CPO 6091 Seminar in Comparative Politics (3 credit hours)

Electives—12 Credit Hours

Four of the following courses:*

- CPO 6091 Seminar in Comparative Politics (if not selected as Core requirement) (3 credit hours)
- INR 6007 Seminar in International Politics (if not selected as Core requirement) (3 credit hours)
- CPO 6075 Comparative Political Economy (3 credit hours)
- INR 6039 International Political Economy (3 credit hours)
- INR 6086 International Public Policy (3 credit hours)
- POS 6127 State Politics (3 credit hours)
- POS 6207 Political Behavior (3 credit hours)
- POS 6324 Women and Public Policy (3 credit hours)
- POS 6639 Seminar in Public Law and Judicial Politics (3 credit hours)
- PUP 6007 Public Policy Analysis (3 credit hours)
- PUP 6208 Environmental Politics (3 credit hours)
- PUP 6607 Politics of Health (3 credit hours)
- POS 6174 Seminar in Southern Politics (3 credit hours)
- PUP 6938 Special Topics/Public Policy (3 credit hours)
- POS 6938 Special Topics/Political Analysis (3 credit hours)

*With the approval of the Graduate Committee, students may take one 6000-level course (3 credit hours) outside the Department of Political Science in partial fulfillment of this requirement. Students must meet all course prerequisites before enrolling in electives offered outside the Department of Political Science.
Thesis—6 Credit Hours

Environmental Politics Track

Requirements for M.A., Environmental Politics Track—33 Credit Hours

A program of study in the Environmental Politics Track consists of the following course work.

Core Requirements—15 Credit Hours

- PUP 6208 Environmental Politics (3 credit hours)
- POS 6746 Quantitative Methods in Political Research (3 credit hours)
- POS 6045 Seminar in American Politics (3 credit hours)
- POT 6007 Seminar in Political Theory (3 credit hours)
- INR 6007 Seminar in International Politics (3 credit hours) OR
- CPO 6091 Seminar in Comparative Politics (3 credit hours)

Specialized and Special Topics Courses—9 Credit Hours

- INR 6405 International Environmental Law (3 credit hours)
- PUP 6207 Politics of Sustainability (3 credit hours)
- POS 6743 Geographic Information Systems for Environmental Politics (3 credit hours)
- PUP 6201 Urban Environmental Policy (3 credit hours)
- PUP 6247 Contemporary Issues in Environmental Politics (3 credit hours)
- PUP 6938 Special Topics/Public Policy (3 credit hours)

Cognate Elective—3 Credit Hours

- BOT 5623C Plant Geography and Ecology (3 credit hours)
- ECP 6031 Benefit/Cost Analysis in Economic Policy (3 credit hours)
- ECP 6305 Resources and Environmental Management Policy (3 credit hours)
- ECP 6309 Advanced Resource and Environmental Economics (3 credit hours)
- ECP 6605 Economics of Urban and Regional Problems (3 credit hours)
- ECS 6006 Seminar in Comparative Economic Systems (3 credit hours)
- ECS 6015 Economic Development (3 credit hours)
- PAD 5336 Introduction to Urban Planning (3 credit hours)
- PAD 5337 Urban Design (3 credit hours)
- PAD 5338 Land Use and Planning Law (3 credit hours)
- PAD 5356 Managing Community and Economic Development (3 credit hours)
- PAD 6353 Environmental Program Management Research (3 credit hours)
- PCB 5045C Conservation Biology (3 credit hours)
- PCB 5326C Ecosystems of Florida (3 credit hours)

*With the approval of the Graduate Committee, other 5000-level or 6000-level courses may qualify as cognate electives. Students must meet all course prerequisites before enrolling in electives offered outside the Department of Political Science.
Thesis—6 Credit Hours

International Studies Track

Requirements for M.A., International Studies Track—30 Credit Hours

A program of study in the International Studies Track consists of the following course work.

Core Requirements—12 Credit Hours

- POS 6746 Quantitative Methods in Political Research (3 credit hours)
- INR 6607 International Relations Theory (3 credit hours)
- CPO 6091 Seminar in Comparative Politics (3 credit hours)
- INR 6007 Seminar in International Politics (3 credit hours)

Electives—12 Credit Hours

Two of the following courses:

- CPO 6075 Comparative Political Economy (3 credit hours)
- INR 6039 International Political Economy (3 credit hours)
- INR 6086 International Public Policy (3 credit hours)
- INR 6107 Seminar in Foreign and Defense Policy (3 credit hours)
- INR 6275 International Politics of the Middle East (3 credit hours)
- INR 6XXX International Security (3 credit hours)
- INR 6507 International Organization (3 credit hours)
- INR 6405 International Environmental Law (3 credit hours)
- GEO 6472 World Political Geography (3 credit hours)
- CPO 6036 Political Development (3 credit hours)
- INR 6XXX Human Rights Policy (3 credit hours)
- INR 6716 Politics of International Trade Policy (3 credit hours)
- INR 6XXX International Drug Policy (3 credit hours)
- CPO 6785 Political and Economic Inequality in Comparative Perspective (3 credit hours)
- INR 6938 Special Topics/International Relations (3 credit hours)
- CPO 6938 Special Topics/Comparative Politics (3 credit hours)

Two of the following multidisciplinary electives:*

- AMH 5515 Colloquium in U.S. Diplomatic History (3 credit hours)
- ANG 6324 Contemporary Maya (3 credit hours)
- ASH 5227 The Arab-Israeli Conflict (3 credit hours)
- ASH 5408 Colloquium in Modern China (3 credit hours)
- CCJ 5040 International Perspectives on Law and Justice (3 credit hours)
- CPO 5334 Contemporary Politics of the Mayan Region (3 credit hours)
- ECO 6705 Seminar in International Economics (3 credit hours)
- ECS 6006 Seminar in Comparative Economic Systems (3 credit hours)
- ECS 6015 Economic Development (3 credit hours)
- EUH 5285 Colloquium in Europe Since World War II (3 credit hours)
- EUH 5371 Colloquium in Spanish History (3 credit hours)
- EUH 5546 Colloquium: British History (3 credit hours)
- EUH 5579 Colloquium in Soviet Russia (3 credit hours)
- EUH 5595 Colloquium in Czarist Russia (3 credit hours)
- EUH 6939 Seminar in European History (3 credit hours)
- FIN 6605 International Financial Management (3 credit hours)

- GEB 6365 International Business Analysis (3 credit hours)
- HSA 6112 International Health Systems (3 credit hours)
- LAH 5713 Colloquium in U.S.-Latin American Relations (3 credit hours)
- LAH 6938 Seminar in Latin American History (3 credit hours)
- LIT 6105 World Literature (3 credit hours)
- MMC 6307 International Communication (3 credit hours)
- PAD 6834 Comparative Global Public Administration (3 credit hours)
- SPN 5505 Spanish Peninsular Culture and Civilization (3 credit hours)
- SPN 5506 Spanish American Culture and Civilization (3 credit hours)

*With the approval of the Graduate Committee, other 5000-level or 6000-level courses may qualify as multidisciplinary electives. Students must meet all course prerequisites before enrolling in electives offered outside the Department of Political Science.

Foreign Language Requirement—All students selecting the international studies track must satisfy the foreign language requirement, two years of college language or equivalent proficiency exam, prior to thesis hour registration.

Thesis—6 Credit Hours

Other Program Requirements

Comprehensive Examination

All candidates for a master's degree must take a comprehensive written examination. The examination will usually be administered after satisfactory completion of the required course work in the chosen track. The examination will be based on the political science course work contained in the student's program of study. In addition, all students will be tested in the area of quantitative methods. The examination will be offered two times each academic year. Students must inform the graduate program coordinator of their intention to take the examination **at least six weeks prior** to its scheduled date. A committee, consisting of all political science faculty from whom the student has taken courses, will develop questions for the comprehensive examination. Students not passing the examination may take it a second time within one calendar year. However, no student will be allowed to take the examination more than twice.

Thesis Committee

After completion of the required course work in the chosen track, the student will form a committee of three advisers and submit a written thesis prospectus. The thesis prospectus, upon acceptance by the committee, will become a part of the student's permanent file. Guidelines for the prospectus are available from the graduate program coordinator. The completed thesis must be submitted to the thesis committee **at least eight weeks prior** to the date on which the degree is to be awarded. The student will then orally defend the thesis.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you are interested in financial assistance, you are strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."

- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Master of Arts in Political Science

Phillip H. Pollock, Ph.D. , Professor
Phone Number: 407-823-2608
pollock@pegasus.cc.ucf.edu

Environmental Politics Track

Phillip H. Pollock, Ph.D. , Professor
Phone Number: 407-823-2608
pollock@pegasus.cc.ucf.edu

International Studies Track

Phillip H. Pollock, Ph.D. , Professor
Phone Number: 407-823-2608
pollock@pegasus.cc.ucf.edu

Political Analysis and Policy Track

Phillip H. Pollock, Ph.D. , Professor
Phone Number: 407-823-2608
pollock@pegasus.cc.ucf.edu

Psychology

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Master of Arts in Clinical Psychology](#)

[Master of Science in Clinical Psychology](#)

[Master of Science in Industrial and Organizational Psychology](#)

[Doctor of Philosophy in Psychology](#)

[Applied Experimental and Human Factors Psychology Track](#)

[Clinical Psychology Track](#)

[Industrial and Organizational Psychology Track](#)

[Contact Info](#)

Description

The Department of Psychology at the University of Central Florida offers master's degrees in Clinical Psychology and Industrial and Organizational Psychology, as well as a doctoral degree in Psychology with tracks in Applied Experimental and Human Factors Psychology, Clinical Psychology, and Industrial and Organizational Psychology.

Degrees Offered

Master of Arts in Clinical Psychology

Master of Science in Clinical Psychology

Master of Science in Industrial and Organizational Psychology

Doctor of Philosophy in Psychology

- Applied Experimental and Human Factors Psychology Track
- Clinical Psychology Track
- Industrial and Organizational Psychology Track

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

Admission Requirements for Applied Experimental and Human Factors Psychology

In addition to the general admission requirements, applicants to this program must provide:

- Resume and written statement outlining the student's academic and professional goals
- Three letters of reference, with at least two furnished by college or university professors who are acquainted with the applicant

- Completed transcripts showing a baccalaureate degree (and master's degree, if conferred) and grades for all undergraduate and graduate work. Degree(s) should be in psychology or an allied area, and applicant must show evidence of successful completion of undergraduate courses in statistics and in the general area of experimental psychology.
- Official scores on the Graduate Record Examination (GRE), which must have been taken within the last five years
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

Applicants are expected to have a minimum cumulative GRE score of about 1100 on the combined verbal-quantitative sections and an undergraduate GPA of about 3.20 in the last two years of study. However, the final admission criteria will normally be more stringent because of the competitiveness of the application process.

In addition, students will not normally be admitted to the program without having completed a minimum amount of basic preparation in content related to experimental psychology. This preparation will be judged on an individual basis but would typically consist of at least 18 semester hours including the following:

- Courses in research methods, computer applications, and statistical methods.
- General experimental psychology courses, e.g., learning, physiological, perception, human learning, cognition, motivation, and measurement.

Applicants will be evaluated for program prerequisites and advised of any need for additional preparation. Previous graduate work will be evaluated for credit on a case-by-case basis.

Admission Requirements for Clinical Psychology

In addition to the general admission requirements, applicants must provide:

- Official Graduate Record Examination (GRE) scores from test taken within the last five years; competitive applicants will score a minimum of 500 on the verbal and 500 on the quantitative sections of the GRE
- GPA of 3.0 or higher in last 60 semester hours of undergraduate study
- Completed transcripts showing a bachelor's degree (and master's degree, if conferred) and grades for all undergraduate and graduate work
- Evidence of successful completion of undergraduate course work in statistics and general areas of psychology noted below
- Resume
- Written statement outlining the student's academic and professional background and goals
- Three letters of reference, with at least two furnished by college or university professors who are acquainted with the applicant.
- Ph.D. program only: Clear statement concerning the type of research you wish to pursue as a graduate student and the clinical faculty member you believe would be best suited to serve as your major professor and mentor.
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

M.A. Program Additional Notes on Admissions

Admission into the clinical master's program is competitive, with all information that might be available to the committee (e.g., GRE scores, GPA, letters of reference, personal statement, clinical experience,

research experience, interview performance [if held]) considered in admissions decisions. Many applicants who meet minimum university requirements may not be admitted to the program. A department admissions committee reviews each student's credentials and may invite candidates for an interview. Final selection is based on both submitted credentials and the interview, if held.

Applicants must have a bachelor's degree with either a major in psychology or in another content area and completion of a minimum 15 semester hours of undergraduate psychology courses prior to matriculation. Competitive students will have completed courses in the following areas: abnormal psychology, developmental (lifespan preferred) or child psychology, personality theories, learning, physiological psychology, and courses in research methods and statistics.

A clinical psychology doctoral track is offered to those with a bachelor's or master's degree in psychology or an allied area. Admission to the Ph.D. program is based on an overall assessment of an applicant's potential for successfully completing the program and making a contribution to the discipline of clinical psychology.

Ph.D. Program Additional Notes on Admissions

Due to the competitive nature of the application process (we receive many applications but can only accept a small number of students each year), strong candidates are likely to meet criteria that are more stringent than those listed here. Strong candidates are also likely to have both research and fieldwork experience. A department admissions committee reviews the applicants' credentials and may invite a group of candidates for an interview. Final selection is based on both submitted credentials and the interview, if held.

During the past two years (2002, 2003), for example, the Doctoral Program in Clinical Psychology received 82 and 66 applications for admission, and a total of 5 (2002) and 5 (2003) students entered the Ph.D. program. The mean GRE verbal (600, 590) and quantitative (678, 630) scores for students accepted for graduate study in 2002 and 2003 respectively, were complemented by a cumulative grade point average of 3.6 and 3.7. Accepted students had, on average, between 1.5 and 2 years prior research experience, and were well matched with the faculty's research and training interests.

Applicants must have a bachelor's degree with either a major in psychology or in another content area and completion of a minimum 15 semester hours of undergraduate psychology courses prior to matriculation. Competitive students will have completed courses in the following areas: abnormal psychology, developmental (lifespan preferred) or child psychology, personality theories, learning, physiological psychology, and courses in research methods and statistics.

Previous graduate work will be considered on a case-by-case basis (including acceptance of a previously completed master's thesis). Up to 30 semester hours may be transferred for credit from a master's degree. Applicants must have at least a bachelor's degree with a major in psychology or a bachelor's degree and completion of undergraduate or graduate courses in statistics/research methods, and six additional upper division courses in core content areas of psychology (i.e., personality theories, abnormal psychology, learning, physiological psychology, developmental psychology, social psychology).

Admission Requirements for Industrial and Organizational Psychology

In addition to the general graduate admission requirements, applicants must provide:

- Official Graduate Record Examination (GRE) score report (required of all applicants), taken within the last five years, showing a minimum quantitative-verbal score of 1000 or
- GPA of 3.0 for the last 60 semester hours of attempted work for the bachelor's degree
- Evidence of successful completion of undergraduate courses in statistics and in the general area of experimental psychology
- Completed transcripts showing a bachelor's degree (and master's degree, if conferred) and grades for all undergraduate and graduate work
- Resume
- Written statement outlining the student's academic and professional goals
- Three letters of reference, with at least two furnished by college or university professors who are acquainted with the applicant.
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220

(computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

Acceptance decisions are made only in the spring semester for admission in the fall of each year. Applicants must have either a bachelor’s degree with a major in psychology or a baccalaureate degree and completion of undergraduate psychology courses in statistics and research methods, and four additional upper division courses (12 credit hours) in the core content areas of psychology, for a minimum of 18 upper division hours in psychology.

Notes for Applicants to the Doctoral Program

The industrial and organizational (I&O) doctoral program is restricted to individuals who have a bachelor’s or master’s degree in psychology or in a closely related field. Applicants must have taken a set of undergraduate or graduate-level courses in psychology that are sufficiently broad to prepare them for doctoral-level study in I&O psychology. The set must include courses in research methods and statistics. In the written statement, Ph.D. program applicants should describe their reasons for pursuing a Ph.D. degree in I&O psychology, their career aspirations and how doctoral training will contribute to their career-related goals and aspirations, and their reasons for wanting to pursue doctoral studies at the University of Central Florida.

Applicants should note that admission to the Ph.D. program is competitive, and successful applicants are expected to have an outstanding academic record. Admission to the program is based upon an overall assessment of the applicant’s potential for completing it and for making significant contributions to the science and/or practice of I&O psychology. Admissions decisions are generally made by the second week in March and applicants are notified of their status shortly thereafter. Note that admission to the program is restricted to the fall semester of each academic year.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Doctor of Philosophy in Psychology				
Applied Experimental and Human Factors Psychology Track	Feb 1	Feb 1		
Clinical Psychology Track	Jan 1	Jan 1		
Industrial and Organizational Psychology Track	Dec 15	Dec 15		
Master of Arts in Clinical Psychology	Feb 1	Feb 1		
Master of Science in Clinical Psychology				
Master of Science in Industrial and Organizational Psychology	Feb 1	Feb 1		

International Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
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Doctor of Philosophy in Psychology				
Applied Experimental and Human Factors Psychology Track	Feb 1	Feb 1		
Clinical Psychology Track	Jan 1	Jan 1		
Industrial and Organizational Psychology Track	Dec 15	Dec 15		
Master of Arts in Clinical Psychology	Feb 1	Feb 1		
Master of Science in Clinical Psychology				
Master of Science in Industrial and Organizational Psychology	Feb 1	Feb 1		

International Transfer Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Doctor of Philosophy in Psychology				
Applied Experimental and Human Factors Psychology Track	Feb 1	Feb 1		
Clinical Psychology Track	Jan 1	Jan 1		
Industrial and Organizational Psychology Track	Dec 15	Dec 15		
Master of Arts in Clinical Psychology	Feb 1	Feb 1		
Master of Science in Clinical Psychology				
Master of Science in Industrial and Organizational Psychology	Feb 1	Feb 1		

Master of Arts in Clinical Psychology

The M.A. program was initiated for the purpose of providing training and preparation at the master’s level for students desiring to deliver clinical services through community agencies. After completing the program and a two-year postgraduate internship, graduates are eligible to become Licensed Mental Health Counselors and practice independently.

The M.A. degree program is offered at the Daytona Beach area campus and is concerned with the application of psychological principles to individuals. The two primary areas of emphasis include assessment or evaluation skills and intervention or psychotherapy skills. Master’s program graduates have been involved in mental health service delivery through individual, marital, family, and group psychotherapy, as well as crisis intervention and other specialized therapeutic procedures. The program curriculum is consistent with the educational criteria for licensure as a mental health counselor in the state of Florida.

Students are admitted to one of two programs of study:

Full-time students complete the MA program in two calendar years (including summers).

Half-time students will follow a prescribed program of study that ensures foundation courses are completed before attempting more advanced work. Half-time students will complete this program in four years.

Students who do not maintain satisfactory progress towards degree completion will revert to non-degree seeking status.

Community professionals may be admitted to non-degree seeking status in order to meet job or licensing requirements after consultation with the program coordinator.

The program consists of a minimum of 60 semester hours of work as follows.

Requirements for M.A.—60 Credit Hours Minimum

Academic Course Work—49 Credit Hours

- CLP 6181 Psychological Theories of Substance Abuse Treatment (3 credit hours)
- CLP 6191 Cross-Cultural Psychotherapy (3 credit hours)
- CLP 6321 Psychotherapy in Community Settings (3 credit hours)
- CLP 6441C Individual Psychological Assessment I (3 credit hours)
- CLP 6195C Introduction to Psychotherapy (3 credit hours)
- CLP 6457 Group Psychotherapy (3 credit hours)
- CLP 6XXXL Experiential Group Laboratory (1 credit hour)
- CLP 6458C Behavior Therapy (3 credit hours)
- CLP 6459C Human Sexuality, Marriage, and Sex Therapies (3 credit hours)
- CLP 6460C Introduction to Child, Adolescent, and Family Therapies (3 credit hours)
- CLP 6932 Ethical and Professional Issues in Mental Health Practices (3 credit hours)
- CLP 6943C Clinical Practicum (2 hours)
- DEP 5057 Developmental Psychology (3 credit hours)
- PSB 6446 Advanced Abnormal and Clinical Psychopharmacology (3 credit hours)
- PSY 6216 Advanced Research Methodology I (4 credit hours)
- MHS 6430 Family Counseling I (3 credit hours)*
- SDS 6347 Career Development (3 credit hours)*

*These courses are offered in the Mental Health Counseling Track in the Counselor Education Program of the College of Education

Internship—12 Credit Hours

(See description below.)

- CYP 6948C Psychology Internship (12 credit hours)

Clinical Internship Requirement

The purpose of the internship requirement is to provide the M.A. candidate in Clinical Psychology with a comprehensive, practical-based experience under direct supervision. A public agency or nonprofit institution with nondiscriminatory practices is the prototype. The intern is assigned to an acceptable agency for a total of 1000 hours during three consecutive academic semesters (20 hours per week for 16 weeks during Fall and Spring Terms, and 30 hours per week for 12 weeks during the Summer Term). An additional commitment of two hours per week is required for the interns to meet as a group with a departmental faculty member for review, feedback, and discussions. A major portion of intern training is in the area of psychotherapy/ counseling. The intern also engages in differential diagnosis and participates in a wide variety of psychological assessment procedures.

It is believed that supervision by qualified and experienced personnel is the primary learning mode by which the intern develops professional expertise and augments the classroom material previously acquired. Satisfactory completion of the following courses is generally required prior to internship: CLP 5166, CLP 6191, CLP 6195, CLP 6321, CLP 6441, CLP 6457, CLP 6XXXL CLP 6458, CLP 6943, and MHS 6030. The program coordinator assigns internship placements. Interns are provided with a system for maintaining

accurate accounts of their activity during the week. In addition, both the intern and supervisor(s) complete an Internship Evaluation form each semester.

Examination

The culminating academic experience in this non-thesis program is completed through a case presentation. During their final semester of internship training, students must present a case that incorporates an integration of assessment data and its interpretation, theoretical conceptualization, treatment planning, course of therapy, and available outcome data. Students are to write a paper on the case (ensuring ethical consideration of confidentiality issues) and present it to their faculty internship supervisor for final approval.

Master of Science in Clinical Psychology

Students enrolled in the Clinical Psychology Ph.D. track may elect to earn a Master of Science in Clinical Psychology in route to their doctorate. This is a non-terminal masters degree available only to students in the Clinical Psychology Ph.D. track. For more information, see the requirements for the [Clinical Psychology Ph.D. track](#) on this page.

Master of Science in Industrial and Organizational Psychology

The Master of Science degree program in Industrial/Organizational Psychology is concerned with the application of psychological principles to organizations. Major areas of emphasis include selection and training of employees, applied theories of organizational behavior including models of motivation, job satisfaction, and productivity; test theory and construction; assessment center technology; statistics and experimental design and a variety of current topics. Industrial/Organizational graduates are involved in many issues of critical importance to society including fairness in the selection and treatment of employees, the creation of work environments that maximize the satisfaction and productivity of employees, and the study of technological influences on human performance.

The M.S. degree program in Industrial and Organizational Psychology is a four-semester program for full-time students. Both thesis and non-thesis options are offered. Both options consist of a minimum of 40 semester hours of work. The required courses, which are scheduled primarily in the evenings to accommodate working students, are as follows.

Requirements for M.S. in Industrial Organizational Psychology—40 Credit Hours Minimum

Academic Course Work-29 Credit Hours

- INP 6058 Job and Task Analysis (3 credit hours)
- INP 6215 Assessment Centers and Leadership (3 credit hours)
- INP 6317 Organizational Psychology and Motivation (3 credit hours)
- INP 6605 Training and Performance Appraisal (3 credit hours)
- INP 6094 Current Topics in Industrial/Organizational Psychology (3 credit hours)
- INP 6088 Applied Problems in Industrial/Organizational Psychology (3 credit hours)
- PSY 6216 Advanced Research Methodology I (4 credit hours)
- PSY 6308 Psychological Testing I (4 credit hours)
- PSY 6318 Applied Testing and Selection (3 credit hours)

Practicum—3 Credit Hours

- INP 6946 Industrial Psychology Practicum I (3 credit hours)

Thesis Option

- PSY 6971 Thesis (8 credit hours)

Non-Thesis Option

6 hours of electives from approved list or other approved courses (see below)

Approved Electives:

- EXP 5256 Human Factors I (3 credit hours)
- EXP 6255 Human Performance (3 credit hours)
- EXP 6506 Human Cognition and Learning (3 credit hours)
- MAN 6116 Managing a Diverse Workforce (3 credit hours)
- MAN 6245 Organizational Behavior and Development (3 credit hours)
- MAN 6285 Change Management (3 credit hours)
- MAN 6305 Human Resources Management (3 credit hours)
- MAN 6395 Leadership Development and Coaching (3 credit hours)
- SOP 5059 Advanced Social Psychology (3 credit hours)

Research

- PSY 6908 Directed Independent Studies (2 credit hours)

Students are expected to materially participate in the conduct or research under the supervision of a faculty adviser and the preparation of a research report of sufficient quality to allow submission for publication or presentation at a national professional association conference. The research report will be evaluated jointly by the faculty adviser and the program director.

Practicum

Practicum assignments serve to provide the student with experience in an applied setting while also aiding the organization in which the practicum occurs to meet some specific project need. Practicum possibilities generated by the I/O faculty and students may involve settings in private industry, federal, state, or local government, educational institutions, or consulting firms.

Practicum assignments involve one-semester commitments ranging from 12 to 15 hours per week on the part of the student. Depending on the nature of the assignment, this time may be distributed in a variety of ways among the organization, library, field work, etc.

Practicum placements are initiated with a behavioral agreement between the graduate student and the organization. Behavioral agreements and performance objectives are jointly decided by the supervising faculty member, the organization representative, and the student. Full-time students are typically assigned practicum projects for the fall or spring terms of their second year.

Doctor of Philosophy in Psychology

The Psychology Department offers a Ph.D. in Psychology with three tracks. One track, Applied Experimental and Human Factors Psychology, seeks to develop the capacity to design, conduct, and apply human factors research in a variety of professional settings. The second track, Clinical Psychology, emphasizes the ability of psychologists to design, conduct, and apply clinical research in administration, treatment, teaching, and supervision. The third track, Industrial and Organizational Psychology, develops competency through research and training for the application of psychological principles to organizations.

Each of these tracks is patterned on the scientist-practitioner model of the American Psychological Association (APA).

Applied Experimental and Human Factors Psychology Track

UCF is proud to offer a unique Ph.D. program in Applied Experimental and Human Factors Psychology that includes classroom studies and a variety of research, consulting, and internship opportunities. The program has been accredited by the Human Factors and Ergonomics Society, and is patterned on the scientist-practitioner model of the American Psychological Association (APA). It adheres to guidelines established by the committee for Education and Training of APAs Division 21 (Applied Experimental and Engineering Psychology).

"Human Factors" is an integrative approach that focuses on the interaction between humans and the environment. It utilizes research, theory, and knowledge of human behavior, capabilities, and limitations to add the "human" into the scientific equation and make life easier, safer, and more enjoyable. The program's mission is to develop the capacity to design, conduct, and apply human factors research in a variety of professional settings.

Students learn about the content and techniques of human factors psychology—including statistical and quantitative procedures, experimental design, survey methods, computer techniques, and other research methodologies. Students select a concentration area within the Applied Experimental and Human Factors Psychology program, which may be in human-computer interaction, human-machine-environment interface, human performance, human factors in simulation and training, or other areas of interest with the adviser's authorization. Once all course requirements have been fulfilled, students demonstrate their critical thinking skills by undergoing candidacy examinations and completing a dissertation representing a significant research contribution to the field.

The Ph.D. is designed to be obtained in 3-4 years of full-time study from the baccalaureate level and in 2-3 years from the master's level. (A minimum of one year full-time student status is required.) For students who enter with a baccalaureate degree, the program requires 91 semester hours minimum. Students who enter with a master's degree will be granted up to 30 hours of transfer credit with approval of the program faculty, and will also be required to complete a minimum of 60 semester hours at UCF.

Required Courses—67 Credit Hours

- EIN 5248C Ergonomics (3 credit hours)
- EIN 6258 Human Computer Interaction (3 credit hours)
- EXP 5256 Human Factors I (3 credit hours)
- EXP 6257 Human Factors II (3 credit hours)
- EXP 6258 Human Factors III (3 credit hours)
- EXP 5208 Sensation and Perception (3 credit hours)
- EXP 6116 Visual Performance (3 credit hours)
- EXP 6255 Human Performance (3 credit hours)
- EXP 6506 Human Cognition and Learning (3 credit hours)
- EXP 6938 Teaching Seminar (3 credit hours)
- INP 7089 Human Factors Professional Issues (1 credit hour)
- INP 6317 Organizational Psychology and Motivation (3 credit hours)
- PSB 5005 Physiological Psychology (3 credit hours)
- PSY 6216 Advanced Research Methodology I (4 credit hours)
- PSY 6217 Advanced Research Methodology II (4 credit hours)
- PSY 6219C Advanced Research Methods III (4 credit hours)
- PSY 7980 Doctoral Dissertation (15 credit hours)
- SOP 5059 Advanced Social Psychology (3 credit hours)

Internship—6 Credit Hours

- EXP 6946 Human Factors Internship (6 credit hours; to be completed sometime during the last two years of program)

Electives—18 Credit Hours

Students should choose electives in concentrated course groupings: for example, human-machine systems, performance measurement and evaluation, or simulation and training. Other elective course groupings may be developed for the student's specific interests.

- DEP 5057 Developmental Psychology (3 credit hours)
- EIN 5251 Human-Computer Interaction: Usability Evaluation (3 credit hours)
- EXP 5067 Human Factors and Aging (3 credit hours)
- EXP 6541 Advanced Human-Computer Interaction (3 credit hours)
- PPE 5055 Personality Theories (3 credit hours)
- INP 5825 Human-Computer Interface (HCI) Design: A Team Approach (3 credit hours)

Mathematics and Computer Skills

Students must demonstrate graduation proficiency in both mathematics (equivalent to first-level calculus) and computer skills (equivalent to a programming language beyond BASIC).

Candidacy Exam

The goal of this exam is to ensure that the student possesses the appropriate critical thinking to perform applied experimental and human factors psychology work. Details provided by a written description in our handbook.

Additional Program Requirements

Other program requirements, including research productivity, are detailed in the Applied Experimental and Human Factors Psychology Graduate Student Handbook (provided to each student at orientation).

Clinical Psychology Track

A Clinical Psychology doctoral track is offered to those with a baccalaureate or master's degree in psychology or an allied area. Admission to the Ph.D. program is based on an overall assessment of an applicant's potential for successfully completing the program and making a contribution to the discipline of Clinical Psychology.

The advent of managed care has resulted in significant changes in the mental health care delivery system and the role of clinical psychologists in that system. It is believed that Ph.D. psychologists will be utilized less for the delivery of psychotherapy and more for performing professional duties such as administration, development of programmatic treatments, program evaluation, supervision, and research. Thus, there is a need to change the training for the professional roles of the clinical psychologist of the twenty-first century. The Ph.D. track in Clinical Psychology is designed to respond to these changing roles by inclusion of unique, niche course work and practica in the areas of administration, supervision, treatment development, and teaching. In combination with these unique emphases, traditional training in research methods, experimental psychology, psychotherapy and psychological assessment prepares students for their careers in the changing mental health care field.

Consistent with the mission of a major metropolitan university, the Clinical Psychology Ph.D. track at UCF takes advantage of, and builds upon, a multitude of community partnerships. One specific example of programmatic efforts to develop partnerships with community agencies is our "clinic without walls." This

concept utilizes existing public and private health service delivery resources in the Central Florida area as training sites.

The Doctoral Program in Clinical Psychology is fully accredited by the American Psychological Association.

The Clinical Ph.D. track is designed to be completed in five years of full-time study beyond the baccalaureate or 3-4 years beyond the master's. The program includes a one-year predoctoral internship to be completed off-campus. It is designed to be a full-time program, with some summer enrollment expected. There are a total of 107 semester hours of courses, practica, and research requirements in the track as detailed below. Courses are presented in sequential fashion and students entering with a baccalaureate degree may earn the M.S. degree in route to the Ph.D. Students who enter with a master's degree must complete at least 77 semester hours at UCF. (Note: courses listed under the Ph.D. program that are required for the M.S. degree are listed separately after the Ph.D. courses.) A master's thesis and a dissertation, which represents a significant contribution to the discipline, are both required. Successful completion of the Qualifying and Comprehensive Examination is required prior to initiation of dissertation research.

Requirements for Ph.D. in Clinical Psychology

107 Credit Hours Minimum

Psychology Foundation Courses—15 Credit Hours

- DEP 5057 Developmental Psychology (3 credit hours)
- SOP 5059 Advanced Social Psychology (3 credit hours)
- PSY 5605 History and Systems of Psychology (3 credit hours)
- PSB 5005 Physiological Psychology (3 credit hours)
- EXP 6506 Human Cognition and Learning (3 credit hours)

Research Courses—34 Credit Hours

- PSY 6216 Advanced Research Methodology I (4 credit hours)
- PSY 6217 Advanced Research Methodology II (4 credit hours)
- PSY 6219C Advanced Research Methodology III (4 credit hours)
- PSY 6904C Research Practicum (1 credit hour)
- PSY 6971 Thesis (6 credit hours)
- PSY 7980 Doctoral Dissertation (15 credit hours)

Clinical Courses—37 Credit Hours

- CLP 6191 Cross-Cultural Psychotherapy (3 credit hours)
- CLP 6460C Introduction to Child, Adolescent, Family Therapies (3 credit hours)
- CLP 6441C Individual Psychological Assessment I (3 credit hours)
- CLP 6445C Individual Psychological Assessment II (3 credit hours)
- CLP 6195C Introduction to Psychotherapy (3 credit hours)
- PSB 6446 Advanced Abnormal and Clinical Psychopharmacology (3 credit hours)
- CLP 6932 Ethical and Professional Issues in Mental Health Practices (2 credit hours)
- CLP 6943C Clinical Practicum (taken 4 times @ 2 hours; 8 hours)
- CLP 6949 Predoctoral Internship (6 credit hours)
- Clinical Treatment Elective (3 credit hours)

Unique/Niche Courses—12 Credit Hours

- EXP 6938 Teaching Seminar (3 credit hours)
- CLP 6491C Treatment Development (3 credit hours)
- CLP 6944 Clinical Supervision Seminar/Practicum (3 credit hours)
- PSY 6933 Administration Seminar/Practicum (3 credit hours)

Electives—9 Credit Hours

- Non-Psychology Electives (2 @ 3 credit hours; 6 hours)
- Other Elective—Psychology or Non-Psychology (3 credit hours)

MASTER OF SCIENCE IN CLINICAL PSYCHOLOGY

M.S. Requirements

For students who wish to complete the master's degree in route to the Ph.D., the M.S. degree is granted after successful completion of the course work listed immediately below and after the student has successfully defended their thesis.

50 Credit Hours Minimum

Psychology Foundation Courses—6 Credit Hours

Any two of the following 3 courses:

- DEP 5057 Developmental Psychology (3 credit hours)
- PSY 5605 History and Systems of Psychology (3 credit hours)
- PSB 5005 Physiological Psychology (3 credit hours)

Research Courses—19 Credit Hours

- PSY 6216 Advanced Research Methodology I (4 credit hours)
- PSY 6217 Advanced Research Methodology II (4 credit hours)
- PSY 6219C Advanced Research Methodology III (4 credit hours)
- PSY 6940C Research Practicum (1 credit hour)
- PSY 6971 Thesis (6 credit hours)

Clinical Courses—25 Credit Hours

- CLP 6191 Cross-Cultural Psychotherapy (3 credit hours)
- CLP 6441C Individual Psychological Assessment I (3 credit hours)
- CLP 6445C Individual Psychological Assessment II (3 credit hours)
- CLP 6195C Introduction to Psychotherapy (3 credit hours)
- PSB 6446 Advanced Abnormal and Clinical Psychopharmacology (3 credit hours)
- CLP 6932 Ethical and Professional Issues in Mental Health Practices (3 credit hours)
- CLP 6943C Clinical Practicum (taken 2 times @ 2 hours; 4 credit hours)
- Clinical Treatment Elective (3 credit hours)

Doctoral Examinations

Domain A: Research (required)

- Theoretical or Review Article, or
- Empirical Article

Domain B: Government Proposals/Policy

- Grant Proposal, or
- Mental Health Policy/Administration

Domain C: Teaching

- Undergraduate Instructor Experience, or
- Professional Presentation Experience

Domain D: Clinical Practice/Consultation

- Comprehensive Case Presentation, or
- Program Development (Rx/Prevention)

Purpose—The purpose of the qualifying and comprehensive examination is to develop and assess competency of professional behaviors in doctoral-level graduate students in the Clinical Psychology Program that are consistent with the program’s professional training goals. These goals include but are not limited to the development and demonstration of skills and abilities that enable graduating students to (a) conduct and publish independent empirical research; (b) competently serve as innovative teachers/instructors in colleges, universities, and medical schools, and as presenters at local, regional, national, and international professional conferences; (c) prepare/review grants and develop knowledge and expertise in the area of administration and policies/legislation relevant to mental health issues; and (d) be expertly trained, empirically oriented clinicians capable of designing, implementing, and assessing programs concerned with mental health and mental health delivery broadly defined.

Requirements, Rationale, and Objectives—Successful completion of qualifying and comprehensive examination requirements reflect the program’s desire to ensure overall breadth of training in the field of clinical psychology that are complemented by individually tailored professional training experiences and competencies consistent with a student’s professional career goals. The four professional domains outlined above are consistent with this intent. All students are required to complete the Research domain owing to the importance and centrality of research competency to the Ph.D. degree in Clinical Psychology. Two of the other three professional competency domains must be fulfilled to complete qualifying/comprehensive examination requirements. Students are free to select any two of the three domains (Teaching, Government Proposals/Policy, Clinical Practice/Consultation) and are expected to discuss possible selections with their major professor/faculty adviser prior to formalizing their choices. Choice of domain is expected to reflect individual professional training goals and the desire for additional knowledge and expertise in a selected area. All competency domains contain two options, and students are free to select either option (see options “a” and “b” under each domain in above matrix) in consultation with their faculty adviser.

The American Psychological Association requires that graduate training tracks undertake student evaluation procedures at least annually, and provide written feedback to students. Because clinical psychology involves the provision of mental health services to the public, special care must be taken to ensure that students possess the requisite interpersonal sensitivity and skill. As a result, evaluation procedures within this track will focus not only on academic performance but also on: clinical proficiency; ethical and professional conduct; response to supervision; interpersonal behavior; and intrapersonal functioning. The Clinical Psychology Committee reserves the right to drop from the track students who continue to exhibit serious difficulties in these behavioral domains and do not respond to feedback and efforts at remediation.

Industrial and Organizational Psychology Track

The Department of Psychology offers master's and doctoral degrees in industrial and organizational psychology. Graduates are involved in many issues of critical importance to society, including fairness in the selection and treatment of employees, the creation of work environments that maximize the satisfaction and productivity of employees, and the study of technological influences on human performance.

The master's program is concerned with the application of psychological principles to organizations. Major areas of emphasis include selection and training of employees; applied theories of organizational behavior including models of motivation, job satisfaction, and productivity; test theory and construction; assessment center technology; statistics and experimental design; and a variety of current topics.

The doctoral program provides students with training that is consistent with the scientist-practitioner model. A key assumption of the program is that every graduate must be a highly competent scientist who can contribute to both the science and practice of the discipline.

The doctoral program in Industrial and Organizational Psychology requires approximately four years of full-time study beyond the baccalaureate and 2-3 years beyond the master's. The first few years are devoted to course work and the final year to the doctoral dissertation.

After completing all required course work students are required to pass a Candidacy Examination. This examination may be taken a maximum of two times. Failure to pass the examination on both occasions will result in the student being dropped from the program.

Having passed the Candidacy Examination, the student may begin dissertation-related research. After the completion of this research the student must then pass an oral examination, i.e., a dissertation defense.

Program-related Courses

The I&O Program requires a minimum of 72 credit hours of graduate study for students who enter the program with a baccalaureate degree. The nature of this study is determined by the I&O Area Program Committee. For the typical student, the 72 hours of study will be distributed as follows.

Required I&O Area Courses—42 Credit Hours

- INP 7075 Current Theory and Research in Industrial and Organizational Psychology (2 hours per semester for a total of 12 credit hours)
- INP 7071 Research Methods in Industrial and Organizational Psychology (3 credit hours)
- INP 7214 Industrial Psychology I (3 credit hours)
- INP 7251 Industrial Psychology II (3 credit hours)
- INP 7310 Organizational Psychology I (3 credit hours)
- INP 7311 Organizational Psychology II (3 credit hours)
- INP 7315 Psychometric Theory and Practice (3 credit hours)
- PSY 6216 Advanced Research Methodology I (4 credit hours)
- PSY 6217 Advanced Research Methodology II (4 credit hours)
- PSY 6219C Advanced Research Methods III (4 credit hours)

Required Psychology Field Courses—3 Credit Hours

- SOP 5059 Advanced Social Psychology (3 credit hours)

Elective Psychology Field Courses—6 Credit Hours

Two courses from the following set. The courses in this set are selected by the student in conjunction with his or her advisor. Note, however, that all courses in the set must be approved by the I&O Program Committee. The courses may include:

- EXP 5208 Sensation and Perception (3 credit hours)

- EXP 5445 Psychology of Learning and Motivation (3 credit hours)
- EXP 6255 Human Performance (3 credit hours)
- EXP 6506 Human Cognition and Learning (3 credit hours)
- PPE 5055 Personality Theories (3 credit hours)
- PSB 5005 Physiological Psychology (3 credit hours)
- PSY 5605 History and Systems of Psychology (3 credit hours)

Other Elective Courses—6 Credit Hours

Two courses from the following set. The courses in this set are selected by the student in conjunction with his or her adviser. Note, however, that all courses in the set must be approved by the I&O Program Committee. The courses may include:

- EXP 5256 Human Factors I (3 credit hours)
- EXP 6257 Human Factors II (3 credit hours)
- INP 6058 Job and Task Analysis (3 credit hours)
- INP 6215 Assessment Centers and Leadership (3 credit hours)
- INP 6605 Training and Performance Appraisal (3 credit hours)
- MAN 6285 Change Management (3 credit hours)
- MAN 6305 Human Resources Management (3 credit hours)
- MAN 6311 Advanced Topics in Human Resources Management (3 credit hours)
- MAN 6395 Leadership Development and Coaching (3 credit hours)
- PSY 6318 Applied Testing and Selection (3 credit hours)
- PSY 6908 Directed Independent Studies (3-6 credit hours)

Dissertation—15 Credit Hours

- PSY 7980 Doctoral Dissertation (15 credit hours)

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.

- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Doctor of Philosophy in Psychology

Sharon Ballard
Phone Number: 407-823-1011

Master of Arts in Clinical Psychology

Robert Kennerley
Phone Number: 386-254-4412 ext 4009
rkenerl@mail.ucf.edu

Master of Science in Clinical Psychology

Mark Rapport, Ph.D. , Professor
Phone Number: 407-823-2974
clinphd@pegasus.cc.ucf.edu

Master of Science in Industrial and Organizational Psychology

William Wooten, Ph.D. , Associate Professor
Phone Number: 407-823-1011
iograd@pegasus.cc.ucf.edu

Applied Experimental and Human Factors Psychology Track

Eduardo Salas, Ph.D. , Professor
Phone Number: 407-823-4399
hfgrad@pegasus.cc.ucf.edu

Clinical Psychology Track

Mark Rapport, Ph.D. , Professor
Phone Number: 407-823-2974
clinphd@pegasus.cc.ucf.edu

Industrial and Organizational Psychology Track

Barbara Fritzsche, Ph.D. , Associate Professor
Phone Number: 407-823-1011
iophd@pegasus.cc.ucf.edu

Public Administration

[Description](#)

[Degree Offered](#)

[Admission](#)

[Master of Public Administration](#)

[Contact Info](#)

Description

The Department of Public Administration's Master of Public Administration (M.P.A.) degree program provides opportunities for students to prepare for employment or advance their careers as public administrators. The program is intended to produce graduates equipped with the public management skills and analytical techniques needed for successful careers in government, nonprofit, and closely related business fields.

Degrees Offered

Master of Public Administration

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Graduate Catalog](#). Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

Master of Public Administration

The Graduate Record Examination (GRE) is required of all graduate students. Minimum requirements for regular admission are (1) a grade point average (GPA) of 3.0 for the last 60 attempted semester hours of undergraduate study, or (2) a total score of 1000 or higher on the verbal-quantitative sections of the GRE. A course-by-course transcript evaluation is required of all students who attended a college or university outside the United States. For information and instructions about transcript evaluations, please see [Transcripts and Evaluations](#) on the Graduate Students website.

A limited number of students who do not meet these requirements but who do have at least a 2.5 GPA and an 800 GRE score may be admitted on a provisional basis. These students must demonstrate proven public sector leadership experience, present strong recommendations from either academic or professional advisers, and provide a clear statement of education goals. More specific information on provisional admissions may be obtained from the department.

Individuals whose native language is other than English are required to have a minimum score of 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL).

Students are expected to be computer literate upon entry to the program or are expected to obtain these skills immediately upon admission to the program.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Master of Public Administration	Feb 1	Jul 15	Dec 1	Apr 15

International Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Master of Public Administration	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Master of Public Administration	Feb 1	Mar 1	Sep 1	

Master of Public Administration (M.P.A.)

The MPA program consists of 42 credit hours. Each student completes a core of nine courses (27 credit hours), an advanced curriculum of four courses (12 credit hours) selected in consultation with the adviser, and a capstone experience equivalent to one course (3 credit hours). Courses and credit hours used for undergraduate degrees cannot also be counted towards the MPA degree.

Minimum Hours Required for M.P.A.—42 Credit Hours

Minimum Core Requirements—27 Credit Hours

- PAD 6053 Public Administrators in the Governance Process (3 credit hours)
- PAD 6035 Public Administration in the Policy Process (3 credit hours)
- PAD 6700 Analytic Techniques for Public Administration I (3 credit hours)
- PAD 6701 Analytic Techniques for Public Administration II (3 credit hours)
- PAD 6037 Public Organization Management (3 credit hours)
- PAD 6207 Public Financial Management (3 credit hours)
- PAD 6227 Public Budgeting (3 credit hours)
- PAD 6417 Human Resource Management (3 credit hours)
- PAD 6335 Strategic Planning and Management (3 credit hours)

Advanced Curriculum—12 Credit Hours

An advanced curriculum of at least four courses that concentrate on a specific area germane to the practice of public administration may be taken within the Department of Public Administration or from other departments. Those elective courses offered within the department will provide an emphasis on state and local government; however, other emphases may be developed in consultation with the adviser. (Those students without practical administrative experience in the public sector are strongly advised to complete an internship (3 credit hours) as part of the advanced curriculum. A research report option (3 credit hours) is

available for students wishing to complete a more substantial research project than might be accommodated in the other courses). 4000 level courses are not acceptable in the MPA program of study.

Capstone Experience—3 Credit Hours

Students will engage in a capstone experience intended to bring together the various areas of knowledge and skills covered in the MPA program. Students will complete this requirement through enrollment in PAD 6062 Advanced Concepts and Applications in Public Administration.

Exit Requirements

Students must achieve a grade of "B" (3.0) or better in every course listed under minimum core requirements.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Evan Berman, Ph.D. , Professor
Phone Number: 407-823-2604
berman@mail.ucf.edu

Public Affairs

[Description](#)

[Degree Offered](#)

[Admission](#)

[Doctor of Philosophy in Public Affairs](#)

[Contact Info](#)

Description

The Ph.D. in Public Affairs at the University of Central Florida provides a unique focus on public policy, planning, and administration. This interdisciplinary program draws from the strengths of faculty in five disciplines (Criminal Justice, Health, Nursing, Public Administration, and Social Work) in its preparation of mid-career professionals (for leadership and/or research positions in public, nonprofit, and private agencies) and more traditional students (for positions in colleges and universities). The integration of this dynamic mix of students creates a stimulating environment in which to examine contemporary organizational, community, and regional problems and issues.

The mission of the program is an important one: The complex social, economic, and demographic issues that compromise the health and welfare of the citizens of Central Florida and the nation require a new breed of professionals who are able to think and work across traditional boundaries with colleagues similarly committed to tackling the complex social challenges of tomorrow. UCF's interdisciplinary Ph.D. in Public Affairs strives to fulfill that need and to meet the challenges of the future.

More specifically, the program brings together disciplines that address important and interrelated social problems confronting all communities. Too often, in the past, the interrelated problems of crime and justice, health services and social welfare delivery, and the administration of organizations that deal with these problems have been approached in a discipline-specific and fragmented way. By integrating knowledge base and intervention approaches, more realistic resolutions to social problems can be identified and implemented.

Degrees Offered

Doctor of Philosophy in Public Affairs

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

Doctor of Philosophy in Public Affairs

The program will match career goals of students through the interdisciplinary nature of course content, the interaction with faculty from all four disciplines, and the flexibility inherent in the choice of electives. Those seeking advancement within public agencies or nonprofit organizations can choose a mix of electives, including course work from other UCF programs, while those seeking to teach at the college or university level can concentrate their course work more within a single discipline.

To accommodate the needs of both traditional students and working professionals, Public Affairs students may pursue the program on a full-time (9-12 credits per semester) or part-time (6 credits per semester) basis. Significant support is available for selected full-time students. All course work is offered in the evening hours.

Admission Requirements

Students applying to the Ph.D. program must have completed their master's degree prior to entering the program.

Applications for admission into the Ph.D. program in Public Affairs may be submitted online at www.graduate.ucf.edu. Admission decisions will be made only once per academic year. A complete packet for admission includes all of the following:

- An official admission application form
- Official copies of undergraduate and graduate transcripts
- Official results of the Graduate Record Examination or GMAT, taken within the last five years, and sent from ETS directly to UCF (Students whose scores fall within the top 50 percentile on either of these standardized tests will be competitive.)
- A narrative statement of 1000 words or less describing the applicant's educational expectations, career aspirations, level of computer skills, and any special qualifications or experiences that may enhance the overall learning environment of the program
- A current resume
- Three letters of reference from professionals who can assess the applicant's ability to succeed in a doctoral program
- International students and students whose native language is not English must score at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL).
- Transcripts from outside the United States will be evaluated by the UCF transcript evaluators.

Transfer Credit

Course work accepted for transfer must be part of an approved plan of study for a doctoral program at UCF or elsewhere. The acceptance of transfer credit will be determined by the Ph.D. Coordinator on a case-by-case basis. A maximum of six hours may be transferred.

Assignment of Faculty Advisers

Upon acceptance of a student into the program, the Ph.D. Coordinator will provide an initial orientation and general advising session. The Coordinator will continue to advise the student throughout the foundation stage of the program assisting the student in the clarification of interests and goals and facilitating the introduction of the student to faculty with research interests that can facilitate the student's program of study. In addition, the Chairperson from one of the participating departments (i.e., Criminal Justice, Health, Nursing, Public Administration, Social Work) will help the student select elective courses, finalize the program of study, and facilitate the discussion and review of dissertation topics. The dissertation chair should be selected by the student prior to the completion of the candidacy proposal.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Doctor of Philosophy in Public Affairs	Jan 19	Jan 19		

International Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Doctor of Philosophy in Public Affairs	Jan 19	Jan 19		

International Transfer Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Doctor of Philosophy in Public Affairs	Jan 19	Jan 19		

Doctor of Philosophy in Public Affairs (Ph.D.)

Students must complete 57 credit hours beyond the master's degree, including fourteen courses (42 credit hours) above the master's level distributed in the following manner: (1) a six-course, 18-credit interdisciplinary core; (2) a two-course, 6-credit research tool; and (3) a six-course, 18-credit interdisciplinary specialization component that will be tailored to meet students' individual goals. Fifteen credit hours of dissertation must also be completed.

To ensure that students more fully experience the interdisciplinary nature of the program, completion of no more than five elective courses from one discipline will be permitted.

A maximum of 6 credit hours of Independent Study or 6 credit hours of Doctoral Research may be used for electives. Twelve credits of the elective portion of the Program of Study must be fulfilled by classroom-based courses (either discipline-specific or PAF electives).

If students receive grades below a "B-" in core courses, they may be reverted to non-degree status. All students who receive a grade of "C" or lower in a required core course must repeat the course and obtain a grade of "B-" or better prior to taking the qualifying examinations.

A minimum of a 3.0 GPA in the specified graduate program of study is required to maintain graduate student status and for graduation.

Required Courses—18 Credit Hours

- PAF 7000 Foundations of Public Affairs (3 credit hours)
- PAF 7110 Ethics and Public Affairs (3 credit hours)
- PAF 7230 Strategic Change and Management in Public Affairs (3 credit hours)
- PAF 7250 Social Justice and Public Policy (3 credit hours)
- PAF 7300 Policy Analysis in Public Affairs (3 credit hours)
- PAF 7982 Dissertation Seminar in Public Affairs (3 hours)

Research—6 Credit Hours

- PAF 7802 Advanced Research Methods in Public Affairs (3 credit hours)
- PAF 7804 Advanced Quantitative Methods I (3 credit hours)

Interdisciplinary Specialization—18 Credit Hours

Criminal Justice Track

- CCJ 6938 Special Topics in Criminal Justice (3 credit hours) (Course may be repeated with different content.)
- CCJ 7457 Seminar in Criminal Justice Theory (3 credit hours)
- CCJ 7930 Seminar in Criminal Justice Policy Analysis (3 credit hours)

Health Track

- HSA 6126 Principles of Managed Care (3 credit hours)
- HSA 7XXX Advanced Seminar in Health Care Finance (3 credit hours)
- HSA 7XXX Advanced Seminar in Health Care Economics (3 credit hours)
- HSA 7XXX Advanced Seminar in Community Health (3 credit hours)
- NGR 6XXX Patient Population Management (3 credit hours)
- NGR 7190 Health Care Systems and Policy (3 credit hours)
- NGR 7661 Healthcare for Vulnerable Populations (3 credit hours)
- NGR 7XXX Measurements (3 credit hours)

Public Administration Track

- PAD 7XXX Advanced Public Budgeting and Finance (3 credit hours)
- PAD 6934 Special Issues in Public Administration (3 credit hours) (Course may be repeated with different content.)
- PAD 7026 Advanced Seminar in Public Administration (3 credit hours)
- PAD 7419 Advanced Public Human Resource Management (3 credit hours)

Social Work Track

- SOW 6386 Seminar in Social Welfare Planning and Implementation (3 credit hours)
- SOW 6399 Advanced Administration in Social Welfare (3 credit hours)
- SOW 6492 Theory Building in Social Work (3 credit hours)
- SOW 6938 Special Issues in Social Work (3 credit hours) (Course may be repeated with different content.)

Research Electives

- PAF 7919 Doctoral Research
- PAF 7XXX Advanced Quantitative Methods II (3 credit hours)
- PAF 7510 Seminar in Program Evaluation in Public Affairs (3 credit hours)
- PAF 7810 Seminar in Survey Research in Public Affairs (3 credit hours)
- PAF 7820 Seminar in Qualitative Methods in Public Affairs (3 credit hours)
- PAF 7840 Seminar in Secondary Data Analysis in Public Affairs (3 credit hours)

General PAF Electives

- PAF 6908 Independent Study
- PAF 7750 Pedagogy in Public Affairs (3 credit hours)

NOTE: Other 5000 and 6000 level courses may be accepted as electives per the approval of the Program Coordinator and Advisor.

Dissertation—15 Credit Hours

- PAF 7980 Dissertation Research

Minimum Hours Required for Ph.D.—57 Credit Hours

Qualifying Examination

Following successful completion of the required foundation and research courses, a student is required to pass a qualifying examination. This examination will test the student's knowledge of the material in the foundation and research courses. The examination will be given once each fall and spring semester. The exam may also be given at the end of the summer term per the discretion of the Program Coordinator. Students are given two opportunities to pass all sections of the exam. Students who fail any section twice will be dropped from the program. However, prior to being officially dropped, students will be given the opportunity to appeal.

Candidacy Examination

Students who pass the qualifying examination, once all of their course work has been completed, must write and defend a candidacy proposal. Students officially enter candidacy when:

1. All course work is complete
2. The students has passed the qualifying exam
3. The student has successfully completed the candidacy proposal

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.

- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Eileen Abel, Ph.D. , Associate Professor

Phone Number: 407-823-3967

phdpa@mail.ucf.edu

Reading Education

[Description](#)

[Degree Offered](#)

[Admission](#)

[Master of Education in Reading Education](#)

[Contact Info](#)

Description

The College of Education offers a Master of Education degree in Reading Education. This program prepares teachers for certification as reading specialists (e.g. reading resource teacher, reading laboratory teacher, reading/language arts supervisor, primary education specialist) in grades K-12 in public schools and private reading laboratories or clinics. Diagnosis of reading disabilities, techniques of corrective reading, psychological measurement, reading in the content fields, management of reading programs, reading trends and research, and dimensions of the language arts other than reading are included with considerable emphasis on practice with disabled readers from the early childhood to adult levels. Professionals currently certified as Florida teachers are eligible to pursue a degree in the program.

Degrees Offered

Master of Education in Reading Education

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

Additional Admissions Information

The Master of Education in Reading Education Program prepares teachers for certification as reading specialists (e.g., reading resource teacher, reading laboratory teacher, reading/language arts supervisor, primary education specialist) in grades K-12 in public schools and private reading laboratories or clinics. Diagnosis of reading disabilities, techniques of corrective reading, psychological measurement, reading in the content fields, management of reading programs, reading trends and research, and dimensions of the language arts other than reading are included with considerable emphasis on practice with disabled readers from the early childhood to adult levels. Professionals currently certified as Florida teachers are eligible to pursue a degree in the program. See individual course descriptions in this catalog.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Master of Education in Reading Education	Feb 1	Jul 15	Dec 1	Apr 15

International Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Master of Education in Reading Education	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Master of Education in Reading Education	Feb 1	Mar 1	Sep 1	

Master of Education in Reading Education

Minimum Hours Required for M.Ed.—36 Credit Hours

Area A: Core—15 Credit Hours

- EDF 6432 Measurement and Evaluation in Education (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- EDF 6886 Multicultural Education (3 credit hours)

Select Option A, B, or C:

Option A: Thesis

- EDF 6401 Statistics for Educational Data (3 credit hours)
- RED 6971 Thesis (2,1 credit hours)

Option B: Research Report

- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- RED 6909 Research Report (2,1 credit hours)

Option C: Extended Specialization—6 Credit Hours

- Electives pre-approved by adviser

Area B: Specialization—21 Credit Hours

- RED 6116 Trends in Reading Education (3 credit hours)
- RED 6336 Reading in the Content Areas (3 credit hours)

- RED 6337 Reading in the Secondary School (PR: RED 6336, Basic Teacher Certification, or C.I.) (3 credit hours)
- RED 6746 Management of Reading Programs (3 credit hours)
- RED 6845 Advanced Evaluation and Instruction in Reading (3 credit hours)
- RED 6846 Reading Practicum (PR: RED 6845 or C.I.) (6 credit hours)

Prerequisites

Prescribed by College of Education to meet state certification requirements or as support for degree program.

- RED 5147 Developmental Reading (3 credit hours) OR
- RED 3012 Basic Foundations of Reading (3 credit hours)
- RED 5514 Classroom Diagnosis and Development of Reading Proficiencies (3 credit hours) OR
- RED 4519 Diagnostic and Corrective Reading Strategies (3 credit hours)
- LAE 3414 Literature for Children (3 credit hours) OR
- LAE 5415 Children's Literature in Elementary Education (3 credit hours) OR
- LAE 4464 Survey of Adolescent Literature (3 credit hours)
- LAE 4314 Language Arts in the Elementary School (3 credit hours) OR
- LAE 4342 Teaching Language and Composition (3 credit hours)

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Timothy Blair, Ph.D. , Professor
Phone Number: 407-823-5472
tblair@mail.ucf.edu

School Psychology

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Education Specialist in School Psychology](#)

[School Counseling Track](#)

[Contact Info](#)

Description

The School Psychology Education Specialist Program has two tracks. The School Psychology Track is designed for students who wish to become licensed School Psychologists, and the School Counseling Track is appropriate for students with a master's degree who wish to become eligible for a School Counseling certification. These are distinct tracks with very specific programming to meet the respective licensing requirements of each area. Completion of one track will not result in eligibility for licensing in the other area.

Degrees Offered

Education Specialist in School Psychology

- School Counseling Track

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

Education Specialist in School Psychology

The School Psychology Education Specialist Program has two tracks. The School Psychology Track is designed for students who wish to become licensed School Psychologists, and the School Counseling Track is appropriate for students with a master's degree who wish to become eligible for a School Counseling certification. These are distinct tracks with very specific programming to meet the respective licensing requirements of each area. Completion of one track will not result in eligibility for licensing in the other area.

School Psychology Track

The Education Specialist degree program in School Psychology is a unique specialization in psychology and education. This program is based on two assumptions. School psychologists can apply relevant knowledge and skills from a variety of disciplines to the learning and adjustment problems of preschool and school-age children. Also, relevant knowledge and skills can be transmitted through a variety of services including (a) consultation with teachers and parents, (b) direct services to children and young

adults, and (c) indirect services to school and community organizations. School psychologists may practice in public or private schools, colleges and universities, rehabilitation centers, hospitals, mental health clinics, government agencies, child guidance centers, penal institutions, and may develop private practices. Applicants with backgrounds in education, psychology or other closely related undergraduate majors may qualify for the School Psychology Track in this degree program.

The program involves formal preparation and practical experiences focusing on psychological foundations (human development, learning and motivation), psychoeducational assessment, exceptional students, remediation or intervention techniques, counseling skills, as well as full-time supervised internship of two semesters in the public school setting. Graduates are certifiable at the state level and the program is approved and accredited by NASP/NCATE.

[Specialist Programs in the College of Education](#)

Admission Requirements

Requirements for consideration for admission to the program include the following:

- Attend an orientation meeting prior to applying to the program (call 407-823-2596 for meeting dates)
- Meet minimum admission requirements for advanced graduate students in the College of Education
- Complete a baccalaureate degree from an accredited institution (usually in Education or Psychology)
- Have an undergraduate grade point average of 3.0 (on a 4.0 scale) for the last 60 attempted Credit Hours
- Attain a GRE score of 1,000 (verbal and quantitative scores combined)
- Submit three letters of recommendation (one from a faculty member)
- Receive a favorable recommendation for admission by the School Psychology Review Committee.

This program can accommodate only a limited number of students; therefore, there is a possibility of being denied admission even when all criteria are met. Admissions to this program will occur only in the fall term. Information concerning specific admissions policies and procedures can be obtained from Dr. Carl Balado, (407) 823-2054. For more information, visit the track website: pegasus.cc.ucf.edu/~edserv/.

NOTE: Applicants graduating in spring and who might be experiencing difficulty in having complete transcripts sent to UCF by March 1 must request a letter from the Registrar of the institution granting the degree (to be submitted before the deadline) stating: (1) type of degree, (2) date of graduation; (3) major; and (4) final GPA.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Education Specialist in School Psychology	Feb 1	Mar 1		
School Counseling Track	Feb 1	Mar 1	Oct 1	

International Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Education Specialist in School Psychology	Feb 1	Feb 1		
School Counseling Track	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Education Specialist in School Psychology	Feb 1	Mar 1		
School Counseling Track	Feb 1	Mar 1	Sep 1	

Education Specialist in School Psychology

Minimum Hours Required for Ed.S.—53 Credit Hours

Area A: Core—12 Credit Hours

- EDF 6401 Statistics for Educational Data (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- EEX 5051 Exceptional Children in the Schools (3 credit hours)
- EDP 6056 Advanced Educational Psychology (3 credit hours)

Area B: Specialization—53 Credit Hours

- SPS 6601 Introduction to Psychological Services in Schools (3 credit hours)
- SPS 6606 School Consultation Techniques (3 credit hours)
- SPS 6608 Seminar in School Psychology (3 credit hours)
- SPS 6801 Developmental Basis of Diverse Behaviors (3 credit hours)
- SPS 6225 Behavioral and Observational Analysis of Classroom Interactions in Schools (3 credit hours)
- SPS 6703 Child and Adolescent Deviant Behavior and Treatment (3 credit hours)
- SPS 6931 Ethical and Legal Issues in School Psychological Services (3 credit hours)
- MHS 6400 Theories of Counseling and Personality (3 credit hours)
- MHS 6401 Techniques of Counseling (3 credit hours)
- SPS 6191 Individual Psychoeducational Diagnosis I (4 credit hours)
- SPS 6192 Individual Psychoeducational Diagnosis II (4 credit hours)
- SPS 6125 Infant Development Assessment (3 credit hours)
- SPS 6194 Assessment of Special Needs (3 credit hours)
- SPS 6206 Psychoeducational Interventions (3 credit hours)
- SPS 6175 Cultural Diversity and Nonbiased Assessment (3 credit hours)
- SPS 6909 Research Report I and II (6 credit hours)

Area C: Practicum and Internship—18 Credit Hours

- SPS 6946 Practicum in School Psychology I (3 credit hours)
- SPS 6946 Practicum in School Psychology II (3 credit hours)

- SPS 6949 School Psychology Internship I and II (12 credit hours)

Prerequisites or Co-requisites (DOE Certification)

- EDA 6061 Organization and Administration of Schools (3 credit hours)
- EDF 6517 Perspectives on Education (3 credit hours) OR
- EDF 6608 Social Factors in American Education (3 credit hours)

School Counseling Track

Minimum Hours Required for Ed.S.—48 Credit Hours

Area A: Core—9 or 12 Credit Hours

- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- MHS 6220 Individual Psychoeducational Testing I (3 credit hours)

Area B: Specialization—30 Credit Hours

- MHS 6400 Theories of Counseling and Personality (3 credit hours)
- MHS 6401 Techniques of Counseling (3 credit hours)
- MHS 6420 Counseling Special Populations (3 credit hours)
- MHS 6500 Group Procedures and Theories in Counseling (3 credit hours)
- MHS 6702 Ethical and Legal Issues (3 credit hours)
- EDH 6044 Career Exploration in Higher Education (3 credit hours)
- SDS 6411 Counseling with Children and Adolescents (3 credit hours)
- SDS 6620 Organization and Administration of School Counseling and Guidance Programs (3 credit hours)

Area C: Professional Clinical Experience—9 Credit Hours

- MHS 6803 Practicum in Counselor Education (3 credit hours)
- MHS 6830 Counseling Internship I (3 credit hours)
- MHS 6830 Counseling Internship II (3 credit hours)

Area D: Electives

- Thesis or two electives approved by the adviser

Exit Requirements Include:

- Achieve at least a GPA of 3.0 in counseling specialization courses.
- Achieve a “B-” or better in MHS 6800 and MHS 6830.
- Complete a portfolio and receive approval by Counselor Education faculty.
- Pass comprehensive oral examinations satisfactorily.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance

available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Education Specialist in School Psychology

Carl Balado, Ed.D. , Associate Professor
Phone Number: 407-823-2054
cbalado@mail.ucf.edu

School Counseling Track

E. H. Robinson, Ph.D. , Professor
Phone Number: 407-823-3819
erobinso@mail.ucf.edu

Science Education

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Master of Arts in Science Education](#)

[Biology Track](#)

[Chemistry Track](#)

[Community College Teaching Track](#)

[Middle School Science Track](#)

[Physics Track](#)

[Master of Education in Science Education](#)

[Contact Info](#)

Description

The Science Education program offers Master of Education (M.Ed.) and Master of Arts (M.A.) degrees in Science Education.

The M.Ed. degree program is designed to meet the advanced knowledge and skill needs of certified secondary science teachers, enabling them to expand their subject matter knowledge and professional teaching skills.

The M.A. degree program was created to allow those not certified to teach secondary science (such as non-education majors or previously certified teachers in another field) to become effective teachers of secondary science. It offers tracks in biology, chemistry, physics, middle school science, and community college teaching.

The Science Education programs are dedicated to providing all graduates with exceptional pedagogical and subject matter knowledge and skills by focusing on research-based, state-of-the-art best practices in secondary science education.

Degrees Offered

Master of Arts in Science Education

- Biology Track
- Chemistry Track
- Community College Teaching Track
- Middle School Science Track
- Physics Track

Master of Education in Science Education

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

Applicants to the M.Ed. program must (1) have completed all course requirements for Florida state teacher certification in the program's subject area and/or grade range, or (2) present a Florida Professional Teaching Certificate upon admission to the program. Applicants who have graduated from an accredited university or college teacher certification program in another state or country, in the appropriate subject and/or grade range, may also be admitted to the M.Ed. program at the discretion of the program director.

Students may not switch from an M.A. program to an M.Ed. program, or vice versa, without going through the university's admission process. Courses used to gain initial state certification may not be transferred into an M.Ed. program.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Master of Arts in Science Education	Feb 1	Jul 15	Dec 1	Apr 15
Biology Track	Feb 1	Jul 15	Dec 1	Apr 15
Chemistry Track	Feb 1	Jul 15	Dec 1	Apr 15
Community College Teaching Track	Feb 1	Jul 15	Dec 1	Apr 15
Middle School Science Track	Feb 1	Jul 15	Dec 1	Apr 15
Physics Track	Feb 1	Jul 15	Dec 1	Apr 15
Master of Education in Science Education	Feb 1	Jul 15	Dec 1	Apr 15

International Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Master of Arts in Science Education	Feb 1	Feb 1	Jul 1	
Biology Track	Feb 1	Feb 1	Jul 1	
Chemistry Track	Feb 1	Feb 1	Jul 1	
Community College Teaching Track	Feb 1	Feb 1	Jul 1	
Middle School Science Track	Feb 1	Feb 1	Jul 1	
Physics Track	Feb 1	Feb 1	Jul 1	
Master of Education in Science Education	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Master of Arts in Science Education	Feb 1	Mar 1	Sep 1	
Biology Track	Feb 1	Mar 1	Sep 1	
Chemistry Track	Feb 1	Mar 1	Sep 1	
Community College Teaching Track	Feb 1	Mar 1	Sep 1	
Middle School Science Track	Feb 1	Mar 1	Sep 1	
Physics Track	Feb 1	Mar 1	Sep 1	
Master of Education in Science Education	Feb 1	Mar 1	Sep 1	

Master of Education in Science Education

33 Minimum Credit Hours Required

Area A: Core—9 Credit Hours

- EDF 6401 Statistics for Educational Data (3 credit hours) OR
- EDF 6432 Measurement and Evaluation in Education (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)

Select one course from the following list:

- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- EDF 6517 Perspectives on Education (3 credit hours)
- EDF 6608 Social Factors in American Education (3 credit hours)
- ESE 6909 Research Report or 2 approved electives (2,1 or 6 credit hours)

Area B: Specialization—9 Credit Hours

- Electives approved by adviser

Area C: Curriculum—12 Credit Hours

- 9 credit hours approved by adviser
- SCE 6238 Inquiry in the Sciences (3 credit hours)

Master of Arts in Science Education

36 Minimum Credit Hours Required

Students must choose one of five track options:

- Option 1: Biology Track (grades 6-12)
- Option 2: Chemistry Track (grades 6-12)
- Option 3: Community College Teaching Track
- Option 4: Middle School Science Track (grades 5-9)

- Option 5: Physics Track (grades 6-12)

Biology Track (Grades 6-12)

Required Courses—36 Credit Hours Minimum

Area A: Core—18 Credit Hours

- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- EDG 6236 Principles of Instruction (3 credit hours)
- EDF 6432 Measurement and Evaluation in Education (3 credit hours)
- EDF 6608 Social Factors in American Education (3 credit hours)
- LAE 5337 Literacy Strategies for Middle and Secondary Teaching (3 credit hours)
- TSL 5345 Methods of ESOL Teaching (3 credit hours)

Area B: Specialization—12 Credit Hours

- SCE XXXX Issues and Methods in Secondary School Science (3 credit hours)
- IDS 6933 Seminar in Teaching Mathematics and Science (3 credit hours)
- Electives approved by adviser (6 credit hours)

Students are required to have 30 credit hours of science course work to meet certification requirements to teach science in grades 6-12. Only six hours of independent study courses may be used to satisfy degree requirements. It is important to see an adviser if courses are difficult to schedule in content areas.

Area C: Internship—6 Credit Hours

- SCE 6946 Graduate Internship (6 credit hours)

Additional Program Requirements

All students must complete a portfolio according to program guidelines. This portfolio requires demonstration of professional growth, reflection, and proficiency in the 12 Florida Educator Accomplished Practices. Portfolio defense will be a part of IDS 6933.

Pass all required sections of the Florida Teacher Certification Examination prior to graduation.

Chemistry Track (Grades 6-12)

Required Courses—36 Credit Hours Minimum

Area A: Core—18 Credit Hours

- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- EDG 6236 Principles of Instruction (3 credit hours)
- EDF 6432 Measurement and Evaluation in Education (3 credit hours)
- EDF 6608 Social Factors in American Education (3 credit hours)
- LAE 5337 Literacy Strategies for Middle and Secondary Teaching (3 credit hours)
- TSL 5345 Methods of ESOL Teaching (3 credit hours)

Area B: Specialization—12 Credit Hours

- SCE XXXX Issues and Methods in Secondary School Science (3 credit hours)
- IDS 6933 Seminar in Teaching Mathematics and Science (3 credit hours)
- Electives approved by adviser (6 credit hours)

Students are required to have 30 credit hours of science course work to meet certification requirements to teach science in grades 6-12. Only six hours of independent study courses may be used to satisfy degree requirements. It is important to see an adviser if courses are difficult to schedule in content areas.

Area C: Internship—6 Credit Hours

- SCE 6946 Graduate Internship (6 credit hours)

Additional Program Requirements

All students must complete a portfolio according to program guidelines. This portfolio requires demonstration of professional growth, reflection, and proficiency in the 12 Florida Educator Accomplished Practices. Portfolio defense will be a part of IDS 6933.

Pass all required sections of the Florida Teacher Certification Examination prior to graduation.

Community College Teaching Track

Required Courses—42 Credit Hours Minimum

The Community College Teaching Track in this program is designed for individuals whose goal is teaching science at the community college level. Every attempt is made to build at least the required 18 hours of graduate-level science courses into the program of study. Only six hours of independent study courses may be used to satisfy degree requirements. It is important to see an adviser if courses are difficult to schedule in the content area. Students electing this track will not meet state requirements for teacher certification in middle school (grades 5-9) or secondary (grades 6-12) science.

Required Courses—42 Credit Hours Minimum

Area A: Core—15 Credit Hours

Students in this track should consult with the Community College Teaching Track adviser regarding Core requirements prior to registering for Core courses.

- EDF 6155 Lifespan Human Development and Learning (3 hours)
- EDF 6401 Statistics for Educational Data (3 hours) OR
- EDF 6432 Measurement and Evaluation in Education (3 hours)
- EDF 6481 Fundamentals of Graduate Research Education (3 hours)
- EDF 6517 History and Philosophy of American Education (3hours)
- ESE 6909 Research Report (2 hours)
- ESE 6909 Research Report (1 hour)

Area B: Specialization—27 Credit Hours

(Electives must be approved by adviser)

Middle School Science Track (Grades 5-9)

Required Courses—36 Credit Hours Minimum

Area A: Core—18 Credit Hours

- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- EDG 6236 Principles of Instruction (3 credit hours)
- EDF 6432 Measurement and Evaluation in Education (3 credit hours)
- EDF 6608 Social Factors in American Education (3 credit hours)
- LAE 5337 Literacy Strategies for Middle and Secondary Teaching (3 credit hours)
- TSL 5345 Methods of ESOL Teaching (3 credit hours)

Area B: Specialization—12 Credit Hours

- SCE 5325 Teaching Middle School Science (3 credit hours)
- IDS 6933 Seminar in Teaching Mathematics and Science (3 credit hours)
- Electives approved by adviser (6 credit hours)

Students are required to have 18 credit hours of science course work to meet certification requirements to teach science in grades 5-9. Only six hours of independent study courses may be used to satisfy degree requirements. It is important to see an adviser if courses are difficult to schedule in content areas.

Area C: Internship—6 Credit Hours

- SCE 6946 Graduate Internship (6 credit hours)

Additional Program Requirements

All students must complete a portfolio according to program guidelines. This portfolio requires demonstration of professional growth, reflection, and proficiency in the 12 Florida Educator Accomplished Practices. Portfolio defense will be a part of IDS 6933. Pass all required sections of the Florida Teacher Certification Examination prior to graduation.

Physics Track (Grades 6-12)

Required Courses—36 Credit Hours Minimum

Area A: Core—18 Credit Hours

- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- EDG 6236 Principles of Instruction (3 credit hours)
- EDF 6432 Measurement and Evaluation in Education (3 credit hours)
- EDF 6608 Social Factors in American Education (3 credit hours)
- LAE 5337 Literacy Strategies for Middle and Secondary Teaching (3 credit hours)
- TSL 5345 Methods of ESOL Teaching (3 credit hours)

Area B: Specialization—12 Credit Hours

- SCE XXXX Issues and Methods in Secondary School Science (3 credit hours)
- IDS 6933 Seminar in Teaching Mathematics and Science (3 credit hours)
- Electives approved by adviser (6 credit hours)

Students are required to have 30 credit hours of science course work to meet certification requirements to teach science in grades 6-12. Only six hours of independent study courses may be used to satisfy degree requirements. It is important to see an adviser if courses are difficult to schedule in content areas.

Area C: Internship—6 Credit Hours

- SCE 6946 Graduate Internship (6 credit hours)

Additional Program Requirements

All students must complete a portfolio according to program guidelines. This portfolio requires demonstration of professional growth, reflection, and proficiency in the 12 Florida Educator Accomplished Practices. Portfolio defense will be a part of IDS 6933. Pass all required sections of the Florida Teacher Certification Examination prior to graduation.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Master of Arts in Science Education

Aldrin Sweeney, Ph.D. , Associate Professor
Phone Number: 407-823-2561
asweeney@pegasus.cc.ucf.edu

Master of Education in Science Education

Aldrin Sweeney, Ph.D. , Associate Professor
Phone Number: 407-823-2561
asweeney@pegasus.cc.ucf.edu

Biology Track

Aldrin Sweeney, Ph.D. , Associate Professor
Phone Number: 407-823-2561
asweeney@pegasus.cc.ucf.edu

Chemistry Track

Aldrin Sweeney, Ph.D. , Associate Professor
Phone Number: 407-823-2561
asweeney@pegasus.cc.ucf.edu

Community College Teaching Track

Ruby Evans, Ed.D. , Associate Professor
Phone Number: 407-823-1129
revans@mail.ucf.edu

Middle School Science Track

Bobby Jeanpierre, Ph.D., Assistant Professor
Phone Number: 407-823-4930
bjeanpie@mail.ucf.edu

Physics Track

Aldrin Sweeney, Ph.D. , Associate Professor
Phone Number: 407-823-2561
asweeney@pegasus.cc.ucf.edu

Social Science Education

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Master of Arts in Social Science Education](#)

[Community College Teaching Track](#)

[Master of Education in Social Science Education](#)

[Contact Info](#)

Description

The College of Education offers Master of Education and Master of Arts degrees in Social Science Education. The Master of Education program is designed to meet advanced knowledge and skill needs of the social science classroom teacher. The Master of Arts program is for non-education majors or previously certified teachers in another field. The M.A. program also includes a Community College Teaching Track, which is designed for individuals planning to teach at that level and not requiring state teacher certification.

[Master's Programs in the College of Education](#)

Degrees Offered

Master of Arts in Social Science Education

- Community College Teaching Track

Master of Education in Social Science Education

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

In addition to the general admission requirements, applicants must provide:

- Official Graduate Record Examination (GRE) score of at least 840 from test taken within the last five years (If GPA is below 3.0, GRE of 1000; in lieu of the GRE, a GMAT score of 500 or higher may be used for admission consideration)
- GPA of 3.0 or higher in last 60 hours of undergraduate study
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.
- Applicants to the M.Ed. program must (1) have completed all course requirements for Florida state teacher certification in the program's subject area and/or grade range, or (2) present a Florida Professional Teaching Certificate upon admission to the program. Applicants who have graduated from an accredited university or college teacher certification program in another state or country,

in the appropriate subject and/or grade range, may also be admitted to the M.Ed. program at the discretion of the program director.

Students may not switch from an M.A. program to an M.Ed. program, or vice versa, without going through the university's admission process. Courses used to gain initial state certification may not be transferred into an M.Ed. program.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Master of Arts in Social Science Education	Feb 1	Jul 15	Dec 1	Apr 15
Community College Teaching Track	Feb 1	Jul 15	Dec 1	Apr 15
Master of Education in Social Science Education	Feb 1	Jul 15	Dec 1	Apr 15

International Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Master of Arts in Social Science Education	Feb 1	Feb 1	Jul 1	
Community College Teaching Track	Feb 1	Feb 1	Jul 1	
Master of Education in Social Science Education	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Master of Arts in Social Science Education	Feb 1	Mar 1	Sep 1	
Community College Teaching Track	Feb 1	Mar 1	Sep 1	
Master of Education in Social Science Education	Feb 1	Mar 1	Sep 1	

Master of Education in Social Science Education

The Master of Education Program is designed to meet advanced knowledge and skill needs of the social science classroom teacher.

[Master's Programs in the College of Education](#)

Minimum Hours Required for M.Ed.—33 Credit Hours

Area A: Core—12 Credit Hours

- EDF 6401 Statistics for Educational Data (3 credit hours) OR
- EDF 6432 Measurement and Evaluation in Education (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- ESE 6909 Research Report (2,1 or 6 credit hours)

Select One:

- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- EDF 6517 Perspectives on Education (3 credit hours)
- EDF 6608 Social Factors in American Education (3 credit hours)

Area B: Specialization—9 Credit Hours

- SSE 5391 Global Education: Theory and Practice (3 credit hours)
- SSE 57767 Democracy and Education (3 credit hours)
- Elective approved by adviser (3 credit hours)

Area C: Curriculum—12 Credit Hours

- EDG 6223 Curriculum Theory and Organization (3 credit hours)
- ESE 6235 Curriculum Design (3 credit hours)
- Elective approved by adviser (6 credit hours)

Master of Arts in Social Science Education

The Master of Arts Program is designed for non-education majors or previously certified teachers in another field. Master's Programs in the College of Education

Minimum Hours Required for M.A.—39 Credit Hours

Area A: Core—18 Credit Hours

- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- EDG 6236 Principles of Instruction (3 credit hours)
- EDF 6432 Measurement and Evaluation in Education (3 credit hours)
- EDF 6608 Social Factors in American Education (3 credit hours)
- LAE 5337 Literacy Strategies for Middle and Secondary Teaching (3 credit hours)
- TSL 5345 Methods of ESOL Teaching (3 credit hours)

Area B: Specialization—15 Credit Hours

- SSE 5790 Inquiry and Instructional Analysis in Social Science Education
- SSE 5391 PGlobal Education: Theory and Practice (3 credit hours)

- SSE 5937 Democracy and Education (3 credit hours)
- EDG 6253 Curriculum Inquiry (3 credit hours)
- 3 credit hours of elective approved by adviser

Area C: Internship—6 Credit Hours

- SSE 6946 Graduate Internship (6 credit hours)

Co-requisites

Students are required to take 30 credit hours of social science course work to meet certification requirements to teach social science in grades 6-12.

Additional Requirements

- Complete a portfolio according to program guidelines.
- Pass a comprehensive exam to demonstrate understanding of social studies ed scholarship.
- Pass the Florida Comprehensive Teachers Examination, Professional and Social Science 6-12 battery.

Community College Teaching Track

The Community College Teaching Track in this program is designed for individuals whose goal is teaching social science at the community college level. Every attempt is made to build at least the required 18 hours of graduate-level social science courses into the program of study. Only six hours of independent study courses may be used to satisfy degree requirements. It is important to see an adviser if courses are difficult to schedule in the content area. Students electing this track will not meet state requirements for teacher certification in social science grades 6-12.

Required Courses—42 Credit Hours Minimum

Area A: Core—15 Credit Hours

Students in this track should consult with the Community College Teaching Track adviser regarding Core requirements prior to registering for Core courses.

- EDF 6155 Lifespan Human Development and Learning (3 hours)
- EDF 6401 Statistics for Educational Data (3 hours) OR
- EDF 6432 Measurement and Evaluation in Education (3 hours)
- EDF 6481 Fundamentals of Graduate Research Education (3 hours)
- EDF 6517 History and Philosophy of American Education (3hours)
- ESE 6909 Research Report (2 hours)
- ESE 6909 Research Report (1 hour)

Area B: Specialization—27 Credit Hours

(Electives must be approved by adviser)

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Master of Arts in Social Science Education

William Gaudelli, Ed.D. , Assistant Professor

Phone Number: 407-823-0215

wgaudell@mail.ucf.edu

Master of Education in Social Science Education

William Gaudelli, Ed.D. , Assistant Professor

Phone Number: 407-823-0215

wgaudell@mail.ucf.edu

Community College Teaching Track

Ruby Evans, Ed.D. , Associate Professor

Phone Number: 407-823-1129

revans@mail.ucf.edu

Social Work

[Description](#)

[Degree Offered](#)

[Admission](#)

[Master of Social Work](#)

[Contact Info](#)

Description

The Master's of Social Work (MSW) program prepares students for advanced social work practice. The program educates students for community-based clinical social work practice with individuals, families, and groups. The curriculum draws from a generalist perspective and emphasizes critical thinking skills, empirically based accountable practice, and ethical services for clients experiencing a wide range of problems. Students learn preventive and therapeutic interventions aimed at enhancing human functioning and quality of life. Graduates of the program have the ability to work with diverse clients in a variety of agency settings.

The MSW program is accredited by the Council on Social Work Education.

Degrees Offered

Master of Social Work

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Graduate Catalog](#). Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

Master of Social Work

The Master of Social Work Program offers several options to students: full-time study, and advanced standing admission, as well as early morning classes, evening classes, and a Saturday program to support part-time study. Each option is described below.

Admission Requirements

Students begin course work in social work in the Fall semester only. Potential students must [apply online](#). UCF requires the following of all applicants to the MSW program:

- Bachelor's degree from an accredited institution.
- Good standing with institution last attended.
- Students without a BSW degree need to have a 3.0 or better grade point average (GPA) on a 4.0 scale for the last 60 attempted semester hours of undergraduate study OR at least 1000 on the combined verbal and quantitative sections of the GRE. Applicants must take all three sections of the GRE.

- Students with a BSW degree applying for Advanced Standing must have a 3.3 or better grade point average (GPA) on a 4.0 scale for the last 60 hours of undergraduate study.
- One official transcript of all undergraduate and graduate course work attempted and/or completed.
- A resume that outlines work experience.
- Three reference letters (one academic, one employment, and one of the applicant's choice other than a family member). If an employment reference letter is not available, then a personal reference may be submitted in support of graduate study. If a person graduated more than five years ago, that applicant may substitute work or personal reference letter in place of academic references.
- One college-level course in each of the following six areas: biology with human content, English or communication, diversity, statistics, psychology, and sociology.
- A medical history report on the UCF immunization form.
- A personal statement. In the statement the applicant should describe reasons and experiences leading to the choice of social work as a profession, professional goals and interests, and strengths and limitations related to the practice of social work. Applicants should also discuss an issue facing social work from the perspective of the role and responsibility of the profession in relation to that issue.
- If you are an international student, a confidential financial statement on the form provided by the International Services Center and score of 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL). International applicants must meet the criteria outlined by Graduate Studies.

To be accepted into and retained in the program, students are expected to demonstrate initiative, dependability, social concern, self awareness, appreciation for diversity in others, problem solving ability, ease in relating with others, skill in writing and speaking, and professional ethics.

Full-time Study

The full-time program includes two years of full-time study in residence. The first year of study includes 24 credit hours in class work and 6 credit hours in field education. The second year of study includes 22 credit hours in class work and 8 credit hours in the field.

Advanced Standing

If the criteria for admission are met, applicants with baccalaureate degrees in social work from a CSWE-accredited school/program are invited to submit an application for Advanced Standing admission to the Master of Social Work program. Admission with advanced standing is limited to those who demonstrate the academic and professional potential to meet the demands of the program and who will have adequate preparation for MSW practice with only one year of graduate study. Previous course work is reviewed to assure content equivalency. In advanced standing admission, a maximum of 30 undergraduate credits may be accepted as transfer credits to the MSW program. These credits can be accepted to meet foundation year MSW requirements, which consist of courses in human behavior and the social environment, policy, research, social work practice, and social work field placement.

To be considered for advanced standing admission, the bachelor's degree must have been completed within six years of the time of initial enrollment in the master's program.

Part-time Study

For students who do not have a BSW degree, part-time education in the foundation curriculum is available at the main campus on Saturdays and at the UCF Daytona Beach campus. For students who have received a BSW degree from a CSWE-accredited college or university within six years prior to enrollment, there is also a part-time program at the main campus in the advanced clinical curriculum.

Note: The next part-time UCF Daytona cohort is scheduled for admission in Fall 2006.

Transfer Credit

Students who have completed course work in an MSW program in an accredited program may transfer up to 30 credit hours toward the 60 credit hours of the degree. Students must have received at least a “B” in these courses. Courses must be evaluated on a course-by-course basis by the graduate program director. For more information about transferring credit, contact the MSW program director, George Jacinto, at gjacinto@mail.ucf.edu or phone: 407-823-5428.

Field Education

Field instruction is an integral part of graduate social work education. It provides the student with an opportunity to test classroom knowledge as well as to develop and refine foundation and advanced practice skills. Decisions regarding field assignment are determined by the Field Coordinator. Only agency sites approved by the School of Social Work may be used for field instruction. First-year MSW students complete a minimum of 448 hours in the field; advanced students complete a minimum of 608 clock hours in the agency. Field education includes a field seminar.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Master of Social Work	Feb 1	Jun 5		

International Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Master of Social Work	Feb 1	Feb 1		

International Transfer Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Master of Social Work	Feb 1	Mar 1		

Master of Social Work (M.S.W.)

Prerequisites—18 Credit Hours

Introductory three-credit college-level courses in the following areas or equivalents are required for admission into the program.

Biology with human content, English or Communication, Psychology, Statistics, Sociology, Diversity

Minimum Hours Required for MSW—60 Credit Hours

Foundation Curriculum: Generalist Social Work Practice—30 Credit Hours

- SOW 5305 Social Work Practice I: Generalist Practice (3 credit hours)
- SOW 5306 Social Work Practice II: Intervention Approaches (3 credit hours)
- SOW 5105 Human Behavior and Social Environment I: Individual (3 credit hours)
- SOW 5106 Human Behavior and Social Environment II: Social Systems (3 credit hours)
- SOW 5132 Diverse Client Populations (3 credit hours)
- SOW 5235 Social Welfare Policies and Services (3 credit hours)
- SOW 5404 Social Work Research (3 credit hours)
- SOW 5532 Generalist Field Education I (224 clock hours) (2 credit hours)
- SOW 5534 Generalist Field Education Integrative Seminar I (1 credit hour)
- SOW 5533 Generalist Field Education II (224 clock hours) (2 credit hours)
- SOW 5537 Generalist Field Education Integrative Seminar II (1 credit hour)
- Practice Elective (3 credit hours)

Advanced Curriculum: Clinical Specialist—30 Credit Hours

- SOW 6348 Clinical Practice with Individuals (3 credit hours)
- SOW 6324 Clinical Practice with Groups (3 credit hours)
- SOW 6612 Clinical Practice with Families (3 credit hours)
- SOW 6123 Psychosocial Pathology (3 credit hours)
- SOW 6246 Policy Analysis and Social Change (2 credit hours)
- SOW 6914 Integrative Research Project in Clinical Practice (2 credit hours)
- SOW 6535 Clinical Field Education I (304 clock hours) (3 credit hours)
- SOW 6548 Clinical Field Integrative Seminar I (1 credit hour)
- SOW 6536 Clinical Field Education II (304 clock hours) (3 credit hours)
- SOW 6549 Clinical Field Integrative Seminar II (1 credit hour)
- Practice Elective (3 credit hours)
- Practice or Approved General Elective (3 credit hours). Select an approved general elective in consultation with student's adviser and MSW graduate program coordinator.

Graduate Certificates

- [Addictions Certificate](#)
- [Aging Studies Certificate](#)
- [Children's Services Certificate](#)
- [School Social Work Certificate](#)
- [Social Work Administration Certificate](#)

Study Abroad

- Social Work Practice in Mexican Culture
- Contemporary Issues in South Africa
- Contemporary Issues in Russia
- Social Work Practice in the Caribbean

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource. A number of field placements also provide paid internships. Please consult the Social Work Field Coordinator for more information.

Key points about financial support:

- If you are interested in financial assistance, you are strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

George Jacinto, M.Ed., MSW, LCSW, CPC

Phone Number: 407-823-5428

gjacinto@mail.ucf.edu

Spanish

[Description](#)

[Degree Offered](#)

[Admission](#)

[Master of Arts in Spanish](#)

[Contact Info](#)

Description

The master's program in Spanish is intended for those who wish to continue their study in Spanish at the graduate level.

Degrees Offered

Master of Arts in Spanish

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

Master of Arts in Spanish

Minimum requirements for admission are a grade point average (GPA) of 3.0 for the last 60 attempted semester credit hours earned as an undergraduate or a total score of 1000 on the verbal and quantitative sections of the Graduate Record Examination (GRE). International students must score at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL). All applicants must also submit three letters of recommendation.

Other criteria for admission are a baccalaureate degree in Spanish or a related field and approval by the Graduate Committee of the Department of Foreign Languages and Literatures. Students are expected to have read widely in Hispanic literature and to be competent in understanding, reading, and writing Spanish. They should also be familiar with the vocabularies of literary criticism and grammar.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Master of Arts in Spanish	Feb 1	Jun 1	Dec 1	Mar 1

International Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Master of Arts in Spanish	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Master of Arts in Spanish	Feb 1	Mar 1	Sep 1	

Master of Arts in Spanish

The masters degree program in Spanish has both thesis and non-thesis options. A total of 36 semester hours of course work for the non-thesis option or at least 30 semester hours of course work and up to 6 hours of thesis (3 credit hours minimum) are required of students seeking the masters degree in Spanish. A minimum grade of "B" must be earned in each required course. Students will be allowed a maximum total of 6 semester hours of "C" grades in elective courses. Students are allowed to transfer up to 6 semester hours of corresponding graduate courses with the grade of "A" or "B" from an accredited university. University policies and procedures will be followed for all degree requirements. Courses are to be chosen from the following categories in accordance with the number of hours designated in each.

- Research Methods—3 credit hours
- Spanish Language Study—3 credit hours
- Hispanic Culture and Civilization—6 hours
- Hispanic Literature—12 hours
- Methodology and/or Electives—6 or 12 hours

Total—30 Credit Hours

The remaining elective hours of course work are 6 hours for the non-thesis option. Students must choose electives from the additional, available courses listed below in conjunction with their faculty adviser. The aim of the selections should be to complement the acquisition of knowledge in the particular area of Hispanic studies chosen.

Course Requirements

Part I—Research Methods—3 Credit Hours

- SPW 6919 Advanced Spanish Graduate Research (3 credit hours)

Part II—Spanish Language Study—3 Credit Hours

- SPN 5705 Introduction to Spanish Linguistics (3 credit hours)
- SPN 5825 Spanish Dialectology (3 credit hours)
- SPN 5845 History of the Spanish Language (3 credit hours)
- SPN 6805 Spanish Morphosyntax (3 credit hours)

Part III—Hispanic Culture and Civilization—6 Credit Hours

- SPN 5502 Hispanic Culture of the United States (3 credit hours)
- SPN 5505 Spanish Peninsular Culture and Civilization (3 credit hours)
- SPN 5506 Spanish American Culture and Civilization (3 credit hours)

Part IV—Hispanic Literature—12 Credit Hours

- SPW 6825 Seminar Series (May be repeated for credit with different topics) (3 credit hours)*
- SPW 6405 Medieval Spanish Literature (3 credit hours)
- SPW 6217 Spanish American Prose I (3 credit hours)
- SPW 6218 Spanish American Prose II (3 credit hours)
- SPW 6269 Nineteenth Century Spanish Novel (3 credit hours)
- SPW 6306 Spanish American Drama I (3 credit hours)
- SPW 6307 Spanish American Drama II (3 credit hours)
- SPW 6315 Golden Age Drama (3 credit hours)
- SPW 6216 Golden Age Prose (3 credit hours)
- SPW 6356 Spanish American Poetry (3 credit hours)
- SPW 6585 Contemporary Peninsular Literature (3 credit hours)
- SPW 6725 The Generation of 1898 (3 credit hours)
- SPW 6971 Thesis (6 credit hours)

* Examples of Seminar Series Topics: Don Quixote, Spanish American Literature Written by Women, Gabriel García Márquez

Part V—Methodology and/or Electives—6 or 12 Credit Hours

- FLE 5870 Methods of Teaching Foreign Languages (3 credit hours)
- FLE 5875 Computer Application in Teaching Foreign Languages (3 credit hours)

Comprehensive Examination and Reading List

Students must pass a comprehensive examination in order to qualify for the masters degree in Spanish. This examination is based on knowledge of the civilization and literature of Spain and Latin America and on basic concepts of linguistic theory and analysis.

Since this examination will be given toward the end of the course work, it is expected that the student will have developed an ability to analyze literature, culture, and linguistics at an advanced level. It is also expected that the responses, both written and oral, will show an excellent command of the Spanish language.

The Graduate Committee has developed a reading list made up of major Peninsular, Latin American, and linguistics works with which the student must be familiar. The comprehensive examination will be based on the reading list and the courses that the student has taken. An oral examination will follow the written examination. This examination will allow the student to expand more readily on particular points of culture, literature, and linguistics, and also to show ability in the use of the spoken language.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
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- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

C. Alberto Villanueva, Ph.D. , Associate Professor
Phone Number: 407-823-2489
cvillanv@mail.ucf.edu

Sport Business Management

[Description](#)

[Degree Offered](#)

[Admission](#)

[Master in Sport Business Management](#)

[Contact Info](#)

Description

Students in the Devos Sport Business Management Program gain hands-on experience in the business of sports management, work in teams with fellow students on sports business projects from conception through implementation, and develop a network in the sports industry. This program is the only sport business management program emphasizing diversity issues in sports, moral and ethical issues in sports, sports and social issues, and sports leadership.

Graduates of the program will understand the relationship between sport and social issues, the business of sport both nationally and internationally, and how the legal system impacts sports business. They will understand and embrace the strengths and complexities of a diverse workforce as an actual component of overall business strategy and will be prepared to lead organizations to be corporate good citizens in the community. Graduates will also be able to develop and implement integrated business and marketing plans, optimize the use of the technology, develop and implement fundraising strategies, and design and carry out research necessary to make successful management and business decisions.

Job opportunities for graduates in sport management include areas such as intercollegiate and professional sport, Olympics, event and facilities management, sport law, corporate and international sport, and marketing.

The Devos Sport Business Management Program develops professionals who have critical sports business management knowledge and skills, a commitment for using sport to improve life in society, well-developed leadership abilities, and uncompromising ethical standards.

Degrees Offered

Master in Sport Business Management

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Graduate Catalog](#). Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

In addition to the general admission requirements, applicants to this program must provide:

- Official score of at least 500 on the Graduate Management Admission Test (GMAT).
- Evidence of prior GPA of 3.0; foreign transcripts must be evaluated.
- Three letters of recommendation.
- Essay (for details, see www.bus.ucf.edu/sport).
- Resume.
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 230

(computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Master in Sport Business Management	Feb 1	Apr 15		

International Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Master in Sport Business Management	Feb 1	Feb 1		

International Transfer Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Master in Sport Business Management	Feb 1	Mar 1		

Master in Sport Business Management

Minimum Hours Required for M.S.B.M.—46.5 Credit Hours

Students in the master's program in sport business management will be full-time students who are part of a cohort group. This is a non-thesis program where the internship serves as a capstone experience. Students will complete 46.5 credit hours if they were undergraduate majors in business or 57 credit hours if they did not have the undergraduate courses.

The two-year full time curriculum includes the College of Business Administration's foundation core (for those who did not previously have these courses as undergraduates); selected required courses from the college's professional core for solid business skills and knowledge; and required sports management courses that will create a unique knowledge base for our students. There will also be a series of elective sport business management courses that will combine existing courses from the college and new courses specifically created for the sport business management degree.

Students entering the program must complete the foundation core first. Students will complete 19.5 credit hours of professional core, 24 credit hours of sport business management core, 3 elective credit hours from sport business management courses, and a 6 credit internship.

Foundation Core—10.5 Credit Hours

The foundation core is defined by the course requirements listed below, and its completion is a prerequisite to entering the professional core. Note that all or part of the foundation core requirements may be satisfied through advanced standing given in view of a student's prior equivalent course work at the undergraduate

or graduate level provided such course work has been satisfactorily completed at a regionally accredited college or university, preferably one accredited by the Association to Advance Collegiate Schools of Business (AACSB).

- ACG 5005 Accounting Foundations (1.5 credit hours)
- ECO 5006 Economic Foundations (1.5 credit hours)
- ECO 5414 Statistical Foundations (1.5 credit hours)
- FIN 5407 Financial Foundations (1.5 credit hours)
- ISM 5020 MIS Foundations (1.5 credit hours)
- MAN 5021 Management Foundations (1.5 credit hours)
- MAR 5055 Marketing Foundations (1.5 credit hours)

Professional Core—19.5 Credit Hours

The professional core consists of 19.5 credit hours of advanced course work that substantially extends and applies knowledge developed in the foundation core.

- MAN 6245 Organizational Behavior and Development (3 credit hours)
- ISM 6407 Decision Support Systems (1.5 credit hours)
- ISM 6367 Strategic Information Systems (1.5 credit hours)
- ACG 6425 Managerial Accounting Analysis (3 credit hours)
- FIN 6406 Strategic Financial Management (3 credit hours)
- ECO 6416 Applied Business Research Tools (3 credit hours)
- GEB 6895 Business Analysis (1.5 credit hours)
- MAN 6721 Applied Strategy and Business Policy (3 credit hours)

Sport Business Management Core—18 Credit Hours

The sport business management core consists of 18 credit hours of course work in the related areas of sport.

- GEB 6442 Moral and Ethical Issues in Sport (1.5 credit hours)
- MAN 6117 Diversity Management Issues in Sport (1.5 credit hours)
- GEB 6443 Sport and Social Issues (1.5 credit hours)
- MAN 6127 Leadership in Sport (1.5 credit hours)
- MAR 6710 Strategic Sport Marketing (3 credit hours)
- BUL 6581 Sport Law (3 credit hours)
- GEB 6936 Business of Sport Media (3 credit hours)
- ECP 6006 Economics of Sport (3 credit hours)

Elective Sport Business Management Courses—3 Credit Hours

The elective may be taken in any of the following courses.

- MAR 6407 Professional Selling in Sport (3 credit hours)
- PET 6455 Facilities and Event Management (3 credit hours)
- MAN 6305 Human Resources Management (3 credit hours)
- GEB 6367 The Global Environment of Sport (3 credit hours)

Internship—6 Credit Hours

An internship equivalent to six credit hours with a designated sport organization is required. It would normally be a full-time, 10-week internship taken in the summer between the first and second year of the program.

MBA with Sport Business Management Track

Students in the Sport Business Management program have the opportunity to apply to the MBA program and receive an additional degree and diploma for an MBA, Sport Business Management track. This MBA track is only open to Master in Sport Business Management students who apply and who meet MBA admission criteria. Upon successful completion of two additional, adviser-approved, graduate courses (6 credit hours), these students will earn an MBA degree, Sport Business Management track, and receive an MBA diploma, in addition to a Master of Sport Business Management diploma. MSBM students who are interested in applying to this special MBA track should consult with the graduate program coordinator upon admission. MSBA students cannot elect to pursue the MBA track at any point during the MSBM program; an application deadline for the MBA track is enforced by the College of Business Administration.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource. The [Devos Program website](#) lists some unique scholarship opportunities.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Richard Lapchick, Ph.D. , Professor
Phone Number: 407-823-4887
cbagrad@bus.ucf.edu

Statistical Computing

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Master of Science in Statistical Computing](#)

[Actuarial Science Track](#)

[Data Mining Track](#)

[Contact Info](#)

Description

The Department of Statistics and Actuarial Science offers a master's program in Statistical Computing, with tracks in Actuarial Science and Data Mining. The master's program in Statistical Computing provides a sound foundation in statistical theory, statistical methods, numerical methods in statistical computing, and the application of computer methodology to statistical analyses. The program is particularly well suited for those individuals who have completed an undergraduate program in mathematics, statistics, or computer science, but is also available to persons in other disciplines who wish to develop an expertise in data analysis and statistical computing.

The Actuarial Science Track focuses on actuarial science and its application to insurance and risk management. The program is particularly well suited for those individuals who have completed an undergraduate program in business, economics, mathematics, statistics, or other related fields, and wish to pursue a career in actuarial science. Actuaries are risk scientists who assess historical data, government regulations, and consumer tendencies to forecast the frequency and consequences of future events.

The Data Mining Track focuses on data mining and its application to business, social, and health problems. The program is particularly well suited for those individuals who have completed an undergraduate program in mathematics, statistics, economics, business, or other related fields, and wish to pursue a career in data mining. Data miners are statisticians who analyze massive data sets to uncover trends and associations, and make theoretically sound decisions on, for example, business, social, and health subjects.

Degrees Offered

Master of Science in Statistical Computing

- Actuarial Science Track
- Data Mining Track

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

Additional Admissions Information

Master of Science in Statistical Computing

Most graduate courses are offered during the late afternoon or evening hours in order to accommodate part-time and working students. Additional information about the program, the department, and its faculty can be found on at <http://www.cas.ucf.edu/statistics/>.

All applicants to the M.S. program are required to take either the Graduate Record Examination (GRE) or the Graduate Management Admission Test (GMAT). Minimum requirements in order to be considered for admission are the standard university criteria of a grade point average (GPA) of 3.0 for the last 60 attempted semester hours of credit earned toward the baccalaureate or a GRE score of at least 1000 on the combined verbal-quantitative sections of the General (Aptitude) Test or a GMAT score of at least 450. The GRE/GMAT score must be less than five years old. International students and students whose native language is not English must score at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL).

Students entering the graduate program should have a good working knowledge of at least one programming language, and should have taken undergraduate courses in calculus and statistical methods. An undergraduate course in matrices or linear algebra is also required except for those students in the Actuarial Science track or the Data Mining track. Those students who are not adequately prepared in these areas may need to complete some undergraduate course work before beginning their graduate program. Applicants not qualified for regular graduate status may be initially admitted to the university in non-degree-seeking status and later admitted to regular status once all deficiencies have been eliminated, although only nine hours of graduate course work taken as a non-degree-seeking student can count toward a graduate degree.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Master of Science in Statistical Computing	Feb 1	Jul 15	Dec 1	Apr 15
Actuarial Science Track	Feb 1	Jul 15	Dec 1	Apr 15
Data Mining Track	Feb 1	Jul 15	Dec 1	Apr 15

International Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Master of Science in Statistical Computing	Feb 1	Feb 1	Jul 1	
Actuarial Science Track	Feb 1	Feb 1	Jul 1	
Data Mining Track	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Master of Science in Statistical Computing	Feb 1	Mar 1	Sep 1	

Actuarial Science Track	Feb 1	Mar 1	Sep 1
Data Mining Track	Feb 1	Mar 1	Sep 1

Master of Science in Statistical Computing

Degree Requirements

The master's program provides a sound foundation in statistical theory, statistical methods, numerical methods in statistical computing, and the application of computer methodology to statistical analyses. The program is particularly well suited for those individuals who have completed an undergraduate program in mathematics, statistics, or computer science, but is also available to persons in other disciplines who wish to develop an expertise in data analysis and statistical computing.

Requirements for M.S. in Statistical Computing—36 Credit Hours Minimum

Required Courses—21 Credit Hours

- STA 5205 Experimental Design (3 credit hours)
- STA 6106 Statistical Computing I (3 credit hours)
- STA 6236 Regression Analysis (3 credit hours)
- STA 6326 Theoretical Statistics I (3 credit hours)
- STA 6327 Theoretical Statistics II (3 credit hours)
- STA 6329 Statistical Applications of Matrix Algebra (3 credit hours)

Select One:

- STA 6246 Linear Models (3 credit hours)
- STA 6707 Multivariate Statistical Methods (3 credit hours)

Restricted Electives—15 Credit Hours

Other statistics courses will be selected by the student in consultation with the adviser. Certain graduate courses in computer science, mathematics, and engineering may be selected if approved by the Department of Statistics.

Examination

All students must take a comprehensive written examination covering the courses STA 5205, STA 6236, STA 6326, and STA 6327. For full-time students, this examination normally will be taken just prior to the start of the second year of graduate work.

Actuarial Science Track

The Actuarial Science track of the Master of Science degree program in Statistical Computing provides a sound foundation in actuarial science, and its application to insurance and risk management. The program is particularly well suited for those individuals who have completed an undergraduate program in business, economics, mathematics, statistics, or other related fields, and wish to pursue a career in actuarial science.

Requirements for M.S. in Statistical Computing, Actuarial Science Track—36 Credit Hours Minimum

Required Courses—24 Credit Hours

- STA 5185 Advanced Theory of Interest (3 credit hours)
- STA 5139 Credibility Theory and Loss Distribution (3 credit hours)
- STA 6677 Actuarial Models (3 credit hours)
- STA 6133 Life Contingencies and Insurance Model I (3 credit hours)
- STA 6135 Life Contingencies and Insurance Model II (3 credit hours)
- STA 6673 Risk Theory and Actuarial Applications (3 credit hours)
- STA 6326 Theoretical Statistics I (3 credit hours)
- STA 6327 Theoretical Statistics II (3 credit hours)

Restricted Elective Courses—12 Credit Hours*

Take at least 6 hours from the following:

- STA 5646 Casualty Insurance (3 credit hours)
- STA 6132 Pension Actuarial Science (3 credit hours)
- STA 6931 Topics in Actuarial Science (3 credit hours)
- STA 6948 Actuarial Science Practicum (3 credit hours)
- STA 6679 Actuarial Research Methods (3 credit hours)

Take at most 6 hours from the following:

- STA 5825 Stochastic Processes and Applied Probability Theory (3 credit hours)
- STA 6106 Statistical Computing I (3 credit hours)
- STA 6236 Regression Analysis (3 credit hours)
- STA 6707 Multivariate Statistical Methods (3 credit hours)
- STA 6857 Applied Time Series Analysis (3 credit hours)

*With the approval of their advisor, students may select a course offered by the Economics, Finance, or Mathematics Departments.

Examination

All students must take a comprehensive written examination covering the four courses STA 5185, STA 6133, STA 6135, STA 6326, and STA 6327. For full-time students, this examination normally will be taken just prior to the start of the second year of graduate work.

Data Mining Track

Data miners are statisticians who analyze massive data sets to uncover trends and associations, and make theoretically sound decisions on, for example, business, social, and health subjects. Data miners have one of the most coveted jobs, as the demand for them far exceeds the existing number of qualified persons in the area. Currently, the work force in the data mining industry consists mainly of individuals trained with post college education. To date, very few university degree programs exist for training students for such a large and growing industry in the United States.

The Data Mining Track of the Master of Science degree program in Statistical Computing provides a sound foundation in data mining and its application to business, social, and health problems. The program is particularly well suited for those individuals who have completed an undergraduate program in mathematics, statistics, economics, business, or other related fields, and wish to pursue a career in data mining.

Requirements for M.S. in Statistical Computing, Data Mining Track—36 Credit Hours Minimum**Required Courses—24 Credit Hours**

- STA 5103 Advanced Computer Processing of Statistical Data (3 credit hours)
- STA 6714 Data Preparation (3 credit hours)
- STA 6238 Logistic Regression (3 credit hours)
- STA 6326 Theoretical Statistics I (3 credit hours)
- STA 6327 Theoretical Statistics II (3 credit hours)
- STA 6236 Regression Analysis (3 credit hours)
- STA 5703 Data Mining Methodology I (3 credit hours)
- STA 6704 Data Mining Methodology II (3 credit hours)

Restricted Electives—12 Credit Hours

- COP 4710 Database Systems (3 credit hours)
- FIN 5407 Financial Foundations (1.5 credit hours)
- MAR 5055 Marketing Foundations (1.5 credit hours)
- STA 5505 Categorical Data Methods (3 credit hours)
- STA 5825 Stochastic Processes and Applied Probability Theory (3 credit hours)
- STA 6226 Sampling Theory and Applications (3 credit hours)
- STA 6237 Nonlinear Regression (3 credit hours)
- STA 6507 Nonparametric Statistics (3 credit hours)
- STA 6707 Multivariate Statistical Methods (3 credit hours)
- STA 6857 Applied Times Series Analysis (3 credit hours)
- STA 6705 Data Mining Methodology III (3 credit hours)

Examination

All students must take a comprehensive written examination covering the five course STA 6326, STA 6327, STA 5103, STA 6714 and STA 6238. For full-time students this examination normally will be taken just prior to the start of the second year of their graduate work.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

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- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
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- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Master of Science in Statistical Computing

James Schott, Ph.D. , Professor
Phone Number: 407-823-2289
statgrad@pegasus.cc.ucf.edu

Actuarial Science Track

James Schott, Ph.D. , Professor
Phone Number: 407-823-2289
statgrad@pegasus.cc.ucf.edu

Data Mining Track

James Schott, Ph.D. , Professor
Phone Number: 407-823-2289
statgrad@pegasus.cc.ucf.edu

Taxation

[Description](#)

[Degree Offered](#)

[Admission](#)

[Master of Science in Taxation](#)

[Contact Info](#)

Description

The Master of Science in Taxation degree program is designed to prepare individuals for careers as Tax Professionals and Tax Consultants in public practice, government, and industry. This degree program along with appropriate foundation work satisfies the Florida requirements to qualify for the CPA examination.

Degrees Offered

Master of Science in Taxation

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Graduate Catalog](#). Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

Master of Science in Taxation

The Master of Science in Taxation degree is awarded upon completion of a graduate program with a minimum of 30 credit hours. A minimum of 18 credit hours of course work including a minimum of 12 credit hours of tax/accounting course work must be at the 6000 level. Required courses and available electives in the Tax Professional and Tax Consultant specializations are described below.

[Admission to Master's Programs in the College of Business Administration](#)

In addition to the general admission requirements, applicants need the following:

- Official score of at least 520 on the GMAT.
- GPA of 3.0 in last 60 hours and 3.0 in upper division accounting and tax courses. All foreign transcripts must be evaluated.
- TOEFL of 233 (computer test), for international students only
- Resume

Foundation Core—34.5 Credit Hours

The courses included in the foundation core are listed under the Master of Science in Accounting degree requirements. The requirements must be fulfilled by students completing either the Professional or Consulting Specialization. A recent UCF accounting undergraduate degree satisfies the foundation core requirement. Other recent related business course work may partially or fully satisfy this requirement. Any deficiencies must be satisfied before advanced course work can be taken.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Master of Science in Taxation	Feb 1	Jun 15	Nov 1	Mar 15

International Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Master of Science in Taxation	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Master of Science in Taxation	Feb 1	Mar 1	Sep 1	

Master of Science in Taxation

Minimum Hours Required for MST—30 Credit Hours
[Academic Standards in the College of Business Administration](#)

Tax Professional Specialization

Required Course— 3 Credit Hours

- TAX 6065 Tax Research (3 credit hours)

Tax Electives—12 Credit Hours

- TAX 5015 Advanced Tax Topics (3 credit hours)
- TAX 6135 Taxation of Corporations and Shareholders (3 credit hours)
- TAX 6205 Partnership Taxation (3 credit hours)
- TAX 6405 Taxation of Estates and Gifts (3 credit hours)
- TAX 6845 Tax Planning and Consulting (3 credit hours)
- TAX 6505 International Taxation (3 credit hours)
- TAX 6946 Tax Internship (3 credit hours)
- TAX 6909 Research Report (3 credit hours)

Elective Courses—15 Credit Hours

Electives may be selected from the tax electives listed above, from the courses included in consulting specialization listed below, and from courses available in the Master of Science in Accounting degree program. Other courses require approval. ACG 6636 Advanced Auditing Topics and BUL 5332 Advanced Business Law Topics are recommended to candidates planning to sit for the CPA examination.

Tax Consulting Specialization

Required Courses—9 Credit Hours

- TAX 6065 Tax Research (3 credit hours)
- TAX 6845 Tax Planning and Consulting (3 credit hours)
- FIN 6406 Strategic Financial Management (3 credit hours)

Tax Electives—9 Credit Hours

- TAX 5015 Advanced Tax Topics (3 credit hours)
- TAX 6135 Taxation of Corporations and Shareholders (3 credit hours)
- TAX 6205 Partnership Taxation (3 credit hours)
- TAX 6405 Taxation of Estates and Gifts (3 credit hours)
- TAX 6946 Tax Internship (3 credit hours)
- TAX 6909 Research Report (3 credit hours)
- TAX 6505 International Taxation (3 credit hours)

Restricted Electives—6 Credit Hours

- ACG 6255 International and Multinational Accounting (3 credit hours)
- ECO 6115 Economic Analysis of the Firm (3 credit hours)
- FIN 6425 Asset Management and Financial Decisions (3 credit hours)
- FIN 6475 Business Valuation (3 credit hours)
- FIN 6515 Analysis of Investment Opportunities (3 credit hours)
- ISM 6537 Quantitative Models for Business Decisions (3 credit hours)
- MAR 5941 Small Business Consulting (3 credit hours)
- MAR 6845 Services Marketing (3 credit hours)

Electives—6 Credit Hours

Electives may be selected from the above tax and restricted electives lists and from courses available in the Master of Science in Accounting degree program. Other courses require approval. ACG 6636, Advanced Auditing Topics, and BUL 5332, Advanced Business Law Topics, are recommended to candidates planning to sit for the CPA examination.

Examination or Research Report

Satisfactory completion of either the end-of-program comprehensive examination or a Research Report (TAX 6909) is required.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
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- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Dale Bandy, Ph.D. , Professor
Phone Number: 407-823-2964
cbagrad@bus.ucf.edu

Teaching English to Speakers of Other Languages

[Description](#)

[Degree Offered](#)

[Admission](#)

[Master of Arts in Teaching English to Speakers of Other Languages](#)

[Contact Info](#)

Description

The Master of Arts in Teaching English to Speakers of Other Languages (TESOL) is an interdisciplinary graduate program offered by the College of Arts and Sciences and the College of Education. It provides a strong foundation in language acquisition, use, and pedagogy.

Degrees Offered

Master of Arts in Teaching English to Speakers of Other Languages

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Master of Arts in Teaching English to Speakers of Other Languages	Feb 1	Jul 15	Dec 1	Apr 15

International Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Master of Arts in Teaching English to Speakers of Other Languages	Feb 1	Feb 1	Jul 1	

International Transfer Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Master of Arts in Teaching English to Speakers of Other Languages	Feb 1	Mar 1	Sep 1	

Master of Arts in Teaching English to Speakers of Other Languages (M.A.)

Degree-seeking students in the TESOL program may elect to follow either a thesis (30 semester hours; 3 credit hours of TSL 6971 plus 27 semester hours) or a non-thesis (36 semester hours) course of study. The thesis option is appropriate for those wishing to pursue a doctoral program in TESOL or for those wishing to research current issues in the discipline. Most students complete the non-thesis course of study so that they can focus more on course work related to specific aspects of TESOL, pedagogy, or education. All students must take a comprehensive written examination covering the core TSL courses. This examination is normally taken in the second year of graduate work and will be reviewed by members of the TESOL Graduate Committee in their areas of expertise.

Core Courses

The seven core courses provide a strong foundation in the content of the discipline. The electives provide for three distinct areas of interest: linguistics, multicultural education, and research. Students may opt to take their elective credit in one of these areas depending on their interests. A strong research base is available for those students wishing to pursue the thesis option and advanced graduate degrees.

Required Courses—21 Credit Hours

- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- TSL 5345 Methods of ESOL Teaching (3 credit hours)
- TSL 5525 ESOL Cultural Diversity (3 credit hours)
- TSL 6142 Critical Approaches to ESOL (3 credit hours)
- TSL 6250 Applied Linguistics in ESOL (3 credit hours)
- TSL 6440 Problems in Evaluation in ESOL (3 credit hours)
- TSL 6540 Issues in Second Language Acquisition (3 credit hours)

Thesis Option—9 Credit Hours Electives (6 credit hours)

- TSL 6971 Thesis (3 credit hours)

Non-Thesis Option—15 Credit Hours Electives (15 credit hours)

Elective Possibilities

Linguistics:

- LIN 5137 Linguistics (3 credit hours)
- LIN 6932 Problems in Linguistics (3 credit hours)

Multicultural Education and Pedagogy:

- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- EDF 6216 Motivation in Learning and Performance (3 credit hours)
- EDF 6886 Multicultural Education (3 credit hours)
- FLE 5875 Computer Application in Teaching Foreign Languages (3 credit hours)
- SPN 5502 Hispanic Culture of the United States (3 credit hours)
- TSL 6940 ESOL Practicum (3 credit hours)

Research:

- EDF 6401 Statistics for Educational Data (3 credit hours)
- EDF 6486 Research Design in Education (3 credit hours)
- TSL 6640 Research in Second Language (3 credit hours)
- TSL 6971 Thesis (3 credit hours)

TESOL:

- TSL 5940 Issues in TEFL (3 credit hours)
- TSL 6350 Grammar for ESOL Teachers (3 credit hours)

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Keith Folse, Ph.D. , Assistant Professor
Phone Number: 407-823-0087
teslgrad@pegasus.cc.ucf.edu

Texts and Technology

[Description](#)

[Degree Offered](#)

[Admission](#)

[Doctor of Philosophy in Texts and Technology](#)

[Contact Info](#)

Description

The doctoral program in Texts and Technology provides training in an interdisciplinary field combining scholarly study, creative production, and assessment of digital media texts. Texts include visual, audio, multimedia, and performance, as well as printed and spoken words. The curriculum emphasizes theory and practice in new media supplemented by historical grounding in pre-digital media studies. Both a teaching practicum and professional internship experience are required of all students to familiarize them with textual technologies from both academic and professional perspectives. This unique and innovative program prepares students for research, teaching, and program development. Areas of research and production include web design, multimedia production, distributed education, entertainment, publishing, information architecture, and visualization.

Degrees Offered

Doctor of Philosophy in Texts and Technology

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

Applicants must hold a master's degree from any accredited field. Fields with a technological and/or textual theory (cultural studies, linguistics) background are especially applicable. As many as 30 credits may be transferred from the student's master's program to the Ph.D. program requirements, subject to approval by the program committee.

In addition to the general admission requirements, applicants must provide:

- Official score of at least 1000 (combined) on the Graduate Record Examination (GRE), which must have been taken within the last five years
- GPA of 3.0 or higher in the last 60 semester credit hours of credit earned toward the baccalaureate.
- Three letters of recommendation (no older than one year).
- Written statement of professional goals.
- Digital portfolio and/or a substantial writing sample.
- Resume.
- For applicants from countries where English is not the official language, or for an applicant whose bachelor's degree is not from an accredited U.S. institution, an official score of at least 220 (computer-based test; or equivalent score on the paper-based test) on the Test of English as a Foreign Language (TOEFL) is required.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Doctor of Philosophy in Texts and Technology	Jan 15	Jan 15		

International Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Doctor of Philosophy in Texts and Technology	Jan 15	Jan 15		

International Transfer Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Doctor of Philosophy in Texts and Technology	Jan 15	Jan 15		

Doctor of Philosophy in Texts and Technology

Ph.D. Minimum Requirement—57 Credit Hours

To enter the Texts and Technology Ph.D. program all students must have earned a master's degree. The program requires four core courses (12 credits), three courses in the internship and teaching area (9 credits), three elective courses from within the Texts and Technology course offerings (9 credits), three interdisciplinary courses (9 credits), and at least 18 credit hours of dissertation research work for a total of at least 57 semester hours of credit taken at UCF.

Students in the program are expected to maintain at least a minimum term GPA of 3.5 each semester in the courses taken within the Texts and Technology program. If a student falls below a 3.5 GPA in a given semester, they will be required to meet with the Graduate Program Director for advising. Additional semesters with a term GPA below 3.5 GPA may place the student at risk for reversion to provisional status. Students entering the program before the Fall 2004 semester should consult the graduate catalog of their entering term for a description of curriculum requirements.

Required Core Courses—12 Credit Hours

- ENG 6800 Introduction to Texts and Technology (3 credit hours)
- ENG 6810 Theories of Texts and Technology (3 credit hours)
- ENG 6801 Texts and Technology in History (3 credit hours)
- ENG 6812 Research Methods for Texts and Technology (3 credit hours)

Internship and Practicum

The following courses are required for a total of 9 credits toward the degree

- ENG 6813 Teaching Online in Texts and Technology (3 credit hours)
- ENG 6948 Teaching Practicum in Texts and Technology (3 credit hours)
- ENG 6947 Internship in Texts and Technology* (3 credit hours)

* With permission of the program director this course can be waived if student has relevant experience working in industry. If the course is waived, the student must substitute 3 credit hours of interdisciplinary electives.

Students awarded a graduate teaching assistantship (GTA) who have not taught at the college level must take ENC 5705 Theory and Practice in Composition. The credit hours for this course do not count toward the degree requirements.

Electives in Texts and Technology

Choose three of the following courses for a total of 9 credits

- ENC 6428 Rhetoric of Digital Literacy (3 credit hours)
- ENC 6XXX Acoustical Texts and Technology (3 credit hours)
- ENC 6426 Visual Texts and Technology (3 credit hours)
- ENC 6XXX Gender, Texts, and Technology (3 credit hours)
- ENG 6811 Cultural Contexts in Texts and Technology (3 credit hours)
- ENC 5225 Theory and Practice of Document Usability (3 credit hours)
- ENC 6XXX Ethics in Texts and Technology (3 credit hours)
- ENG 6939 Topics in Texts and Technology (3 credit hours)

Interdisciplinary Electives

Choose three of the following courses for a total of 9 credit hours. Permission to take courses not on this list granted with permission of both the T&T coordinator and the dissertation adviser. If the internship requirement is waived then 3 additional hours must be chosen.

- IDS 5718 Science and Technology of Dynamic Media (3 credit hours)
- IDS 5XXX Design for Media (3 credit hours)
- IDS 5709 Autonomous Characters (3 credit hours)
- MUS 5365 Music and Technology (3 credit hours)
- AMH 6591 Seminar in Documentary Editing (3 credit hours)
- HUM 5803 Theories and Methods of the Humanities (3 credit hours)
- HUM 5802 Applied Contemporary Humanities (3 credit hours)
- HIS 5067 Introduction to Public History (3 credit hours)
- AMH 6429 Seminar in Community and Local History (3 credit hours)
- AMH 6592 Seminar in Oral History (3 credit hours)
- CPO 6075 Comparative Political Economy (3 credit hours)
- ARE 6905 Research Trends in Art Education (3 credit hours)
- MMC 6402 Mass Communication Theory (3 credit hours)
- MMC 6307 International Communication (3 credit hours)
- MMC 6567 Seminar in New Media (3 credit hours)
- MMC 6600 Media Effects and Audience Analysis (3 credit hours)
- EME 5225 Media for Children and Young Adults (3 credit hours)
- EME 6058 Current Trends in Educational Media (3 credit hours)
- INP 6605 Training and Performance Appraisal (3 credit hours)

- INP 6088 Applied Problems in Industrial/Organizational Psychology (3 credit hours)
- EXP 5256 Human Factors I (3 credit hours)
- EXP 6255 Human Performance (3 credit hours)
- EXP 6506 Human Cognition and Learning (3 credit hours)
- THE 6507 Dramatic Theory and Criticism (3 credit hours)
- EIN 5255 Interactive Simulation (3 credit hours)
- EIN 6258 Human Computer Interaction (3 credit hours)
- FIL 6XXX Documenting Cultural Heritage (3 credit hours)
- FIL 6XXX Seminar: Documentary Poetics (3 credit hours)
- FIL 6XXX Modes of Inquiry and Research (3 credit hours)
- FIL 6XXX The Poetics of Interactivity (3 credit hours)
- FIL 6XXX Special Topics in Film (3 credit hours)

Dissertation—18 Credit Hours

- ENC 7980 Doctoral Dissertation

Ph.D. Qualifying Examination

The Ph.D. qualifying examination, which determines whether the student will be allowed to continue in the program, will be taken after the student completes the four core courses. The examination will be offered once per academic year and will consist of a portfolio review of the student's best scholarship and applied research.

Candidacy Examination

The comprehensive candidacy examination consists of an oral examination on a dissertation proposal draft and a reading list. In close consultation with the dissertation adviser and committee, the student will develop a reading list that encompasses and integrates the three areas of theory, history, and application. Students cannot register for dissertation credit (ENC 7980) until the term following passing the candidacy examination. The candidate must receive the dissertation adviser's approval of the reading list one semester prior to taking the oral examination (not including summer semesters). The candidate will thus submit the reading list to the adviser either in the Spring semester for a Fall exam, or the Fall semester for a Spring exam. No later than one semester after the oral exam, the candidate will submit the final revised dissertation proposal.

Dissertation and Oral Defense

Students choose their dissertation adviser and committee from among the faculty in the Texts and Technology Ph.D. program. They choose the adviser and committee after they have completed approximately 27 credit hours toward the degree (or after the first year and a half of course work). All dissertation committee members, including outside readers, must hold a Ph.D. or other relevant terminal degree.

Students must write a dissertation on their research that will explain and defend a significant original contribution to the field of Texts and Technology. It may be of a theoretical, historical, or pragmatic nature but must meet conventional academic standards of rigor, scholarship, relevance, and excellence. The research committee administers the candidate's oral defense of the dissertation, with passing determined by acceptance by a majority of the committee. The dissertation advisor, the research committee, and the Dean of the college or designee must approve the final dissertation. Format approval is required from the Thesis and Dissertation Editor and final approval of satisfaction of degree requirements by the Division of Graduate Studies (Millican Hall 230).

Students will submit at least one substantial scholarly article to a peer-reviewed journal with a national reputation with the approval and assistance of the dissertation chair and the Director of the doctoral program.

Residence Requirement

Each full-time student is expected to complete two contiguous semesters in full-time graduate student status after acceptance into the doctoral program. Doctoral students must be registered a minimum of 9 semester hours during this time.

Time Limitation

The full-time student has seven years from the beginning of graduate status in the doctoral program to complete all requirements for the Ph.D. degree. We expect full-time students to complete the degree in three years.

Teaching and Research Assistantships

The Texts and Technology Ph.D. Program, in conjunction with the Department of English, offers a limited number of graduate teaching assistantships (GTA) each year on a competitive basis. These assistantships also require some research work especially in the first year of the program. The program may also offer graduate research assistantships (GRA) on a competitive basis. Students who accept graduate assistantships should not hold any additional full-time employment.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

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- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
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- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Craig Saper, Ph.D. , Professor
Phone Number: 407-823-5329
englgrad@pegasus.cc.ucf.edu

Theatre

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Master of Arts in Theatre](#)

[Master of Fine Arts in Theatre](#)

[Acting Track](#)

[Design Track](#)

[Musical Theatre Track](#)

[Youth Theatre Track](#)

[Contact Info](#)

Description

The University of Central Florida offers an MFA program in Theatre with tracks in Acting, Design, Musical Theatre, and Youth Theatre. The MFA is designed for students who demonstrate the artistic and intellectual capacity and evidence of professional promise to pursue careers in professional and academic theatre. The university also offers an MA program in Theatre that is intended to provide high school teachers, community college teachers, and developing theatre scholars with the opportunity to strengthen skills and knowledge beyond the undergraduate level.

Degrees Offered

Master of Arts in Theatre
Master of Fine Arts in Theatre

- Acting Track
- Design Track
- Musical Theatre Track
- Youth Theatre Track

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

The Graduate Record Examination is required of all graduate students. Minimum requirements for admission are a BA or BFA degree in Theatre or equivalent with a 3.00 GPA in the last 60 semester credit hours earned toward the baccalaureate and a 3.0 Theatre grade point average (with at least a 2.50 overall) or a minimum GRE score of 1000. An audition/interview/portfolio review is also required. In addition, students must submit an essay stating their academic and professional goals, a transcript of previous academic work, a resume, an 8 X 10 headshot, and three letters of recommendation. Each student entering the program must be approved by the Graduate Committee of the Department of Theatre. No part-time students will be admitted into the MFA program.

- **Auditions**—Acting majors must be interviewed and perform two contrasting monologues not to exceed three minutes. Musical Theatre majors must be interviewed and perform two contrasting songs, and one monologue. The total audition may not exceed three minutes. For more details about these requirements, contact the Department of Theatre.
- **Portfolio Reviews**—Design majors must be interviewed and present a portfolio for review. The portfolio should contain samples of the student’s best work in scenic, costume, and lighting design. Three-dimensional pieces can be submitted in slide format. For more details about these requirements, contact the Department of Theatre.
- **General Entrance Prerequisites**—Students applying for entrance into the MFA Program in Design and Acting must have successfully completed the following undergraduate courses or their equivalent: Script Analysis or Play Analysis, Theatre History I and II, Dramatic Literature I and II, and Directing I. Students applying for entrance into the MFA Program in Musical Theatre must have successfully completed the following undergraduate courses or their equivalent: Fundamentals of Music I and II and Musical Theatre History.
- **Area-Specific Prerequisites**—In addition to the general entrance prerequisites for the MFA Program, each area of specialization requires area-specific entrance prerequisites. Students applying for entrance into the MFA must have successfully completed the following undergraduate courses or their equivalent:
 - **Acting**—Stage Voice I, Stage Voice II, Stage Movement I, Stage Movement II, Acting I, Acting II, Acting III.
 - **Musical Theatre**—Acting I, Acting II, Jazz I, Jazz II, Musical Theatre Voice I, Musical Theatre Voice II.
 - **Design**—Stagecraft I, Stagecraft II, Theatre Drafting, 2D CADD, Scene Design I, Lighting Design I, Costume Construction, Costume Design I.
 - **Youth Theatre**—Youth Theatre experience in some area

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Master of Arts in Theatre	Feb 1	Jun 1	Dec 1	Apr 15
Master of Fine Arts in Theatre				
Acting Track	Feb 1	Jun 1	Dec 1	Apr 15
Design Track	Feb 1	Jun 1	Dec 1	Apr 15
Musical Theatre Track	Feb 1	Jun 1	Dec 1	Apr 15
Youth Theatre Track	Feb 1	Jun 15	Dec 1	Apr 15

International Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Master of Arts in Theatre	Feb 1	Feb 1	Jul 1	
Master of Fine Arts in Theatre				

Acting Track	Feb 1	Feb 1	Jul 1
Design Track	Feb 1	Feb 1	Jul 1
Musical Theatre Track	Feb 1	Feb 1	Jul 1
Youth Theatre Track	Feb 1	Feb 1	Jul 1

International Transfer Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Master of Arts in Theatre	Feb 1	Mar 1	Sep 1	
Master of Fine Arts in Theatre				
Acting Track	Feb 1	Mar 1	Sep 1	
Design Track	Feb 1	Mar 1	Sep 1	
Musical Theatre Track	Feb 1	Mar 1	Sep 1	
Youth Theatre Track	Feb 1	Mar 1	Sep 1	

Master of Fine Arts in Theatre

The MFA degree program in Theatre at UCF is a highly selective, rigorous, three-year professional training program emphasizing both theatre theory and practice. The MFA degree, like our BFA degree, is rooted in the belief that classroom study and practical experience in the theatre are of equal and complementary value. The production program, therefore, is integrated into the curriculum because it is the principal means available for the coordination of all the elements of dramatic art. All possible ways are sought to use the production program effectively for the purpose of teaching and training.

The MFA at UCF is designed for students who demonstrate the artistic and intellectual capacity and evidence of professional promise to pursue careers in professional and academic theatre. Candidates, in addition to becoming highly trained theatre practitioners, must also demonstrate the ability to understand the conceptual basis of their art and to be able to articulate that understanding to others. Toward this end, the department will recruit and develop graduate students who can serve, along with faculty and staff, as role models for undergraduate students whose BFA programs of study are integrally connected and dependent.

Degree Requirements

The MFA degree, which requires a minimum of seventy credits to complete, offers concentrations in Acting, Design, Musical Theatre, and Youth Theatre. Candidates for the degree are expected to demonstrate proficiency in one of these areas.

Of the seventy hours required for the Acting and Design concentrations, thirty-three hours constitute the MFA Graduate Core Curriculum.

- MFA Graduate Core Curriculum for Acting and Design—33 Credit Hours
- Research Methods (3 credit hours)
- Costume History I and II or history electives (6 credit hours)
- Dramatic Theory and Criticism (3 credit hours)
- Theatre Careers or elective (3 credit hours)
- Thesis (6 credit hours)

- Professional Internship (12 credit hours)

Of the seventy hours required for the Musical Theatre concentration, twenty-four hours will constitute the MFA Graduate Core Curriculum for Musical Theatre.

- MFA Graduate Core Curriculum for Musical Theatre—24 Credit Hours
- Research Methods (3 credit hours)
- Theatre Careers or elective (3 credit hours)
- Thesis (6 credit hours)
- Professional Internship (12 credit hours)

Of the seventy hours required for the Musical Theatre concentration, twenty-four hours will constitute the MFA Graduate Core Curriculum for Youth Theatre.

- MFA Graduate Core Curriculum for Musical Theatre—24 Credit Hours
- Research Methods (3 credit hours)
- Theatre Careers or elective (3 credit hours)
- Thesis (6 credit hours)
- Professional Internship (12 credit hours)

Additional Degree Requirements

- Students must maintain a minimum “B” (3.00) overall Theatre grade point average to continue in the major.
- Theatre courses with grades of less than "C" will not be counted toward degree requirements.
- Continuation in the MFA program requires a positive annual evaluation.
- All graduate students must consult with a departmental adviser.
- All MFA majors must participate, in some capacity, on at least two productions during both the fall and spring semesters. Students failing to participate will be placed on probation for one semester.
- All MFA Acting and Musical Theatre majors are required to audition for all fall and spring productions and must accept the roles assigned.
- All MFA students must successfully complete a professional internship and written journal documenting their experience.
- All MFA students must successfully complete a thesis production project (thesis proposal must be approved in advance) and written thesis in support of that production project.

MFA in Theatre—Acting

Requirements for MFA in Acting—70 Credit Hours Minimum

YEAR 1

Fall—13 Credit Hours

- TPP 5156C Acting Studio I (3 credit hours)
- TPP 5515 Movement Studio I (2 credit hours)
- TPP 5715C Stage Voice I (2 credit hours)
- THE 5376 Theatre/Drama of Williams, Miller, and Inge or Dramatic literature elective (3 credit hours)
- THE 5910 Research Methods in Theatre (3 credit hours)

Spring—13 Credit Hours

- TPP 5157C Acting Studio II (3 credit hours)
- TPP 5516C Movement Studio II (2 credit hours)
- TPP 5716C Stage Voice II (2 credit hours)
- THE 5307 Contemporary Theatre Practice or Dramatic literature elective (3 credit hours)
- THE 5246C Musical Theatre (3 credit hours)

YEAR 2**Fall—13 Credit Hours**

- TPP 6146 Acting Studio III (3 credit hours)
- TPP 6517 Movement Studio III (2 credit hours)
- TPP 6717 Stage Voice III (2 credit hours)
- THE 6261C Costume History I or history elective (3 credit hours)
- THE 6507 Dramatic Theory and Criticism (3 credit hours)

Spring—13 Credit Hours

- TPP 6159C Acting Studio IV (3 credit hours)
- TPP 6518C Movement Studio IV (2 credit hours)
- TPP 6718C Stage Voice IV (2 credit hours)
- THE 6265C Costume History II or history elective (3 credit hours)
- THE 6086 Careers in Professional Theatre (3 credit hours)

YEAR 3**Fall—9 Credit Hours**

- THE 6948 Professional Internship (6 credit hours)
- THE 6971 Thesis (3 credit hours)

Spring—9 Credit Hours

- THE 6948 Professional Internship (6 credit hours)
- THE 6971 Thesis (3 credit hours)

MFA in Theatre—Design

Requirements for MFA in Design—70 Credit Hours

YEAR 1**Fall—13 Credit Hours**

- THE 5910 Research Methods in Theatre (3 credit hours)
- THE 6261C Costume History I or history elective (3 credit hours)
- TPA 5062C Scene Design Studio (3 credit hours)

- TPA 5258C Auto Cad-2D for Theatre (3 credit hours)
- TPA 5946C Design Practicum I (1 credit hour)

Spring—13 Credit Hours

- TPA 5042C Costume Design Studio (3 credit hours)
- THE 5269 Period Props, Furniture, and Architecture (3 credit hours)
- THE 6265C Costume History II or history elective (3 credit hours)
- TPA 5299C Auto Cad-3D for Theatre (3 credit hours)
- TPA 5949C Design Practicum II (1 credit hour)

YEAR 2

Fall—13 Credit Hours

- TPA 6029 Lighting Design Studio (3 credit hours)
- THE 6286 Scenography: History and Development (3 credit hours)
- TPA 6087 Advanced Problems in Design (3 credit hours)
- THE 6507 Dramatic Theory and Criticism (3 credit hours)
- TPA 6947 Design Practicum III (1 credit hour)

Spring—13 Credit Hours

- TPA 6209C Theatre Crafts (3 credit hours)
- TPA 6106C Sound Design Studio (3 credit hours)
- THE 6086 Careers in Professional Theatre (3 credit hours)
- TPA 6087C Advanced Problems in Design II (3 credit hours)
- TPA 6948L Design Practicum IV (1 credit hour)

YEAR 3

Fall—9 Credit Hours

- THE 6948 Professional Internship (6 credit hours)
- THE 6971 Thesis (3 credit hours)

Spring—9 Credit Hours

- THE 6948 Professional Internship (6 credit hours)
- THE 6971 Thesis (3 credit hours)

MFA in Theatre—Musical Theatre

Requirements for MFA in Musical Theatre—70 Credit Hours

YEAR 1

Fall—13 Credit Hours

- TPP 5554 Musical Theatre Dance I (2 credit hours)
- TPP 5754 Musical Theatre Voice I (2 credit hours)
- TPP 5273 Musical Theatre Acting I (3 credit hours)
- THE 5248 Musical Theatre in History (3 credit hours)
- THE 5910 Research Methods in Theatre (3 credit hours)

Spring—13 Credit Hours

- TPP 5555C Musical Theatre Dance II (2 credit hours)
- TPP 6755 Musical Theatre Voice II (2 credit hours)
- TPP 6274 Musical Theatre Acting II (3 credit hours)
- THE 5275 Survey of Musical Theatre Dance (3 credit hours)
- THE 6086 Careers in Professional Theatre (3 credit hours)

YEAR 2

Fall—13 Credit Hours

- TPP 6556C Musical Theatre Dance III (2 credit hours)
- TPP 6756 Musical Theatre Voice III (2 credit hours)
- TPP 6275 Musical Theatre Acting III (3 credit hours)
- THE 6308 Script and Score Analysis (3 credit hours)
- TPP 6279 Musical Theatre Master Class (3 credit hours)

Spring—13 Credit Hours

- TPP 6557C Musical Theatre Dance IV (2 credit hours)
- TPP 6757 Musical Theatre Voice IV (2 credit hours)
- TPP 6276 Musical Theatre Acting IV (3 credit hours)
- THE 6XXX Musical Theatre Directing (3 credit hours)
- TPP 6279 Musical Theatre Master Class (3 credit hours)

YEAR 3

Fall—9 Credit Hours

- THE 6948 Professional Internship (6 credit hours)
- THE 6971 Thesis (3 credit hours)

Spring—9 Credit Hours

- THE 6948 Professional Internship (6 credit hours)
- THE 6971 Thesis (3 credit hours)

MFA in Theatre—Youth Theatre

Requirements for MFA in Youth Theatre—70 Credit Hours

YEAR 1

Fall—13 or 14 Credit Hours

- THE 5910 Research Methods in Theatre (3 credit hours)
- THE 5385 Dramatic Literature for Children (3 credit hours)
- TPA 5081 Design Concepts for Youth Theatre (3 credit hours)
- TPP 5289C Acting for Young Audiences (3 credit hours)
- Elective (2-3 credit hours)

Spring—13 or 14 Credit Hours

- TPP 5386 Oral Interpretation of Childrens Literature (3 credit hours)
- TPP 5125C Improvisation Studio (2 credit hours)
- TPP 5386 Directing for Young Audiences (3 credit hours)
- TPP 6406C Theatre Management (3 credit hours)
- Elective (2-3 credit hours)

YEAR 2**Fall—13 or 14 Credit Hours**

- TPP 6246C Circus Arts (2 credit hours)
- TPP 6686 Playwriting for Young Audiences (3 credit hours)
- THE 6756 Methods of Teaching Drama (3 credit hours)
- TPP 6248 Storytelling for Young Audiences (3 credit hours)
- Elective (2-3 credit hours)

Spring—13 Credit Hours

- THE 6086 Careers in Professional Theatre (3 credit hours) or Elective (3 credit hours)
- TPA 6288C Mask Making (3 credit hours)
- TPP 6216C Theatre for Young Audiences Tour (4 credit hours)
- TPP 6247 Theatre for Social Change (3 credit hours)

YEAR 3**Fall—9 Credit Hours**

- Internship (6 credit hours)
- THE 6971 Thesis (3 credit hours)

Spring—9 Credit Hours

- Internship (6 credit hours)
- THE 6971 Thesis (3 credit hours)

NOTE: The electives can be chosen (with instructor approval) from existing courses in the MFA in Acting and Musical Theatre or from two new courses, one of which is repeatable. Because allowed electives are both two and three credit hour courses, the course of study shows a sliding number of credits for electives. Consequently, although the seventy (70) credit hours are required, a student may graduate with as many as seventy-three (73) credit hours.

Examination

A comprehensive departmental theatre exam is administered to MFA majors during their final semester of study.

Transfer and Residency

Students who do not hold a master's degree can usually transfer up to nine semester hours into this program. Ordinarily, students holding completed MS or MA degrees will not be admitted into the MFA program. Each case will be evaluated on an individual basis. Final acceptance and number of credits to be transferred will be determined by a graduate faculty committee. A minimum of sixty-one credits must be taken at the University of Central Florida. A student without an earned master's degree must complete a residency requirement of at least five semesters with at least four of them being full-time, consecutive semesters. Summer session may be counted toward the four consecutive semesters.

Master of Arts in Theatre

The Master of Arts degree program in Theatre at UCF is a general degree intended to provide high school teachers, community college teachers, and developing theatre scholars with the opportunity to strengthen skills and knowledge beyond the undergraduate level. Its purpose is not to train persons for professional careers in the arts and entertainment industry. As a result, the program of study is flexible and more theoretical. It provides less practical theatre training than the MFA degree. MA students typically pursue a variety of goals: increasing specific theatrical skills, extending theatre skills into new areas, preparing for entrance into doctoral Theatre programs, or in the case of educators, expanding their expertise and credentials. Students may be admitted on either a full-time or part-time basis.

Admission Requirements

The Graduate Record Examination is required of all graduate students. Minimum requirements for admission are a BA or BFA degree in Theatre or equivalent with a 3.00 GPA in the last 60 semester credit hours earned toward the baccalaureate and a 3.0 Theatre GPA (with at least a 2.5 overall) or a minimum GRE score of 1000. An interview is also required. In addition, students must submit an essay stating their academic and professional goals, a transcript of previous academic work, a resume, an 8 X 10 headshot, and three letters of recommendation. Each student entering the program must be approved by the Graduate Committee of the Department of Theatre.

General Entrance Prerequisites—Students applying for entrance into the MA must have successfully completed the following undergraduate courses or their equivalent: Script Analysis or Play Analysis, Theatre History I and II, Dramatic Literature I and II, Directing I.

[Application Deadlines](#)

Degree Requirements

The Master of Arts in Theatre is a rigorous one and a half year course of study, culminating in the writing of a scholarly thesis. Candidates must demonstrate the ability to understand the conceptual basis of their art and to be able to articulate that understanding to others. In addition to their theoretical studies, MA students will also be required to demonstrate proficiency in theatrical production. The MA in Theatre will require a minimum of thirty-nine credits in Theatre courses. Students must prove proficiency in a foreign language at the first-year level prior to completing the degree program. There will be no areas of specialization. Of the thirty-nine credits required for the degree, thirty will be required of all MA students with the other nine hours chosen from a specified list of elective Theatre courses offered by the Department. The following courses constitute the MA Graduate Core Curriculum.

MA Graduate Core Curriculum—30 Credit Hours

- THE 5910 Research Methods in Theatre (3 credit hours)
- THE 6507 Dramatic Theory and Criticism (6 credit hours)
- TPP 6406C Theatre Management or elective (3 credit hours)
- THE 6086 Careers in Professional Theatre (3 credit hours)
- THE 5945L Theatre Practicum I (1 credit hours)
- THE 5946L Theatre Practicum II (1 credit hours)
- THE 6947L Theatre Practicum III (1 credit hours)
- Thesis (9 hours)

Electives—9 Credit Hours

MA candidates should select 9 credit hours from the following list of courses. Other graduate-level courses may be permitted subject to departmental approval.

- TPA 5258C 2D CADD for Theatre (3 credit hours)
- TPA 5299C Autocad-3D for Theatre (3 credit hours)
- THE 6261C Costume History I (3 credit hours)
- THE 6265C Costume History II (3 credit hours)
- THE 6286 Sceneography: History and Development (3 credit hours)
- THE 5629 Period Props and Furniture (3 credit hours)

Additional Degree Requirements

- Students must maintain a minimum “B” (3.00) overall Theatre GPA to continue in the major.
- Theatre courses with grades of less than “C” will not be counted toward degree requirements.
- Continuation in the MA program requires a positive annual evaluation.
- All graduate students must consult with a departmental adviser.
- All MA majors must participate, in some capacity, on at least 2 productions during both the fall and spring semesters. Students failing to participate will be placed on probation for (1) semester.
- All MA students must successfully complete a written thesis. Thesis proposal must be approved in advance.

Program of Study

Requirements for MA in Theatre—39 Credit Hours

YEAR 1

Fall—13 Credit Hours

- THE 5910 Research Methods in Theatre (3 credit hours)
- THE 5307 Contemporary Theatre Practice (3 credit hours)
- TPA 5405 Theatre Management for Non-Majors or elective (3 credit hours)
- THE 6507 Dramatic Theory and Criticism (3 credit hours)
- THE 5945L Theatre Practicum I (1 credit hour)

Spring—13 Credit Hours

- THE 6086 Careers in Professional Theatre (3 credit hours)
- THE 5376 Theatre/Drama of Williams, Miller, and Inge (3 credit hours)
- 5000- level Theatre elective (3 credit hours)
- THE 5946L Theatre Practicum II (1 credit hour)
- THE 6971 Thesis (3 credit hours)

YEAR 2

Fall—13 Credit Hours

- 6000-level Theatre electives (6 credit hours)
- THE 6947L Theatre Practicum III (1 credit hour)
- THE 6971 Thesis (6 credit hours)

Examination

A comprehensive departmental theatre exam is administered to MA majors during their final semester of study.

Transfer and Residency

Students without an earned master's degree can usually transfer up to nine semester hours of credit into this program. A minimum of thirty credits must be taken at the University of Central Florida. A student must complete a residency requirement of at least two full-time consecutive semesters. Summer session may be counted toward the two consecutive semester requirement.

Financial Support

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see [Financing Grad School](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Key points about financial support:

- If you're interested in financial assistance, you're strongly encouraged to apply for admission early. A complete application for admission, including all supporting documents, must be received by the priority date listed for your program under "Admissions."
- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.

- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Master of Arts in Theatre

Julia Listengarten, Ph.D. , Assistant Professor

Phone Number: 407-823-3858

jlisteng@mail.ucf.edu

Master of Fine Arts in Theatre

John Bell, M.F.A. , Associate Professor

Phone Number: 407-823-3020

jcbell@mail.ucf.edu

Acting Track

John Bell, M.F.A. , Associate Professor

Phone Number: 407-823-3020

jcbell@mail.ucf.edu

Design Track

John Bell, M.F.A. , Associate Professor

Phone Number: 407-823-3020

jcbell@mail.ucf.edu

Musical Theatre Track

John Bell, M.F.A. , Associate Professor

Phone Number: 407-823-3020

jcbell@mail.ucf.edu

Youth Theatre Track

Julia Listengarten, Ph.D. , Assistant Professor

Phone Number: 407-823-3858

jlisteng@mail.ucf.edu

Vocational Education

[Description](#)

[Degrees Offered](#)

[Admission](#)

[Master of Arts in Vocational Education](#)

[Business Education Track](#)

[Health Occupations Education Track](#)

[Industrial Education Track](#)

[Master of Education in Vocational Education](#)

[Business Education Track](#)

[Health Occupations Education Track](#)

[Industrial Technology Occupations Track](#)

[Contact Info](#)

Description

The College of Education offers Master of Education and Master of Arts degrees in Vocational Education. The Master of Education degree is designed to meet the needs of students who have a baccalaureate degree and who have completed course work for regular vocational Florida State Teaching Certification. The Master of Arts degree is intended for students who have a baccalaureate degree in a discipline other than education. Many courses in both the Master of Education and the Master of Arts degrees are offered via distance education on the World Wide Web.

Degrees Offered

Master of Arts in Vocational Education

- Business Education Track
- Health Occupations Education Track
- Industrial Education Track

Master of Education in Vocational Education

- Business Education Track
- Health Occupations Education Track
- Industrial Technology Occupations Track

Admission

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions and Registration](#) section of the Graduate Catalog. Applicants must [apply online](#). Please be sure to submit all requested material by the established deadline(s).

Master of Education in Vocational Education

The Master of Education degree is designed to meet the needs of students who have a baccalaureate degree and who have completed course work for regular vocational Florida State Teaching Certification.

[Master's Programs in the College of Education](#)

Applicants to the M.Ed. program must (1) have completed all course requirements for Florida state teacher certification in the program's subject area and/or grade range, or (2) present a Florida Professional Teaching Certificate upon admission to the program. Applicants who have graduated from an accredited university or college teacher certification program in another state or country, in the appropriate subject and/or grade range, may also be admitted to the M.Ed. program at the discretion of the program director.

Students may not switch from an M.A. program to an M.Ed. program, or vice versa, without going through the university's admission process. Courses used to gain initial state certification may not be transferred into an M.Ed. program.

Application Due Dates

All students applying for fellowships or assistantships must apply by the Fall Priority deadline date.

U.S. Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Master of Arts in Vocational Education	Feb 1	Jul 15	Dec 1	Apr 15
Business Education Track				
Health Occupations Education Track				
Industrial Education Track				
Master of Education in Vocational Education				
Business Education Track				
Health Occupations Education Track				
Industrial Technology Occupations Track				

International Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Master of Arts in Vocational Education	Feb 1	Feb 1	Jul 1	
Business Education Track				
Health Occupations Education Track				
Industrial Education Track				
Master of Education in Vocational				

Education				
Business Education Track				
Health Occupations Education Track				
Industrial Technology Occupations Track				

International Transfer Applicants

Program(s)	Fall Priority	Fall	Spring	Summer
Master of Arts in Vocational Education	Feb 1	Mar 1	Sep 1	
Business Education Track				
Health Occupations Education Track				
Industrial Education Track				
Master of Education in Vocational Education				
Business Education Track				
Health Occupations Education Track				
Industrial Technology Occupations Track				

Master of Education in Vocational Education

Minimum Hours Required for M.Ed.—39 Credit Hours

Area A: Core—12 or 15 Credit Hours

- EDF 6432 Measurement and Evaluation in Education (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)

Select one course from the following list:

- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- EDF 6517 Perspectives on Education (3 credit hours)
- EDF 6608 Social Factors in American Education (3 credit hours)

Select one option:

- EVT 6909 Research Report (2,1 credit hours)
- EVT 6946 Graduate Internship or Electives (approved by adviser) (6 credit hours)

Area B: Vocational Education Core—9 Credit Hours

- EVT 5561 Student Guidance in the Vocational Program (3 credit hours)
- EVT 5817 Management of Vocational Programs (3 credit hours)
- EVT 6267 Vocational Program Planning, Development, and Evaluation (3 credit hours)

Area C: Specialization—18 Credit Hours—Approved by adviser

Areas of focus may include: health, technical training, teaching adults, vocational administration, or business education.

Tracks

The College of Education offers three tracks in the Master of Education in Vocational Education program: Business Education, Health Occupations Education, and Industrial Occupations Education. For more information on these tracks, contact the [graduate program coordinator](#).

Master of Arts in Vocational Education

The Master of Arts degree is designed for the student who has a baccalaureate degree in a discipline other than education.

[Master's Programs in the College of Education](#)

Degree Requirements

Minimum Hours Required for M.A.—42 Credit Hours

Area A: Core—12 or 15 Credit Hours

- EDF 6432 Measurement and Evaluation in Education (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)

Select one course from the following list:

- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- EDG 6236 Principles of Instruction (3 credit hours)
- EDF 6517 Perspectives on Education (3 credit hours)
- EDF 6608 Social Factors in American Education (3 credit hours)
- EDF 6886 Multicultural Education (3 credit hours)

Select one option:

- EVT 6946 Graduate Internship (6 Credit hours)
- EVT 6909 Research Report (2,1 credit hours)

Area B: Vocational Education Core—9 Credit Hours

- EVT 5561 Student Guidance in the Vocational Program (3 credit hours)
- EVT 5817 Management of Vocational Programs (3 credit hours)
- EVT 6267 Vocational Program Planning, Development, and Evaluation (3 credit hours)

Area C: Specialization—21 Credit Hours—Approved by adviser

Areas of focus may include: health, technical training, teaching adults, or business education.

Area D: Co-requisites

If initial certification is desired, the following courses must be taken:

- EVT 3365 General Methods/Testing Evaluation in Vocational Education (3 credit hours)
- EVT 3502 Special Needs of Vocational Students (3 credit hours)
- EVT 4065 Principles and Practices of Vocational Education (4 credit hours)

Select one course from the following list:

- EVT 3312 Course Construction in Health Occupations Education (3 credit hours)
- EVT 3371 Course Construction in Industrial Education (3 credit hours)
- BTE 4410 Course Construction in Business Education (3 credit hours)

Tracks

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Financial Support

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- You must be admitted to a graduate program before the university can consider awarding financial assistance to you.
- If you want to be considered for loans and other need-based financial assistance, review the UCF Student Financial Assistance website at <http://finaid.ucf.edu> and complete the FAFSA (Free Application for Federal Student Aid) form, which is available online at <http://www.fafsa.ed.gov>. Apply early and allow up to six weeks for the FAFSA form to be processed.
- UCF Graduate Studies awards university graduate fellowships, with most decisions based on nominations from the colleges and programs. All admitted graduate students are automatically considered in this nomination process. To be eligible for a fellowship, students must be accepted as a graduate student in a degree program and be enrolled full-time. To receive need-based fellowship awards, the student must have demonstrated need as determined by [FAFSA](#). Merit fellowship awards are not affected by [FAFSA](#) determination of need.
- Please note that select fellowships do require students to fill out a fellowship application (either a university fellowship application, an external fellowship application, or a college or school fellowship application).
- For information on assistantships (including teaching, research, and general graduate assistantships) or tuition support, contact the graduate program director of your major.

Contact Info

Master of Arts in Vocational Education

Barry Siebert, Ph.D. , Associate Professor
Phone Number: 407-823-2009
siebert@mail.ucf.edu

Master of Education in Vocational Education

Barry Siebert, Ph.D. , Associate Professor
Phone Number: 407-823-2009
siebert@mail.ucf.edu

Business Education Track

Barry Siebert, Ph.D. , Associate Professor
Phone Number: 407-823-2009
siebert@mail.ucf.edu

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Barry Siebert, Ph.D. , Associate Professor
Phone Number: 407-823-2009
siebert@mail.ucf.edu

Health Occupations Education Track

Barry Siebert, Ph.D. , Associate Professor
Phone Number: 407-823-2009
siebert@mail.ucf.edu

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siebert@mail.ucf.edu

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Barry Siebert, Ph.D. , Associate Professor
Phone Number: 407-823-2009
siebert@mail.ucf.edu

Industrial Technology Occupations Track

Barry Siebert, Ph.D. , Associate Professor
Phone Number: 407-823-2009
siebert@mail.ucf.edu

List of Tracks

- Accelerated Graduate Program in History Track
- Accelerated Graduate Program in Liberal Studies Track
- Accounting Track
- Acting Track
- Actuarial Science Track
- Additional Certification Track
- Adult Nurse Practitioner Track
- Applied Conservation Biology Track
- Applied Experimental and Human Factors Psychology Track
- Biology Track
- Business Education Track
- Business Education Track
- Chemistry Track
- Clinical Nurse Practitioner Track
- Clinical Psychology Track
- Communications Track
- Communicative Disorders Consortium Track
- Community College Teaching Track
- Community College Teaching Track
- Community College Teaching Track
- Community College Teaching Track
- Community College Teaching Track
- Community College Teaching Track
- Computer Architecture Track
- Computer-Aided Mechanical Engineering Track
- Controls/Power Track
- Counselor Education Track
- Creative Writing Track
- Data Mining Track
- Design Track
- Digital Signal Processing Track
- Digital Systems Track
- Domestic Violence Track
- Early Literacy Track
- Ecology and Organismal Biology Track
- Educational Leadership Track
- Electro-Optics Track
- Electromagnetics Track
- Elementary Education Track
- Engineering Management Track
- English Literature Track
- Environmental Politics Track
- Environmental Sciences Track
- Exceptional Education Track
- Executive M.B.A. Track
- Exercise Physiology Track
- Exercise Physiology Track
- Family Nurse Practitioner Track
- Family, School and Community Track
- Finance Track
- Forensic Analysis Track
- Forensic Biochemistry Track
- Health Occupations Education Track
- Health Occupations Education Track
- Health Services Administration Track
- Human Engineering/Ergonomics Track
- Human Resources/Change Management Track
- Industrial and Organizational Psychology Track
- Industrial Education Track
- Industrial Mathematics Track
- Industrial Technology Occupations Track
- Initial Certification Track
- Instructional Technology Track
- Intelligent Systems Track
- Interactive Simulation and Training Systems Track
- International Studies Track
- Interpersonal Communication Track
- Leadership and Management Track
- M.B.A. (1 year, full-time program) Track
- Management Information Systems Track
- Management Track
- Manufacturing Engineering Track
- Marketing Track
- Mass Communication Track
- Mathematics Education Track
- Mathematics Track
- Maya Studies Track
- Mechanical Systems Track
- Mental Health Counseling Track
- Middle School Mathematics Track
- Middle School Science Track
- Miniature Engineering Systems Track
- Musical Theatre Track
- Operations Research Track
- Pediatric Nurse Practitioner Track
- Physics Track
- Political Analysis and Policy Track
- Power Electronics and Electronics Track
- Pre-Kindergarten Handicapped Endorsement Track
- Primary Track
- Professional Track

- Public History Track
- Quality Engineering Track
- Rhetoric and Composition Track
- School Counseling Track
- School Counseling Track
- School Counseling Track
- Simulation Modeling and Analysis Track
- Software Engineering Track
- Solid State and Microelectronics Track
- Space Systems Design and Engineering Track
- Sport Business Management Track
- Sports and Fitness Track
- Structural and Geotechnical Engineering Track
- Structures and Foundations Engineering Track
- Student Personnel Administration in Higher Education Track
- Systems Engineering and Management Track
- Teaching Physical Education Track
- Technical Writing Track
- Thermofluid Aerodynamic Systems Design and Engineering Track
- Thermofluids Track
- Transportation Engineering Track
- Transportation Systems Engineering Track
- Varying Exceptionalities Track
- Varying Exceptionalities Track
- VLSI Design Track
- Water Resources Engineering Track
- Water Resources Engineering Track
- Youth Theatre Track

List of Certificate Programs

- Addictions
- Adult Nurse Practitioner
- Aging Studies
- Applied Mathematics
- Applied Operations Research
- Arts Management
- CAD/CAM Technology
- Career Counseling
- Child Language Disorders
- Children's Services
- Coaching
- Communications Systems
- Community College Education
- Computer Forensics
- Conservation Biology
- Contemporary Humanities
- Corrections Leadership
- Crime Analysis
- Design for Usability
- Domestic Violence
- e-Learning Professional Development
- Electronic Circuits
- ESOL Endorsement K-12
- Family Nurse Practitioner
- Foreign Language Education
- Gender Studies
- Gifted Education
- Health and Wellness
- HVAC Engineering
- Industrial Ergonomics and Safety
- Initial Teacher Professional Preparation
- Instructional/Educational Technology
- Juvenile Justice Leadership
- Marriage and Family Therapy
- Materials Failure Analysis
- Maya Studies
- Medical Speech-Language Pathology
- Middle Level Education
- Multicultural/Multilingual Speech-Language Pathology
- Nonprofit Management Certificate
- Nursing and Health Professional Education
- Online Educational Media
- Pediatric Nurse Practitioner
- Play Therapy
- Police Leadership
- Pre-Kindergarten Handicapped Endorsement
- Professional Writing
- Professoriate
- Project Engineering
- Public Administration Certificate
- Quality Assurance
- Reading Education Certificate
- SAS Data Mining
- School Social Work
- Social Work Administration
- Special Education
- Sports Leadership
- Structural Engineering
- Surface Water Modeling
- Systems Simulation for Engineers
- Teaching English as a Foreign Language
- Teaching Excellence
- Teaching Writing K-12
- Theoretical and Applied Ethics
- Training Simulation
- Transportation Engineering
- Urban and Regional Planning
- Urban Education
- Victim Assistance
- Wastewater Treatment

Graduate Certificate in Addictions

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The Graduate Certificate in Addictions provides a unique opportunity for professionals working in governmental agencies, nonprofit organizations, and private corporations, whose responsibilities include developing policies and programs, intervening and treating the alcohol and drug abusing population and other forms of addictions. The program is only open to students in the Master of Social Work Program. The School of Social Work is approved by the Florida Certification Board as a provider of addictions curriculum.

Admission

The Addictions Certificate can only be taken as part of the Master of Social Work program. An application to the graduate certificate program and official transcripts must be submitted. Applicants are required to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Addictions		Jul 15	Dec 1	Apr 15

Requirements

Requirements—12 Credit Hours Minimum

Required Course—3 Credit Hours

- SOW 5712 Interventions with Substance Abusers

Addictions Course Elective—3 Credit Hours

Take one of the courses listed below.

- SOW 5604 Medications in Social Work Practice (3 credit hours)

- SOW 5662 Strategies in Employee Assistance Programs (3 credit hours)
- SOW 5713 Prevention and Treatment of Adolescent Substance Abuse (3 credit hours)
- SOW 5907 Independent Study in Addiction (3 credit hours)

Clinical Social Work Courses—6 Credit Hours

Take any two courses listed below

- SOW 6123 Psychosocial Pathology (3 credit hours)
- SOW 6324 Clinical Practice with Groups (3 credit hours)
- SOW 6612 Clinical Practice with Families (3 credit hours)
- SOW 6656 Clinical Practice with Children and Adolescents (3 credit hours)

Contact Info

George Jacinto, M.Ed., MSW, LCSW, CPC

Phone Number: 407-823-5428

gjacinto@mail.ucf.edu

Graduate Certificate in Adult Nurse Practitioner

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The Post-Master's Graduate Certificate option is designed to prepare nurses who already have a master's degree in nursing as Adult Nurse Practitioners. The program is 19 credits in length and includes up to 630 hours of clinical practice. There are 11 credit hours of prerequisite requirements. Up to 3 credit hours of Advanced Practice Practicum (NGR 6941) may be waived for applicants who are licensed as Advance Practice Nurses (APNs).

Admission

Requirements for admission to the program include the following:

- A master's degree in nursing from a program accredited by NLNAC (National League for Nursing Accreditation Commission) or CCNE (Commission on Collegiate Nursing Education)
- Licensure as a Registered Nurse in Florida
- Completion of undergraduate health assessment course

Admission to the program is competitive on a space-available basis. Applicants must [apply online](#).

Application Process

The following information must be submitted to UCF Graduate Studies in order to be considered:

- Non-degree online application from Graduate Studies for the certificate program
- Official transcripts of BSN degree*
- Official transcripts of graduate course work showing awarding of master's degree
- Three letters of recommendation from individuals who can judge abilities for Advanced Practice Nursing, preferably nurse instructors, nurse employers, or nurses with advanced degrees
- Personal statement describing interest in completing certificate program
- UCF Health Form (Upon acceptance to the program, a School of Nursing Health Form will be required.)
- Resume (no longer than 2 pages)
- Copy of RN License

Program Progression

All UCF Graduate Studies requirements for progression must be met. This includes, but is not limited to, completion of all required courses within a three-year period and achievement of a grade of "B" or better in all courses.

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Adult Nurse Practitioner		Jun 15	Oct 15	

Requirements

Prerequisites

The following graduate-level courses are prerequisites for the program. Courses with a grade of B or better will be accepted.

- NGR 5003 Advanced Health Assessment, Health Promotion, and Diagnostic Reasoning (3 credit hours)
- NGR 5004L Advanced Health Assessment, Health Promotion, and Diagnostic Reasoning Clinical (2 credit hours)
- NGR 5141 Pathophysiological Bases for Advanced Nursing Practice (3 credit hours)
- NGR 6192 Pharmacology for Advanced Nursing Practice (3 credit hours)

Requirements—19 Credit Hours Minimum

Required for All Nurse Practitioner Certificate Tracks—6 Credit Hours

- NGR 6941 Advanced Practice Practicum (6 credit hours)

NOTE: Applicants who are licensed as Advanced Practice Nurses may have up to 3 credit hours of NGR 6941 Advanced Practice Practicum waived.

Required Courses for Adult Nurse Practitioner—13 Credit Hours

- NGR 6240 Adult I for APNs (3 credit hours)
- NGR 6240L Adult I Clinical for APNs (3 credit hours)
- NGR 6242 Adult II for APNs (2 credit hours)
- NGR 6242L Adult II Clinical for APNs (2 credit hours)
- NGR 6334 Womens Health for APNs (2 credit hours)
- NGR 6482L Womens Health for APNs Clinical (1 credit hour)

Contact Info

Jean Kijek, Ph.D. , Associate Professor
 Phone Number: 407-823-2744
gradnurs@mail.ucf.edu

Graduate Certificate in Aging Studies

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

In recognition of the special needs of elderly citizens, UCF offers a fifteen-hour interdisciplinary Graduate Certificate in Aging Studies. This graduate certificate program is designed for people presently employed in the aging field who have a baccalaureate or higher degree and who wish to increase their knowledge of aging studies. Graduate students who are enrolled in health sciences, psychology, social work, nursing, communicative disorders, or sociology, as well as in other areas, such as liberal arts, music education, physical education, or art education, will find the certificate valuable. The mission of aging studies is to prepare individuals from diverse disciplines to address the physiological, psychological, sociological, environmental, cultural, legal-ethical, and public policy dynamics inherent in the lives of older adults.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. Applicants are required to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Aging Studies		Jul 15	Dec 1	Apr 15

Requirements

Requirements—15 Credit Hours Minimum

Required Course—3 Credit Hours

- GEY 5648 Gerontology: An Interdisciplinary Overview

Elective Courses—12 Credit Hours

Select four courses from the following.

- CLP 5187 Mental Health and Aging (3 credit hours)
- GEY 5600 Physiology of Aging (3 credit hours)
- GEY 5007 Women and Healthy Aging (3 credit hours)
- NGR 5931 Interdisciplinary Care at End-of-Life (3 credit hours)
- PHT 6374* Gerontology in Physical Therapy* (3 credit hours)
- SOW 5642 Aging in Social Situations (3 credit hours)
- SOW 5644 Interventions with the Elderly and Their Families (3 credit hours)
- SPA 5477 Aging and Communication (3 credit hours)
- SYP 5738 Seminar on the Welfare State and Aging (3 credit hours)
- SYP 6565 Elder Abuse and Neglect (3 credit hours)

* Physical Therapy majors only

Contact Info

George Jacinto, M.Ed., MSW, LCSW, CPC

Phone Number: 407-823-5428

gjacinto@mail.ucf.edu

Graduate Certificate in Applied Mathematics

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The Graduate Certificate in Applied Mathematics is designed to provide students with a strong mathematical and analytical foundation for course work, research, and practical applications in disciplines where mathematics is an essential tool.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Applied Mathematics		Jul 15	Dec 1	Apr 15

Requirements

Required Courses—9 Credit Hours Minimum

Select three courses from the following list.

- MAA 5405 Complex Variables (3 credit hours)
- MAP 5407 Applied Mathematics I (3 credit hours)
- MAP 5426 Special Functions (3 credit hours)
- MAP 5435 Advanced Mathematics for Engineers (3 credit hours)
- MAP 6424 Transform Methods (3 credit hours)
- MAP 6507 Wave Propagation Through Random Media (3 credit hours)

Contact Info

Ram Mohapatra, Ph.D. , Professor
Phone Number: 407-823-5822
mathgrad@mail.ucf.edu

Graduate Certificate in Applied Operations Research

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

Operations research (OR) models and solution techniques provide a powerful arsenal for solving complex resource allocation and management problems. For instance, OR has been used to solve many of the scheduling, distribution, staffing, and design problems in industry. As more powerful desktop computers and software become available, the potential to apply OR models and methods to such problems will grow. This graduate certificate program gives students a good overview of OR tools, develops competence in modeling programs, and provides practice and hands-on experience with OR tools.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Applied Operations Research		Jul 15	Dec 1	Apr 15

Requirements

Required Courses—12 Credit Hours Minimum

- ESI 5219 Engineering Statistics (3 credit hours)
- ESI 5316 Operations Research (3 credit hours)
- ESI 5419C Engineering Applications of Linear and Nonlinear Optimization (3 credit hours)
- ESI 5531 Discrete Systems Simulation (3 credit hours)

Contact Info

Ahmad Elshennawy, Ph.D. , Associate Professor
Phone Number: 407-823-2204
gc-iems@mail.ucf.edu

Graduate Certificate in Arts Management

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The Graduate Certificate Program in Arts Management provides introductory as well as advanced exposure to the concepts and tools of arts management. Individuals who matriculate through this program will have a solid understanding of the parameters of arts programs, the needs of arts groups, and the ways in which arts managers function to accomplish successful results.

Students wishing to earn a master's degree can apply for the Master of Arts in Liberal Studies program and complete the Arts Management graduate certificate as their concentration.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

The admission standards include some experience in the arts, either through course work at the undergraduate or graduate level, or through professional experience working for an arts organization. An interview with the Director is also required.

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Arts Management		Jun 30	Nov 15	Mar 30

Requirements

Requirement—13.5 Credit Hours Minimum

Students enrolled in the program will take three business classes (1.5 credits each) and at least three of the four arts management courses (3 credits each). Overall GPA must be 3.0 to receive the graduate certificate.

Required Course—4.5 Credit Hours

- ACG 5005 Accounting Foundations (1.5 credit hours)

- MAN 5021 Management Foundations (1.5 credit hours)
- MAR 5055 Marketing Foundations (1.5 credit hours)

Elective Course—9 Credit Hours

Choose three from the four following courses:

- TPA 5405 Theatre Management for Non-Majors (3 credit hours)
- FIL 5609 Film and Internet Business (3 credit hours)
- MUM 5806 Performing Arts Management (3 credit hours)
- ART 5811C The Professional Practice of Art (3 credit hours)

Contact Info

Elliot Vittes, Director of Liberal Studies, Ph.D.

Phone Number: 407-823-2745

mls@mail.ucf.edu

Graduate Certificate in CAD/CAM Technology

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The Graduate Certificate in CAD/CAM Technology prepares engineers for careers in design. The focus is on engineering practice and experience as students learn to solve problems within realistic industrial constraints. This graduate certificate program offers a variety of learning opportunities for professional development.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in CAD/CAM Technology		Jul 15	Dec 1	Apr 15

Requirements

Required Courses—9 Credit Hours Minimum

- EML 5025C Engineering Design Practice (3 credit hours)
- EML 5532C Computer-Aided Design for Manufacture (3 credit hours)
- EGN 5858C Prototyping and Product Realization (3 credit hours)

Contact Info

Ruey-hung (Ray) Chen, Ph.D. , Associate Professor
 Phone Number: 407-823-2416
gradmmae@mail.ucf.edu

Graduate Certificate in Career Counseling

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The newly approved Graduate Certificate in Career Counseling Program begins in Summer 2003.

The Graduate Certificate in Career Counseling is designed to offer additional training to counselors and other professionals who provide career counseling or consultation services. To tailor an area of concentration, the program is composed of three graduate courses addressing career counseling and at least one graduate-level specialization elective in some specific academic discipline.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Career Counseling		Jul 15	Dec 1	Apr 15

Requirements

Required Courses—12 Credit Hours Minimum

Core Courses (9 credit hours)

- SDS 6347 Career Development (3 credit hours)
- MHS 6306 Applied Career Development (3 credit hours)
- MHS 6307 Applied Career Development II (3 credit hours)

Elective (3 credit hours)

Students may choose to specialize in some specific academic discipline or tailor their own areas of concentration. Choose one elective course from the following list:

- MHS 6020 Mental Health Care Systems (3 credit hours)
- EDA 6540 Organization & Administration of Higher Education (3 credit hours)

- SDS 6620 Organization and Administration of School Counseling and Guidance Programs (3 credit hours)
- SOW 5305 Social Work Practice I: Generalist Practice (3 credit hours)
- MAN 5021 Management Foundations (1.5 credit hours)
- MAN 6305 Human Resource Management (3 credit hours)

Contact Info

Andrew Daire, Ph.D. , Assistant Professor

Phone Number: 407-823-0385

adaire@mail.ucf.edu

Graduate Certificate in Child Language Disorders

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

Comprising over 50 percent of the caseload of school-based practitioners, child language disorders are the most prevalent communication disorder served by speech language pathologists. The Graduate Certificate in Child Language Disorders provides prospective and practicing speech-language pathologists with advanced knowledge and skills to manage children with language disorders.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Child Language Disorders		Jul 15	Dec 1	Apr 15

Requirements

Requirements—12 Credit Hours Minimum

Required Courses—6 Credit Hours

- SPA 6401 Language Disorders in Infants and Toddlers (3 credit hours)
- SPA 6843 Severe Language-Based Reading and Writing Disabilities (3 credit hours)

Elective Courses—6 Credit Hours

Two elective courses are required in communicative disorders or related disciplines. Elective courses must be selected in consultation with the students adviser.

Contact Info

Thomas Mullin, Ph.D. , Associate Professor
Phone Number: 407-823-4798
tmullin@mail.ucf.edu

Graduate Certificate in Children's Services

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The Graduate Certificate in Children's Services is designed to prepare students to work with children and families who are facing issues of abuse or neglect, or are involved in some way with the child welfare system. Students learn how to assess abuse and neglect and to develop appropriate ways to work with the families and elements of the child welfare system. The graduate certificate includes both academic work and a specialized field internship. The program is a joint effort between the Schools of Social Work in Florida and the Department of Children and Families and Title IV-E to improve services to children and their families. Internship stipends are available to students participating in the Title IV-E child welfare training program. Interested students should contact the social work field director.

Admission

The Children's Services certificate can only be taken as part of the Master of Social Work program. Students interested in the certificate should contact the MSW Program Director and the Field Education Coordinator to ensure a proper field placement.* Applicants are required to [apply online](#).
* Placement is with the Department of Children and Families or related agencies (working with protective services or child welfare). Students need to discuss their interest in the certificate with the Field Office while arranging for the MSW placement.

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Children's Services		Jul 15	Dec 1	Apr 15

Requirements

Requirements—15 Credit Hours Minimum

- SOW 5652 Children's Services in Social Work (3 credit hours)*
- SOW 5655 Child Abuse: Treatment and Prevention (3 credit hours)*
- SOW 6612 Clinical Practice with Families (3 credit hours)
- SOW 6535 Clinical Field Education I (3 credit hours)
- SOW 6536 Clinical Field Education II (3 credit hours)

* Students who completed these courses for the undergraduate certificate in Children's Services must contact the program director to arrange for appropriate course substitutions to be made.

Contact Info

George Jacinto, M.Ed., MSW, LCSW, CPC

Phone Number: 407-823-5428

gjacinto@mail.ucf.edu

Graduate Certificate in Coaching

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The Graduate Certificate in Coaching is designed to prepare coaches in youth, school, and recreational programs. These courses will provide teachers with two of the three required courses for the coaching endorsement, a requirement in the State of Florida to coach in public school. The additional requirement to gain the coaching endorsement can be obtained by taking an undergraduate course or completing a county workshop on coaching specialization. Students completing this program can be hired in school districts, youth sports programs, and other recreational agencies needing trained and certified coaches.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. A prerequisite/co-requisite would be a course or workshop in a coaching specialization. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Coaching		Jul 15	Dec 1	Apr 15

Requirements

Required Courses—15 Credit Hours Minimum

- PET 5355 Exercise and Health (3 credit hours)
- PET 5635 Advanced Human Injuries (3 credit hours)
- PET 5766 Advanced Coaching Theory (3 credit hours)
- PET 6391 Training and Conditioning Techniques for Coaches (3 credit hours)
- PET 6217 Peak Performance in Sports (3 credit hours)

Prerequisite/Co-requisite Choices

Choose one course from the following selection or complete credit via a county workshop.

- PEO 2624 Coaching Basketball (3 credit hours)
- PEO 3644 Coaching Football (3 credit hours)
- PEO 3324 Coaching Volleyball (3 credit hours)

Contact Info

Patricia Higginbotham, Ed.D. , Associate Professor

Phone Number: 407-823-2050

higginbp@mail.ucf.edu

Graduate Certificate in Communications Systems

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

Every day we use a variety of modern communication systems and communication media, including the telephone, radio, television, electronic mail, and facsimile. The Graduate Certificate in Communication Systems provides the basic principles in the analysis and design of communication systems. After studying the background concepts of probability, random variables, and stochastic processes, students will be able to analyze existing or new communication systems. The fundamental elements of all communication systems (transmitter, channel, and receiver) will be thoroughly investigated and a number of practical communication systems will be discussed in detail.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Communications Systems		Jul 15	Dec 1	Apr 15

Requirements

Required Courses—9 Credit Hours Minimum

- EEL 5542 Random Processes I (3 credit hours)
- EEL 6504 Communications Systems Design (3 credit hours)
- EEL 6530 Communication Theory (3 credit hours)

Contact Info

Michael Georgiopoulos, Ph.D. , Professor
Phone Number: 407-823-2786
gradece@mail.ucf.edu

Graduate Certificate in Community College Education

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The graduate certificate program in Community College Education is designed to prepare individuals to become campus leaders at all organizational levels in community colleges, including the classroom. The program consists of five graduate courses that cover all facets of community college education. The courses are available online in Web-based format.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Community College Education		Jul 15	Dec 1	Apr 15

Requirements

Required Courses—15 Credit Hours

- EDH 6053 The Community College in America (3 credit hours)
- EDH 6061 Contemporary Problems in Community Colleges (3 credit hours)
- EDH 6204 Community College Organization, Administration, and Supervision (3 credit hours)
- EDH 6215 Community College Curriculum (3 credit hours)
- EDH 6305 Teaching and Learning in the Community College (3 credit hours)

Contact Info

Ruby Evans, Ed.D. , Associate Professor

Phone Number: 407-823-1129

revans@mail.ucf.edu

Graduate Certificate in Computer Forensics

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The National Center for Forensic Science (NCFS), the School of Computer Science, and the Department of Chemistry jointly sponsor the interdisciplinary graduate certificate program in Computer Forensics. In addition, the Liberal Studies Program in the College of Arts and Sciences offers a Master of Arts degree in Liberal Studies with a concentration in Computer Forensics. This web-assisted certificate program provides a unique opportunity of graduate training to professionals and paraprofessionals who deal directly or indirectly with digital evidence, including law enforcement investigators, forensic laboratory analysts, lawyers and judges, and corporate computer security specialists.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Computer Forensics		Jul 15	Dec 1	Apr 15

Requirements

Requirements—15 Credit Hours Minimum

To receive the certificate, students must take the four required courses and one of the elective courses listed below, for a total of 15 semester hours. A minimum grade point average of 3.0 is required in all courses applied to this certificate program.

Required Courses—12 Credit Hours

- CHS 5503 Topics in Forensic Science (3 credit hours)
- CHS 5596 The Forensic Expert in the Courtroom (3 credit hours)

- CGS 5131 Computer Forensics I: Seizure and Examination of Computer Systems (3 credit hours)
- CGS 5132 Computer Forensics II: Network Security, Intrusion Detection, and Forensic Analysis (3 credit hours)

Electives—3 Credit Hours

Choose one course.

- CAP 6133 Advanced Topics in Computer Security and Computer Forensics (3 credit hours)
- CHS 5518 The Forensic Collection and Examination of Digital Evidence (3 credit hours)

Contact Info

Sheau-Dong Lang, Ph.D. , Associate Professor

Phone Number: 407-823-2474

lang@cs.ucf.edu

Graduate Certificate in Conservation Biology

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The Graduate Certificate in Conservation Biology emphasizes basic and applied conservation biology. The Department of Biology provides basic courses on campus, while scientists at Disney's Animal Kingdom offer applied courses on Disney property. This program offers an excellent opportunity for cross-discipline training that provides conservation theory in a classroom setting and valuable field work in the laboratory portions of the Biology courses. Practical experience dealing with small animal populations is provided within Disney's unique zoological setting.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must also submit an essay that describes their interests and background in conservation biology. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Conservation Biology		Jan 15		

Students applying for summer or spring admission will be considered on an ad hoc basis.

Requirements

Requirements—12 credit hours minimum

Students should take two courses from Group A, at least one course from Group B, and one course from Group C.

Group A

- EVR 5930 Seminar in Conservation Issues (1 credit hour)
- PCB 5045C Conservation Biology (4 credit hours)

- PCB 5328C Landscape Ecology (4 credit hours)
- PCB 5520 Behavioral Ecology (3 credit hours)
- PCB 5556C Conservation Genetics (4 credit hours)
- PCB 5XXXC Quantitative Methods in Conservation Biology (4 credit hours)
- PCB 5XXXC Restoration Ecology (4 credit hours)

Group B

- ZOO 5463C Herpetology (4 credit hours)
- ZOO 5475C Ornithology (4 credit hours)
- ZOO 5486C Mammalogy (4 credit hours)
- ZOO 5456C Ichthyology (4 credit hours)
- PCB 5326C Ecosystems of Florida (5 credit hours)
- PCB 5435C Marine Ecology of Florida (4 credit hours)
- PCB 6035C Wetland Ecology (4 credit hours)

Group C

- ZOO 5517 Methods for Studying Animal Behavior in Zoo Setting (1 credit hour)
- ZOO 5891 Applied Conservation Biology (1 credit hour)
- ZOO 5893L Reproductive Management in Zoological Environments (1 credit hour)

Contact Info

John Weishampel, Ph.D. , Associate Professor

Phone Number: 407-823-6525

jweisham@mail.ucf.edu

Graduate Certificate in Contemporary Humanities

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The Graduate Certificate in Contemporary Humanities is an interdisciplinary program that focuses on contemporary western and non-western concerns. By encouraging students to develop unique, cross-disciplinary perspectives on how contemporary trends, such as advancing technology and globalization, affect who we are and what we are becoming, the Contemporary Humanities graduate certificate has the potential to affect scholarly inquiry in both humanistic and non-humanistic fields and to serve Central Florida, a site of rapid technological and demographic change.

Faculty in the Department of Philosophy will teach core and selected elective courses. Other courses, focusing on some particular area of inquiry in Art, Anthropology, Communication, English, English Education, History, Liberal Studies, Philosophy, Political Science, Spanish, Theatre, Woman's Studies, are taught by faculty in those departments and disciplines.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must [apply online](#). Relevant experiences with the humanities through course work at the undergraduate or graduate level or through professional experience working with cultural documents, analyses, or performances will be evaluated by the coordinator together with the certificate committee composed of faculty from the participating departments. Additionally, it is normally expected that applicants will have a grade point average of 3.0. However, the committee may grant exceptions where applications provide other indicators of preparedness.

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Contemporary Humanities		Jun 30	Nov 15	Mar 30

Requirements

Requirements—15 Credit Hours Minimum

Required Courses

- HUM 5803 Theories and Methods of the Humanities (3 credit hours)
- HUM 5802 Applied Contemporary Humanities (3 credit hours)

Elective Courses—9 Credit Hours

Students may choose to specialize in some specific academic discipline or tailor their own areas of concentration. Choose elective courses from the following list.

- AMH 5296 Colloquium in 20th Century U.S. (3 credit hours)
- AMH 5391 Colloquium in U.S. Cultural History (3 credit hours)
- ANG 6324 Contemporary Maya (3 credit hours)
- ASH 5408 Colloquium in Modern China (3 credit hours)
- COM 6303 Communication Research I (3 credit hours)
- COM 6468 Communication and Conflict (3 credit hours)
- CPO 5334 Contemporary Politics of the Mayan Region (3 credit hours)
- CPO 6091 Seminar in Comparative Politics (3 credit hours)
- ENC 5256 Gendered Rhetoric (3 credit hours)
- ENG 5018 Literary Criticism (3 credit hours)
- ENC 5425 Hypertext Theory and Design (3 credit hours)
- ENC 5427 Hypertext (3 credit hours)
- ENC 5705 Theory and Practice in Composition (3 credit hours)
- ENC 6261 Technical Writing, Theory and Practice (3 credit hours)
- ENC 5337 Modern Rhetorical Theory (3 credit hours)
- EUH 5285 Colloquium in Europe since World War II (3 credit hours)
- LAE 5415 Childrens Literature in Elementary Education (3 credit hours)
- LAE 5465 Literature for Adolescents (3 credit hours)
- PHI 5627 Theoretical and Applied Ethics (3 credit hours)
- PHI 5665 Knowledge, Responsibility, and Society (3 credit hours)
- PHM 5035 Environmental Philosophy (3 credit hours)
- POS 6324 Women and Public Policy (3 credit hours)
- SPN 5505 Spanish Peninsular Culture and Civilization* (3 credit hours)
- SPN 5506 Spanish American Culture and Civilization* (3 credit hours)
- SPW 6585 Contemporary Peninsular Literature* (3 credit hours)
- SPW 6306 Spanish American Drama I* (3 credit hours)
- SPW 6356 Spanish American Poetry* (3 credit hours)
- SPW 6217 Spanish-American Prose I* (3 credit hours)
- SPW 6218 Spanish American Prose II* (3 credit hours)
- SPW 6725 The Generation of 1898* (3 credit hours)
- SPN 5502 Hispanic Culture of the United States (3 credit hours)
- THE 5307 Contemporary Theatre Practice (3 credit hours)
- WST 5347 Research Seminar in Gender Studies (3 credit hours)

All elective courses have been approved for inclusion by the relevant departments. However, students without relevant prerequisites will need to obtain consent of the instructor in order to enroll.

*Spanish courses are taught in Spanish. Students will need to pass a Spanish proficiency exam in order to enroll.

Contact Info

Bruce Janz, Ph.D. , Associate Professor

Phone Number: 407-823-6857

janzb@mail.ucf.edu

Graduate Certificate in Corrections Leadership

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

Corrections Leadership is a rapidly growing area of criminal justice. Private, state, and federal agencies alike are seeking qualified managers and leaders to meet the changing needs of the twenty-first century. Leaders of correctional facilities and programs should be prepared to meet the challenges of changing policies and effectively deal with the management of budgets, grants, cooperative agreements, and other inter-governmental projects.

The certificate program in Corrections Leadership is designed to provide a theoretical and practical knowledge base for correctional practitioners in Criminal Justice, Public Administration, and Social Work. The Corrections Leadership certificate program consists of two required courses and two elective courses for a total of 12 credit hours.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Corrections Leadership		Jul 15	Dec 1	Apr 15

Requirements

Requirements—12 Credit Hours Minimum

Required Courses—6 Credit Hours

- CJC 5020 Foundations of Corrections (3 credit hours)
- CCJ 6217 Law and Social Control (3 credit hours)

Elective Courses—6 Credit Hours

Choose two of the following courses.

- CCJ 5467 Justice and Safety System Manpower (3 credit hours)
- CCJ 6106 Policy Analysis in Criminal Justice (3 credit hours)
- CCJ 6485 Issues in Justice Policy (3 credit hours)
- PAD 5041 Ethics and Values in Public Administration (3 credit hours)
- PAD 6335 Strategic Planning and Management (3 credit hours)
- PAD 6417 Human Resource Management (3 credit hours)
- SOW 5132 Diverse Client Populations (3 credit hours)
- SOW 5712 Interventions with Substance Abusers (3 credit hours)

Contact Info

K. Michael Reynolds, Ph.D. , Associate Professor

Phone Number: 407-823-2603

kreynold@mail.ucf.edu

Graduate Certificate in Crime Analysis

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The Graduate Certificate in Crime Analysis provides information for data-driven management, investigative support, and general crime analysis. This unique graduate certificate program is designed to provide essential skills that are critically needed by law enforcement agencies to meet new demands for sophisticated crime analysis and mapping products.

The program addresses the needs of traditional criminal justice graduate students and nontraditional criminal justice practitioners. Theoretical aspects of crime pattern analysis are combined with practical applications to understand the development of data-driven crime prevention strategies. Crime pattern recognition and examination are emphasized.

The program emphasizes data management abilities that are essential for sophisticated crime analysis. Students learn to synthesize theory and application in order to produce the knowledge base necessary to 1) fully utilize available technologies to develop and perform complex crime analysis and mapping, 2) perform advanced spatial analyses of crime, and 3) understand the essentials of creating customized crime analysis and mapping applications that are agency-specific.

The certificate program is affiliated with the Master of Science in Criminal Justice and administered by the Department of Criminal Justice. The program follows UCF policies and procedures for graduate certificate programs.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Crime Analysis		Jul 15	Dec 1	Apr 15

Requirements

Requirements—9 Credit Hours Minimum

The Crime Analysis certificate program consists of three required courses, which are taught in a computer lab with a hands-on environment. The courses must be taken in the following sequential order:

- CCJ 5073 Data Management Systems for Crime Analysis - Fall (3 credit hours)
- CCJ 6079 Crime Mapping and Analysis in Criminal Justice - Spring (3 credit hours)
- CCJ 6077 Advanced Crime Mapping and Analysis in Criminal Justice - Summer (3 credit hours)

Entry into a graduate certificate program does not guarantee admission to a graduate program. However, once a student has applied to and is accepted into a regular graduate program, credits from a certificate program may be applied toward an existing graduate program with the consent of the program. No internship or independent study may be used in a certificate program. A certificate program must be completed within three years of the start of the first course in the certificate program.

Contact Info

K. Michael Reynolds, Ph.D. , Associate Professor

Phone Number: 407-823-2603

kreynold@mail.ucf.edu

Graduate Certificate in Design for Usability

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

Too often we hear about products, services, or systems that are supposedly designed with the user in mind, only to discover that the design is ineffective or unfriendly to users. The Graduate Certificate in Design for Usability educates students in the methods of user-centered design and usability engineering that can be used to assess and assure usability throughout a product, service, or system development cycle. Students will learn how to design products that are both ergonomically sound and "user-friendly," as well as how to plan and conduct usability tests, analyze related data, and use the results to improve the design of a product, service, or system.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Design for Usability		Jul 15	Dec 1	Apr 15

Requirements

Required Courses—12 Credit Hours Minimum

- EIN 5248C Ergonomics (3 credit hours)
- EIN 5251 Human-Computer Interaction: Usability Evaluation (3 credit hours)
- EIN 6258 Human Computer Interaction (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)

Contact Info

Ahmad Elshennawy, Ph.D. , Associate Professor
Phone Number: 407-823-2204
gc-iems@mail.ucf.edu

Graduate Certificate in Domestic Violence

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The Department of Sociology and Anthropology offers a Sociology Graduate Certificate in Domestic Violence for persons working or planning to work in the domestic violence field or whose occupational responsibilities include contacts with the victims or perpetrators of domestic violence. The program addresses domestic violence definitions, causes, consequences, and prevention strategies from a sociological perspective. By analyzing the social forces contributing to domestic violence, professionals working in social service, mental health, medical, law enforcement, legal and educational fields will increase their knowledge and skills in developing, implementing, and evaluating intervention strategies.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Domestic Violence		Jul 15	Dec 1	Apr 15

Requirements

Requirements—12 Credit Hours Minimum

All required courses are offered regularly in the evenings on the Orlando campus of UCF as well as the area campuses. By taking one course per term, students may complete the graduate certificate program in any four consecutive terms. Non—degree—seeking students as well as those in other graduate programs can enroll in any of the Domestic Violence Certificate courses without being admitted into the Master of Arts Program in Applied Sociology. All courses, however, will be accepted as part of the masters degree.

Required Courses—6 Credit Hours

- SYP 5562 Seminar in Domestic Violence: Theory, Research and Social Policy (3 credit hours)

- SYP 6563 Reactions to Domestic Violence (3 credit hours)

Elective Courses—6 Credit Hours

Choose two of the following courses:

- SYA 6657 Program Design and Evaluation (3 credit hours)
- SYP 6565 Elder Abuse and Neglect (3 credit hours)
- SYP 6561 Child Abuse in Society (3 credit hours)

Graduate Certificate Completion

Students must submit a Graduate Certificate Completion form when they register for the final course in the Domestic Violence Certificate program. The Program Coordinator and College Representative must record and verify students coursework before the Domestic Violence Certificate can be awarded.

Policies

Students must earn a grade of "B-" (2.75) or better to get credit toward the graduate certificate. Courses may be retaken to achieve a better grade. However, the certificate will only be awarded if the overall grade point average for all courses in the certificate program of study is 3.0 or higher.

No graduate credit hours taken at other institutions may be applied to the Domestic Violence Certificate program. With the consent of the Program Coordinator, UCF students who completed either required or elective courses in the Domestic Violence Certificate program as undergraduates may apply them toward the certificate.

Contact Info

Jana Jasinski, Ph.D. , Assistant Professor

Phone Number: 407-823-2227

jjasinsk@mail.ucf.edu

Graduate Certificate in e-Learning Professional Development

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

An increasing number of industries, corporations, universities and K-12 schools are using telecommunications technologies to facilitate e-learning. Consequently, there is a growing need for highly skilled online distance educators and course designers to support e-learning across the nation and around the world. The e-Learning Professional Certificate program will prepare students to facilitate e-learning and generate high-quality e-learning materials in business and industry, higher education and K-12 schools.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Complete information can be found at [Graduate Certificate Programs](#). Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in e-Learning Professional Development		Jul 15	Dec 1	Apr 15

Requirements

Required Courses—15 Credit Hours

- EME 6207 Multimedia Instructional Systems I (3 credit hours)
- EME 6613 Instructional Systems Design (3 credit hours)
- EME 6209 Multimedia Instructional Systems II (3 credit hours)
- EME 6457 Distance Education: Technology, Process and Product (3 credit hours)
- EME 6946 Practicum/Internship (3 credit hours)

Contact Info

Atsusi "2c" Hirumi, Ph.D. , Associate Professor
Phone Number: 407-823-1760
hirumi@mail.ucf.edu

Graduate Certificate in Electronic Circuits

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The Graduate Certificate in Electronic Circuits emphasizes modern design practice for power electronics, CMOS-integrated circuits, computer-aided circuit simulation, semiconductor device modeling, advanced analog and digital circuits, and advanced machinery. The power electronics courses cover principles of power electronics, power semiconductor devices, inverter topologies, switch-mode and resonant dc-to-dc converters, cyclo-converters, and advanced topics, such as soft-switching techniques, small-signal modeling of PWM and resonant converters, control techniques, power factor correction circuits. Conventional analog circuits such as ideal and non-ideal OP-amps, active RC and switched-capacitor filters, non-linear and other functional circuits, frequency stability and compensation of OP-amps will also be included. For electronic circuit design, SPICE circuit simulation is an essential computer-aided design tool, and course work focuses on semiconductor device modeling for circuit simulation, illustration of semiconductor device physics, and design principles of advanced CMOS analog and digital circuits in mixed-signal integrated circuits. Extensive circuit simulation and design examples will be provided.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Electronic Circuits		Jul 15	Dec 1	Apr 15

Requirements

Requirements—12 Credit Hours Minimum

Required Courses—6 Credit Hours

- EEL 5245C Power Electronics (3 credit hours)
- EEL 5378 CMOS Analog and Digital Circuit Design (3 credit hours)

Elective Courses—6 Credit Hours

Choose two courses from the following.

- EEL 5353 Semiconductor Device Modeling and Simulation (3 credit hours)
- EEL 5370 Operational Amplifiers (3 credit hours)
- EEL 6208 Advanced Machines (3 credit hours)
- EEL 6246 Power Electronics II (3 credit hours)

Contact Info

Michael Georgiopoulos, Ph.D. , Professor

Phone Number: 407-823-2786

gradece@mail.ucf.edu

Graduate Certificate in English for Speakers of Other Languages (ESOL) Endorsement K-12

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The number of nonnative students in the K-12 setting in the state of Florida as well as in most states is rapidly increasing. These learners represent an array of different languages and cultural backgrounds. With this increase in nonnative students as well as first language background comes an increase in the demand for qualified teachers who have the necessary knowledge and skills to work with ESOL students.

The UCF ESOL Endorsement K-12 certificate program provides students with specialized knowledge and training in the five endorsement areas that the state of Florida requires that K-12 teachers have. The UCF program focuses on these five required areas: applied linguistics, curriculum, testing, methodology, and cross-cultural awareness. Successful completion of the certificate meets the requirements for the state of Florida add-on endorsement for ESOL K-12. (Note: Upon successful completion, students will need to complete separate paperwork with the state of Florida for official recognition of this endorsement.)

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in English for Speakers of Other Languages (ESOL) Endorsement K-12		Jul 15	Dec 1	Apr 15

Requirements

Required Courses—15 hours

- TSL 5345 Methods of ESOL Teaching or TSL 6940 ESOL Practicum (3 credit hours)
- TSL 5525 ESOL Cultural Diversity or EDF 6886 Multicultural Education (3 credit hours)

- TSL 6142 Critical Approaches to ESOL (3 credit hours)
- TSL 6250 Applied Linguistics in ESOL (3 credit hours)
- TSL 6440 Problems in Evaluation in ESOL (3 credit hours)

Contact Info

Keith Folse, Ph.D. , Assistant Professor
Phone Number: 407-823-0087
teslgrad@pegasus.cc.ucf.edu

Graduate Certificate in Family Nurse Practitioner

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The Post-Master's Graduate Certificate option is designed to prepare nurses who already have a master's degree in nursing as Family Nurse Practitioners. The program is 21 credits in length and includes up to 630 hours of clinical practice. There are 11 credit hours of prerequisite requirements. Up to 3 credit hours of Advanced Practice Practicum, NGR 6941, may be waived for applicants who are licensed as Advanced Practice Nurses (APNs).

Admission

Requirements for admission to the program include the following:

- A master's degree in nursing from a program accredited by NLNAC (National League for Nursing Accreditation Commission) or CCNE (Commission on Collegiate Nursing Education)
- Licensure as a Registered Nurse in Florida
- Completion of undergraduate health assessment course

Admission to the program is competitive on a space-available basis. Applicants must [apply online](#).

Application Process

The following information must be submitted to UCF Graduate Studies in order to be considered:

- Non-degree online application from Graduate Studies for the certificate program
- Official transcripts of BSN degree
- Official transcripts of graduate course work showing awarding of master's degree
- Three letters of recommendation from individuals who can judge abilities for Advanced Practice Nursing, preferably nurse instructors, nurse employers, or nurses with advanced degrees
- Personal statement describing interest in completing certificate program
- UCF Health Form (Upon acceptance to the program, a School of Nursing Health Form will be required.)
- Resume (no longer than two pages)
- Copy of RN License

Program Progression

All UCF Graduate Studies requirements for progression must be met. This includes, but is not limited to, completion of all required courses within a three-year period and achievement of a grade of "B" or better in all courses.

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Family Nurse Practitioner		Jun 15	Oct 15	

Requirements

Prerequisites

The following graduate-level courses are prerequisites for the program. Courses with a grade of B or better will be accepted.

- NGR 5003 Advanced Health Assessment, Health Promotion, and Diagnostic Reasoning (3 credit hours)
- NGR 5004L Advanced Health Assessment, Health Promotion, and Diagnostic Reasoning Clinical (2 hours)
- NGR 5141 Pathophysiologic Bases for Advanced Nursing Practice (3 credit hours)
- NGR 6192 Pharmacology for Advanced Nursing Practice (3 credit hours)

Requirements—21 Credit Hours Minimum

Required for All Nurse Practitioner Graduate Certificates—6 Credit Hours

- NGR 6941 Advanced Practice Practicum (6 credit hours)

NOTE: Applicants who are licensed as Advanced Practice Nurses may have up to 3 credit hours of NGR 6941 Advanced Practice Practicum waived.

Required Courses for Family Nurse Practitioner—15 Credit Hours

- NGR 6240 Adult I for APNs (3 credit hours)
- NGR 6240L Adult I Clinical for APNs (3 credit hours)
- NGR 6242 Adult II for APNs (2 credit hours)
- NGR 6331 Pediatrics I for APNs (2 credit hours)
- NGR 6331L Pediatrics I Clinical for APNs (2 credit hours)
- NGR 6334 Womens Health for APNs (2 credit hours)
- NGR 6482L Womens Health for APNs Clinical (1 credit hour)

Contact Info

Jean Kijek, Ph.D. , Associate Professor
 Phone Number: 407-823-2744
gradnurs@mail.ucf.edu

Graduate Certificate in Foreign Language Education

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The Foreign Language Education Graduate Certificate program is designed for in-service foreign language educators who seek additional expertise in their discipline and for in-service foreign language teachers for re-certification.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. Applicants must possess proficiency in English and the target language. Applicants must complete FLE 4333 Foreign Language Teaching in the Secondary School or an equivalent secondary methods course before acceptance into the certificate program. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Foreign Language Education		Jul 15	Dec 1	Apr 15

Requirements

Requirements—18 credit hours minimum

Required Courses—9 hours

- FLE 6695 Professional Development in Foreign Language Education (3 credit hours)
- EDF 6886 Multicultural Education (3 credit hours)
- FLE 6455 Curriculum and Materials in Foreign Language Teaching (3 credit hours)

Electives—9 hours

Choose three courses with adviser approval:

- FLE 5335 Foreign Language Methods at the Elementary Level (3 credit hours)
- FLE 6705 Testing and Evaluation in Foreign Language Education (3 credit hours)
- EDM 6321 Middle Level Instruction (3 credit hours)
- EDF 6206 Challenges of Classroom Diversity (PR: Graduate Standing, EDF 6886, or C.I.) (3 credit hours)
- SPN 5705 Introduction to Spanish Linguistics (3 credit hours)*
- SPN 5502 Hispanic Culture of the United States (3 credit hours)*
- EME 5050 Fundamentals of Technology for Educators (3 credit hours)**
- LAE 5295 Writing Workshop I (3 credit hours)**

* *Near native proficiency in Spanish is required*

** *Online courses*

Contact Info

Karen Verkler, Ph.D. , Associate Professor

Phone Number: 407-823-5235

kverkler@mail.ucf.edu

Graduate Certificate in Gender Studies

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

Gender Studies is an interdisciplinary graduate certificate program administered by the Women's Studies Program in coordination with the Department of Sociology and Anthropology and the Department of English. This program provides a foundation in feminist theory and research focusing on the study of gender as a demographic and social variable affecting systems of meaning and the formation of social institutions. The program is open to both degree-seeking and non-degree-seeking graduate students. Most courses are offered at times that will accommodate part-time and working students.

Gender Studies Faculty

Gender Studies Faculty are affiliated with the Women's Studies Program and include faculty in Art, English, History, Philosophy, Psychology, Political Science, Sociology and Anthropology, and Women's Studies. For a full list of affiliated faculty, visit the website for the Women's Studies Program at www.cas.ucf.edu/womensstudies/.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Gender Studies		Jul 15	Dec 1	Apr 15

Requirements

Requirements—12 Credit Hours Minimum

The graduate certificate in Gender Studies includes courses from both the humanities and the social sciences. Additional courses may be approved as electives by the Director of Women's Studies.

Required Course—3 Credit Hours

Select one of the following:

- WST 5601 Theories in Gender Studies (3 credit hours)
- LIT 5556 Advanced Feminist Theories (3 credit hours)

Elective Credits—9 Credit Hours

- AMH 5566 Colloquium: Women in American History (3 credit hours)
- CLP 6459C Human Sexuality, Marriage, and Sex Therapies (3 credit hours)
- ENC 5256 Gendered Rhetoric (3 credit hours)
- ENL 5937 ST: Renaissance Women Writers (3 credit hours)
- ENL 6217 Gender and the Medieval Text (3 credit hours)
- *EUH 6938 Women and Gender in European History (3 credit hours)
- *LIT 5097 Studies in Contemporary Fiction (3 credit hours)
- LIT 5387 Captives, Housewives, and Coquettes (3 credit hours)
- LIT 5389 Studies in Gender and Fiction Writing (3 credit hours)
- POS 6324 Women and Public Policy (3 credit hours)
- SOW 5625 Social Work with Women (3 credit hours)
- SYD 6809 Seminar in Gender Issues (3 credit hours)
- SYP 5562 Seminar on Domestic Violence: Theory, Research and Social Therapy (3 credit hours)
- *SYP 6561 Child Abuse in Society (3 credit hours)
- SYP 6563 Reactions to Domestic Violence (3 credit hours)
- *SYP 6565 Elder Abuse and Neglect (3 credit hours)
- WST 5347 Research Seminar in Gender Studies (3 credit hours)

*Students may include only one of these courses (marked with an asterisk) toward meeting the certificate requirements.

Please Note: Entry to CLP 6459 and SOW 5625 may be restricted. Verify with the instructor.

Contact Info

Lisa Logan, Ph.D. , Associate Professor

Phone Number: 407-823-6502

womenst@pegasus.cc.ucf.edu

Graduate Certificate in Gifted Education

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The Gifted Education graduate certificate program will prepare educators to meet the learning needs of gifted students, and will lead to a Florida Teaching Certificate in Gifted Education endorsement. The certificate program coursework is based upon National Council for Gifted Children standards, its conception of giftedness, and the learning needs of gifted students.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Gifted Education		Jul 15	Dec 1	Apr 15

Requirements

Required Courses—15 credit hours

- EGI 6051 Understanding the Gifted/Talented Students (3 credit hours)
- EGI 6245 Program Planning and Methodology for Gifted/Talented Students (3 credit hours)
- EGI 6246 Education of Special Populations of Gifted Students (3 credit hours)
- SDS 6426 Guidance and Counseling of Gifted/Talented Individuals (3 credit hours)
- EGI 6305 Theory and Development of Creativity (3 credit hours)

Contact Info

David Boote, Ph.D. , Assistant Professor

Phone Number: 407-823-4160

dboote@mail.ucf.edu

Graduate Certificate in Health and Wellness

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The Graduate Certificate in Health and Wellness is designed to prepare educators to teach health, fitness, and wellness principles including information about risk behaviors and choices made by adolescents. In addition, this group of courses comprises one-half of the course work needed for a health education certification in the State of Florida. The health certificate is needed by teachers who teach Life Management Skills, a required course in Florida high schools. These courses may also be of interest to students and community members from many different disciplines concerned with youth and adolescent development.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Health and Wellness		Jul 15	Dec 1	Apr 15

Requirements

Required Courses—15 Credit Hours Minimum

- HSC 5317 Health Methods: Teaching Strategies and Interventions (3 credit hours)
- PET 5355 Exercise and Health (3 credit hours)
- PET 6088 Wellness Development in Children (3 credit hours)
- PET 6089 Personal and Organizational Wellness (3 credit hours)
- PET 6505 Wellness Technology in Physical Education (3 credit hours)

Contact Info

Patricia Higginbotham, Ed.D. , Associate Professor
Phone Number: 407-823-2050
higginbp@mail.ucf.edu

Graduate Certificate in HVAC Engineering

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The Graduate Certificate in HVAC Engineering is designed to provide students with a fundamental understanding of the principles behind HVAC engineering and the applied aspects of HVAC engineering, including analysis and design of practical systems. Students will participate in laboratory and hands-on experiences.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in HVAC Engineering		Jul 15	Dec 1	Apr 15

Requirements

Required Courses—12 Credit Hours Minimum

- EML 5066 Computational Methods in Mechanical, Materials, and Aerospace Engineering (3 credit hours)
- EML 5152 Intermediate Heat Transfer (3 credit hours)
- EML 5606 HVAC Systems Engineering (3 credit hours)
- EML 5605 Applied HVAC Engineering (3 credit hours)

Contact Info

Ruey-hung (Ray) Chen, Ph.D. , Associate Professor
 Phone Number: 407-823-2416
gradmmae@mail.ucf.edu

Graduate Certificate in Industrial Ergonomics and Safety

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

Because of increasing costs due to injuries, on-the-job accidents, and rehabilitation, interest in injury and accident prevention has increased dramatically. Designing workplaces to accommodate human workers is a key to improving worker safety and occupational health. The Graduate Certificate in Industrial Ergonomics and Safety prepares students in the design and implementation of an effective human engineering/ergonomics effort within an occupational setting.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Industrial Ergonomics and Safety		Jul 15	Dec 1	Apr 15

Requirements

Required Courses—15 Credit Hours Minimum

- EIN 5248C Ergonomics (3 credit hours)
- EIN 6215 System Safety Engineering and Management (3 credit hours)
- EIN 6249C Biomechanics (3 credit hours)
- EIN 6264C Industrial Hygiene (3 credit hours)
- EIN 6270C Work Physiology (3 credit hours)

Contact Info

Ahmad Elshennawy, Ph.D. , Associate Professor
Phone Number: 407-823-2204
gc-iems@mail.ucf.edu

Graduate Certificate in Initial Teacher Professional Preparation

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The graduate certificate program in Initial Teacher Professional Preparation is designed for those who have secured a teaching position and a temporary teaching certificate, but who need professional core courses to meet State Department of Education requirements. The goal of this program is to enable these teachers to have successful teaching experiences in grades 6-12 classrooms. Courses will be offered throughout the academic year.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Initial Teacher Professional Preparation		Jul 15	Dec 1	Apr 15

Requirements

Required Courses—15 Credit Hours

There is no mandated sequence to the classes. However, we recommend the following course sequence.

- EDG 6236 Principles of Instruction (3 credit hours)
- EDF 6608 Social Factors in American Education (3 credit hours)
- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- EDF 6432 Measurement and Evaluation in Education (3 credit hours)
- Special Methods (Course selection depends on the student's intended certification area.) (3 credit hours)

Contact Info

Deborah Becker, Ed.D.
Phone Number: 407-823-4948
dabecker@mail.ucf.edu

Graduate Certificate in Instructional/Educational Technology

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The graduate certificate in Instructional/Educational Technology provides an opportunity for study and professional training. The program requires a great deal of independent thinking and emphasis is placed on the cultivation of scholarly attitudes and methods. The certificate program will prepare students with a subject matter degree, who wish to apply for State of Florida Teacher technology positions. Also, students will acquire the subject matter needed to meet the National Educational Technology Standards for Teachers developed by the International Society for Technology in Education (ISTE) and being adopted by the National Council for Accreditation of Teacher Education (NCATE). Several courses will be taught online and others will be taught with flexible scheduling at the Orlando Campus.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Instructional/Educational Technology		Jul 15	Dec 1	Apr 15

Requirements

Required Courses—15 Credit Hours

- EME 5050 Fundamentals of Technology for Educators (3 credit hours)
- EME 5052 Electronic Resources for Education (3 credit hours)
- EME 6405 Application Software for Educational Settings (3 credit hours)
- EME 6507 Multimedia in the Classroom (3 credit hours)
- EME 6602 Integrating Technology into the Curriculum (3 credit hours)

Contact Info

Glenda Gunter, Ph.D. , Associate Professor

Phone Number: 407-823-3502

ggunter@mail.ucf.edu

Graduate Certificate in Juvenile Justice Leadership

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

Recent events in the state and in the nation have prompted policy makers, police, juvenile justice administrators, and school administrators to re-examine their role in the juvenile justice process. The juvenile justice system, long understaffed, is facing the continuing problem of increased juvenile crime, high levels of juvenile drug use and substance abuse, and debatable programs to rehabilitate delinquent children. It is one of the fastest growing career fields in criminal justice.

The certificate program in Juvenile Justice Leadership is designed to provide a theoretical and practical knowledge base for juvenile justice executives in the areas of criminal justice, public administration, and social work. This certificate program requires 12 hours of graduate course work. The successful completion of this program would allow the student to continue as a degree-seeking student in the master's program in Criminal Justice.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited university. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Juvenile Justice Leadership		Jul 15	Dec 1	Apr 15

Requirements

Requirements—12 Credit Hours Minimum

Required Courses—9 Credit Hours

- CJJ 6020 The Juvenile Justice System (3 credit hours)
- PAD 6037 Public Organization Management (3 credit hours)
- SOW 5655 Child Abuse: Treatment and Prevention (3 credit hours)

Elective Course—3 Credit Hours

Choose one of the following courses:

- CCJ 5456 The Administration of Justice (3 credit hours)
- CCJ 5015 The Nature of Crime (3 credit hours)
- CCJ 5073 Data Management Systems for Crime Analysis (offered fall term only) (3 credit hours)
- PAD 6053 Public Administrators in the Governance Process (3 credit hours)
- PAD 6327 Public Program Evaluation Techniques (3 credit hours)
- SOW 5712 Interventions with Substance Abusers (3 credit hours)
- SYP 6561 Child Abuse in Society (3 credit hours)

Contact Info

K. Michael Reynolds, Ph.D. , Associate Professor

Phone Number: 407-823-2603

kreynold@mail.ucf.edu

Graduate Certificate in Marriage and Family Therapy

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The graduate certificate program in Marriage and Family Therapy is designed to provide additional training for counselors and therapists who work with families, couples, and children. The program is composed of five graduate courses addressing family systems, working with couples and family therapy theory, and counseling techniques. For many counselors, this certificate will fulfill the requirements for Florida Licensure as a Marriage and Family Therapist. Applicants should contact the State Licensure Board to verify the courses they need.

Master's students in the School of Social Work can also obtain the Graduate Certificate in Family Therapy by taking the required courses for Social Work students, which include content about family theory and assessment and counseling with families. There is also a field component. Information about Social Work courses and the field courses can be obtained through the School of Social Work.

Admission

Admission is open to those with a master's degree from a regionally accredited institution and those currently admitted in a master's degree program in counseling or a related field. In addition, applicants must attend and pass an interview that is offered twice yearly. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Marriage and Family Therapy		Jul 15	Dec 1	Apr 15

Requirements

Required Courses—15 Credit Hours Minimum

- MHS 6430 Family Counseling I (3 credit hours)
- MHS 6431 Family Counseling II (3 credit hours)
- MHS 6440 Couples Counseling (3 credit hours)
- MHS 6803 Practicum (3 credit hours)
- MHS 6830 Counseling Internship (3 credit hours)

MHS 6800 and 6830 must be taken in separate semesters and together contain at least 180 hours of direct client contact including couples, families, unmarried dyads, and individuals.

NOTE: Developmental Process of the Resilient Family (MHS 6433) is recommended as an additional course.

Required Courses for Social Work students—17 Credit Hours Minimum

- SOW 5106 Human Behavior and Social Environment II: Social Systems (3 credit hours)
- SOW 6612 Clinical Practice with Families (3 credit hours)
- SOW 6535 Clinical Field Education I (3 credit hours)
- SOW 6548 Clinical Field Integrative Seminar I (1 credit hour)
- SOW 6536 Clinical Field Education II (3 credit hours)
- SOW 6549 Clinical Field Integrative Seminar II (1 credit hour)
- MHS 6440 Couples Counseling (College of Education) (3 credit hours)

Contact Info

Mark Young, Ph.D. , Professor

Phone Number: 407-823-6314

meyoung@mail.ucf.edu

Graduate Certificate in Materials Failure Analysis

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The Graduate Certificate in Materials Failure Analysis is designed to familiarize engineers entrusted with conducting materials failure analysis for possible causes of failure and the possible interaction of these causes. Aims of the program include developing the ability to conduct detailed fractographic and microstructural evaluations and improving proficiency with modern tools and techniques of failure analysis.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Materials Failure Analysis		Jul 15	Dec 1	Apr 15

Requirements

Required Courses—12 Credit Hours

- EMA 6628 Materials Failure Analysis (3 credit hours)
- EMA 5326 Corrosion Science and Engineering (3 credit hours)
- EMA 5505 Scanning Electron Microscopy (3 credit hours)
- EMA 5108 Surface Science (3 credit hours) OR EMA 5504 Modern Characterization of Materials (3 credit hours)

Contact Info

Ruey-hung (Ray) Chen, Ph.D. , Associate Professor
Phone Number: 407-823-2416
gradmmae@mail.ucf.edu

Graduate Certificate in Maya Studies

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The certificate program in Maya Studies focuses on an area of growing local, national, and international concern—the ancient and contemporary peoples of Mexico, Guatemala, and Belize. The program is interdisciplinary with cognate offerings from History, Political Science, and Spanish. The program is further strengthened by a community partnership with the Orlando Museum of Art. The Maya Studies Graduate Certificate Program provides detailed and specialized knowledge of the ancient and contemporary Maya through a series of well-integrated courses. Admission is through application to Graduate Studies for admission to a certificate program.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Maya Studies		Jul 15	Dec 1	Apr 15

Requirements

Requirements—15 Credit Hours Minimum

Students must take two core (required) courses and three additional courses selected from a pool of 7 elective courses. Before taking an elective course, students must have taken at least one of the required courses or must have the instructors consent to take the elective course.

Required Courses—6 Credit Hours

- ANG 6168 The Ancient Maya (3 credit hours)
- ANG 6324 Contemporary Maya (3 credit hours)

Elective Courses—9 Credit Hours

- ANG 5166 Problems in Maya Studies (3 credit hours)
- ANG 5167 Maya Hieroglyphs (3 credit hours)
- ANG 5165 Field Research in Maya Studies (3 credit hours)
- ANG 5228 Maya Iconography (3 credit hours)
- ANG 5110 Archaeological Theory and Method (3 credit hours)
- CPO 5334 Contemporary Politics of the Mayan Region (3 credit hours)

Contact Info

Diane Chase, Ph.D. , Professor
Phone Number: 407-823-2227
chase@mail.ucf.edu

Graduate Certificate in Medical Speech-Language Pathology

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The Graduate Certificate in Medical Speech-Language Pathology is designed for practicing speech-language pathologists who work in hospital, nursing home, or rehabilitation center settings. It provides the advanced knowledge and skills necessary to evaluate and treat individuals with medically based communication disorders.

The specific objectives of the Graduate Certificate in Medical Speech-Language Pathology are to develop advanced knowledge and skills in the assessment and treatment of cleft palate-velopharyngeal dysfunction, cognitive-linguistic communication disorders, and feeding and swallowing disorders.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Medical Speech-Language Pathology		Jul 15	Dec 1	Apr 15

Requirements

Requirements—12 Credit Hours Minimum

Required Courses—9 Credit Hours

- SPA 6245 Communication Disorders in Cleft Palate-Velopharyngeal Dysfunction (3 credit hours)
- SPA 6417 Cognitive-Linguistic Communication Disorders (3 credit hours)
- SPA 6567 Feeding and Swallowing Disorders (3 credit hours)

Elective Course—3 Credit Hours

An elective course in communicative disorders or a related discipline is required and should be selected in consultation with the students adviser. The list of electives includes, but is not limited to, the following courses.

- SPA 5477 Aging and Communication (3 credit hours)
- SPA 5559 Augmentative and Alternative Communication Systems (3 credit hours)
- SPA 6309 Auditory Processing of Language (3 credit hours)
- SPA 6401 Language Disorders in Infants and Toddlers (3 credit hours)
- SPA 6843 Severe Language-Based Reading and Writing Disabilities (3 credit hours)
- CLP 5187 Mental Health and Aging (3 credit hours)
- EED 6071 Behavior Disorders in Schools (3 credit hours)
- EXP 5067 Human Factors and Aging (3 credit hours)
- HSC 6568 Issues in Geriatric Health Care (3 credit hours)
- NGR 5252 Psycho-Social Factors and Health Care Outcomes in the Elderly (3 credit hours)
- PET 6655 Developmental Aspects of Motor Disabilities (3 credit hours)

Contact Info

Thomas Mullin, Ph.D. , Associate Professor

Phone Number: 407-823-4798

tmullin@mail.ucf.edu

Graduate Certificate in Middle Level Education

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The graduate certificate program in Middle Level Education offers graduate education for prospective or current middle level teachers who have not completed prior course work focusing on the specific needs of young adolescents.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Middle Level Education		Jul 15	Dec 1	Apr 15

Requirements

Required Courses—15 Credit Hours

- EDM 6401 Principles of Middle Level Education (3 credit hours)
- EDM 6047 Understanding the Young Adolescent (3 credit hours)
- EDM 6321 Middle Level Instruction (3 credit hours)
- EDM 6235 Contemporary Issues of Middle Level Education (3 credit hours)
- EDM 6908 Research Project (3 credit hours)

Contact Info

Larry Holt, Ed.D. , Associate Professor

Phone Number: 407-823-2015

holt@mail.ucf.edu

Graduate Certificate in Multicultural/Multilingual Speech-Language Pathology

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The Graduate Certificate in Multicultural/Multilingual Speech-Language Pathology provides prospective and practicing speech-language pathologists with the knowledge and skills to evaluate and treat individuals with communication disorders from culturally and linguistically diverse backgrounds. As the demographic profile of the U.S. population becomes more diverse, speech-language pathologists must become more knowledgeable and responsive to the communication needs of children and adults in our community.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Multicultural/Multilingual Speech-Language Pathology		Jul 15	Dec 1	Apr 15

Requirements

Requirements—12 Credit Hours Minimum

Required Courses—9 Credit Hours

- SPA 5473 Multicultural Aspects of Communication Disorders and Differences (3 credit hours)
- SPA 6474 Assessment of Culturally and Linguistically Diverse Population (3 credit hours)
- SPA 6475 Management of Culturally and Linguistically Diverse Populations (3 credit hours)

Elective Course—3 Credit Hours

One elective is required in communicative disorders or a related discipline, such as anthropology, communication, educational foundations, exceptional education, counselor education, early childhood education, sociology, social work, foreign languages, and teaching English to speakers of other languages (TESOL). The elective course must be selected in consultation with the students adviser.

Contact Info

Thomas Mullin, Ph.D. , Associate Professor
Phone Number: 407-823-4798
tmullin@mail.ucf.edu

Graduate Certificate in Nonprofit Management

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

This graduate certificate program is completely online and offers specialized, graduate-level knowledge in nonprofit management, resource development, strategic planning, and program evaluation to those currently working in the nonprofit sector or in organizations that partner with the nonprofit sector.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Nonprofit Management		Jul 15	Dec 1	Apr 15

Requirements

Requirements—18 Credit Hours Minimum

Required Courses—15 Credit Hours

- PAD 5146 Nonprofit Resource Development (3 credit hours)
- PAD 5142 Nonprofit Organizations (3 credit hours)
- PAD 5145 Volunteerism in Nonprofit Management (3 credit hours)
- PAD 6327 Public Program Evaluation Techniques or SOW 5432 Evaluating Social Work (3 credit hours)
- PAD 6335 Strategic Planning and Management (3 credit hours)

Elective Course—3 Credit Hours

Choose one course below or see the graduate program coordinator.

- PAD 6208 Nonprofit Financial Management (3 credit hours)
- PAD 5425 Dispute Resolution in the Public Sector (3 credit hours)
- PAD 5850 Grant and Contract Management (3 credit hours)
- SOW 6373 Clinical Supervision (3 credit hours)
- SOW 6246 Policy Analysis and Social Change (3 credit hours)

Contact Info

Mary Ann Feldheim, Ph.D. , Assistant Professor

Phone Number: 407-823-2604

mfeldhei@mail.ucf.edu

Graduate Certificate in Nursing and Health Professional Education

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The Graduate Certificate in Nursing and Health Professional Education is designed to prepare nurses and other health care professionals to teach in professional health care education programs, health care agencies, and the community. This Certificate Program can be completed online.

Admission

Admission is open to nurses and other health professionals who hold a baccalaureate degree from an accredited institution. An application to the Nursing and Health Professional Education certificate program, official transcripts, resume, and a goal statement must be submitted. Applicants must [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Nursing and Health Professional Education		Jun 15	Oct 15	Apr 15

Requirements

Requirements—12 Credit Hours Minimum

Required Core Courses—9 Credit Hours

- NGR 5715 Instructional Technology Resources for Health Professional Education (3 credit hours)
- NGR 5791 Teaching Strategies for Health Professionals (3 credit hours)
- EDF 6259 Learning Theories Applied to Classroom Instruction and Management (3 credit hours)
OR EDG 6236 Principles of Instruction (3 credit hours)

Elective Courses—3 Credit Hours

Students must take at least one of the following courses, but may take both courses.

- NGR 5714 Clinical Teaching Strategies for Health Professional Education (3 credit hours)
- NGR 5871 Health Care Informatics (3 credit hours)

Contact Info

Linda Hennig, Ed.D. , Assistant Professor

Phone Number: 407-823-2744

gradnurs@mail.ucf.edu

Graduate Certificate in Online Educational Media

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The graduate certificate in Online Educational Media provides an opportunity for teachers and library media specialists to become proficient in the skills and training needed to administer and manage an effective media program and to develop leadership skills. Students will acquire the subject matter needed to meet the professional educational media standards developed by the Florida Department of Education (FL DOE), the American Library Association (ALA)/ American Association of School Librarians (AASL), and the National Council for Accreditation of Teacher Education (NCATE).

Dr. Judy Lee and the Florida District Media Supervisors identified the Online Educational Media core courses chosen for the certificate program. These courses are designed for untrained teachers and library media specialists who are obtaining library media add-on certification by passing the Educational Media certification examination and who are seeking the academic training needed to successfully perform the duties of public school media specialists.

All educational media courses will be taught online.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Complete information can be found at [Graduate Certificate Programs](#). Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Online Educational Media		Jul 15	Dec 1	Apr 15

Requirements

Minimum of 12 Credit Hours Required

Required Courses—6 Credit Hours

- EME 6105 Collection Development Policies and Procedures (3 credit hours)
- EME 6605 Role of the Media Specialist in Curriculum and Instruction (3 credit hours)

Electives—6 Credit Hours Selected from the Following Courses

- EME 6706 Administrative Principles in Media Centers (3 credit hours)
- EME 6805 Organization of Media and Information (classification/cataloging) (3 credit hours)
- EME 6807 Information Sources and Services (reference) (3 credit hours)
- EME 5225 Media for Children and Young Adults (3 credit hours)
- EME 5051 Technologies of Instruction and Information Management (3 credit hours)
- EME 5208 Production Techniques for Instructional Settings (video production) (3 credit hours)

A course schedule and course descriptions can be viewed at pegasus.cc.ucf.edu/~edmedia by clicking Media Courses.

Other Information

- Courses taken in the Online Educational Media Graduate Certificate Program with a grade of "B" or better will transfer into the Instructional Technology/Media: Educational Media master's program.
- Students accepted into the certificate program must contact Dr. Judy Lee for advisement at jlee@pegasus.cc.ucf.edu before registering for courses.

Contact Info

Judy Lee, Ph.D. , Associate Professor
Phone Number: 407-823-6139
jlee@pegasus.cc.ucf.edu

Graduate Certificate in Pediatric Nurse Practitioner

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The Post-Master's Graduate Certificate option is designed to prepare nurses who already have a master's degree in nursing as Pediatric Nurse Practitioners. The program is 21 credits in length and includes up to 630 hours of clinical practice. There are 11 credit hours of prerequisite requirements. Up to 3 credit hours of Advanced Practice Practicum (NGR 6941) may be waived for applicants who are Advanced Practice Nurses (APNs).

Admission

Requirements for admission to the program include the following:

- A master's degree in nursing from a program accredited by NLNAC (National League for Nursing Accreditation Commission) or CCNE (Commission on Collegiate Nursing Education)
- Licensure as a Registered Nurse in Florida
- Completion of undergraduate health assessment course

Admission to the program is competitive on a space-available basis. Applicants must [apply online](#).

Application Process

The following information must be submitted to UCF Graduate Studies in order to be considered:

- Non-degree online application from Graduate Studies for the certificate program
- Official transcripts of BSN degree
- Official transcripts of graduate course work showing awarding of master's degree
- Three letters of recommendation from individuals who can judge abilities for Advanced Practice Nursing, preferably nurse instructors, nurse employers, or nurses with advanced degrees
- Personal statement describing interest in completing certificate program
- UCF Health Form (Upon acceptance to the program, a School of Nursing Health Form will be required.)
- Resume (no longer than 2 pages)
- Copy of RN License

Program Progression

All UCF Office of Graduate Studies requirements for progression must be met. This includes, but is not limited to, completion of all required courses within a three-year period and achievement of a grade of "B" or better in all courses.

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Pediatric Nurse Practitioner		Jun 15	Oct 15	

Requirements

Prerequisites

The following graduate-level courses are prerequisites for the program. Courses with a grade of B or better will be accepted.

- NGR 5003 Advanced Health Assessment, Health Promotion, and Diagnostic Reasoning (3 credit hours)
- NGR 5004L Advanced Health Assessment, Health Promotion, and Diagnostic Reasoning Clinical (2 credit hours)
- NGR 5141 Pathophysiologic Bases for Advanced Nursing Practice (3 credit hours)
- NGR 6192 Pharmacology for Advanced Nursing Practice (3 credit hours)

Requirements—19 Credit Hours Minimum

Required for Nurse Practitioner Certificate—6 Credit Hours

- NGR 6941 Advanced Practice Practicum (6 credit hours)

NOTE: Applicants who are licensed as Advanced Practice Nurses may have up to 3 credit hours of NGR 6941 Advanced Practice Practicum waived.

Requirements for Pediatric Nurse Practitioner Track—13 Credit Hours

- NGR 6331 Pediatrics I for APNs (2 credit hours)
- NGR 6331L Pediatrics I Clinical for APNs (2 credit hours)
- NGR 6332 Pediatrics II for APNs (3 credit hours)
- NGR 6332L Pediatrics II Clinical for APNs (3 credit hours)
- NGR 6335 Focused Pediatrics for APNs (2 credit hours)
- NGR 6335L Focused Pediatrics Clinical for APNs (1 credit hour)

Contact Info

Jean Kijek, Ph.D. , Associate Professor
 Phone Number: 407-823-2744
gradnurs@mail.ucf.edu

Graduate Certificate in Play Therapy

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

This graduate certificate program provides advanced training in play therapy to students in counselor education and to professional school and mental health counselors who seek to improve their counseling skills. All school counselors and a large number of mental health counselors provide counseling services to children and adolescents. Thus, many students and counselors may find play therapy useful for their work with children and adolescents. Students who complete the certificate in Play Therapy will meet the educational requirements for national certification in play therapy.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution and those currently enrolled or those possessing a master's degree program in counseling or related field. In addition, applicants must attend and pass an interview that is offered twice each year. An application to the graduate certificate program as well as transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Play Therapy		Jul 15	Dec 1	Apr 15

Requirements

Required Courses—12 Credit Hours

- MHS 6421 Foundations of Play Therapy and Play Process (3 credit hours)
- MHS 6422 Theories of Play Therapy and Play Process (3 credit hours)
- MHS 6403 Techniques of Play Therapy and Expressive Arts (3 credit hours)
- MHS 6424 Applications of Play Therapy with Special Populations (3 credit hours)

Prerequisites

- SDS 6411 Counseling with Children and Adolescents (CLP 6460C or equivalent course, 3 credit hours)
- EDF 6155 Lifespan and Human Development and Learning (DEV 5057 or equivalent course, 3 credit hours)

* Students must be enrolled in a master's program or have completed a master's degree to be eligible to enter the certificate program.

NOTE: Those individuals seeking national certification in Play Therapy who are enrolled in a counseling program or mental health profession that did not include a practicum and internship experience will need to complete MHS 6800 and MHS 6830 to be eligible for national certification. A master's degree in a medical or mental health profession is required for National Certification. It is also recommended that individuals take MHS 6433 Developmental Process of the Resilient Family.

Contact Info

Montse Casado, Ph.D. , Assistant Professor

Phone Number: 407-823-4126

mcasado@mail.ucf.edu

Graduate Certificate in Police Leadership

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

Municipalities, county government, and state agencies have been working to develop new technologies, cooperative business and government relationships, and new ways of fighting and deterring criminal behavior. The police manager, who previously had been concerned only with issues involving statutes, policies, and local jurisdictional issues, must now be concerned with human resource and management issues, employee assistance programs, ethical issues, and local, state, federal, and international government relations.

The certificate program in Police Leadership is designed to provide a theoretical and practical knowledge base for the law enforcement executive in criminal justice, public administration, or social work. The graduate certificate consists of twelve credit hours of graduate course work. The successful completion of this certificate program would allow the student to continue as a degree-seeking student in the master's program of Criminal Justice.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Police Leadership		Jul 15	Dec 1	Apr 15

Requirements

Requirements—12 Credit Hours Minimum

Required Courses—9 Credit Hours

- CCJ 5105 Foundations of Law Enforcement (3 credit hours)
- CCJ 6730 Planned Change and Innovation in Criminal Justice (3 credit hours)
- PAD 5806 Local Government Operations (3 credit hours)

NOTE: CCJ 6730 Planned Change and Innovation in Criminal Justice may be substituted with CCJ 6106 Policy Analysis in Criminal Justice by permission.

Elective Course—3 Credit Hours

Choose one of the following courses.

- CCJ 5015 The Nature of Crime (3 credit hours)
- CCJ 5456 The Administration of Justice (3 credit hours)
- CCJ 5467 Justice and Safety System Manpower (3 credit hours)
- PAD 5041 Ethics and Values in Public Administration (3 credit hours)
- PAD 6035 Public Administration in the Policy Process (3 credit hours)
- PAD 6335 Strategic Planning and Management (3 credit hours)
- PAD 6417 Human Resource Management (3 credit hours)
- SOW 5132 Diverse Client Populations (3 credit hours)
- SOW 5662 Strategies in Employee Assistance Programs (3 credit hours)

Contact Info

K. Michael Reynolds, Ph.D. , Associate Professor
Phone Number: 407-823-2603
kreynold@mail.ucf.edu

Graduate Certificate in Pre-Kindergarten Handicapped Endorsement

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The graduate certificate program in Pre-Kindergarten Handicapped Endorsement provides post-baccalaureate students and master's-prepared teachers the opportunity to obtain the requisite curriculum to become credentialed in the area of pre-kindergarten children with disabilities. The goal of the program is to prepare qualified students to teach the pre-kindergarten handicapped population.

Admission

Students must have completed one of the following admission requirements:

- Bachelor's degree in exceptional education or primary education from a regionally accredited institution
- Master's degree in varying exceptionalities or primary education from a regionally accredited institution
- Evidence of graduate course work in one of these areas: exceptional student education, preschool education (0-4), primary education (K-3), pre-kindergarten/primary education (PK-3), early childhood education

An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Pre-Kindergarten Handicapped Endorsement		Jul 15	Dec 1	Apr 15

Requirements

Required Courses—12 Credit Hours

- EEX 5702 Planning Curriculum for Pre-Kindergarten Children with Disabilities (3 credit hours)
- EEX 5750 Communication with Parents and Agencies (3 credit hours)
- EEX 6017 Typical and Atypical Applied Child Development (3 credit hours)
- EEX 6224 Observation and Assessment of Young Children (3 credit hours)

Contact Info

Lee Cross, Ph.D. , Associate Professor

Phone Number: 407-823-5477

lcross@mail.ucf.edu

Graduate Certificate in Professional Writing

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The Graduate Certificate Program in Professional Writing addresses the theory and practice of organizational writing. Providing at least two web-based courses each semester, this innovative program offers professionals from a wide range of academic and career backgrounds an opportunity to improve and build upon their document writing and design skills. This flexible five-course sequence of graduate study includes three required core courses and allows students to choose two electives. Each course presents students with a blend of theoretical training in and practical application of effective communication strategies. The curriculum is designed for immediate relevance in the workplace; to that end, faculty members incorporate cutting-edge classroom technologies, service-learning opportunities, and a wide range of community collaborations in their classes.

Admission

Admission requires a bachelor's degree from a regionally accredited institution. Successful applicants will have received a grade of "A" or "B" in an upper division writing intensive course. An application to the graduate certificate program, a statement of academic intent, and official transcripts must be submitted. Applicants must [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Professional Writing		Jul 15	Dec 1	Apr 15

Requirements

Requirements—15 Credit Hours Minimum

Required Courses—9 Credit Hours

- ENC 5337 Modern Rhetorical Theory (3 credit hours)
- ENC 5237 Writing for the Business Professional (3 credit hours)
- ENC 5216 Editing Professional Writing (3 credit hours)

Elective Courses—6 Credit Hours

Choose two courses from the following.

- ENC 5306 Persuasive Writing (3 credit hours)
- ENC 5344 Proposal Writing (3 credit hours)
- ENC 5XXX Current Topics in Professional Writing (3 credit hours)
- ENC 5XXX Developing Professional Writing Projects (3 credit hours)
- ENC 5245 Teaching Professional Writing (3 credit hours)
- ENC 5276 Writing/Consulting: Theory and Practice (3 credit hours)
- ENG 5009 Methods of Bibliography and Research (3 credit hours)
- LIN 5675 English Grammar and Usage (3 credit hours)

Additional courses from the M.A. in Technical Writing may also be used as electives with approval from the program coordinator or graduate director.

Contact Info

Melody Bowdon, Ph.D. , Assistant Professor
Phone Number: 407-823-6234
mbowdon@mail.ucf.edu

Graduate Certificate in Professoriate

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The Professoriate Graduate Certificate program is designed to prepare doctoral students to be future professors. Most similar programs focus exclusively on improving instruction. This innovative graduate program proposes to prepare future faculty to understand all of the responsibilities of university professors: designing effective learning environments, remaining active in research and attracting funding, and supporting the governance and administration of their school. The graduate certificate program will work in conjunction with UCF doctoral programs to provide exemplary experiences for students in all disciplines. Course work and internship experience will culminate with students developing an academic portfolio for faculty positions. Traditional courses will be linked with an ongoing seminar. The design of this program allows program faculty to closely monitor the professional development of the student and provide continual assistance with portfolio development.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Enrollment will be limited to 20 students per cohort. Applicants will normally already have graduate admission to the university, and preference will be given to current UCF doctoral and MFA students with a graduate GPA of at least 3.5 and a minimum score of 1000 on the GRE.

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Professoriate		Jul 1		

Requirements

Required Courses—12 Credit Hours Minimum

- EDH 6936 Seminar for Future Professoriate (1 credit hour), taken three times
- IDS 6504 Adult Learning (3 credit hours)
- EDH 6946 Higher Education Internship (3 credit hours)

- EDA 6540 Organization and Administration of Higher Education (3 credit hours)

Contact Info

David Boote, Ph.D. , Assistant Professor

Phone Number: 407-823-4160

dboote@mail.ucf.edu

Graduate Certificate in Project Engineering

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

Engineers increasingly are found in leadership positions. They must have certain management skills in order to be effective in such a role. The Graduate Certificate in Project Engineering is designed to meet the needs of engineers moving into management and other leadership roles by complementing their technical backgrounds with the human aspects, organizational and financial issues, project considerations, and analytical tools for effective decision making.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Project Engineering		Jul 15	Dec 1	Apr 15

Requirements

Required Courses—12 Credit Hours Minimum

- EIN 5108 The Environment of Technical Organizations (3 credit hours)
- EIN 5117 Management Information Systems I (3 credit hours)
- EIN 5140 Project Engineering (3 credit hours)
- EIN 6357 Advanced Engineering Economic Analysis (3 credit hours) OR ESI 6358 Decision Analysis (3 credit hours)

Contact Info

Ahmad Elshennawy, Ph.D. , Associate Professor
Phone Number: 407-823-2204
gc-iems@mail.ucf.edu

Graduate Certificate in Public Administration

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The Graduate Certificate in Public Administration provides graduate-level continuing education for both in-service and pre-career students. The program emphasizes the managerial skills essential for local government programs in an evolving metropolitan environment. The knowledge gained can strengthen the student's professional standing and help open doors to management and support positions.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Public Administration		Jul 15	Dec 1	Apr 15

Requirements

Requirements—18 Credit Hours Minimum

Required Courses—15 Credit Hours Minimum

- PAD 6035 Public Administration in the Policy Process (3 credit hours)
- PAD 6037 Public Organization Management (3 credit hours)
- PAD 6053 Public Administrators in the Governance Process (3 credit hours)
- PAD 6227 Public Budgeting (3 credit hours)
- PAD 6417 Human Resource Management (3 credit hours)

Restricted Elective Course—3 Credit Hours

Choose one course from the following list.

- PAD 5425 Dispute Resolution in the Public Sector (3 credit hours)
- PAD 5427 Labor Relations in the Public Sector (3 credit hours)
- PAD 5806 Local Government Operations (3 credit hours)
- PAD 5807 Administrative Practice in the Public Sector (3 credit hours)
- PAD 5850 Grant and Contract Management (3 credit hours)
- PAD 6307 Policy Implementation (3 credit hours)
- PAD 6327 Public Program Evaluation Techniques (3 credit hours)
- PAD 6335 Strategic Planning and Management (3 credit hours)

Contact Info

K. Tom Liou, D.P.A. , Professor

Phone Number: 407-823-2604

kliou@mail.ucf.edu

Graduate Certificate in Quality Assurance

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

Much of the resurgence of U.S. products in the global marketplace has been due to an increased emphasis on quality. Today's consumers are offered many alternatives to meet their needs, and they have consequently become very discriminating in their purchases. In addition, companies seek to be known as a quality organization, not merely the producer of quality products. The Graduate Certificate in Quality Assurance provides students with the knowledge they need to improve the quality and reliability of the goods and services they produce and to institute steps to make their organizations more competitive through an overall commitment to quality.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Quality Assurance		Jul 15	Dec 1	Apr 15

Requirements

Required Courses—12 Credit Hours Minimum

- ESI 5219 Engineering Statistics (3 credit hours)
- ESI 5227 Total Quality Improvement (3 credit hours) or ESI 6224 Quality Management (3 credit hours)
- ESI 5236 Reliability Engineering (3 credit hours)
- ESI 6225 Quality Design and Control (3 credit hours)

Contact Info

Ahmad Elshennawy, Ph.D. , Associate Professor
Phone Number: 407-823-2204
gc-iems@mail.ucf.edu

Graduate Certificate in Reading Education

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The newly approved Graduate Certificate in Reading Education Program begins in Summer 2003.

The purpose of this certificate program is to provide classroom teachers with an emphasis on research-based strategies for teaching reading. The courses in this program will satisfy the new legislation recently passed by the state of Florida. Classroom teachers completing the proposed certificate program will be able to add the new reading endorsement to their teaching certificate. It is expected by the state of Florida that every elementary teacher by the year 2005 will have this new reading endorsement.

The aim of the certificate program is to help prepare in-service classroom teachers in the teaching of reading through a straightforward, concise presentation of essential knowledge of performance areas.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Reading Education		Jul 15	Dec 1	Apr 15

Requirements

Required Courses—18 Credit Hours Minimum

- RED 5147 Developmental Reading (3 credit hours)
- RED 5514 Classroom Diagnosis and Development of Reading Proficiencies (3 credit hours)
- RED 6116 Trends in Reading Education (3 credit hours)
- RED 6845 Advanced Evaluation and Instruction in Reading (3 credit hours)
- RED 6846 Reading Practicum (6 credit hours)

Contact Info

Timothy Blair, Ph.D. , Professor
Phone Number: 407-823-5472
tblair@mail.ucf.edu

Graduate Certificate in SAS Data Mining

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The graduate certificate program in SAS Data Mining provides students the knowledge to use statistical tools, data presentation tools, and data visualization tools needed for data mining with SAS/Enterprise Miner and SAS/Warehouse Administrator software. The program welcomes interested UCF students and those already employed full-time but wishing to advance their careers. Basic familiarity with the Web and computer programming is required. The program requires five courses, and is set up so that students begin the program in the fall semester. Two courses can be taken during this initial fall semester. The remaining courses will be taken one per semester during the spring (year 1), fall (year 2) and spring (year 2) semesters. All courses are scheduled in the late afternoon or evening hours.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in SAS Data Mining		Jul 15	Dec 1	Apr 15

Requirements

Required Courses—15 Credit Hours Minimum

- STA 5103 Advanced Computer Processing of Statistical Data (3 credit hours)
- STA 5206 Statistical Analysis (3 credit hours)*
- STA 6714 Data Preparation (3 credit hours)
- STA 5703 Data Mining Methodology I (3 credit hours)
- STA 6704 Data Mining Methodology II (3 credit hours)

*Students who have a sufficient background in statistics can, subject to the approval of the graduate program coordinator, take a higher-level course such as STA 6236 Regression Analysis instead of STA 5206 Statistical Analysis

Contact Info

James Schott, Ph.D. , Professor
Phone Number: 407-823-2289
statgrad@pegasus.cc.ucf.edu

Graduate Certificate in School Social Work

- [Description](#)
- [Admission](#)
- [Requirements](#)
- [Contact Info](#)

Description

The goal of the graduate certificate program in School Social Work is to prepare selected MSW students with the specialized knowledge and skills required to work in the field of school social work in a public school setting. Students who complete this certificate program will be highly qualified to step into a school social work position in any county in Florida.

Admission

Admission is only open to students who are accepted into the Master of Social Work Program. An application to the graduate certificate program and official transcripts must be submitted. Applicants are required to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in School Social Work		Mar 1	Dec 1	Apr 15

Requirements

Requirements—12 Credit Hours Minimum

Required Courses—9 Credit Hours

- SOW 6612 Clinical Practice with Families (3 credit hours)
- SOW 6656 Clinical Practice with Children and Adolescents (3 credit hours)
- SOW 5635 Social Work Practice in Schools (3 credit hours)

Electives—3 Credit Hours

Choose one course from the following:

- SOW 6324 Clinical Practice with Groups (3 credit hours)
- SOW 5713 Prevention and Treatment of Adolescent Substance Abuse (3 credit hours)

- EDF 6517 Perspectives on Education (3 credit hours)
- EDG 6223 Curriculum Theory and Organization (3 credit hours)
- EDF 6608 Social Factors in American Education (3 credit hours)
- EDF 6886 Multicultural Education (3 credit hours)

Contact Info

George Jacinto, M.Ed., MSW, LCSW, CPC

Phone Number: 407-823-5428

gjacinto@mail.ucf.edu

Graduate Certificate in Social Work Administration

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The Social Work Administration graduate certificate offers students preparation to manage public sector and private non-profit agencies. Various courses are offered to complete the certificate. Each student will select courses that are suited to their career objective. The courses offered in this program include strategies for organizational management, strategic planning, employment law, leadership skills development, selection of performance measurements, quality assurance, needs assessments, program monitoring and evaluation, budgeting, grant writing, and human resource management.

Admission

Admission is open to those who are currently enrolled in the MSW program. Applicants must [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Social Work Administration		Jul 15	Dec 1	Apr 15

Requirements

Requirements—11 Credit Hours Minimum

Required Courses—8 Credit Hours

- SOW 6383 Social Work Administration (3 credit hours)
- SOW 5235 Social Welfare Policies and Services (3 credit hours)
- SOW 6246 Policy Analysis and Social Change (2 credit hours)

Elective Courses—3 Credit Hours

- SOW 6384 Administrative Supervision in Social Work (3 credit hours)
- SOW 6373 Clinical Supervision (3 credit hours)
- PAD 5850 Grant and Contract Management (3 credit hours)

- PAD 6208 Nonprofit Financial Management (3 credit hours)
- PAD 6417 Human Resource Management (3 credit hours)

Contact Info

George Jacinto, M.Ed., MSW, LCSW, CPC

Phone Number: 407-823-5428

gjacinto@mail.ucf.edu

Graduate Certificate in Special Education

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The graduate certificate program in Special Education provides out-of-field teachers with some of the course work needed to meet state certification requirements in special education. This graduate certificate will help out-of-field teachers become more effective in their classrooms and will enhance the education of children and youth with disabilities.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Special Education		Jul 15	Dec 1	Apr 15

Requirements

Required Courses—18 Credit Hours

- EEX 5051 Exceptional Children in the Schools (3 credit hours)
- EEX 6061 Instructional Strategies Pre-K-6 (3 credit hours)
- EEX 6065 Programming for Students with Disabilities at the Secondary Level (3 credit hours)
- EEX 6107 Teaching Spoken and Written Language (3 credit hours)
- EEX 6266 Assessment and Curriculum Prescriptions for the Exceptional Population (3 credit hours)
- EEX 6612 Methods of Behavior Management (3 credit hours)

Contact Info

Lee Cross, Ph.D. , Associate Professor
Phone Number: 407-823-5477
lcross@mail.ucf.edu

Graduate Certificate in Sports Leadership

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The Graduate Certificate in Sports Leadership is designed to enhance leadership and other skills for those who work in participatory sports organizations. This program will benefit professionals working in areas such as athletic administration (scholastic and collegiate), coaching, community and youth sports organizations, recreation (commercial and municipal), fitness facilities, golf courses, and exercise science, and physical education teachers/ majors. Among the benefits of the graduate certificate are the enhancement of knowledge, skills, and expertise in key areas of sport, the opportunity to network with other professionals in the participatory sports industry, and professional credentials and advancement.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Sports Leadership		Jul 15	Dec 1	Apr 15

Requirements

Required Courses—15 Credit Hours Minimum

Choose five courses from the following list.

- PET 5405 Introduction to Sports Administration (3 credit hours)
- PET 5465 Financial Issues in Sports and Fitness (3 credit hours)
- PET 5466 Marketing and Promoting Sports and Fitness Programs (3 credit hours)
- PET 6476 Leadership and Management in Sports and Fitness Programs (3 credit hours)
- PET 6406 Planning and Operating Facilities for Sports and Fitness Programs (3 credit hours)
- PET 6478 Legal Issues in Sports and Fitness Programs (3 credit hours)

Contact Info

Vincent Mumford, Ed.D. , Assistant Professor

Phone Number: 407-823-4127

vmumford@mail.ucf.edu

Graduate Certificate in Structural Engineering

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

Structural engineering plays a significant role in the ongoing infrastructure developments in the Central Florida area. Engineers continually need to update their knowledge of the state-of-the-art in research and practice in order to ensure the safety of constructed facilities. This graduate certificate program provides courses in this area.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Structural Engineering		Jul 15	Dec 1	Apr 15

Requirements

Required Courses—12 Credit Hours Minimum

Choose four courses from the following:

- CEG 6115 Foundation Engineering (3 credit hours)
- CES 5325 Bridge Engineering (3 credit hours)
- CES 5606 Advanced Steel Structures (3 credit hours)
- CES 5706 Advanced Reinforced Concrete (3 credit hours)
- CES 6116 Finite Element Structural Analysis (3 credit hours)
- CES 6209 Dynamics of Structures (3 credit hours)
- CES 6220 Wind and Earthquake Engineering (3 credit hours)
- CES 6230 Advanced Structural Mechanics (3 credit hours)
- CES 6715 Prestressed Concrete Structures (3 credit hours)

Contact Info

David Cooper, Ph.D., P.E. , Professor
Phone Number: 407-823-2841
gradcee@mail.ucf.edu

Graduate Certificate in Surface Water Modeling

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

In Florida, the conservation and management of our surface water resources is crucial. Course work for this graduate certificate will provide additional insight and an in-depth knowledge of the problem for local officials.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Surface Water Modeling		Jul 15	Dec 1	Apr 15

Requirements

Prerequisite

- CWR 4812C Water Resource Design (3 credit hours) or equivalent is required as a prerequisite.

Required Courses—15 Credit Hours Minimum

- CWR 5545 Water Resources Engineering (3 credit credit hours)
- CWR 5125 Groundwater Hydrology (3 credit hours) OR
- CWR 6126 Groundwater Modeling (3 credit hours)
- CWR 6236 River Engineering and Sediment Transport (3 credit hours)
- CWR 6535 Modeling Water Resources Systems (3 credit hours)
- CWR 6539 Finite Differences/Elements in Surface Water Modeling (3 credit hours)

Contact Info

David Cooper, Ph.D., P.E. , Professor
Phone Number: 407-823-2841
gradcee@mail.ucf.edu

Graduate Certificate in Systems Simulation

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

Discrete event simulation provides very powerful modeling capabilities to engineers. Simulation is particularly valuable because models of complex systems can be constructed and probabilistic or random forces can be represented in those models. The Graduate Certificate in Systems Simulation for Engineers provides students with the necessary background in probability and statistics, fundamental simulation modeling skills, essentials for designing and analyzing simulation experiments, and an introduction to an area of advanced simulation modeling.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Systems Simulation		Jul 15	Dec 1	Apr 15

Requirements

Required Courses—12 Credit Hours Minimum

- ESI 5219 Engineering Statistics (3 credit hours)
- ESI 5531 Discrete Systems Simulation (3 credit hours)
- ESI 6217 Statistical Aspects of Digital Simulation (3 credit hours)
- ESI 6532 Object-oriented Simulation (3 credit hours)

Contact Info

Ahmad Elshennawy, Ph.D. , Associate Professor
Phone Number: 407-823-2204
gc-iems@mail.ucf.edu

Graduate Certificate in Teaching English as a Foreign Language

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

English has become the gateway to many international and technical jobs, as well as for entrance into institutions of higher education, and the number of people interested in learning English as a second or third language is increasing steadily. With the rising demand for English instructors comes an increasing need for individuals qualified to teach English as a Foreign Language. The majority of overseas English language schools require their teachers to be certified in Teaching English as a Foreign Language (TEFL). The TEFL certificate program provides students with specialized knowledge and skills to teach English as a Foreign Language in overseas settings. The program focuses on the fundamentals of EFL teaching principles and methodology, linguistics, materials/curriculum development, and testing. (Note: the TEFL Certificate Program is not designed for teachers seeking K-12 ESOL endorsement in Florida).

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Teaching English as a Foreign Language		Jul 15	Dec 1	Apr 15

Requirements

Required Courses—12 Credit Hours Minimum

- TSL 5345 Methods of ESOL Teaching (3 credit hours)
- TSL 5940 Issues in TEFL (3 credit hours)
- TSL 6142 Critical Approaches to ESOL (3 credit hours)
- TSL 6250 Applied Linguistics in ESOL (3 credit hours)

Note: No course substitutions are allowed.

Contact Info

Keith Folse, Ph.D. , Assistant Professor

Phone Number: 407-823-0087

teslgrad@pegasus.cc.ucf.edu

Graduate Certificate in Teaching Excellence

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The College of Education offers a graduate certification program to support classroom teachers applying for National Board Certification. The dual purpose of this certificate is to provide experienced classroom teachers the opportunity to enhance their classroom teaching performance and to acquire the necessary knowledge and abilities to become certified by the National Board for Professional Teaching Standards (NBPTS).

Admission

Applicants to this certificate program must have at least three years of classroom teaching experience. Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Teaching Excellence		Jul 15	Dec 1	Apr 15

Requirements

Required Courses—12 Credit Hours Minimum

- EDG 6392 Seminar in Quality Teaching (3 credit hours)
- EDG 6639 Quality Teaching Practices (3 credit hours)
- EDG 6326 Assessment of Quality Teaching (3 credit hours)
- LAE 5295 Writing Workshop I (3 credit hours)

Contact Info

Martha Hopkins, Ph.D. , Professor
Phone Number: 407-823-2039
hopkins@mail.ucf.edu

Graduate Certificate in Teaching Writing K-12

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The graduate certificate program in Teaching Writing K-12 provides advanced study in writing instruction for teachers who either have completed Master of Education degrees or who seek special training in the teaching of writing.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Teaching Writing K-12		Jul 15	Dec 1	Apr 15

Requirements

Required Courses—15 Credit Hours

- LAE 5295 Writing Workshop I (3 credit hours)
- LAE 5495 Assessing Writing (3 credit hours)
- LAE 6792 Teacher Researcher (3 credit hours)
- LAE 6936 Seminar in Language Arts Education (3 credit hours)
- LAE 6616 Trends in Language Arts Education (3 credit hours)

NOTE: LAE 6296, Writing Workshop II, will be available to students who are selected to participate in the invitational Summer Institute, supported by the National Writing Project grant. This course would be an option for teachers in the graduate certificate program who are accepted as Fellows in the Institute and could replace LAE 5295, Writing Workshop I, or preferably, LAE 6616, Trends in Language Arts Education.

Contact Info

Donna Camp, Ph.D. , Associate Professor
Phone Number: 386-254-7423 ext. 4072
camp@mail.ucf.edu

Graduate Certificate in Theoretical and Applied Ethics

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The Graduate Certificate in Theoretical and Applied Ethics is designed to provide a specialized investigation of ethical theory and issues from a philosophical as well as a subject-specific point of view. This interdisciplinary graduate certificate focuses on specific areas of ethical inquiry in philosophy, humanities, the arts, sciences, health care, business, education, criminal justice, public administration, public relations, journalism, politics, and others.

Faculty in the Department of Philosophy teach core and selected elective courses. Other courses focused on particular areas of inquiry in business, health care, criminal justice, public administration, education, communication, political science, psychology, and women's studies are taught within the relevant departments and disciplines.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must [apply online](#). Relevant experience with theoretical and applied ethics through course work at the undergraduate or graduate level or through professional experience working with ethical issues will be evaluated by the coordinator together with the certificate committee composed of faculty from the participating departments. Additionally, it is expected that applicants will have a grade point average of 3.0. However, the committee may grant exceptions where applications provide other indicators of preparedness.

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Theoretical and Applied Ethics		Jun 30	Nov 15	Mar 30

Requirements

Requirements—15 Credit Hours Minimum

Required Courses—6 Credit Hours

- PHI 5627 Theoretical and Applied Ethics (3 credit hours)

- PHI 5665 Knowledge, Responsibility and Society (3 credit hours)

Elective Courses—9 Credit Hours

Students may choose to specialize in some specific academic discipline or tailor their own areas of concentration. Choose elective courses* from the following list.

- ACG 6835 Seminar in Ethics and Professionalism in Accounting and Auditing (3 credit hours)
- BUL 6444 Law and Ethics (3 credit hours)
- CCJ 5105 Foundations of Law Enforcement (3 credit hours)
- CJC 5020 Foundations of Corrections (3 credit hours)
- CCJ 5456 The Administration of Justice (3 credit hours)
- CCJ 6217 Law and Social Control (3 credit hours)
- CCJ 6485 Issues in Justice Policy (3 credit hours)
- CCJ 6431 Leadership and Ethics in Criminal Justice (3 credit hours)
- CLP 6932 Ethical and Professional Issues in Mental Health Practice (3 credit hours)
- HSC 5595 AIDS: A Human Concern (3 credit hours)
- HUM 5803 Theories and Methods of the Humanities (3 credit hours)
- HUM 5802 Applied Contemporary Humanities (3 credit hours)
- MHS 6702 Ethical and Legal Issues (3 credit hours)
- MMC 6202 Legal and Ethical Issues for Communication (3 credit hours)
- MMC 6606 Advertising and Society (3 credit hours)
- NGR 5746 Cultural, legal, ethical, and political issues of Advanced Practice Nursing**
- NGR 5930 Issues in Health Care for the Homeless** (3 credit hours)
- PAD 5041 Ethics and Values in Public Administration (3 credit hours)
- PHM 5035 Environmental Philosophy (3 credit hours)
- POT 6007 Seminar in Political Theory
- SPS 6931 Ethical and Legal Issues in School Psychological Services (3 credit hours)
- WST 5347 Research Seminar in Gender Studies (3 credit hours)

* All elective courses have been approved for inclusion by the chair or director of the relevant program. However, students without the appropriate prerequisites to courses will need to obtain the consent of the instructor to enroll.

**NGR courses are restricted to graduate students in nursing.

Contact Info

Nancy Stanlick, Ph.D.
 Phone Number: 407-523-5459
stanlick@pegasus.cc.ucf.edu

Graduate Certificate in Training Simulation

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

Because of the tremendous growth in military and commercial training simulation, many people in this industry are facing the need for additional education. The Graduate Certificate in Training Simulation provides a fundamental understanding of the significant topics regarding systems, requirements, design, development, and use of training simulations.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Training Simulation		Jul 15	Dec 1	Apr 15

Requirements

Required Courses—12 Credit Hours Minimum

- EIN 5255 Interactive Simulation (3 credit hours)
- EIN 5317 Training System Design (3 credit hours)
- EIN 6645 Real-Time Simulation Agents (3 credit hours)
- EIN 6649C Intelligent Tutoring Training System Design (3 credit hours)

Contact Info

Ahmad Elshennawy, Ph.D. , Associate Professor

Phone Number: 407-823-2204

gc-iems@mail.ucf.edu

Graduate Certificate in Transportation Engineering

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

Transportation engineering is crucial for the Orlando area. As gridlock becomes more evident, more skilled professionals will be needed. The Graduate Certificate in Transportation Engineering was designed for professionals who are faced with solving transportation needs.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Transportation Engineering		Jul 15	Dec 1	Apr 15

Requirements

Required Courses—12 Credit Hours Minimum

Choose four courses from the following list.

- CGN 6655 Regional Planning, Design, and Development (3 credit hours)
- ENV 5071 Environmental Analysis of Transportation Systems (3 credit hours)
- TTE 5204 Traffic Engineering (3 credit hours)
- TTE 6256 Traffic Operations (3 credit hours)
- TTE 5805 Geometric Design of Transportation Systems (3 credit HOurs)
- TTE 6270 Intelligent Transportation Systems (3 credit hours)
- TTE 6315 Traffic Safety Analysis (3 credit hours)
- TTE 6625 Mass Transportation Systems (3 credit hours)

Contact Info

David Cooper, Ph.D., P.E. , Professor
Phone Number: 407-823-2841
gradcee@mail.ucf.edu

Graduate Certificate in Urban and Regional Planning

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The Graduate Certificate in Urban and Regional Planning is designed to enhance knowledge, skills, and career development in the field of community, urban, and regional planning. Planning has been identified as one of the major policy issues in Central Florida, which is considered one of the major growth areas in the state of Florida.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Urban and Regional Planning		Jul 15	Dec 1	Apr 15

Requirements

Requirements—15 Credit Hours Minimum

Required Courses—12 Credit Hours

- PAD 5336 Introduction to Urban Planning (3 credit hours)
- PAD 5337 Urban Design (3 credit hours)
- PAD 5338 Land Use and Planning Law (3 credit hours)
- PAD 6716 Information Systems for Public Managers and Planners (3 credit hours)

Restricted Elective Course—3 Credit Hours

Choose one course from the following list.

- CGN 6655 Regional Planning, Design, and Development (3 credit hours)
- ECP 6605 Economics of Urban and Regional Problems (3 credit hours)
- PAD 5356 Managing Community and Economic Development (3 credit hours)
- PAD 6387 Transportation Policy (3 credit hours)
- PAD 6353 Environmental Program Management Research (3 credit hours)

Contact Info

K. Tom Liou, D.P.A. , Professor

Phone Number: 407-823-2604

kliou@mail.ucf.edu

Graduate Certificate in Urban Education

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The Graduate Certificate in Urban Education is designed to offer additional education and training to educational professionals who work in urban settings. The program is comprised of four graduate courses which address critical issues associated with life in urban schools and two graduate-level specialization electives tailored to personal areas of concentration.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. Applicants must also have strong Biology backgrounds, including course work in ecology and genetics. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Urban Education		Jul 15	Dec 1	Apr 15

Requirements

Required Courses—18 Credit Hours Minimum

Core Courses—12 credit hours

- EDF 6725 Critical Issues in Urban Education (3 credit hours)
- EDF 6936 Seminar in Improving Teaching and Learning in Urban Settings (1 credit hour)
- EDF 6884 Education as a Cultural Process (3 credit hours)

One of the following electives

- EDF 6206 Challenges of Classroom Diversity (3 credit hours)
- EDF 6886 Multicultural Education (3 credit hours)

- EEX 6028 Challenges of Poverty in Special Education (3 credit hours)
- TSL 5143 ESOL Strategies (3 credit hours)
- SSE 5776 Democracy and Education (3 credit hours)

Urban Life in the United States—6 credit hours

Students must select one course from Group A and one course from Group B

Group A: Urban Issues

- CCJ 5015 The Nature of Crime (3 credit hours)
- PUP 6007 Public Policy Analysis (3 credit hours)
- SYD 5795 Class, Race, and Gender in American Society (3 credit hours)
- SYO 6175 Social Research in the Family (3 credit hours)
- SYO 6515 Issues in Social Disorganization (3 credit hours)

Group B: Cultural Issues

- SPN 5502 Hispanic Culture of the United States (3 credit hours)
- AFA 5930 Topics in African American Studies (3 credit hours)
- EDF 5607 Language, Culture and Pedagogy: Impact and Implications (3 credit hours)

Contact Info

Martha Scott Lue, Ph.D. , Professor

Phone Number: 407-823-2036

mlue@mail.ucf.edu

Graduate Certificate in Victim Assistance

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

The Graduate Certificate in Victim Assistance is an interdisciplinary program that addresses strategies and approaches for treating the victims of crime. The graduate certificate provides practitioners with the knowledge and skills to be more effective in working with and advocating for victims. Courses are offered by the School of Social Work, Department of Sociology and Anthropology, and Department of Criminal Justice and Legal Studies.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Victim Assistance		Jul 15	Dec 1	Apr 15

Requirements

Requirements—12 Credit Hours Minimum

Students must complete one course (3 credit hours) in each of the following four areas of study: Theory, Victim Issues, Service Delivery, and Legal/Social Policy. Course substitutions for these courses must be approved by the graduate program coordinator.

Theory

Choose one course from the following list with advisor approval.

- CCJ 6051 Community Justice (3 credit hours)
- SYP 6522 Sociological Perspectives on Victims (3 credit hours)

Note: CCJ 6051 Community Justice may be substituted with CCJ 6106 Policy Analysis In Criminal Justice (M) with an advisors permission.

Note: SYP 6522 Sociological Perspectives on Victims may be substituted with SYP 5562 Seminar in Domestic Violence with an advisors permission.

Victim Issues

Choose one course from the following list.

- SOW 5655 Child Abuse: Treatment and Prevention (3 credit hours)
- SYP 6561 Child Abuse in Society (3 credit hours)
- SYP 6565 Elder Abuse and Neglect (3 credit hours)
- Special topics course as approved by adviser (rape, homicide, or stalking courses) (3 credit hours)

Service Delivery

- CCJ 6938 Special Topics: Victims and the Criminal Justice System (3 credit hours) or CCJ 6485 Issues in Justice Policy (with advisor approval)

Note: CCJ 6938 Special Topics: Victims and the Criminal Justice System may be substituted with CCJ 6485 Issues in Justice Policy (M) with an advisors permission.

Legal/Social Policy

Choose one course from the following list.

- CCJ 6XXX Legal and Social Issues in Victim Services (3 credit hours)
- SYP 6563 Reactions to Domestic Violence (3 credit hours)

Contact Info

K. Michael Reynolds, Ph.D. , Associate Professor
Phone Number: 407-823-2603
kreynold@mail.ucf.edu

Graduate Certificate in Wastewater Treatment

[Description](#)

[Admission](#)

[Requirements](#)

[Contact Info](#)

Description

Development continues in the Central Florida area causing a strain on our wastewater facilities. More experienced professionals are needed to handle this growing concern. This graduate certificate program offers courses to help professionals update their knowledge of research and practice in the area of wastewater treatment.

Admission

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants are encouraged to [apply online](#).

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Graduate Certificate in Wastewater Treatment		Jul 15	Dec 1	Apr 15

Requirements

Required Courses—12 Credit Hours Minimum

- ENV 6016 Biological Treatment Systems in Environmental Engineering (3 credit hours)

And choose three courses from the following:

- ENV 5505 Sludge Management Operations in Environmental Engineering (offered every other year) (3 credit hours)
- ENV 6015 Physical/Chemical Treatment Systems in Environmental Engineering (3 credit hours)
- ENV 6519 Aquatic Chemical Processes (offered every other year) (3 credit hours)
- ENV 6558 Industrial Waste Treatment (3 credit hours)

Contact Info

David Cooper, Ph.D., P.E. , Professor
Phone Number: 407-823-2841
gradcee@mail.ucf.edu

Nondegree Programs

- Business Administration - Undecided
- Education - Undecided/Certification
- Nondegree or Transient
- Nursing Nondegree

Business Administration - Undecided

- [Description](#)
- [Degree Offered](#)
- [Admission](#)
- [Business Administration - Undecided](#)
- [Contact Info](#)

Description

Nondegree students in the College of Business Administration can only take undergraduate courses and graduate foundation courses. Students in a non-degree status must petition the program faculty coordinator to take graduate-level courses. Students who are allowed to take graduate courses in this category can only transfer six credit hours into a graduate program, and can register only during Add/Drop on a space available basis.

Degrees Offered

Business Administration - Undecided

Admission

Anyone with an undergraduate degree from an accredited institution may enroll, at the discretion of the program. Applicants must [apply online](#). In addition to completing the online application, applicants will need to submit official, final transcripts conferring a bachelor's degree. For the MBA program, students must have a 3.2 GPA in their last 60 hours in a Business program that was accredited by AACSB (or they must take the foundation core first). If students qualify for MBA non-degree status, they may take up to 6 hours in one semester and the courses must be from Core I. Students can transfer in up to 9 hours of business graduate courses from another AACSB business school with approval from the College of Business (the limit is 6 hours from a regionally accredited university, with approval). The other graduate programs in Business look at each student individually to determine eligibility for graduate courses in their program.

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Business Administration - Undecided		Jul 15	Dec 1	Apr 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Business Administration -				

Undecided

Students should contact the [College of Business Administration](#) regarding class availability and scheduling.

Contact Info

Aaron Maxwell
Phone Number: 407-823-2766 ext. 252
graduate@mail.ucf.edu

Education - Undecided/Certification

- [Description](#)
- [Degree Offered](#)
- [Admission](#)
- [Education - Undecided/Certification](#)
- [Contact Info](#)

Description

Nondegree students in the College of Education can only take 5000- or 6000-level courses (unless seeking certification). Students who are allowed to take graduate courses in this category can only transfer nine credit hours into a graduate program.

Degrees Offered

Education - Undecided/Certification

Admission

If you are interested in taking graduate courses at UCF for personal or professional enhancement or to prepare for possible admission to a graduate program, you may enroll as a nondegree-seeking student. Applicants are encouraged to [apply online](#). In addition to completing the online application, applicants will need to submit official, final transcripts conferring a bachelor's degree.

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Education - Undecided/Certification		Jul 15	Dec 1	Apr 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Education - Undecided/Certification				

Students interested in the Education-Undecided/Certification program should contact the [College of Education](#) regarding class availability and scheduling.

Contact Info

Admissions Counselor
Phone Number: 407-823-2766 ext 256
graduate@mail.ucf.edu

Nondegree or Transient

[Description](#)

[Degree Offered](#)

[Admission](#)

[Nondegree or Transient](#)

[Contact Info](#)

Description

A nondegree-seeking student is a student who has not been accepted into an academic program and is not seeking a graduate degree. Students in this category are often completing application requirements for a graduate program. Students who are allowed to take graduate courses in this category can only transfer nine credit hours into a graduate program.

Degrees Offered

Nondegree or Transient

Admission

Nondegree Students

If you are interested in taking graduate courses at UCF for personal or professional enhancement or to prepare for possible admission to a graduate program, you may enroll as a nondegree-seeking student. Applicants are encouraged to [apply online](#). If you are applying as a nondegree student, you must submit the following application materials:

- Graduate Application for Admission (signed by the applicant)
- Residency Classification form
- A \$30.00 application fee is required of all applicants for each application submitted.
- Official transcripts showing an earned bachelor's degree from an accredited institution
- Prior to registration, a Health Form must be submitted to Student Health Services. The form can be downloaded from the online application site.

The application and all supporting documents must be received by UCF Graduate Studies by the stated application deadline.

Please note that nondegree admission or admission to a graduate certificate program at UCF does not guarantee admission to graduate status in a degree program. International students are not eligible for nondegree status unless they hold an eligible visa.

Limited Nondegree Seeking Applicants

Note: Effective October 31, 2003, all students who wish to enroll as limited non/degree seeking students at the graduate level, will need to apply for admission as a Nondegree Seeking student. Please refer to the [Nondegree Applicants](#) section of the graduate studies website and follow the application procedures and requirements.

Transient Students

Students attending UCF for a term from another institution where they are receiving their degree are classified as transient students. Transient students can [apply online](#) as a nondegree-seeking student. Required documents for transient students are:

- Graduate Application for Admission form (signed by the applicant)(Select nondegree-seeking status)
- A \$30.00 application fee is required of all applicants for each application submitted.
- Health Form required if you are not an SUS transient student
- A letter from your home institution stating that you are in good academic standing and that the institution will accept the transfer of the hours

The application and all supporting documents must be received by UCF Graduate Studies by the stated application deadline.

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Nondegree or Transient		Jul 15	Dec 1	Apr 15

International Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Nondegree or Transient				

Not all graduate degree programs accept nondegree students. Before you apply for admission as a nondegree student, contact the program coordinator for the graduate degree program that offers the course you want to take. Ask if the program accepts nondegree students and if there are specific enrollment instructions for graduate-level courses.

Contact Info

Jennifer Parham
 Phone Number: 407-823-2766 ext. 256
graduate@mail.ucf.edu

Nursing Nondegree

[Description](#)

[Degree Offered](#)

[Admission](#)

[Nursing Nondegree](#)

[Contact Info](#)

Description

Students may take Nursing classes as a nondegree-seeking, post-baccalaureate student on a space-available basis. Deadlines for application for this status are earlier than those posted by the university. Students must designate on their application that they are applying to the School of Nursing in order to facilitate processing of files. Students will be notified in writing from the School of Nursing regarding acceptance as a non-degree-seeking student. Students who are accepted will be assisted with registration for available courses. Successful completion of post-baccalaureate courses does not guarantee admission to the graduate program. Students who are allowed to take graduate courses in this category can only transfer nine credit hours of courses with a "B" grade or better into a graduate program.

Degrees Offered

Nursing Nondegree

Admission

If you are interested in taking graduate courses at UCF for personal or professional enhancement or to prepare for possible admission to a graduate program, you may enroll as a nondegree-seeking student. Applicants are encouraged to [apply online](#). In addition to completing the online application, applicants will need to submit official, final transcripts conferring a bachelor's degree.

Application Due Dates

U.S. Applicants

<u>Program(s)</u>	<u>Fall Priority</u>	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Nursing Nondegree		Jun 15	Oct 15	

Students interested in the enrolling as a Nursing Nondegree student should contact the [School of Nursing](#) regarding class availability and scheduling.

Contact Info

Jean Kijek, Ph.D. , Associate Professor
 Phone Number: 407-823-2744
gradnurs@mail.ucf.edu

Courses

[Overview](#)

[Courses](#)

[Understanding Course Info](#)

Overview

Courses listed here include all approved UCF graduate courses as of the date this Graduate Catalog was published (May 2003).

Availability of Courses. The university does not offer all of the courses listed in this Graduate Catalog each academic year, academic semester, or term. Consult the "Class Schedule" at <https://connect.ucf.edu> for those courses offered each term.

Course Listing

1934 Courses

ACG 5005 . Accounting Foundations

1.5(1.5,0). PR: Acceptance to Graduate study.
Accounting and reporting from an investment and managerial decision making perspective.
BA-Accounting

ACG 5205 . Advanced Financial Accounting Topics

3(3,0). PR: Acceptance in the graduate program, or Accounting major or minor in term of graduation, and ACG 3111 with a grade of "C" or better. Accounting for business combinations and the preparation of consolidated financial statements. Accounting issues related to foreign operations. Also includes a study of current reporting topics.
BA-Accounting

ACG 5206 . Seminar in Financial Reporting

3(3,0). PR: Acceptance for graduate study and all accounting foundation courses. An in-depth study of advanced financial reports.
BA-Accounting

ACG 5346 . Advanced Managerial Accounting

3(3,0). PR: Acceptance in the graduate program, or Accounting major or minor in term of graduation, and ACG 3361 with a grade of "C" or better and ECO 3411. Advanced and current techniques for generation and use of accounting information in managerial decision-making.
BA-Accounting

ACG 5405 . Advanced Accounting Information Systems

3(3,0). PR: Acceptance in the graduate program, or Accounting major or minor in term of graduation, and ACG 4401. Design, analysis and evaluation of accounting information systems.
BA-Accounting

ACG 5506 . Accounting for Governmental and Non-business Organizations

3(3,0). PR: ACG 3501, ACG 3111 and acceptance for graduate study. Study of problems and methods of applying managerial accounting concepts in a nonprofit environment.
BA-Accounting

ACG 5517 . Financial Accounting and Auditing for Governmental and Nonprofit Organizations

3(3,0). PR: Acceptance in the graduate program, or Accounting major or minor in term of graduation, and ACG 3501 or consent of graduate program advisor. Financial accounting and reporting for funds and activities of governments and nonprofit organizations; financial audit of government and nonprofit organizations.
BA-Accounting

ACG 5625 . Auditing and EDP

3(3,0). PR: Acceptance for graduate study, ACG 3111, ACG 4401, and ACG 4651. An examination of auditing procedures followed when a company uses a computer to process financial records.
BA-Accounting

ACG 6255 . International and Multinational Accounting

3(3,0). PR: Graduate standing and ACG 3111. An examination of the environmental factors affecting international accounting concepts and standards. Cross-country differences in accounting treatments are compared.
BA-Accounting

ACG 6356 . Seminar in Cost Accounting

3(3,0). PR: ACG 5346, graduate standing, and all foundation courses for the accounting program or equivalents. A study of current selected topics in cost and management accounting.
BA-Accounting

ACG 6415 . Seminar in Accounting Information Systems

3(3,0). PR: ACG 5405 and ACG 6636. Study, audit, and control of enabling technologies affecting the accounting profession.
BA-Accounting

ACG 6425 . Managerial Accounting Analysis

3(3,0). PR: CBA Master's program of study foundation core (not open to Accounting majors). Accounting as an information measurement system for internal planning and control.
BA-Accounting

ACG 6519 . Seminar in Governmental and Nonbusiness Accounting and Auditing

3(3,0). PR: Graduate standing and all foundation courses for the accounting program or equivalents. Examination of current issues and topics with emphasis on current and future developments.
BA-Accounting

ACG 6636 . Advanced Auditing Topics

3(3,0). PR: Graduate standing and ACG 4651, STA 2023. Special topics relative to the standards, practices, and procedures followed in the audit function. Includes statistical sampling, advanced computer systems, advanced applications, and reporting problems.
BA-Accounting

ACG 6675 . Operational Auditing

3(3,0). PR: Graduate standing and ACG 4651 or ACG 4671. In depth study of the standards, principles, practices, and procedures followed in the internal audit function.
BA-Accounting

ACG 6685 . Seminar in Fraud Auditing

3(3,0). PR: ACG 4651 and graduate standing. Theory and techniques relating to fraud auditing and fraud examination.
BA-Finance

ACG 6696 . Seminar in Auditing

3(3,0). PR: ACG 6636, graduate standing, and all foundation courses for the accounting program or equivalents. A study of current auditing topics.
BA-Accounting

ACG 6805 . Seminar in Accounting Theory

3(3,0). PR: Graduate standing and all foundation courses for the accounting program or equivalents. An examination of the evolution of contemporary accounting theory with emphasis on current and future developments.
BA-Accounting

ACG 6835 . Seminar in Ethics and Professionalism in Accounting and Auditing

3(3,0). PR: CBA Master's program of study foundation core courses. This course focuses on why and how theories of the professions and theories of individual ethical decision-making are applicable to the practice of accounting.
BA-Accounting

ACG 7157 . Seminar in Archival Research in Accounting

3(3,0). PR: Approval of instructor and Ph.D. program coordinator. Extensive coverage of archival literature dealing with auditing, financial accounting, accounting regulation, and related accounting research.
BA-Accounting

ACG 7399 . Seminar in Behavioral Accounting Research

3(3,0). PR: Admission to doctoral program, ACG 7157, and C.I. Extensive study of the theoretical aspects and

ACG 7826 . Seminar in the Social and Organizational Context of Accounting

3(3,0). PR: Instructor and PhD Program Coordinator consent. This course provides the student with an

empirical literature related to accounting-based judgement/decision processes and the behavioral implications of accounting.
BA-Accounting

appreciation for the body of accounting knowledge that investigates accounting as a practice carried out within social and organizational contexts.
BA-Accounting

ACG 7885 . Research Foundations in Accounting
3(3,0). PR: Instructor and PhD Program Coordinator consent. This course provides doctoral students with an intellectual foundation in research and research methods that are applicable in the study of accounting.
BA-Accounting

ACG 7887 . Accounting Research Forum
1(1,0). PR: Admission to doctoral program. Research and pedagogical issues in accounting, including research presentations by faculty, doctoral students, and invited scholars. May be taken for 4 hours credit.
BA-Accounting

ACG 7888 . Seminar in Critical Accounting and AIS
3(3,0). PR: Instructor and PhD Program Coordinator consent. This course provides an indepth understanding of the critical accounting and AIS literature and the knowledge and skills necessary to undertake scholarly research in the area.
BA-Accounting

ACG 7915 . Directed Research in Accounting
3(3,0). PR: GEB 7910 and C.I. Advanced study in specialized areas of accounting research. Study designed to lead toward publishable research or student's dissertation. By definition, topical areas will vary.
BA-Accounting

ACG 7917 . Advanced Research Methods in Accounting and Accounting Information Systems Resch
3(3,0). PR: Approval of instructor and Ph.D. program coordinator. Advanced study in specialized areas of accounting and AIS research. By definition, topical areas will vary.
BA-Accounting

AFA 5930 . Topics in African American Studies
3(3,0). PR: Graduate status or senior standing or C.I. This interdisciplinary seminar uses primary texts to examine the impact of black culture, aesthetic and philosophical ideas on 20th century American society.
AS-African American Studies

AFH 5806 . The Historiography of Slavery in Africa
3(3,0). PR: Graduate status or senior standing or C.I. Course covers the central issues and controversies in the historiography of slavery in Africa.
AS-History

AMH 5116 . Colloquium in U.S. Colonial History
3(3,0). PR: Graduate status or senior standing or C.I. Reading and discussion of the literature on selected topics in colonial American history.
AS-History

AMH 5137 . Colloquium in U.S. Revolutionary Period
3(3,0). PR: Graduate status or senior standing or C.I. Reading and class discussion of the literature on selected topics in the Revolutionary Era, 1763-1789.
AS-History

AMH 5149 . Colloquium in Early U.S. History, 1789-1815
3(3,0). PR: Graduate status or senior standing or C.I. Reading and class discussion of the literature on selected topics of the early national period.
AS-History

AMH 5169 . Colloquium in Age of Jackson
3(3,0). PR: Graduate status or senior standing or C.I. Intensive reading and class discussion on selected topics of the Jacksonian age.
AS-History

AMH 5176 . Colloquium in Civil War and Reconstruction
3(3,0). PR: Graduate status or senior standing or C.I. Intensive reading and class discussion on selected topics of the Civil War and Reconstruction era.
AS-History

AMH 5219 . Colloquium in Late 19th Century U.S.
3(3,0). PR: Graduate status or senior standing or C.I. Reading and class discussion of the literature on selected topics of late 19th-century U.S.
AS-History

AMH 5296 . Colloquium in 20th Century U.S.
3(3,0). PR: Graduate status or senior standing or C.I. Reading and class discussion on selected topics in 20th-century U.S.
AS-History

AMH 5391 . Colloquium in U.S. Cultural History
3(3,0). PR: Graduate status or senior standing or C.I. Students will read and discuss a common or diverse body of the significant literature in the field.
AS-History

AMH 5407 . Colloquium in American South
3(3,0). PR: Graduate status or senior standing or C.I. Intensive reading and class discussion on selected topics of Southern history from colonial origins to the present.
AS-History

AMH 5446 . Colloquium in U.S. Frontier

AMH 5515 . Colloquium in U.S. Diplomatic History

3(3,0). PR: Graduate status or senior standing or C.I. Reading and class discussion of the literature on selected topics of frontier history.
AS-History

AMH 5566 . Colloquium: Women in American History

3(3,0). PR: Graduate status or senior standing or C.I. Intensive reading and class discussion on selected topics of Women in American History from colonial time to the present.
AS-History

AMH 6429 . Seminar in Community and Local History

3(3,0). PR: Graduate standing. This seminar will introduce students to historiography, methodology and first-hand experience on conducting a community history based on local and church archives.
AS-History

AMH 6592 . Seminar in Oral History

3(3,0). PR: Graduate standing. This course is designed to expose students to the use of oral history as a research technique and to provide experience in conducting professional oral history interviews.
AS-History

AML 5076 . American Literature: Colonial to Contemporary

3(3,0). PR: Graduate status or senior standing or C.I. Intended for graduate students and future teachers of America Literature, this course surveys texts produced in America from the colonial period to the present.
AS-English

ANG 5110 . Archaeological Theory and Method

3(3,0). PR: Graduate status or senior standing or C.I. A consideration of the history and current state of the art of the theory and methods used by archaeologists to interpret past behavior.
AS-Sociology & Anthropology

ANG 5166 . Problems in Maya Studies

3(3,0). PR: ANG 6168 or C.I. In-depth study of current methodological, theoretical, and/or topical problems in Maya Studies.
AS-Sociology & Anthropology

ANG 5228 . Maya Iconography

3(3,0). PR: ANG 6168 or C.I. Study and interpretation of ancient Maya iconography as reflected in art, artifacts, and constructed features.
AS-Sociology & Anthropology

ANG 6168 . The Ancient Maya

3(3,0). PR: Graduate status or senior standing or C.I. A survey of the historical literature of American foreign policy. May be repeated for credit when content is different.
AS-History

AMH 5937 . AP American History

3(3,0). PR: Graduate status or senior standing or C.I. Participants will enhance their knowledge of weighing evidence and interpretations presented in historical scholarship with respect to the social, cultural, intellectual, economic, and political-diplomatic history of the U.S.
AS-History

AMH 6591 . Seminar in Documentary Editing

3(3,0). PR: Graduate standing. This course provides an introduction to the theory and practical skills involved in documentary editing.
AS-History

AMH 6939 . Seminar in U.S. History

3(3,0). Research seminar on selected topics in U.S. history. May be repeated for credit when content is different.
AS-History

AML 5156 . Modern American Poetry

3(3,0). PR: Graduate status or senior standing or C.I. Study of trends, modes, major figures (Eliot, Pound, H.D.Lawrence, Stevens, Hart, Crane, Moore, W.C. Williams, etc.) within the Modernist movement in American poetry.
AS-English

ANG 5165 . Field Research in Maya Studies

3(3,0). PR: ANG 6168 or C.I. Practical application of method and theory during primary in-field research in the Maya area.
AS-Sociology & Anthropology

ANG 5167 . Maya Hieroglyphs

3(3,0). PR: ANG 6168, graduate status or senior standing, or C.I. The study of Maya writing, the translation of Maya hieroglyphs, and the significance of translations to reconstructions of ancient Maya culture.
AS-Sociology & Anthropology

ANG 5467 . Nutritional Anthropology

3(3,0). PR: One course in Social Sciences (min. 2000-level) and one course in Biological Sciences (min. 2000-level) or C.I. Graduate status or senior standing or C.I. The biological, social, cultural, psychological, and environmental influences of food consumption and physiological status. Perspectives are cross-cultural, evolutionary, ecological.
AS-Sociology & Anthropology

ANG 6374 . Contemporary Maya

3(3,0). PR: Bachelor's degree or C.I. Overview of the archaeology of the ancient Maya of Mexico, Belize, Guatemala, and upper Mexico.
AS-Sociology & Anthropology

ARE 5251 . Art for Exceptionalities

3(2,1). Concepts, principles, and methods of integrating art processes into the education of the physically, emotionally, and mentally handicapped.
ED-Teaching & Learning Princ

ARE 5359 . Teaching Art K-12

4(4,0). PR: Admission to M.A. in Art Education, graduate standing or C.I. Transition from university art practices to public school teaching of art. Organize, design, and analyze art learning for students K-12.
ED-Teaching & Learning Princ

ARE 5648 . Contemporary Visual Arts Education

3(3,0). PR: ARE 4443 or C.I. Continued study of current programs and innovations in public school visual arts programs.
ED-Teaching & Learning Princ

ARE 6450 . K-12 Instructional Materials

3(3,0). PR: Graduate standing or C.I. An historical examination of art education curriculum along with developing learning experiences and visual resources (slides, transparencies, technology) from art works and documentation.
ED-Teaching & Learning Princ

ARE 6905 . Research Trends in Art Education

3(3,0). PR: EDF 6481. This course will further prepare art education graduate students to identify and review landmark research and conduct relevant art education research. May be repeated for credit.
ED-Teaching & Learning Princ

ART 5109C . Multi-Cultural Crafts Design

3(2,4). PR: ART 2201C, ART 2203C, ART 2300C, ART 2301C, graduate status or senior standing, or C.I. The content of this course will include an appreciation for and the production of Western and Non-Western art forms.
AS-Art

ART 5284 . Design Theory and Methods

3(3,0). PR: Admission to MFA or C.I. Introduction to semiotic theory, communication theory, perceptual codes, human factors and visual rhetoric.
AS-Art

ART 5695 . Web Art I

3(3,0). PR: Admission to MFA. Students will explore the web and experiment with pertinent software, as well as design and implement websites. Projects will be determined at the outset of each semester.
AS-Art

3(3,0). PR: Bachelor's degree or C.I. Overview of the cultures and peoples comprising the contemporary Maya of Central America.
AS-Sociology & Anthropology

ARE 5255 . Arts in Recreation

3(2,1). Art activities and experiences appropriate for use in playground, leisure services, occupational orientation and other recreational areas.
ED-Teaching & Learning Princ

ARE 5454 . Studio Experiences in Art Education

3(3,0). PR: Graduate admission or C.I. Materials available for instruction in public schools will be explored in depth in relation to their appropriateness and productive qualities. May be repeated for credit.
ED-Teaching & Learning Princ

ARE 6195 . Teaching Art Appreciation with Interdisciplinary Strategies

3(2,1). PR: Graduate status and public school teaching experience. Focuses on the examination of art appreciation examples and concepts toward planning curriculum (interdisciplinary for the study of art history, criticism, and aesthetics).
ED-Teaching & Learning Princ

ARE 6666 . Arts Advocacy

3(2,1). The study and development of plans to produce arts advocacy programs for the public school system.
ED-Teaching & Learning Princ

ARH 5897 . Advanced Seminar in Art History

3(3,0). PR: ARH 2050 and ARH 2051 or CI. Research methods on various topics including: major artist, monument, cultural period or theme.
AS-Art

ART 5280C . Serial Content and Classic Form I

3(3,3). PR: Admission to MFA. Studio course exploring serial imaging history, pictographs, alphabet development, typographic design, and the computer as sequenced design concepts and tools.
AS-Art

ART 5694 . Crosscultural Electronic Art and Design

3(3,0). PR: Admission to MFA. Explores digital/electronic art and technology from mid 20th century to present. Explores key electronic artists and issues of the "ars electronica" into the present.
AS-Art

ART 5696 . Art, Design and Human Interactions

3(3,0). PR: Admission to MFA. Exploration and design of interface interactions systems and technologies in contemporary society and culture including place making, way finding, electronic interface design, and publication design

	AS-Art
<p>ART 5698 . Concourse I 3(3,0). PR: ART 5910 and ART 5280C and ART 5694, or C.I. Digital reproduction of studio works. AS-Art</p>	<p>ART 5811C . The Professional Practice of Art 3(3,1). PR: ART 2201C, ART 2203C, ART 2300C, ART 2301C (no graduate level prerequisite), graduate status or senior standing, or C.I. Seminar class on political information pertaining to professional practices in the art world. Overview of inventory processing, accounting, and the marketing of art AS-Art</p>
<p>ART 5910 . Studio Concentration I 3(3,0). PR: Admission to MFA. Course is the primary for production of work in studio. Students will meet periodically with faculty to discuss progress. Professor will meet with the whole class periodically in order to facilitate a group critique of work completed. May be repeated for credit. (2 times) AS-Art</p>	<p>ART 5934 . Concepts of Contemporary Art 3(3,0). PR: Graduate standing or C.I. Current issues in contemporary international art. Graded S/U. AS-Art</p>
<p>ART 5941 . Graduate Practicum I 1(1,0). PR: Web Art I, graduate status, or C.I. Candidates with cross-disciplinary interests will discuss and analyze issues in digital art making via the internet. Students will use this information to develop projects in their specialization. AS-Art</p>	<p>ART 6281C . Serial Content and Classic Form II 3(3,3). PR: Content & Form I. Studio course exploring the book form via digital technology (for book history, essential basic design principles, and typographical designs) and traditional methods. AS-Art</p>
<p>ART 6683C . Time Arts 3(3,0). PR: Admission to MFA program or C.I. Students explore experimental, innovative and simplistic approaches to the visual representation of movement in a wide variety of analog and digital media. AS-Art</p>	<p>ART 6687 . Research Concentration I 3(3,0). PR: ART 5910, ART 5698 and ART 5284. Apply artistic techniques from prior courses to produce an interactive body of work delivered on web, DVD, video, etc.. AS-Art</p>
<p>ART 6689 . Research Concentration II 3(3,0). PR: ART 6687 and PR or CR: ART 6699. Continuation of Research Concentration I. Produce an interactive body of art work under a unified theme. AS-Art</p>	<p>ART 6697 . Web Art II 3(3,0). PR: ART 5695, graduate standing, or C.I. Students explore various programs and pertinent software used in website design and implementation. AS-Art</p>
<p>ART 6699 . Concourse II 3(3,0). PR: ART 5698. Continuation of Concourse I. Digital work used to create group web exhibit and interactive portfolio. AS-Art</p>	<p>ART 6743C . Intermedia Sculpture 3(3,3). PR: Admission to MFA. Enhancing material sense and repertoire regarding material selection, combination, and contextualization in static and dynamic projects. Design integration and enhanced structural awareness via media emphasized. AS-Art</p>
<p>ART 6930 . Graduate Seminar 1(1,0). PR: Admission to MFA. Lecture and interactive discussion centers upon art, aesthetics, culture, technology, and industry in relation to computer art and design. May be repeated for credit. (2 times) AS-Art</p>	<p>ART 6942 . Graduate Practicum II 1(1,0). PR: Web Art I, Graduate Practicum I. Candidates with cross-disciplinary interests will discuss and analyze digital art making via the internet. Students will apply principals from Practicum I and internet projects. AS-Art</p>
<p>ASH 5227 . The Arab-Israeli Conflict 3(3,0). PR: Graduate status or senior standing or C.I. This course examines the history of the Arab-Israeli conflict, placing particular emphasis on its origins in 19th century imperialism and Zionism. AS-History</p>	<p>ASH 5408 . Colloquium in Modern China 3(3,0). PR: Graduate status or senior standing or C.I. Course explores works of scholarship in modern China including the rise of Communism, Chinese women and Sino-American relations. AS-History</p>

AST 5165 . Planetary Atmospheres

3(3,0). PR: Mechanics PHY 3221 and Modern Physics 3101, graduate status or senior standing, or C.I. This course will examine the physical and chemical processes that govern the behavior of the atmosphere of Earth and the other planets.
AS-Physics

BOT 5623C . Plant Geography and Ecology

4(3,3). PR: PCB 3034, and graduate status or senior standing or C.I. The study of the abiotic and biotic processes that control the distribution of terrestrial flora at local, landscape, and global scales.
AS-Biology

BSC 5817 . Biology for AP Teachers

3(3,0). PR: Graduate status or senior standing or C.I. Participants will perform and evaluate the 12 required labs, analyze the design and grading of the Exam, and develop a representative program.
AS-Biology

BSC 6432 . Structure-Function-Relationships of Biomolecular Science I

5(5,0). PR: 1) Acceptance in the Molecular biology and Microbiology Master's program, and 2) Biochem I, or Molecular Biology 1 and 2, or Cell Biology. First semester of a two semester sequence with lectures and literature discussion of structures, functions and relationships of action and functions of biomolecules.
HPA-Molecular & Microbiology

BSC 6950 . Biological Research Resources

3(3,0). PR: Graduate status. Research methodology including literature resources, problem conceptualization, research proposals, data collection, and analysis and presentation of findings.
AS-Biology

BUL 5125 . Legal and Social Environment of Business

3(3,0). PR: Admission to graduate program. Analysis of the legal and ethical environment of business, the effects of legislation and regulation on business activity, and the role of law and ethics in the decision-making process.
BA-Accounting

BUL 6444 . Law and Ethics

1.5(1.5,0). PR: CBA Master's program of study foundation core. Legal and ethical issues inherent in business decision making.
BA-Accounting

BOT 5485C . Terrestrial Cryptogams

3(2,3). PR: BOT 4303C, graduate status or senior standing, or C.I. A lecture-laboratory survey course on the biodiversity and classification of terrestrial-cryptogams (bryophytes, ferns, and fern allies) with special emphasis on those found in Florida.
AS-Biology

BSC 5408L . Advanced Biology Laboratory Techniques

3(0,9). PR: BS degree, C.I. This course will emphasize those biological techniques and resources necessary for students about to begin thesis research. Individual and small group instruction in current laboratory techniques, literature searches, and hands-on practice of techniques will be stressed. May not be repeated for credit.
AS-Biology

BSC 6431 . Practice of Biomolecular Science

1(1,0). PR: Graduate standing. Introduces students to the practice of biomolecular science. Graded S/U.
HPA-Molecular & Microbiology

BSC 6433 . Structure-Function-Relationships of Biomolecular Science II

5(5,0). PR: PCB 3523, and PCB 4524 or BCH 4053 or PCB 3023. Graduate standing. Second semester of a two semester sequence with lectures, literature discussion of structure - function - relationships of action and functions of biomolecules.
HPA-Molecular & Microbiology

BTE 6935 . Seminar in Business Education

3(3,0). PR: Graduate standing or C.I. Current problems, issues, and trends in business education.
ED-Teaching & Learning Princ

BUL 5332 . Advanced Business Law Topics

3(3,0). PR: Admission to graduate program, or Management major or minor in term of graduation, BUL 3130. Advanced business law topics including coverage of the Uniform Commercial Code, torts, commercial paper, and secured transactions.
BA-Accounting

BUL 6581 . Sport Law

3(3,0). PR: CBA Master's program of study foundation core and admissions to the Sport Business Management program. Legal issues applicable to a sports context, developing familiarity with the legal terminology and broad understanding of key concepts in tort, contract, constitutional and common law. Employment, labor, antitrust, and agency law are also key components of this course.
BA-College-BA

CAP 5015 . Multimedia Compression on the Internet**CAP 5415 . Computer Vision**

3(3,0). PR: Seniors and graduate students with interest in internet technology. Multimedia data; internet technology; entropy; compression methods; lossy compression; vector quantization; transform coding; wavelet video compression; model based compression.
ECS-Computer Science

CAP 5512 . Evolutionary Computation

3(3,0). This course covers the field of evolutionary computation, focusing on the theory and application of genetic algorithms.
ECS-Computer Science

3(3,0). PR: COP 3530C. Image formation, binary vision, region growing and edge detection, shape representation, dynamic scene analysis, texture, stereo and range images, and knowledge representation.
ECS-Computer Science

CAP 5610 . Machine Learning

3(3,0). PR: CAP 4630 or C.I. Origin/evaluation of machine intelligence; machine learning concepts and their applications in problem solving, planning and "expert systems;" symbolic role of human and computers.
ECS-Computer Science

CAP 5636 . Advanced Artificial Intelligence

3(3,0). PR: CAP 4630. AI theory of knowledge representation, "expert systems," memory organization, problem solving, learning, planning, vision, and natural language.
ECS-Computer Science

CAP 5725 . Computer Graphics I

3(3,0). Architecture of graphics processors; display hardware; principles of programming and display software; problems and applications of graphic systems.
ECS-Computer Science

CAP 6133 . Advanced Topics in Computer Security and Computer Forensics

3(3,0). PR: COP 5611, COT 5405, CDA 5501. Advanced topics in computer security and forensics such as cryptography; automatic intrusion detection, advanced pattern matching, statistical techniques, firewalls, and vulnerability scanning.
ECS-Computer Science

CAP 6411 . Computer Vision Systems

3(3,0). PR: CAP 5415. Recent systems contributing toward recognition, reasoning, knowledge representation, navigation, and dynamic scene analysis. Comparisons, enhancements, and integrations of such systems.
ECS-Computer Science

CAP 6412 . Advanced Computer Vision

3(3,0). PR: CAP 5415. Computational theories of perception, shape from IX' techniques, multi-resolution image analysis, 3-D model based vision, perceptual organization, spatiotemporal model, knowledge-based vision systems.
ECS-Computer Science

CAP 6613 . Utilizing Microcomputers in Education

3(0). Instruction in microcomputers emphasizing applications of software in the classroom and for school recordkeeping.
ED-Ed Research, Tech & Lead

CAP 6637 . Affective Computing with Artificial Intelligence

3(3,0). PR: CAP 5636. Improve understanding of functional role of affect. Integrate emotion recognition techniques. Synthesize emotion and expression of emotion for autonomous agents. Understand affective computing social implications.
ECS-Computer Science

CAP 6640 . Computer Understanding of Natural Language

3(3,0). PR: CAP 5636. A study of the different approaches to build programs to understand natural language. The theory of parsing, knowledge representation, memory, and inference will be studied.
ECS-Computer Science

CAP 6671 . Intelligent Systems

3(3,0). PR: CAP 5610. Study of computer systems exhibiting intelligent attributes, particularly learning; basic concepts related to characteristics, capabilities, design, and principles of operation; discussion of relevant philosophical/social issues.
ECS-Computer Science

CAP 66721 . Ray Tracing

3(3,0). PR: CAP 5725, programming experience. Advanced graphics: Implementaion of ray tracing algorithm plus extensions, spatial subdivisions, MC sampling, camera models, texture mapping, instancing.
ECS-Computer Science

CAP 6676 . Knowledge Representation

3(3,0). PR: CAP 5636. Topics covered include terminological languages, logicist approaches, ontologies, ontological and conceptual relativity, processes, intangibles, time, building large knowledge bases, and complexity analysis.
ECS-Computer Science

CAP 6701 . Computer Graphic Systems II

3(3,0). PR: CAP 5725. Modeling design and analysis of graphics systems; data structures, numerical techniques, algorithms, and optimum seeking methods for various problems in computer graphics.
ECS-Computer Science

CAP 6835 . Visual Simulation, Rendering, and Photometry

3(3,0). PR: CAP 5415. Modeling: SFM, space carving, voxel coloring; image-based rendering: morphing, plenoptic resampling, lumigraph, layered 2.5D representation; image-based photometry: light, color constancy, BRDF, intrinsic images, invariants.
ECS-Computer Science

CCE 5006 . Introduction to Construction Industry

3(3,0). PR: post-bac status or C.I. This course introduces students to the construction industry. Topics include project evaluation, project phases, project delivery systems, contracts, estimating and schedule drawing and specifications. Research paper required.
ECS-Civil & Environmental

CCE 5036 . Construction Estimation and Scheduling

3(3,0). PR: C.I. Provides students with an understanding of estimating and scheduling of construction projects. Topics include detailed estimates, scheduling and project control Research paper required.
ECS-Civil & Environmental

CCE 5205 . Construction Methods

3(3,0). PR: Post-bac status or C.I. This class covers construction project evaluation principles along with construction methods for civil and structural systems.
ECS-Civil & Environmental

CCE 5406 . Construction Equipment and Productivity

3(3,0). PR: C.I. Selection of appropriate equipment based on operational parameters. Principles of construction productivity measurement and analysis discrete event simulation.
ECS-Civil & Environmental

CCE 5815 . Mechanical and Electrical Systems for Buildings

4(4,0). PR: C.I. This course covers the design and construction of mechanical and electrical systems for buildings. Research paper required.
ECS-Civil & Environmental

CCJ 5015 . The Nature of Crime

3(3,0). This course provides an overview of major dimensions of crime in the U.S.; epidemiology of crime, costs of crime, and typologies of crime and criminals.
HPA-Criminal Justice/Legal St

CCJ 5040 . International Perspectives on Law and Justice

6(6,0). PR: C.I. or graduate standing. Examination of the legal and criminal justice systems of other nations and territories through lecture, seminar, research and field visits.
HPA-Criminal Justice/Legal St

CCJ 5073 . Data Management Systems for Crime Analysis

3(3,0). PR: graduate standing or C.I. This course is designed to provide the conceptual basis, understanding, and skills necessary for complex crime data manipulation.
HPA-Criminal Justice/Legal St

CCJ 5105 . Foundations of Law Enforcement

3(3,0). PR: C.I. Examines police role in modern society and law enforcement policy.
HPA-Criminal Justice/Legal St

CCJ 5406 . Research and Technology Implementation

3(3,0). Changing roles of social and physical sciences as related to the objectives and administration of public safety agencies.
HPA-Criminal Justice/Legal St

CCJ 5456 . The Administration of Justice

3(3,0). This course provides an overview of the criminal justice system and a critical analysis of formal and informal processing of offenders by criminal justice agencies.
HPA-Criminal Justice/Legal St

CCJ 5467 . Justice and Safety System Manpower

3(3,0). Processes essentials to administration to human resources in criminal justice and public safety agencies; structure and processes for acquisition, training, and maintenance of personnel.
HPA-Criminal Justice/Legal St

CCJ 5617 . Mental Disorder, Crime, and Criminal Justice

3(3,0). PR: CCJ 5456, CCJ 5015, or C.I. An overview of the relationship between mental disorder, crime, and the criminal justice system.
HPA-Criminal Justice/Legal St

CCJ 5675 . Human Rights & Criminal Justice

3(3,0). PR: Senior scholar or graduate standing or C.I. Provides in-depth analysis of the human rights movement and its potential impact upon criminal law as well as the juvenile and criminal justice systems.
HPA-Criminal Justice/Legal St

CCJ 5688 . Cyber Crime and Criminal Justice

3(3,0). PR: CCJ 5015. Deals with the problem of cyber crime and the criminal use of the Internet. Includes investigation, enforcement and legal issues.
HPA-Criminal Justice/Legal St

CCI 5704 . Research Methods in Criminal Justice**CCI 5831 . Contemporary Criminal Justice Strategies**

3(3,0). An examination of the philosophy and techniques of research as applied in the Criminal Justice field.
HPA-Criminal Justice/Legal St

3(3,0). PR: Graduate standing or C.I. Graduate level analysis of contemporary crime issues and the reactions of the criminal justice system to combat those crimes at both the national and international levels. May be repeated for credit. (2 times)
HPA-Criminal Justice/Legal St

CCJ 5934 . Criminal Justice Investigative Process
1(1,0). PR: Graduate standing or C.I. Advanced seminar providing students with a broad view of how criminal justice investigative processes operate. Focuses on the roles and responsibilities of agents as investigators. May be repeated for credit. (3 times)
HPA-Criminal Justice/Legal St

CCJ 6051 . Community Justice
3(3,0). PR: CCJ 5015. Examines the emergence of community justice as a major perspective in the U.S. punishment system.
HPA-Criminal Justice/Legal St

CCJ 6074 . Investigative and Intelligence Analysis: Theory & Methods
3(3,0). PR: Graduate standing or C.I. This course is designed to familiarize the student with the complex analytical techniques and procedures used to support criminal investigations and criminal intelligence efforts.
HPA-Criminal Justice/Legal St

CCJ 6077 . Advanced Crime Mapping and Analysis in Criminal Justice
3(3,0). PR: CCJ 5073 and Crime Mapping and Analysis in Criminal Justice or C.I. Develop advanced mapping and analysis proficiency utilizing sophisticated spatial analysis techniques.
HPA-Criminal Justice/Legal St

CCJ 6079 . Crime Mapping and Analysis in Criminal Justice
3(3,0). PR: Graduate standing or C.I. Course provides the conceptual knowledge and practical skills to design and implement GIS based analysis of community crime problems.
HPA-Criminal Justice/Legal St

CCJ 6106 . Policy Analysis in Criminal Justice
3(3,0). This course is designed to familiarize students with the causes and consequences of public policy with an emphasis on criminal justice policy.
HPA-Criminal Justice/Legal St

CCJ 6217 . Law and Social Control
3(3,0). This course will examine the types of behavior the state has sought to control and the means employed to exert such control.
HPA-Criminal Justice/Legal St

CCJ 6362 . Death Penalty
3(3,0). PR: Graduate standing or C.I. Examines death penalty policies throughout the U.S., their administration, and deterrent issues.
HPA-Criminal Justice/Legal St

CCJ 6431 . Leadership and Ethics in Criminal Justice
3(3,0). PR: CCJ 5456 or C.J. Examines the leadership issues faced by decision makers in the criminal justice system.
HPA-Criminal Justice/Legal St

CCJ 6485 . Issues in Justice Policy
3(3,0). Examination of selected issues of public policy regarding the functions and roles of criminal justice agencies vis-a-vis other government departments or agencies and public purposes. May be repeated for credit.
HPA-Criminal Justice/Legal St

CCJ 6705 . Applied Criminal Justice Research
3(3,0). Upon successful completion of this course the student will gain an understanding of the major philosophical, theoretical, and conceptual approaches to evaluation research.
HPA-Criminal Justice/Legal St

CCJ 6706 . Quantitative Methods and Computer Utilization in Criminal Justice
3(3,0). Application of statistical software to quantitative and qualitative methods in Criminal Justice.
HPA-Criminal Justice/Legal St

CCJ 6730 . Planned Change and Innovation in Criminal Justice
3(3,0). This course will provide participants with an understanding of planned individual and organizational change so that they may become successful agents of such change.
HPA-Criminal Justice/Legal St

CCJ 6934 . Criminal Justice, Crime, and Popular Culture
3(3,0). PR: Graduate standing, CCJ 5456, or C.I. Explore how the Criminal Justice System, criminals, and crime are portrayed in entertainment and news media and the effects portrayals have on society and criminal justice.
HPA-Criminal Justice/Legal St

CCJ 6938 . Special Topics in Criminal Justice
Variable. Students are exposed to in-depth coverage of a particular contemporary problem in criminal justice for

CCJ 6946 . Criminal Justice Practicum
Variable. Students will undertake a significant research project in a criminal justice agency

example, the death penalty or the influence of the media on crime and punishment. HPA-Criminal Justice/Legal St	HPA-Criminal Justice/Legal St
CCJ 7457 . Seminar in Criminal Justice Theory 3(3,0). PR: Admission to Ph.D. program or C.I. Examination of the theoretical basis of criminal justice policies. Focus on retribution, incapacitation, deterrence, rehabilitation, and restoration. HPA-Criminal Justice/Legal St	CCJ 7930 . Seminar in Criminal Justice Policy Analysis 3(3,0). PR: Admission to Ph.D. program or C.I. Criminal justice policy formulation, implementation, and evaluation, with special emphasis on problems of conceptualization and methodology. HPA-Criminal Justice/Legal St
CDA 5106 . Advanced Computer Architecture I 3(3,0). PR: CDA 4150. Instruction set architectures, processor implementation, memory hierarchy, pipelining, computer arithmetic, vector processing, and I/O. ECS-Computer Science	CDA 5110 . Parallel Architecture and Algorithms 3(3,0). PR: COT 4210, CDA 5106. General-purpose vs. special-purpose parallel computers; arrays, message-passing; shared-memory; taxonomy; parallization techniques; communication synchronization and granularity; parallel data structures; automatic program restructuring. ECS-Computer Science
CDA 5215 . Architecture and Design of VLSI 3(3,0). PR: CDA 4150 or equivalent. Overview of VLSI technology. Logical design of basic subsystems; integrated system design tools; design of a VLSI computer system. ECS-Computer Science	CDA 5501 . Computer Communication Networks Architecture 3(3,0). PR: CDA 4150. Computer networks, layers, protocols and interfaces, local area networks networking. ECS-Computer Science
CDA 5530 . Performance Models of Computers and Networks 3(3,0). PR: Senior standing or begining graduate student. Performance models of computer systems and networks using probability models and discrete event simulations. Queuing Theory and modeling tools. ECS-Computer Science	CDA 5532 . Network-Centric Computing 3(3,0). PR: Graduate standing. Concepts in network-centric computing and process coordination in information grids. ECS-Computer Science
CDA 6107 . Advanced Computer Architecture II 3(3,0). PR: CDA 5106. Multiprocessor systems; interconnection network; stack architectures; high-level language architecture; design languages; performance evaluation. ECS-Computer Science	CDA 6211 . VLSI Algorithms and Architecture 3(3,0). PR: CDA 5215. VLSI algorithms, algorithms on regular geometries, hierarchically organized machines; illustrative algorithms: Matrix, DFT, recurrence evaluation, pattern matching, searching, sorting, graph, etc.; area-time complexity issues. ECS-Computer Science
CDA 6520 . Computer Networks Design and Distributive Processing 3(3,0). PR: CDA 5501 and COP 5611. Computer communications networks design considerations, network operating system, distributive processing. ECS-Computer Science	CEG 5015 . Geotechnical Engineering II 3(3,0). PR: CEG 4101C. Continuation of CEG 4101C with emphasis on shear strength and design factors for earth pressures, bearing capacity, and slope stability. ECS-Civil & Environmental
CEG 5700 . Geo-Environmental Engineering 3(3,0). PR: CEG 4101C. Geotechnical applications to environmental problems, groundwater flow, soil contamination and groundwater contaminate transport, geosynthetics and stability of landfill design, control of contaminated sites. ECS-Civil & Environmental	CEG 6065 . Soil Dynamics 3(3,0). PR: CEG 4101C. Comprehensive coverage in calculating the dynamic response of foundations, presenting a variety of contemporary techniques for fields and laboratory. ECS-Civil & Environmental
CEG 6115 . Foundation Engineering 3(3,0). PR: CEG 5015. Analysis and design of spread footings, mat foundations, retaining walls, sheeting and	CEG 6317 . Advanced Geotechnical Engineering 3(3,0). PR: CEG 5015. Mechanics of soils and models; elasticity and plasticity of soil bodies; strength of soils and

bracing systems and pile foundations. ECS-Civil & Environmental	stability of soil structures. ECS-Civil & Environmental
CEN 5016 . Software Engineering 3(3,0). PR: COP 4232. Study and application of formal software development processes and documentation standards for large scale software systems. A team project is required. ECS-Computer Science	CEN 6081 . Engineering Software Design in Distributed and Parallel Systems 3(3,0). PR: EEL 4882 and EEL 4884C or EEL 5881. This course will focus on engineering software design, implementation, configuration and performance evaluation of distributed and parallel systems. ECS-Computer Science
CES 5325 . Bridge Engineering 3(3,0). PR: CES 4605; CES 4702. Structural systems for bridges, loading, analysis by influence lines, slab and girder bridges, composite design, prestressed concrete, rating of existing bridges, specifications and economic factors. ECS-Civil & Environmental	CES 5606 . Advanced Steel Structures 3(3,0). PR: CES 4605. Behavior and design of steel buildings; emphasis on AISC-LRFD building code; complex connections, tension members, stability of compression members, laterally unsupported beams, frames, and beam columns. ECS-Civil & Environmental
CES 5706 . Advanced Reinforced Concrete 3(3,0). PR: CES 4702 or C.I. Design of frames, two-way floor systems, shear walls; shear and torsion; compression field theory; inelastic analysis; wind and seismic design; introduction to prestressed concrete. ECS-Civil & Environmental	CES 5821 . Masonry and Timber Design 3(3,0). PR: C.I. Structural properties of masonry and timber; design loads-codes and standards; analysis for axial loads, flexure and shear. ECS-Civil & Environmental
CES 6116 . Finite Element Structural Analysis 3(3,0). PR: CES 4101 or C.I. Concept, theory, and application of the finite element method; analysis of one-, two-, and three-dimensional structural components and systems; stability and dynamics; applications. ECS-Civil & Environmental	CES 6170 . Boundary Element Methods in Civil Engineering 3(3,0). PR: C.I. Green's theorems; integral formulations for two- and three-dimensional and axisymmetric problems of solid mechanics; applications to structural and geomechanics problems; programming. ECS-Civil & Environmental
CES 6209 . Dynamics of Structures 3(3,0). PR: C.I. Response analysis of single and multi-degree-of-freedom systems to periodic and non-periodic excitations; continuous systems; response spectra; applications in structural engineering. ECS-Civil & Environmental	CES 6218 . Structural Stability 3(3,0). PR: EML 5237 or equivalent. Analysis of structural elements, columns, frameworks, lateral stability. Introduction to the stability of plates. Energy and approximate methods. ECS-Civil & Environmental
CES 6220 . Wind and Earthquake Engineering 3(3,0). PR: CES 6209 or C.I. Wind characteristics; wind effects on structures; dynamic analysis for wind loads; nature of earthquake forces; response spectra and seismic design; wind and seismic codes. ECS-Civil & Environmental	CES 6230 . Advanced Structural Mechanics 3(3,0). PR: C.I. Review of biaxial bending and torsion; plate bending; theory of elasticity, visco-elasticity and plasticity; anisotropic elasticity and stability. ECS-Civil & Environmental
CES 6715 . Prestressed Concrete Structures 3(3,0). PR: CES 4702 and CES 5706 or C.I. Prestressed concrete behavior and design; applications in building and bridge design including pre- and post-tensioned girders, floors, roofs, and walls. ECS-Civil & Environmental	CES 6840 . Composite Steel Concrete Structures 3(3,0). PR: CES 5606 and CES 5706 or C.I. Fundamentals of composite action; high performance materials, design of composite beams, slabs, beam-columns, joints; applications of prestressing; composite buildings and bridges; construction methods. ECS-Civil & Environmental
CES 6910 . Research in Structural Engineering 3(3,0). PR: C.I. Behavior and design of steel, concrete, or composite structures under cyclic, wind, earthquake, impact, or blast loading. ECS-Civil & Environmental	CGN 5320C . Geographic Information systems 3(2,2). Programming theory and application of Geographic Information Systems to Civil Engineering projects. ECS-Civil & Environmental

CGN 5504C . Civil Engineering Materials
3(2,2). PR: EGN 3365, EGN 3331, or C.I. Structure, properties, and applications of materials used in civil engineering including concrete, steel, asphalt, wood, soils, and composite materials.
ECS-Civil & Environmental

CGN 5506C . Asphalt Concrete Mix Design
3(2,2). PR: CEG 4101C. Properties of asphalt, aggregate and asphalt mixtures, Marshall mix design, Hveem mix design, pavement rehabilitation.
ECS-Civil & Environmental

CGN 6655 . Regional Planning, Design, and Development
3(3,0). Project course dealing with planning, design, and development of regional systems, including projections, case studies, design alternatives, environmental impact, etc.
ECS-Civil & Environmental

CGS 5131 . Computer Forensics I: Seizure and Examination of Computer Systems
3(3,0). PR: Computer literacy and C.I. Legal issues regarding seizure and chain of custody. Technical issues in acquiring computer evidence. Popular file systems are examined. Reporting issues in the legal system.
ECS-Computer Science

CGS 5132 . Computer Forensics II: Network Security, Intrusion Detection, & Forensic Analysis
3(3,0). PR: CGS 5131. Computer network protocols and security, network intrusion detection and prevention, digital evidence collection and evaluation, and legal issues involved in network forensics analysis.
ECS-Computer Science

CHM 5225 . Advanced Organic Chemistry
3(3,0). PR: CHM 2211, graduate status or senior standing, or C.I. Theoretical and physical organic concepts of organic systems from the perspective of modern structural theory, thermodynamics, and kinetics.
AS-Chemistry

CHM 5235 . Applied Molecular Spectroscopy
3(3,0). PR: CHM 3120C and CHM 2211, and graduate status or senior standing or C.I. Determination of chemical structure through interpretation of UV, IR, NMR and Mass Spectra.
AS-Chemistry

CHM 5305 . Applied Biological Chemistry
3(3,0). PR: CHM 2211, and graduate status or senior standing or C.I. The identification from plants, synthesis, assessment of bioactivity, and design of pharmaceuticals and agrochemicals, as well as the impact of biotechnology in the chemical industry.
AS-Chemistry

CHM 5450 . Polymer Chemistry
3(3,0). PR: CHM 2211, and graduate status or senior standing or C.I. An introduction to the chemistry of synthetic polymers. Synthetic methods, polymerization mechanisms, characterization techniques, and polymer properties will be considered.
AS-Chemistry

CHM 5451C . Techniques in Polymer Science
3(1,5). PR: CHM 2211 and CHM 3410, graduate status or senior standing, or C.I. A laboratory and lecture course designed to introduce students to the major polymerization mechanisms along with polymer characterization and processing methods using modern instrumentation.
AS-Chemistry

CHM 5580 . Advanced Physical Chemistry
3(3,0). CR: CHM 3411 and PR: MAC 2313, and graduate status or senior standing or C.I. Selected topics of thermodynamics, kinetics, quantum mechanics, and structure.
AS-Chemistry

CHM 5715C . Materials Processing and Characterization Techniques
3(2,3). PR: CHM 3411 and CHM 4610 or equivalent. Glasses, crystals and polymeric materials will be processed and characterized for their properties. Laboratory will emphasize material structure and physical property relationships.
AS-Chemistry

CHM 6440 . Kinetics and Catalysis
2(2,0). PR: CHM 3411 or equivalent. Classical kinetics with an emphasis on industrial applications and current catalysis methodologies.
AS-Chemistry

CHM 6449 . Photochemistry
3(3,0). PR: Graduate standing or C.I. Photochemistry with an emphasis on principles, mechanisms, and applications, such as photolithography, photonics, medicine, and environmental remediation.
AS-Chemistry

CHM 6710 . Applied Analytical Chemistry
2(2,0). PR: CHM 2211, CHM 4130C, and CHM 3411 or equivalent. Concepts in molecular structure that integrate structural, physical, and chemical properties with aspects of industrial and analytical chemistry.
AS-Chemistry

CHM 6711 . Chemistry of Materials
3(3,0). PR: CHM 2211, CHM 4130C, and CHM 3411, or C.I. Structure and properties of chemical products, with an emphasis on the correlation between molecular form and the functional properties deemed desirable for the product.
AS-Chemistry

CHM 6938 . Graduate Chemistry Seminar

1(1,0). PR: C.I. A topic of current chemical interest will be presented by students at a regularly scheduled departmental seminar. May be repeated for credit.
AS-Chemistry

CHS 5518 . The Forensic Collection and Examination of Digital Evidence

3(3,0). PR: Adv topics in Forensic Science, graduate status, or C.I. This course will cover the nature of digital evidence collection and examination under the constraints of law and courtroom procedures.
AS-Chemistry

CHS 6240 . Chemical Thermodynamics

2(2,0). PR: CHM 3411 or equivalent. Classical and statistical thermodynamics with emphasis on industrial applications and estimation methods.
AS-Chemistry

CHS 6260 . Chemical Unit Operations and Separations

2(2,0). PR: C.I. A study of the elements and dynamics that are fundamental to industrial separation methods and transport processes.
AS-Chemistry

CHS 6513 . QA and Bioinformation

3(3,0). PR: C.I. and satisfaction of statistics and biology requirements. Principles of Quality Assurance, a description of current industry wide standards and procedures for locating, evaluating, and processing information about DNA.
AS-Chemistry

CHS 6535L . Forensic Analysis of Biological Materials

3(1,6). PR: CHS 6535, PCB 4524, C.I. and satisfaction of biology requirements. A laboratory course for forensic molecular biologists covering the procedures for recovering and typing DNA from evidentiary materials.
AS-Chemistry

CHS 6613 . Current Topics in Environmental Chemistry

3(3,0). PR: CHM 2045, CHM 2046, or the equivalent of a B.S. in biological, molecular, chemical or engineering sciences, or C.I. Advanced principles of environmental chemistry, environmental law, current remediation technologies and industrial practices relating to the environment.
AS-Chemistry

CJC 5020 . Foundations of Corrections

3(3,0). PR: C.I. Provides an overview of correctional process in U.S., including philosophical foundations and contemporary practices.
HPA-Criminal Justice/Legal St

CHS 5503 . Topics in Forensic Science

3(3,0). PR: Graduate status or C.I. Will include the history of Forensic Science and current issues such as digital evidence.
AS-Chemistry

CHS 5596 . The Forensic Expert in the Courtroom

3(3,0). PR: CHS 3533, CHS 6535, CHS 6536, or C.I. A study of the uses of technically and scientifically trained expert witnesses at trial.
AS-Chemistry

CHS 6251 . Applied Organic Synthesis

2(2,0). PR: CHM 2211 and CHM 3411. A survey of chemical syntheses from both a product-oriented standpoint and a process-oriented standpoint. Relevant examples from the pharmaceutical and agricultural chemical industries.
AS-Chemistry

CHS 6261 . Chemical Process and Product Development

2(2,0). PR: C.I. Development of chemical products and processes including the determination of technical economic feasibility; use of experiment design in the optimization of variables and scale-up methods.
AS-Chemistry

CHS 6535 . Forensic Analysis of Biological Materials

2(2,0). PR: PCB 4524, C.I., and satisfaction of statistics and biology requirements. A lecture course for forensic biologists covering the procedures for recovering and typing DNA from evidentiary materials and the interpretation of data.
AS-Chemistry

CHS 6536 . Forensic Analysis of DNA Data

2(2,0). PR: C.I. and satisfaction of statistics and biology requirements. A lecture course for forensic scientists covering the analysis of laboratory derived DNA data and how they can be applied in an occupational context.
AS-Chemistry

CIS 6611 . Software Engineering II

3(3,0).
ECS-Computer Science

CJJ 6020 . The Juvenile Justice System

3(3,0). This course will focus on the development and philosophy of the Juvenile Justice System; the measurement of delinquency, theories and correlates of delinquency and prevention.
HPA-Criminal Justice/Legal St

CLP 5166 . Advanced Abnormal Psychology
3(3,0). PR: Graduate status or senior standing or C.I. Consideration of classification, causation, management and treatment of emotional disorders. Review of theories and research in the field. Lecture/Laboratory.
AS-Psychology

CLP 5187 . Mental Health and Aging
3(3,0). PR: Graduate status or senior standing or C.I. Introduction to assessment and intervention issues, practice and research related to problems with cognitive and emotional functioning among older adults. May be repeated for credit.
AS-Psychology

CLP 6181 . Psychological Theories of Substance Abuse Treatment
3(3,0). PR: Acceptance to Clinical Psychology Ph.D. program or C.I. The mechanisms responsible for, and the treatment of, substance tolerance and dependence. This course is intended for the Ph.D. in Clinical Psychology; in certain instances graduate students in other programs may enroll.
AS-Psychology

CLP 6191 . Cross-Cultural Psychotherapy
3(3,0). PR: Graduate admission and C.I. The theories, issues, and techniques of counseling within a multicultural environment.
AS-Psychology

CLP 6195C . Introduction to Psychotherapy
3(2,2). PR: Graduate admission and C.I. Counseling theory with experimental lab component including practice in specific techniques in counseling.
AS-Psychology

CLP 6321 . Psychotherapy in Community Settings
3(3,0). PR: Acceptance to Clinical Psychology Ph.D. program or C.I. Survey of the community agencies that deliver mental health/counseling services. Includes on-site visits to local agencies. This course is intended for the Ph.D. in Clinical Psychology; in certain instances graduate students in other programs may enroll.
AS-Psychology

CLP 6441C . Individual Psychological Assessment I
3(2,2). PR: Graduate admission and C.I. Theory and techniques of psychological assessment with emphasis on intake interviewing, cognitive and personality assessment, and report writing.
AS-Psychology

CLP 6445C . Individual Psychological Assessment II
3(2,2). PR: Graduate admission and C.I. Theories of personality and techniques of personality assessment with primary emphasis on interviewing skills, objective and projective techniques, and report writing.
AS-Psychology

CLP 6457C . Group Psychotherapy
3(2,2). PR: Graduate admission and C.I. Group counseling: theory and practice. Experiential group laboratory.
AS-Psychology

CLP 6458C . Behavior Therapy
3(2,2). PR: C.I. and graduate standing. Introduction to the principles and procedures of behavior therapy as a clinical intervention approach. Includes practice in specific techniques.
AS-Psychology

CLP 6459C . Human Sexuality, Marriage, and Sex Therapies
3(2,2). PR: Graduate admission, and C.I. Human sexuality, theory and practice of specific techniques of marriage and sex therapy.
AS-Psychology

CLP 6460C . Introduction to Child, Adolescent, and Family Therapies
3(2,2). PR: Graduate admission, and C.I. Theories and practices of child, adolescent and family therapies. Includes practice in specific techniques.
AS-Psychology

CLP 6476 . Developmental Psychopathology
3(3,0). PR: CLP 5166 or PSB 6446. Focus on the symptoms, classification, and diagnosis of emotional and behavioral disorders in infants, children, and adolescents
AS-Psychology

CLP 6491C . Treatment Development
3(2,2). PR: Acceptance to Clinical Psychology Ph.D. program or C.I. Major preventative treatment approaches, including the appropriate uses of manualized/modular therapy. Students participate in a faculty member's treatment development program. This course is intended for the Ph.D. in Clinical Psychology; in certain instances graduate students in other programs may enroll.
AS-Psychology

CLP 6932 . Ethical and Professional Issues in Mental Health Practices
3(3,0). PR: Graduate admission, C.I. Examination of codes of ethics, laws, and professional standards in the

CLP 6943C . Clinical Practicum
2(2,8). PR: Acceptance to Clinical Psychology Ph.D. program or C.I. Clinical activities performed in an approved university or community setting under

mental health field.
AS-Psychology

CLP 6944 . Clinical Supervision Seminar/Practicum
3(3,0). PR: Acceptance to Clinical Psychology Ph.D. program or C.I. The concepts and skills needed to be a clinical supervisor. Includes applications, ethics, and professional responsibilities in a multi-cultural context. This course is intended for the Ph.D. in Clinical Psychology; in certain instances graduate students in other programs may enroll.
AS-Psychology

faculty/staff supervision. This course is intended for the Ph.D. in Clinical Psychology; in certain instances graduate students in other programs may enroll. May be repeated for credit.
AS-Psychology

CLP 6949 . Predoctoral Internship
2(0,40). PR: Acceptance to Clinical Psychology Ph.D. program or C.I. Placement in an approved setting on a full-time basis for one calendar year. Required of all clinical Ph.D. students. This course is intended for the Ph.D. in Clinical Psychology; in certain instances graduate students in other programs may enroll.
AS-Psychology

CLP 7623 . Ethical and Professional Issues in Clinical Psychology
2 (2,0). PR: Graduate admission to the Ph.D. clinical program or CI. Examination of APA Code of ethics, relevant laws, and professional standards in clinical psychology.
AS-Psychology

COM 6046 . Interpersonal Communication
3(3,0). PR: Graduate status. Survey of theoretical perspectives in interpersonal communication.
AS-Communication

COM 6121 . Communication Management
3(3,0). Analysis and development with reference to particular media. Organizational theory, structure, and behavior. Management principles and operations.
AS-Communication

COM 6303 . Communication Research I
3(3,0). Analysis of theory and methodology in communication research, with emphasis on persuasion, nonverbal communication, and interpersonal communication.
AS-Communication

COM 6304 . Communication Research II
3(3,0). PR: Statistics and COM 6303. Planning and implementation of research in persuasion, nonverbal communication, and interpersonal communication.
AS-Communication

COM 6463 . Studies in Intercultural Communication
3(3,0). PR: Graduate standing and C.I. Comprehensive survey of methodological and theoretical issues and concepts in intercultural and cross-cultural research.
AS-Communication

COM 6467 . Studies in Persuasion
3(3,0). PR: Graduate status. Analysis of research and major theoretical perspectives in persuasive communication.
AS-Communication

COM 6468 . Communication and Conflict
3(3,0). Research seminar in the study of communication and conflict.
AS-Communication

COM 6525 . Communication Strategy and Planning
3(3,0). PR: C.I. Focus on the creation of communication strategies in conjunction with overall organizational goals, with emphasis on decision making and management.
AS-Communication

COP 5021 . Program Analysis
3(3,0). PR: COP 4020 and COT 4210. Syntactic and Semantic analysis of programs. Theoretical and practical limitations, attribute evaluation, data flow analysis, program optimization, intermediate representations code generation. Tools to automate analysis.
ECS-Computer Science

COP 5537 . Network Optimization
3(3,0). Recent advances in the theory and computational techniques for optimal design and analysis of large networks for computers, communications, transportation, web and other applications.
ECS-Computer Science

COP 5611 . Operating Systems Design Principles
3(3,0). PR: COP 4600. Structure and functions of operating systems, process communication techniques, high-level concurrent programming, virtual memory systems, elementary queuing theory, security, distributed systems, case studies.
ECS-Computer Science

COP 5711 . Parallel and Distributed Database Systems
3(3,0). PR: COP 4710. Storage manager implementation

COP 6614 . Operating Systems Techniques
3(3,0). PR: COP 5611. Techniques in the design and implementation of operating systems. Case studies of

techniques for parallel DBMSs, distributed DBMS architectures, distributed database design, query processing, multidatabase systems.
ECS-Computer Science

several experimental and commercial operating systems.
ECS-Computer Science

COP 6615 . Operating Systems Theory
3(3,0). PR: COP 5611. Scheduling and queuing theory, simulation, and performance evaluation of computer systems.
ECS-Computer Science

COP 6621 . Compiler Construction
3(3,0). PR: COP 5021, COT 5310. Techniques in the design and implementation of compilers. Optimization, code generation, error recovery, attributed grammars. A project is required.
ECS-Computer Science

COP 6730 . Transaction Processing
3(3,0). PR: COP 4710. Transaction models, transaction monitors, isolation concepts and lock manager implementation, log manager, transaction manager, file and buffer management, client-server computing.
ECS-Computer Science

COP 6731 . Advanced Database Systems
3(3,0). PR: COP 5711. Selected topics concerning object-oriented databases, multimedia databases, active databases, temporal databases, spatial databases, and information systems.
ECS-Computer Science

COT 5310 . Formal Languages and Automata Theory
3(3,0). PR: COP 4020 and COT 4210. Classes of formal grammars and their relation to automata, normal forms, closure properties, decision problems. LR(K) grammars.
ECS-Computer Science

COT 5405 . Design and Analysis of Algorithms
3(3,0). PR: COT 4210 and COT 4110. Classification of algorithms, e.g., recursive, divide-and-conquer, greedy, etc. Data Structures and algorithm design and performance. Time and space complexity analysis.
ECS-Computer Science

COT 5507 . Computational Methods/Applications
3(3,0). PR: COT 4500. Computational solution techniques for algebraic equations, ODE and PDE Models of applications selected from science, engineering, applied mathematics, and computer science.
ECS-Computer Science

COT 5510 . Computational Methods/Linear Systems
3(3,0). PR: COT 4500 and MAS 3106. Mathematical models for linear systems, linear programming, the simplex method, integer and mixed-integer programming, introduction to nonlinear optimization and linearization.
ECS-Computer Science

COT 5520 . Computational Geometry
3(3,0). CR: COT 5405. Geometric searching, point location, convex hulls, proximity problems, Voronoi diagrams, spanning trees, triangulation, intersection arrangement applications.
ECS-Computer Science

COT 6300 . The Theory of Parsing and Translation
3(3,0). PR: COT 5310. Methods of top-down and bottom-up parsing, LL(k), recursive descent, precedence, bounded-context, SR(s,k), SLR(k), LALR(k), LR(k), parser compression and generation.
ECS-Computer Science

COT 6410 . Computational Complexity
3(3,0). PR: COT 5405. Properties of algorithms, computational equivalence of machines, time-space complexity measures, examples of algorithms of different complexity, classification of algorithms, classes P and NP.
ECS-Computer Science

COT 6415 . Complexity of Parallel Computation
3(3,0). PR: CDA 5110, COT 6410. Theoretical models - justification and buildability inherent parallelism and communication costs. Lower and upper complexity bounds. Parallel computation thesis. NC, SC classes; paradigms of parallel algorithms.
ECS-Computer Science

COT 6505 . Computational Methods/Analysis I
3(3,0). PR: COT 5510. Analysis of direct and iterative solutions of systems of linear equations, eigen values and vectors and roots of nonlinear equations, error analysis.
ECS-Computer Science

CPO 5334 . Contemporary Politics of the Mayan Region
3(3,0). PR: Graduate status or senior standing or C.I. Analysis of issues affecting all peoples living in the contemporary Mayan region of southern Mexico, Belize, Guatemala, and El Salvador.
AS-Political Science

CPO 6036 . Political Development
3(3,0). PR: Graduate standing or C.I. Analyze competing theories of political development and examine alternative conceptualizations. Focus on economic, historical/institutional, international and cultural explanations to understand political development

CPO 6058 . Revolution and Political Violence
3 (3,0). PR: Graduate studies or C.I. Seminar addresses theory and analytical models of political revolutions and insurgencies with cases, especially Third World.
AS-Political Science

AS-Political Science	
<p>CPO 6075 . Comparative Political Economy 3(3,0). PR: Graduate standing. Seminar in the political economy of advanced industrial societies, dealing with the interplay of citizens, governments, the economy, and political institutions. AS-Political Science</p>	<p>CPO 6091 . Seminar in Comparative Politics 3(3,0). Introduction to the theory and methodology of comparative politics, institutions, and contextual factors of selected political systems such as Canada, European, and third world nations. AS-Political Science</p>
<p>CPO 6446 . Comparative Political Parties 3(3,0). PR: C.I. Theories of the formation, structure, organization, and behavior of political parties as well as theories of political party systems. AS-Political Science</p>	<p>CPO 6785 . Political and Economic Inequality in Comparative Perspective 3(3,0). PR: Graduate standing or C.I. Examine economic and political inequality and the nature of the link between the two across the countries with different political and economic institutions. AS-Political Science</p>
<p>CRW 5020 . Graduate Writing Workshop 3(3,0). PR: Graduate status or senior standing or C.I. Student writers present their own work, receiving detailed analysis of its strengths and weaknesses from their fellow writers and from the teacher. AS-English</p>	<p>CRW 5130 . Form and Theory in Creative Writing 3(3,0). PR: Graduate standing and C.I. Formal and theoretical study of creative writing of given genre (poetry, short fiction, etc). May be repeated when genre differs. AS-English</p>
<p>CRW 5932 . Teaching Creative Writing 3(2,1). PR: Graduate status or senior standing or C.I. Creative writing practicum. May be repeated for credit. AS-English</p>	<p>CRW 6025 . Advanced Graduate Writing Workshop 3(3,0). PR: Admission to the Creative Writing Specialization of the English M.A. program. Writing and revising in one established form. Advanced Graduate Writing Workshop may be taken three times (for a total of 9 hours) in order to produce a book-length manuscript (fiction, poetry, or other genre). May be repeated for credit. AS-English</p>
<p>CWR 5125 . Groundwater Hydrology 3(3,0). PR: CWR 4203C or equivalent. Theories of groundwater movement, geological factors, analysis and design techniques, etc. Emphasis on practical considerations. ECS-Civil & Environmental</p>	<p>CWR 5205 . Hydraulic Engineering 3(3,0). PR: CWR 4101C and CWR 4203C. Concepts of fluid mechanics and hydrodynamics applied to natural and man-made flow of interest to civil and environmental engineering. ECS-Civil & Environmental</p>
<p>CWR 5545 . Water Resources Engineering 3(3,0). PR: CWR 4101C, CWR 4203C. Systems identification and solution to complex water allocation problems, and other hydraulic engineering designs and operations using economic analysis and operations research techniques. ECS-Civil & Environmental</p>	<p>CWR 6102 . Advanced Hydrology 3(3,0). PR: CWR 4101C or C.I. Single site and regional frequency analysis; modeling hydrologic systems; lumped and distributed event models for urban and natural drainage basins; continuous simulation; real-time forecasting. ECS-Civil & Environmental</p>
<p>CWR 6126 . Groundwater Modeling 3(3,0). PR: CWR 5125. Review of contemporary computer-based groundwater flow models and their application to environmental engineering problems. ECS-Civil & Environmental</p>	<p>CWR 6235 . Open Channel Hydraulics 3(3,0). PR: CWR 4203C or C.I. Free surface flow studies by empirical and theoretical methods for the design, operation, and management of open channels. ECS-Civil & Environmental</p>
<p>CWR 6236 . River Engineering and Sediment Transport 3(3,0). PR: CWR 4203C and CWR 4101C. River morphology and regime with stabilization and modification of river courses. Sediment transport including control methods and modeling. ECS-Civil & Environmental</p>	<p>CWR 6532 . Modeling of Subsurface Reactive Chemical Transport 3(3,0). PR: CWR 6126 or ENV 6055 or C.I. Mathematical formulations of geochemical equilibrium and kinetics, hydrological transport of chemicals, innovative numerical schemes to solve reactive chemical transport in subsurface media, design, and application of software for numerical</p>

	solutions. ECS-Civil & Environmental
<p>CWR 6535 . Modeling Water Resources Systems 3(3,0). PR: CWR 4101C and CWR 4203C. Contemporary mathematical models for water quality and quantity considerations including computer-based hydraulic and hydrologic models. ECS-Civil & Environmental</p>	<p>CWR 6539 . Finite Differences/Elements in Surface Water Modeling 3(3,0). PR: C.I. Theory, applications and error analysis for two commonly employed discretization methods as applied to surface water modeling. ECS-Civil & Environmental</p>
<p>CYP 6948C . Psychology Internship Variable. PR: Clinical psychology MA students. Supervised placement in community setting for 10-30 hours per week. May be repeated for credit. Graded S/U. AS-Psychology</p>	<p>DEP 5057 . Developmental Psychology 3(3,0). PR: Graduate status or senior standing or C.I. Psychological aspects of development including intellectual, social, and personality factors. AS-Psychology</p>
<p>EAB 5765 . Applied Behavior Analysis with Children and Youth 3(3,0). PR: DEP 5057 and EXP 5445, and graduate status or senior standing or C.I. Advanced survey of principles, procedures, and techniques of applied behavior analysis, with special attention to applications with children and youth. AS-Psychology</p>	<p>EAS 5123 . Intermediate Aerodynamics 3(3,0). PR: EAS 4134. CR: EML 5060. Aerodynamic characteristics of airfoils, finite wings, waves, wing-body combinations, viscous flow and flow instabilities. Airfoil design. ECS-Mechanical/Matrls/Aerosp</p>
<p>EAS 5157 . V/Stol Aerodynamics and Performance 3(3,0). PR: EAS 4105. CR: EML 5060. Momentum theory, blade element theory, hover and forward flight, stability, aeroelasticity. ECS-Mechanical/Matrls/Aerosp</p>	<p>EAS 5302 . Direct Energy Conversion 3(3,0). PR: EML 3101 and EML 4142. Direct methods of energy conversion; particular emphasis on fuel cells, thermoelectrics, thermionics, solar energy, photovoltaics and magnetohydrodynamics. Analysis and systems design. ECS-Mechanical/Matrls/Aerosp</p>
<p>EAS 5315 . Rocket Propulsion 3(3,0). PR: EAS 4134 or EML 4703. Analysis and performance of rocket motors; selection and thermochemistry of chemical propellants: liquid and solid propellant rockets. ECS-Mechanical/Matrls/Aerosp</p>	<p>EAS 5407 . Mechatronic Systems 3(3,0). PR: EML 3804C or EAS 3404C. Discrete control techniques for aerospace mechatronic systems. Controller design, test and evaluation applications. ECS-Mechanical/Matrls/Aerosp</p>
<p>EAS 5535 . Engineering Design for Aerospace Vehicles 3(3,0). PR: EAS 4700C, EAS 4710C, EML 4501C, EML 4502C, or equivalent. Applications of the design process to aerospace vehicles. A system approach will be emphasized. Techniques for optimizing interface requirements will be covered. ECS-Mechanical/Matrls/Aerosp</p>	<p>EAS 6138 . Advanced Gas Dynamics 3(3,0). PR: EML 5713. CR: EML 5060. Analysis of steady and unsteady transonic, supersonic and hypersonic flows. Shock waves, nozzles, diffusers, and high speed wind tunnels. ECS-Mechanical/Matrls/Aerosp</p>
<p>EAS 6185 . Turbulent Flow 3(3,0). PR: EML 5060 and EML 5713. Phenomena and methods of characterizing turbulence; spatial and temporal velocity correlation; energy spectra; transition prediction; turbulent boundary layer equations; hot wire and LDV measurement techniques. ECS-Mechanical/Matrls/Aerosp</p>	<p>EAS 6403C . Attitude Determination and Control 3(2,3). PR: EAS 6507, EML 5060. Spacecraft attitude dynamics and control. Pointing and stabilization methods. Optimal and learning algorithms applied to perturbation analysis. ECS-Mechanical/Matrls/Aerosp</p>
<p>EAS 6405 . Advanced Flight Dynamics 3(3,0). PR: EAS 4105 or equivalent. Aerodynamic principles as applied to stability and control of aerospace vehicles. Generalized vehicle performance. Small disturbance dynamic stability and control response. ECS-Mechanical/Matrls/Aerosp</p>	<p>EAS 6415 . Guidance, Navigation and Control 3(3,0). PR: EML 5060, EAS 6507. Inertial and GPS navigation techniques. Explicit and implicit guidance formulations. Robust control applications to aircraft, missile and space vehicles. ECS-Mechanical/Matrls/Aerosp</p>

EAS 6507 . Topics of Astrodynamics

3(3,0). PR: EML 5271 or C.I. Spacecraft attitude dynamics and control. Orbital mechanics. Optimal control of aerospace vehicles. Emphasis is on recent developments and applications.
ECS-Mechanical/Matrls/Aersp

EAS 6808 . Space Environment and Payload Instrumentation

3(3,0). PR: EAS 4504, EML 5060 or C.I. Space environment and payload instrumentation. Characterization of space environment and payload instrumentation methods.
ECS-Mechanical/Matrls/Aersp

ECO 5005 . Economic Concepts

3(3,0). PR: Acceptance into the graduate program. Introduction to micro and macro economic analysis.
BA-Economics

ECO 5414 . Statistical Foundations

1.5(1.5,0). PR: Acceptance to graduate study. Statistical theory and problems relating to business and economics, including time series and correlation theory, index number theory and statistical inference.
BA-Economics

ECO 6115 . Economic Analysis of the Firm

3(3,0). PR: CBA Master's program of study foundation core. Commodity price and output determination; factor price determination and functional income distribution; analysis of different types of markets.
BA-Economics

ECO 6206 . Aggregate Economic Conditions and Analysis

3(3,0). PR: Graduate standing, MAAE Foundations, ECO 3203, ECO 6403, ECO 6416. An analysis of aggregate economic conditions including the determination of output, employment, and income levels.
BA-Economics

ECO 6305 . History of Economic Thought

3(3,0). PR: Graduate standing and ECO 5005 or equivalent. A study of the leading ideas of the major contributors to the development of economic thought.
BA-Economics

ECO 6416 . Applied Business Research Tools

3(3,0). PR: CBA Master's program of study foundation core courses. Open to students on the B.S.B.A./M.A.A.E Track. Multivariate methods and related tools applied to analyze business and economic data as an aid in decision making.
BA-Economics

ECO 6433 . Business Cycles and Forecasting**EAS 6807 . Aerospace Measurements/ Instrumentation**

3(3,0). PR: EML 3312C, EAS 6507, EML 5060, and C.I. Inertial instruments (i.e. gyros, accelerometers), thermal, fluid, optical sensors and actuators, for space and aerodynamic applications. May be repeated for credit.
ECS-Mechanical/Matrls/Aersp

ECM 5741C . Microcomputer-Based Monitoring and Control Systems

3(2,3). PR: EEL 3342C; EEL 4767C or C.I. Machine language programming; software development aids; systems design; interfacing considerations.
ECS-Electrical & Computer Sci

ECO 5006 . Economic Foundations

1.5(1.5,0). PR: Acceptance to graduate study. Introduction to Micro and Macro Economic Analysis.
BA-Economics

ECO 5415 . Statistics for Business and Economics

3(3,0). PR: Acceptance into the graduate program and MAC 2233. Statistical theory and problems relating to business and economics, including time series and correlation theory, index number theory and statistical inference.
BA-Economics

ECO 6118 . Microeconomic Analysis

3(3,0). PR: MAAE foundations, ECO 3101 and ECO 6403. Open to students on the B..A./ M.A.A.E track. Microeconomic principles governing individual decision-making relative to the theory of the firm and consumer choice.
BA-Economics

ECO 6226 . Seminar in Money, Banking, and Monetary Policy

3(3,0). PR: Graduate standing and ECO 5005 or equivalent. Study of the structural foundation and policy-making activities of the monetary authorities.
BA-Economics

ECO 6403 . Mathematical Economics

3(3,0). PR: ECO 3101 or equivalent undergraduate course in microeconomics; MAC 2233 or C.I. Open to students on the B.S.B.A./M.A.A.E. Track. Covers the foundations of economic theory with particular focus on the mathematical methods that are indispensible for proper understanding of the economic literature.
BA-Economics

ECO 6424 . Econometrics

3(3,0). PR: ECO 6416 and graduate standing. Open to students on the B.A./ M.A.A.E track. The mathematical formulation of economic theories and the use of statistical procedures to measure the theoretical relationships and to verify or reject the theories.
BA-Economics

ECO 6505 . Public Finance and Fiscal Policy

3(3,0). PR: ECO 5005 and ECO 6416 or equivalents, graduate standing. Use of economic tools for measuring changes in aggregate economic activity, changes in production and prices, and the use of statistical techniques.

BA-Economics

ECO 6705 . Seminar in International Economics

3(3,0). PR: Graduate standing and ECO 6115 or equivalent. An inquiry into the theory of international trade and finance, commercial policy, and economic integration.

BA-Economics

ECO 7205 . Macroeconomic Theory

3(3,0). PR: Acceptance in the Ph.D. Program and Master's-level macroeconomics. Includes sectoral components of the economy; fluctuation and stabilization policies and special macro topics.

BA-Economics

ECO 7425 . Applied Models II

3(3,0). PR: Acceptance in the Ph.D. program and ECO 7423. Advanced treatment of sophisticated regression methods and models plus complex nonregression models.

BA-Economics

ECO 7428 . Time Series

3(3,0). PR: Acceptance in the Ph.D. program and ECO 6424. Advanced treatment of time series analytical techniques including vector autoregression, cointegration and nonstationarity.

BA-Economics

ECP 6031 . Benefit/Cost Analysis in Economic Policy

3(3,0). PR: Graduate standing or C.I. Principles, practices, and applications of applied welfare analysis provided to evaluate governmental policies.

BA-Economics

ECP 6305 . Resources and Environmental Management Policy

3(3,0). PR: Graduate standing or C.I. Using economic analysis to explore resource and environmental economics management policies.

BA-Economics

ECP 6405 . Industrial Organization and Performance

3(3,0). PR: Graduate standing and ECO 6115. A study of the performance of various types of market structure and practice relative to price and efficiency.

BA-Economics

ECP 6705 . Managerial Economics

3(3,0). PR: Graduate standing and ECO 6115 or equivalent. The use of economic tools and methods of reasoning applied to a wide range of business and economic problems.

BA-Economics

3(3,0). PR: Graduate standing and ECO 6115 or equivalent. Analysis of the role of government and the effects of spending, taxing, and borrowing on the economy.

BA-Economics

ECO 7116 . Microeconomic Theory

3(3,0). PR: Acceptance in the Ph.D. Program or C.I. and ECO 6115 or equivalent. Advanced treatment of demand, production cost, market theory under varying competitive conditions.

BA-Economics

ECO 7423 . Applied Models I

3(3,0). PR: Acceptance in the Ph.D. program, and ECO 6416 or equivalent. Advanced coverage of standard regression methods and models plus nonparametric statistics.

BA-Economics

ECO 7426 . Advanced Econometrics

3(3,0). PR: Acceptance in the Ph.D. program. Advanced coverage of sophisticated models; estimation methods and forecasting.

BA-Economics

ECP 6006 . Economics of Sport

3(3,0). PR: Acceptance in the the Sport Business Management Program and CBA Master's program of study foundation core. Economic understanding of how organized sports operates and affects modern society.

BA-Economics

ECP 6205 . Labor Economics

3(3,0). PR: Graduate standing and ECO 6115 or equivalent. An investigation into the nature and function of the labor markets, with specific concern for both institutional and noninstitutional imbalance.

BA-Economics

ECP 6309 . Advanced Resource and Environmental Economics

3(3,0). PR: Graduate standing and ECP 6305. Intensive study of the efficiency and equality of alternative organizational means of allocating environmental and natural resources.

BA-Economics

ECP 6605 . Economics of Urban and Regional Problems

3(3,0). PR: Graduate standing and ECO 6115. Economic analysis of the problems arising from and associated with the growth and development of cities and regions.

BA-Economics

ECS 6006 . Seminar in Comparative Economic Systems

3(3,0). PR: Graduate standing and ECO 5005 or equivalent. An examination of factors that influence economic systems, patterns of resource allocation, and income distribution in differing economic environments.

BA-Economics

ECS 6015 . Economic Development

3(3,0). PR: Graduate standing and ECO 5005 or equivalent. Analysis of theories and problems of growth and development with special attention to resource scarcity, population growth, and interaction of foreign trade and internal development.

BA-Economics

EDA 6106 . Trends in Educational Administration

3(3,0). PR: Master's degree and/or Rank II certification including a course in school organization. Examines exemplary organization patterns in school administration. Study of patterns of functions in selected outstanding school organizations.

ED-Ed Research, Tech & Lead

EDA 6240 . Educational Financial Affairs

3(3,0). PR: Basic Teacher Certificate or C.I. Theoretical and practical approaches to managing school business affairs at central office and individual school levels.

ED-Ed Research, Tech & Lead

EDA 6300 . Community School Administration

3(3,0). PR: C.I. The relationships between the school and the community with special emphasis on community needs and the development of a total community school program.

ED-Ed Research, Tech & Lead

EDA 6540 . Organization and Administration of Higher Education

3(3,0). PR: C.I. Purposes, organizations, and administration of two-year and four-year institutions of higher education in the United States. Public and private colleges are studied.

ED-Ed Research, Tech & Lead

EDA 7101 . Organizational Theory in Education

3(3,0). PR: Advanced graduate status or C.I. Overview of sociological and behavioral theories that are applicable to administration of various educational organizations.

ED-Ed Research, Tech & Lead

EDA 7195 . Politics, Governance, and Financing of Educational Organizations

4(4,0). PR: Advanced graduate status or C.I. The study of policy development as a political process; governance issues; and financial issues in education.

ED-Ed Research, Tech & Lead

EDA 7225 . Educational Personnel Administration

4(4,0). PR: Doctoral standing or C.I. Examination of the personnel function in educational institutions including planning, recruitment, selection, placement, induction, appraisal, collective bargaining and contract administration. May be repeated for credit

EDA 6061 . Organization and Administration of Schools

3(3,0). PR: Basic Teacher Certificate or C.I. Introduction to and overview of educational administration including governance, finance communications and information management, personnel evaluation.

ED-Ed Research, Tech & Lead

EDA 6232 . Legal Aspects of School Operation

3(3,0). PR: Basic Teacher Certificate or C.I. Study of state and federal laws affecting the operation of public schools emphasizing individual rights and responsibilities of students, faculty, and administrators.

ED-Ed Research, Tech & Lead

EDA 6260 . Educational Systems Planning and Management

3(3,0). PR: Basic Teacher Certificate or C.I. Application of current educational management and behavioral theory for systems approaches in schools and educational facilities.

ED-Ed Research, Tech & Lead

EDA 6502 . Organization and Administration of Instructional Programs

3(3,0). PR: Basic Teacher Certificate or C.I. Study of school organization, administration, and management with emphasis toward organizational theory, leadership, evaluation, and change and improvement strategies.

ED-Ed Research, Tech & Lead

EDA 6931 . Contemporary Issues in Educational Leadership

3(3,0). A capstone course intended to stimulate inspection, analysis, and dialogue regarding contemporary issues and tensions facing educational leaders and educational systems.

ED-Ed Research, Tech & Lead

EDA 7192 . Educational Leadership

4(4,0). PR: Advanced graduate status or C.I. An analysis of the interactive process and functioning of groups; development of skills essential for effective educational leadership; and the change process.

ED-Ed Research, Tech & Lead

EDA 7205 . Planning, Research, and Evaluation Systems in Educational Administration

4(4,0). PR: Advanced graduate status or C.I. The study of research and evaluation methodologies, system theory, and planning and design strategies in educational administration.

ED-Ed Research, Tech & Lead

EDA 7235 . Seminar in School Law

3(3,0). PR: C.I. Seminar to explore various legal aspects related to the administration and organization of American education and to enable the individual to research in-depth selected legal topics.

ED-Ed Research, Tech & Lead

ED-Ed Research, Tech & Lead

EDA 7236 . Legal Issues in Higher Education

3(3,0). PR: Advanced graduate status or C.I. Addresses legal framework of public and private institutions of higher education with emphasis on case law related to organization, governance, faculty, students, curriculum, and environment.

ED-Ed Research, Tech & Lead

EDA 7237 . Legal Issues in Higher Education II

3(3,0). PR: EDA 7236. Advanced graduate study of legal aspects specific to public and private post-secondary educational institutions.

ED-Ed Research, Tech & Lead

EDA 7274 . Seminar: Applications of Technology to Educational Leadership

3(4,0). PR: EDA 6260 or C.I. Study of administrative and leadership technology applications at the school building or district level.

ED-Ed Research, Tech & Lead

EDA 7930 . Seminar in School Administration

3(3,0). PR: C.I. Discussion of problems in school administration, patterns of curriculum organization, and research projects.

ED-Ed Research, Tech & Lead

EDA 7943 . Field Project

3(3,0). PR: C.I. Field experience and projects for advanced graduate students. Participation in school plant surveys, accreditation visitation, curriculum studies, administrative analysis, field research. May be repeated for credit.

ED-Ed Research, Tech & Lead

EDE 6205 . Elementary School Curriculum

3(3,0). PR: Basic Teacher Certificate or C.I. Analysis of the forces which shape and contribute to the vertical and horizontal curriculum designs of elementary schools.

ED-Teaching & Learning Princ

EDE 6933 . Elementary Education Seminar I

2 (2,0). PR: Admission to graduate program or C.I. Overview of the M.Ed. and M.A. in Elementary Education programs' policies and expectations, and exploration of the teaching profession (professional organizations, accomplished practices, publications, issues and terminology).

ED-Teaching & Learning Princ

EDE 6935 . Elementary Education Seminar II

1 (1,0). PR: EDE 6933 or C.I. As a culminating experience, this seminar provides students with the opportunity to synthesize what they have learned throughout their M.Ed. or M.A. in Elementary Education program.

ED-Teaching & Learning Princ

EDF 5245 . Preparation and Management of Classroom Instruction

3(3,0). PR: C.I. Study of strategies for instructional planning and classroom management that result in optimum learning.

ED-Educational Studies

EDF 5607 . Language, Culture and Pedagogy: Impact and Implications

3(3,0). PR: C.I. Explores in-depth issues surrounding learning needs of students from linguistically and culturally diverse populations. Research on language, culture and pedagogy will be highlighted.

ED-Educational Studies

EDF 6141 . Human Intelligence

3(3,0). PR: Graduate standing and a course in learning. An examination of theory and research on human intelligence and its relation to learning and cognitive performance with emphasis on implications for educational and workplace settings.

ED-Educational Studies

EDF 6155 . Lifespan Human Development and Learning

3(3,0). Research in childhood, adolescent, and adult development relevant to contemporary American education. Emphasis on application of theory to educational practice.

ED-Educational Studies

EDF 6206 . Challenges of Classroom Diversity

3(3,0). PR: Graduate standing, EDF 6886 or C.I. An examination of factors which shape the curriculum in diverse classrooms with specific attention to learning, assessment and best practices appropriate for minority students.

ED-Educational Studies

EDF 6216 . Motivation in Learning and Performance

3(3,0). PR: Graduate standing. An examination of theory and research in learning and performance with an emphasis on practical applications for educational and work place settings.

ED-Educational Studies

EDF 6233 . Analysis of Classroom Teaching

3(3,0). PR: EDF 6481 or C.I. Analyses of effective teaching practices and their effect on classroom instruction and learning

EDF 6259 . Learning Theories Applied to Classroom Instruction and Management

3(3,0). PR: Graduate standing. Study of strategies of classroom management that result in optimum learning and

ED-Educational Studies

a minimum of behavior problems.
ED-Educational Studies

EDF 6401 . Statistics for Educational Data
3(3,0). PR: EDF 6481 or C.I. Design of educational evaluation; analysis of data, descriptive and inferential statistics, interpretation of results.
ED-Ed Research, Tech & Lead

EDF 6432 . Measurement and Evaluation in Education
3(3,0). PR: Graduate standing. Concepts of measurement and evaluation, classroom test construction, creation and use of derived scores, selection and use of published measurement instruments, current issues.
ED-Ed Research, Tech & Lead

EDF 6446 . Assessment of Learning
3(3,0). PR: Graduate standing, knowledge of measure or C.I. Alternative assessment procedures in educational settings (i.e., performance, portfolio, and affective) as well as traditional testing will be discussed. Emphasis will be placed on use of appropriate procedures to answer the evaluation questions.
ED-Educational Studies

EDF 6447 . Development and Validation of Educational Tests and Measures
3(3,0). PR: EDF 6401, EDF 6432. Criterion and norm-referenced test development for educational agencies: specifications, item development and trial, scaling, passing scores, and test norms.
ED-Ed Research, Tech & Lead

EDF 6481 . Fundamentals of Graduate Research in Education
3(3,0). PR: Graduate standing. Review and critique of research literature, use of library resources for educational research, and introduction to the concepts of research design and data analysis.
ED-Ed Research, Tech & Lead

EDF 6486 . Research Design in Education
3(3,0). PR: EDF 7403 or C.I. An examination of methodological techniques for specific educational problems. Intended for students in the process of designing independent research studies.
ED-Ed Research, Tech & Lead

EDF 6517 . Perspectives on Education
3(3,0). PR: Graduate standing. A critical analysis of the conceptual and operative educational systems developed in the United States.
ED-Educational Studies

EDF 6608 . Social Factors in American Education
3(3,0). Analysis of general and specific aspects of American education as they relate to social and behavioral sciences.
ED-Educational Studies

EDF 6725 . Critical Issues in Urban Education
3(3,0). PR: C.I. Explores issues of social, political, and economic conditions, and their impacts on schools and communities serving urban students and their families.
ED-Educational Studies

EDF 6809 . Introduction to Comparative and International Education
3(3,0). PR: Graduate standing. Surveys the salient issues, perspectives and paradigms of comparative and international education, while introducing students to cross-national comparative research design.
ED-Educational Studies

EDF 6884 . Education as a Cultural Process
3(3,0). PR: Graduate standing, EDF 6886, or C.I. An analysis of the theoretical underpinnings of multicultural education with special emphasis on the cultural context of American education for minority groups.
ED-Educational Studies

EDF 6886 . Multicultural Education
3(3,0). A survey of multicultural education; analysis of the relationship between cultural transmission, cultural pluralism, and the learning process within American schools.
ED-Educational Studies

EDF 6936 . Seminar in Improving Teaching and Learning in Urban Settings
1(1,0). PR: C.I. Seminar designed to develop action research to improve teaching and learning in urban settings. May be repeated for credit. Graded S/U.
ED-Educational Studies

EDF 7232 . Analysis of Learning Theories in Instruction
3(3,0). PR: Advanced graduate standing or C.I. Analysis of theories and research relevant to understanding learning in educational settings.
ED-Educational Studies

EDF 7403 . Quantitative Foundations of Educational Research
3(3,0). PR: EDF 6401 or C.I. Examination of appropriate methods in applied educational contexts. Consideration of analysis strategies for educational data, emphasis on identification and interpretation of findings.
ED-Ed Research, Tech & Lead

EDF 7405 . Quantitative Methods II
3(3,0). PR: EDF 7403 and EDF 7463 or C.I. Correlation, regression, path analysis, and structural equation modeling in educational studies. Use of path analysis and structural equation modeling to test theory.
ED-Ed Research, Tech & Lead

EDF 7406 . Multivariate Statistics in Education
3(3,0). PR: EDF 7403 and EDF 7463 or C.I. Statistical methods that simultaneously analyze multiple measurements on an individual or object under investigation.
ED-Ed Research, Tech & Lead

EDF 7463 . Analysis of Survey, Record, and Other Qualitative Data
3(3,0). PR: EDF 6401 and EDF 7403 or C.I. Examination of the major elements involved in planning, conducting, and reporting survey research; emphasis is on the design, instrumentation, data analysis and data; interpretation for survey research.
ED-Ed Research, Tech & Lead

EDF 7473 . Ethnography in Educational Settings
3(3,0). PR: Admission to Doctoral program. Exploration and integration of theories and practices of naturalistic, field-based studies of educational settings, proceeding from conceptualization, through data collection and analysis, to results presentation.
ED-Ed Research, Tech & Lead

EDF 7475 . Qualitative Research in Education
3(3,0). PR: EDF 7463 or C.I. Introduction to the philosophical and conceptual basis of qualitative research methods, strategies for gathering, analyzing, and interpreting qualitative data, emerging issues.
ED-Ed Research, Tech & Lead

EDG 5745 . Teaching the Non-English Student
3(3,0). PR: C.I. Bilingual and non-linguistic instruction in curriculum areas in English as a second language.
ED-Educational Studies

EDG 5941 . Clinical Practice
2-8(0,11). PR: Admission to STEP II, III or IV. Clinical internship in an appropriate educational setting under the direction of a university supervisor or peer teacher.
ED-Educational Studies

EDG 6046 . Contemporary Issues in Education
3(3,0). An analysis of current trends in education and their impact on educational programs.
ED-Educational Studies

EDG 6223 . Curriculum Theory and Organization
3(3,0). An exploration and examination of the foundations, design, development, and organization of curriculum in K-Plus settings and professionals' roles in curriculum decision making.
ED-Educational Studies

EDG 6224 . Curriculum Policy Analysis
3(3,0). PR: Graduate standing. Overview and synthesis of major components of policy involving curriculum. Exploration of the relationship between curriculum policy and curriculum evaluation as parts of analysis.
ED-Educational Studies

EDG 6236 . Principles of Instruction
3(3,0). PR: EDF 6481 or C.I. The analysis and application of selected concepts and theories of learning in relation to curriculum design, classroom strategies, and instructional techniques.
ED-Educational Studies

EDG 6253 . Curriculum Inquiry
3(3,0). Provides participants with the knowledge and skills necessary to understand, plan, and implement effective curriculum practices and change in K-Plus and other instructional settings.
ED-Ed Research, Tech & Lead

EDG 6285 . Evaluation of School Programs
3(3,0). PR: Graduate standing. History of program evaluation, systems approaches to program evaluation, concepts of stakeholder and qualitative approaches to program evaluation, the role of evaluator and administrator.
ED-Ed Research, Tech & Lead

EDG 6326 . Assessment of Quality Teaching
3(3,0). PR: Valid teaching certificate. Emphasis is placed on methods of assessing teacher quality, particularly as regards content knowledge. Express formal and self-assessment based on state and national standards.
ED-Ed Research, Tech & Lead

EDG 6327 . Techniques of Game Use in Education
3(3,0). Analysis, development, and use of educational games as an approach to classroom teaching.
ED-Educational Studies

EDG 6392 . Seminar in Quality Teaching
3(3,0). PR: Valid teaching certificate. Selected educational issues, policies and learning theories in relation to standards of quality teaching. Emphasizes inquiry resulting in the alignment of teacher beliefs and practices. May be repeated for credit.
ED-Educational Studies

EDG 6639 . Quality Teaching Practices
3(3,0). PR: Valid teaching certificate. Focus is on skills and competencies of quality reflective educators. Teaching episodes are videotaped and analyzed against national standards of teaching quality.
ED-Educational Studies

EDG 6940 . Graduate Internship
1-8(0 1-8). PR: Approval of Student Internship Office

EDG 7221 . Advanced Curriculum Theory
3(3,0). PR: EDF 6223 or C.I. An analysis of the research

<p>Internship in an appropriate educational setting under the direction of a qualified field supervisor and/or a university supervisor. (May be repeated for credit.) ED-Educational Studies</p>	<p>base which supports the various dimensions of the curriculum field. ED-Educational Studies</p>
<p>EDG 7356 . Models of Teaching and Instructional Theory 3(3,0). PR: EDG 6223; EDF 7232 or C.I. Examination of models of teaching. Focus on the roles of the teacher, applicable contexts and learning goals; historical, philosophical, learning, and research bases. ED-Educational Studies</p>	<p>EDG 7692 . Issues in Curriculum 3(3,0). PR: EDG 7221; EDG 7356; EDF 7232 or C.I. Examination of the relationships between the research bases of instructional and curriculum theories with emphasis on current issues and concerns. ED-Educational Studies</p>
<p>EDH 5306 . Teaching Methods in Engineering 1(1,0). PR: Graduate standing in an engineering discipline. This course will cover basic teaching pedagogy to help engineering students becomes better TA's and help students deliver better technical presentations. ECS-Mechanical/Matrls/Aerosp</p>	<p>EDH 6044 . Career Exploration in Higher Education 3(3,0). PR: C.I. Explore the practical application in career decision-making in Higher Education through personal and professional analysis. ED-Child, Family & Comm Sci</p>
<p>EDH 6047 . The College Community and the Student 3(3,0). PR: C.I. A study of the composition of student populations in American colleges and universities and the factors within the learning environment which support student development. ED-Child, Family & Comm Sci</p>	<p>EDH 6053 . The Community College in America 3(3,0). PR: C.I. Study of the history, philosophy, goals, and mission of the community college. Functions, policies, practices to satisfy local needs. ED-Ed Research, Tech & Lead</p>
<p>EDH 6061 . Contemporary Problems in Community Colleges 3(3,0). PR: EDH 6204 or C.I. Analysis of the critical issues facing community colleges today and in the near future. ED-Ed Research, Tech & Lead</p>	<p>EDH 6065 . History and Philosophy of Higher Education 3(3,0). PR: C.I. Early European and American universities, both state and private. Also considers small and private junior and senior colleges. ED-Ed Research, Tech & Lead</p>
<p>EDH 6204 . Community College Organization, Administration, and Supervision 3(3,0). PR: C.I. An analysis of the organizational structure and administrative functions of the community college as they relate to instruction and curriculum. ED-Ed Research, Tech & Lead</p>	<p>EDH 6215 . Community College Curriculum 3(3,0). PR: C.I. Examination of the background, development, function, and goals of the curriculum of the community college. ED-Ed Research, Tech & Lead</p>
<p>EDH 6305 . Teaching and Learning in the Community College 3(3,0). PR: EDF 7232. Focuses on teaching effectiveness in the community college. ED-Ed Research, Tech & Lead</p>	<p>EDH 6407 . Ethical and Legal Issues in Student Personnel 3(3,0). PR: C.I. Studies of ethical and legal issues in college student personnel. ED-Child, Family & Comm Sci</p>
<p>EDH 6504 . Institutional Advancement in Higher Education 3(3,0). PR: Admission to graduate program in Education or C.I. Examination of current issues and trends in institutional advancement in higher education. ED-Ed Research, Tech & Lead</p>	<p>EDH 6505 . Finance in Higher Education 3(3,0). PR: Completion of Phase II of Education Professional Preparation or C.I. Fundamental considerations in the finance of institutions of higher education. ED-Ed Research, Tech & Lead</p>
<p>EDH 6634 . Student Personnel Services in Higher Education 3(3,0). PR: C.I. A basic introduction to student personnel services which covers philosophy, history, functions, theory, and issues. ED-Ed Research, Tech & Lead</p>	<p>EDH 6935 . Capstone Seminar in College Student Personnel 3(3,0). PR: C.I. A study of current issues in college student personnel with primary emphasis on the role of professionals and the challenges they may encounter. ED-Ed Research, Tech & Lead</p>

EDH 6936 . Seminar for Future Professoriate

1(1,0). PR: Admission to the Professorate Graduate Certificate program or C.I. Core course of the Professoriate Graduate Certificate program will help students to prepare their professional portfolios and understand the expectations of university faculty. May be repeated for credit. Graded S/U.
ED-Educational Studies

EDH 6947 . Practicum in Student Personnel

3 (3,0). PR: Student Personnel in Higher Education, EDH 6040 (revision requested from EDH 6634). Provides supervised learning experience and opportunities for assessments and evaluation.
ED-Child, Family & Comm Sci

EDM 6047 . Understanding the Young Adolescent

3(3,0). PR: Graduate standing. An exploration of the unique characteristics of adolescence: social emotional,intellectual physical and implications for education.
ED-Educational Studies

EDM 6235 . Contemporary Issues of Middle Level Education

3(3,0). PR: Graduate standing or C.I. Critical analysis of the contemporary educational issues that directly impact middle level schools.
ED-Educational Studies

EDM 6321 . Middle Level Instruction

3(3,0). PR: Graduate standing. Examination of new models for teaching including brain research, multiple intelligences, learning styles, cooperative learning appropriate for young adolescents.
ED-Educational Studies

EDM 6401 . Principles of Middle Level Education

3(3,0). PR: Graduate standing. Development of a professional understanding of middle schools: rationale, organization, instructional strategies and characteristics of exemplary middle schools.
ED-Educational Studies

EDP 6056 . Advanced Educational Psychology

3(3,0). PR: Graduate admission and C.I. Principles of educational psychology for teaching, intervention, and educational services in schools.
ED-Child, Family & Comm Sci

EDS 5356 . Supervision of Professional Laboratory Experiences

3(2,1). PR: C.I. Study of the undergraduate professional laboratory experiences program, with emphasis on the role and responsibilities of the teacher education associate or supervising teacher.
ED-Ed Research, Tech & Lead

EDS 6053 . Trends in Educational Supervision

3(3,0). PR: Basic supervision course or C.I. Examination and analysis of the trends, issues, and problems in educational supervision.
ED-Ed Research, Tech & Lead

EDS 6100 . Leadership

3(3,0). PR: C.I. Analysis of the interactive process within and between groups, emphasizing the formation and functioning of groups; development of skills essential for effective leadership.
ED-Ed Research, Tech & Lead

EDS 6123 . Educational Supervisory Practices I

3(3,0). PR: Basic Teacher Certificate or C.I. Analysis of effective supervisory behavior as it relates to human relations/communication skills; leadership; motivation; curriculum development; community relations; and service to teaching.
ED-Ed Research, Tech & Lead

EDS 6130 . Educational Supervisory Practices II

3(3,0). PR: Basic Teacher Certificate or C.I. Analysis of effective supervisory behavior as it relates to planning and change; observation and conferencing skills; staff and group development, problem solving; and decision making.
ED-Ed Research, Tech & Lead

EDS 7111 . Administration and Supervision of Staff Development

3(2,1). PR: Basic Teacher Certificate or C.I. Role and procedures for the supervisor or administrator in staff development. Assessment of staff development needs and delivery systems are stressed.
ED-Ed Research, Tech & Lead

EEC 5205 . Programs and Trends in Early Childhood Education

3(3,0). PR: Regular Certificate or C.I. Philosophy, content, facilities, instructional materials, and activities appropriate for children ages 3 to 8 years; current research; issues and trends. Concurrent laboratory experiences.
ED-Child, Family & Comm Sci

EEC 5206 . Organization of Instruction in Early Childhood Education

3(3,0). PR: Regular Certificate or C.I. Organization in instruction relating to language arts, social sciences, mathematics, health and physical education, problems relating to reading readiness and cognition (K-3). Concurrent laboratory experiences.
ED-Child, Family & Comm Sci

EEC 5208 . Creative Activities in Early Childhood

3(3,0). PR: Regular Certificate or C.I. Organization of instruction and methods for creative activities involving music, art, literature and educational toys, integration of activities, and basic skills curriculum (K-3). Concurrent laboratory experience.
ED-Child, Family & Comm Sci

EEC 6213 . Communicative Arts in Early Childhood Education

3(3,0). PR: Graduate standing or C.I. Study of young children's many forms of linguistic pictorial, and three-dimensional expression and communication.
ED-Child, Family & Comm Sci

EEC 6269 . Play Development, Intervention, and Assessment

3(3,0). Explores play development, facilitation, intervention, and assessment.
ED-Child, Family & Comm Sci

EEC 6406 . Guiding and Facilitating Social Competence

3(3,0). Provides students with techniques to facilitate and guide the behavior and emotional growth of young children.
ED-Child, Family & Comm Sci

EED 6071 . Behavior Disorders in Schools

3(3,0). PR: Basic Teacher Certificate or C.I. Assessment analysis of behavior disorders, cause and effects, identification and theories.
ED-Child, Family & Comm Sci

EEL 5135 . Engineering Math Analysis I

3(3,0). PR: MAP 2302. Topics in advanced engineering mathematics, including systems of differential equations, phase plane, linear algebra, and vector differential calculus.
ECS-Electrical & Computer Sci

EEL 5245C . Power Electronics

3(2,1). PR: EEL 4309C. Principles of power electronics, power semiconductor devices, inverter topologies, switch-mode and resonant dc-to-dc converters, cyclo-converters, applications.
ECS-Electrical & Computer Sci

EEL 5352 . Semiconductor Material and Device Characterization

3(3,0). PR: EEL 3306 or C.I. Semiconductor material characterization resistivity, mobility, doping carrier lifetime, device properties, threshold voltage, interface charge of MOS devices, optical and surface characterization of films.
ECS-Electrical & Computer Sci

EEL 5355C . Fabrication of Solid-State Devices

4(3,3). PR: EEL 3306. Fabrication of microelectronic devices, processing technology, ion implantation and diffusion, device design, and layout. Laboratory includes device processing technology.
ECS-Electrical & Computer Sci

EEL 5378 . CMOS Analog and Digital Circuit Design

3(3,0). PR: EEL 4309C. Advanced principles and design

EEC 6263 . Studies in Curriculum Environments for Early Childhood Education

3(3,0). PR: Graduate standing or C.I. Innovative curriculum designs in Early Childhood Education, with emphasis given to related research. May be repeated for credit.
ED-Child, Family & Comm Sci

EEC 6405 . Home-School-Community Interaction in Early Childhood Education

3(3,0). PR: Graduate standing. Explores the knowledge and skills necessary to form partnerships with families and the community to enhance the care and education of young children.
ED-Child, Family & Comm Sci

EEC 6525 . Early Childhood Program Administration

3(3,0). PR: Graduate standing. Organizational and administrative theories as they relate to practice in selected early childhood services.
ED-Child, Family & Comm Sci

EED 6226 . Theory and Application for EH

3(3,0). PR: C.I. Study of various approaches to use in teaching emotionally handicapped children interpersonal and cognitive skills with special emphasis on the severe and moderate populations.
ED-Child, Family & Comm Sci

EEL 5173 . Linear Systems Theory

3(3,0). PR: EEL 3657. Models and properties of linear systems, transformation, controllability and observability, control and observer designs, MFD, and realization theory.
ECS-Electrical & Computer Sci

EEL 5332C . Thin Film Technology

3(2,1). PR: EEL 3306 or equivalent. Presents the various thin film deposition techniques for the fabrication of microelectronic, semiconductor, and optical devices.
ECS-Electrical & Computer Sci

EEL 5353 . Semiconductor Device Modeling and Simulation

3(3,0). PR: EEL 3307C. Large signal and small signal model development for semiconductor diodes, BJTs, and MOSFETs. Parameter extraction, numerical algorithm, and SPICE simulation are included.
ECS-Electrical & Computer Sci

EEL 5370 . Operational Amplifiers

3(3,0). PR: EEL 4309C. Ideal and non-ideal Op-Amps. Linear applications. Active RC and switched-capacitor filters. Non-linear and other functional circuits. Frequency stability and compensation of Op-Amps.
ECS-Electrical & Computer Sci

EEL 5390 . Full-Custom VLSI Design

3(3,0). PR: EEL 3342C, EEL 3307C. CMOS VLSI design

techniques for CMOS ICs including most recent published results.

ECS-Electrical & Computer Sci

methodologies; full custom chip design, industrial CAD tools; simulation; verification.

ECS-Electrical & Computer Sci

EEL 5432 . Satellite Remote Sensing

3(3,0). PR: EEL 3470 or PHY 4324. Fundamentals of satellite remote sensing, orbits and geometry, radiative transfer theory, microwave and infrared sensing techniques, ocean, ice and atmosphere geophysical measurements.

ECS-Electrical & Computer Sci

EEL 5434 . Microwave Circuits and Devices

3(3,0). PR: EEL 4436C or EEL 5555C. Planar transmission lines; passive microwave circuits; active circuit design using Gunn, IMPATT, FETS, RTDS, etc.: microwave integrated circuits.

ECS-Electrical & Computer Sci

EEL 5462C . Antenna Analysis and Design

3(3,1). PR: EEL 3470 or equivalent. Fundamentals of antennas; dipoles, loops, arrays, apertures, and horns. Analysis and design of various antennas.

ECS-Electrical & Computer Sci

EEL 5513 . Digital Signal Processing Applications

3(3,0). PR: EEL 4750. The design and practical consideration for implementing Digital Signal Processing Algorithms including Fast Fourier Transform techniques, and some useful applications.

ECS-Electrical & Computer Sci

EEL 5517 . Surface Acoustic Wave Devices and Systems

3(3,0). PR: EEL 3552C. Course discusses SAW technology which includes the physical phenomenon, transducer design and synthesis, filter design and performance parameters. Actual devices and communication systems are presented.

ECS-Electrical & Computer Sci

EEL 5542 . Random Processes I

3(3,0). PR: EEL 3552C and STA 3032. Elements of probability theory, random variables, and stochastic processes.

ECS-Electrical & Computer Sci

EEL 5547 . Introduction to Radar Systems

3(3,0). PR: EEL 3552C. Introduction to Pulse and CW Radar Systems. Chirp Radar Systems. Tracking Radar. Noise in Radar Systems.

ECS-Electrical & Computer Sci

EEL 5555C . RF and Microwave Communications

3(2,2). RF and microwave active circuits microstrip amplifier, oscillator, and mixer design and fabrication. Receiver design, noise, familiarization with network and spectrum analyzers

ECS-Electrical & Computer Sci

EEL 5625 . Applied Control Systems

3(3,0). PR: C.I. Designed to develop basic understanding of advanced control methods for nonlinear systems described by ordinary and partial differential equations and to expose recent results and ongoing research issues in the area of MEMS.

ECS-Electrical & Computer Sci

EEL 5630 . Digital Control Systems

3(3,0). PR: EEL 3657. Real-time digital control system analysis and design, Z-transforms, sampling and reconstruction, time and frequency response, stability analysis, digital controller design.

ECS-Electrical & Computer Sci

EEL 5704 . Computer Aided Logical Design

3(3,0). PR: EEL 4767C. Design, analysis and synthesis of sequential logic circuits and systems. Data path and controller design using a hardware description language.

ECS-Electrical & Computer Sci

EEL 5708 . High Performance Computer Architecture

3(3,0). PR: EEL 4767C. Engineering of high performance computer systems. Memory, processor and control sub-systems design tradeoffs. Virtual and cache memory. Pipelining, vector computing.

ECS-Electrical & Computer Sci

EEL 5722C . Field-Programmable Gate Array (FPGA) Design

3(3,1). PR: EEL 3342C or C.I. FPGA; architectures; design flow; applications; logic synthesis; technology mapping, placement; routing; multi-FPGA systems; multi context; reconfigurable computing; evolvable hardware.

ECS-Electrical & Computer Sci

EEL 5762 . Performance Analysis of Computer and Communication Systems

3(3,0). PR: EEL 4767C, STA 3032. Stochastic modeling and discrete-event simulation; Markov chains; networks of queues; SemiMarkov models; application to multiprocessor systems, switching and multi-user communications.

ECS-Electrical & Computer Sci

EEL 5771C . Engineering Applications of Computer Graphics

3(2,3). PR: EEL 3470 or C.I. Computer graphics in

EEL 5780 . Wireless Networks

3(3,0). PR: EEL 4781 or C.I. The wireless networking topics include: cellular networks, multiple access

engineering applications. Laboratory assignments.
ECS-Electrical & Computer Sci

protocols, channel assignment and resource allocation, mobility and location management, handoffs, routing, authentication, call admission control and QoS provisioning, network lay
ECS-Electrical & Computer Sci

EEL 5820 . Image Processing

3(3,0). PR: MAP 2302, EGN 3420, EEL 4750 or C.I. Two-dimensional signal processing techniques; pictorial image representation; spatial filtering; image enhancement and encoding; segmentation and feature extraction; introduction to image understanding techniques.
ECS-Electrical & Computer Sci

EEL 5825 . Pattern Recognition

3(3,0). PR: MAP 2302, EGN 3420. Graph-theoretic and syntactic methods of pattern analysis. Decision functions; optimum decision criteria; training algorithms; feature extraction; unsupervised learning; data reduction and potential functions.
ECS-Electrical & Computer Sci

EEL 5860 . Software Requirements Engineering

3(3,0). PR: Graduate standing or C.I. Excellent oral and written communication skills. Excellent problem solving skills. In-depth study of software requirements engineering within a process centered framework. methods for requirements elicitation, analysis, description, and validation. Formal and informal specification.
ECS-Electrical & Computer Sci

EEL 5874 . Expert Systems and Knowledge Engineering

3(3,0). PR: EEL 4872 or C.I. Introduction to expert systems in engineering. Expert systems tools and interviewing techniques. This course is hands-on and project oriented.
ECS-Electrical & Computer Sci

EEL 5881 . Software Engineering I

3(3,0). PR: EGN 3420, EEL 4851C or C.I. Design, implementation, and testing of computer software for Engineering applications.
ECS-Electrical & Computer Sci

EEL 5891 . Continuous System Simulation I

3(3,0). PR: EEL 3657 or C.I. Use of state-space techniques, numerical integration, and CSSL programs. Laboratory assignments.
ECS-Electrical & Computer Sci

EEL 6064 . Architecture and Design of Software Intensive Systems

3(3,0). PR: Graduate standing or C.I., and EEL 4851C or equivalent, and EEL 4884C or EEL 5881. In depth study of software architecture and design of engineering complex software-intensive systems. Theory and practice.
ECS-Electrical & Computer Sci

EEL 6065 . Formal Approaches to Specification of Software-Intensive Systems

3(3,0). PR: Graduate standing or C.I., and discrete math and matrix algebra (equivalent to STA 3032, EGN 3420, and EEL 4832); and EEL 5881 or EEL 5860. Issues and current research in formal specification and verification of software-intensive systems. mathematical models and formalisms. Projects, presentations, analysis of literature.
ECS-Electrical & Computer Sci

EEL 6208 . Advanced Machines

3(3,0). PR: EEL 4205. Theory of electric machines using reference frame transformations: Basic principles of dc and ac machines, including induction and synchronous, are included. Simulation techniques for steady state and dynamic performance analysis will be used to analyze operation of electric machines with solid state drives.
ECS-Electrical & Computer Sci

EEL 6235 . Engineering Math Analysis II

3(3,0). PR: EEL 5135. Advanced engineering math topics including Fourier series, partial differential equations, and complex variables.
ECS-Electrical & Computer Sci

EEL 6246 . Power Electronics II

3(3,0). PR: EEL 5245C. Advanced topics in power electronics, soft-switching techniques, small-signal modeling of PWM and resonant converters, control techniques, power factor correction circuits.
ECS-Electrical & Computer Sci

EEL 6255 . Advanced Power Systems Analysis

3(3,0). PR: EEL 4216 or C.I. Continuation of EEL 4216. Topics to include symmetrical and unsymmetrical fault analysis, power system estimation & control and power system stability.
ECS-Electrical & Computer Sci

EEL 6269 . Advanced Topics in Power Engineering

3(3,0). PR: EEL 6255. A current topic will be discussed such as power system transients, system protection, T&D, and dielectric engineering.
ECS-Electrical & Computer Sci

EEL 6326C . MEMS Fabrication Laboratory

3(1,2). PR: C.I. Silicon nitride and poly-silicon depositions, photolithography, dry and wet etching processes, metal depositions and etching, MEMS device design and fabrication

	ECS-Electrical & Computer Sci
<p>EEL 6327 . High-Level Synthesis of Very Large Scale Integration (VLSI) Circuits 3(3,0). PR: EEL 4851C and EEL 4767C. Design modeling; algorithms; graph theory; optimization; architectural synthesis; data-path; control; scheduling; resource sharing; binding; pipelining; selection; logic synthesis. ECS-Electrical & Computer Sci</p>	<p>EEL 6338 . Advanced Topics in Microelectronics 3(3,0). PR: C.I. Covers advanced topics in microelectronics such as semiconductor device physics, semiconductor device fabrication, and semiconductor device modeling. ECS-Electrical & Computer Sci</p>
<p>EEL 6354 . Advanced Semiconductor Device I 3(3,0). PR: EEL 3306. First course in advanced semiconductor device physics and modeling. Main stream devices including junctions diode, bipolar transistor, and metal-oxide field-effect transistor. ECS-Electrical & Computer Sci</p>	<p>EEL 6371 . Advanced Electronics I 3(3,0). PR: EEL 5378 or EEL 5370. Models for integrated-circuit active devices. Analysis and design of IC amplifiers. Feedback amplifiers. Frequency response and stability. Compensation of amplifiers. ECS-Electrical & Computer Sci</p>
<p>EEL 6372 . Advanced Topics in Electronics 3(3,0). PR: EEL 6371 or C.I. Advanced and current topics in electronics such as power electronics and semiconductor integrated circuits. ECS-Electrical & Computer Sci</p>	<p>EEL 6463 . Antenna Analysis and Design II 3(3,0). PR: EEL 5462C. Moment method, GTD, aperture antennas, reflectors, frequency independent antennas and microstrip antennas. ECS-Electrical & Computer Sci</p>
<p>EEL 6488 . Electromagnetic Fields 3(3,0). PR: EEL 3470 or C.I. Maxwell's equations. Boundary conditions. Propagation, reflection, and refraction of waves. Guided waves. Radiation. ECS-Electrical & Computer Sci</p>	<p>EEL 6492 . Advanced Topics in Electromagnetics and Microwaves 3(3,0). PR: C.I. Advanced and current topics in EM fields, antennas, and microwaves. ECS-Electrical & Computer Sci</p>
<p>EEL 6502 . Adaptive Digital Signal Processing 3(3,0). PR: EEL 5513 or C.I. Weiner filtering, least mean square and recursive least squares based algorithms, adaptive prediction and identification with applications such as echo cancellation, etc. ECS-Electrical & Computer Sci</p>	<p>EEL 6504 . Communications Systems Design 3(3,0). PR: EEL 6530. Information and coding theory. Modem design. Binary and M-ary modulations. Intersymbol interference and pulse shaping. DS and FS spread-spectrum systems. ECS-Electrical & Computer Sci</p>
<p>EEL 6505 . Multidimensional Digital Processing 3(3,0). PR: EEL 5513 or C.I. Multidimensional signals and systems. Two-dimensional transforms and filters. Image processing applications. ECS-Electrical & Computer Sci</p>	<p>EEL 6530 . Communication Theory 3(3,0). PR: EEL 5542 or C.I. Communication in the presence of noise; analog and pulse modulation; use of phase-locked loops, synthesizers, VCOs, system implementations. ECS-Electrical & Computer Sci</p>
<p>EEL 6537 . Detection and Estimation 3(3,0). PR: EEL 6543. Use of hypothesis testing (Bayes, Minimax, Neyman-Pearson) and estimation theory (Bayes, Maximum-likelihood) for detecting or estimating signals in noise. Application in communications and radar. ECS-Electrical & Computer Sci</p>	<p>EEL 6543 . Random Processes II 3(3,0). PR: EEL 5542. Stochastic processes. Mean-squared estimation. Queueing theory. Spectral estimation. Applications to communications and radar systems. ECS-Electrical & Computer Sci</p>
<p>EEL 6558 . Advanced Topics in Digital Signal Processing 3(3,0). PR: C.I. Advanced and current topics in digital signal processing, such as neural network, spectral analysis, speech processing. ECS-Electrical & Computer Sci</p>	<p>EEL 6564 . Statistical Optics with Applications 3(3,0). PR: OSE 5041 and EEL 5542, or C.I. Characterization of random optical waves with applications in communications, turbulence scattering, and imaging. ECS-Electrical & Computer Sci</p>
<p>EEL 6590 . Advanced Topics in Communications 3(3,0). PR: C.I. Advanced and current topics in communications, such as coding theory, information</p>	<p>EEL 6616 . Adaptive Control 3(3,0). PR: EEL 5173. System identification and adaptive control design, including identification algorithms</p>

theory, spread spectrum, etc.
ECS-Electrical & Computer Sci

MRAC, STR, and stochastic adaptive control. Lyapunov stability and input-output stability.
ECS-Electrical & Computer Sci

EEL 6617 . Fundamentals of Modern Multivariable Control
3(3,0). PR: EEL 4657, EEL 5173, or C.I. Emphasis on stability and performance analysis in time and frequency domains and on design tools for optimal performance and robustness.
ECS-Electrical & Computer Sci

EEL 6619 . Nonlinear Robust Control and Applications
3(3,0). PR: EEL 5173 and EEL 6621. Stability, performance and robustness of nonlinear systems with uncertainties, Lyapunov-based designs, recursive designs and nonlinear optimal designs.
ECS-Electrical & Computer Sci

EEL 6621 . Nonlinear Control Systems
3(3,0). PR: EEL 5173. Phase plane descriptions of nonlinear phenomena, limit cycles, jump conditions, stability, describing functions, Liapunov and Popov theory, time and frequency domain analysis for nonlinear systems.
ECS-Electrical & Computer Sci

EEL 6662 . Design of Robot Control Systems
3(3,0). PR: EEL 5173. Coordinate transformation, differential equation of motion, trajectory planning, trajectory control, classical controls, advanced controls, force control, constrained motions, and redundancy.
ECS-Electrical & Computer Sci

EEL 6667 . Planning and Control for Mobile Robotic Systems
3(3,0). PR: EEL 5173 or EEL 5630. Non-holonomic systems, kinematics and dynamics, trajectory planning and obstacle avoidance, canonical terms, control design, stability, performance, robustness.
ECS-Electrical & Computer Sci

EEL 6671 . Modern and Optimal Control Systems
3(3,0). PR: EEL 5173. The optimal control problem. Necessary conditions for constrained minimums in finite dimensional space. Application to discrete time control problems. Pontryagin conditions and Hamilton-Jacobi equations. Computational considerations.
ECS-Electrical & Computer Sci

EEL 6674 . Optimal Estimation for Control
3(3,0). PR: EEL 5173 or C.I. Optimal filtering, smoothing, and prediction methods are analyzed with applications to a number of linear and nonlinear dynamic systems.
ECS-Electrical & Computer Sci

EEL 6680 . Advanced Topics in Modern Control Systems
3(3,0). PR: C.I. Introduces students to present-day issues in control systems analysis, design, and implementation.
ECS-Electrical & Computer Sci

EEL 6707 . Parallel Processing
3(3,0). PR: EEL 5707, EEL 5762. Systems with one or more central I/O processors. Types of parallelism granularity and memory organization. Processor/memory message passing systems. Shared memory multiprocessors.
ECS-Electrical & Computer Sci

EEL 6743C . Microcomputer Applications Design
3(2,3). PR: C.I. Advanced applications of microcomputer systems. Design of systems and software to implement a case study in microcomputer usage.
ECS-Electrical & Computer Sci

EEL 6763 . Current Topics in Parallel Processing
3(3,0). PR: C.I. Research topics in parallel architectures, including, but not limited to, systolic architectures, wavefront arrays, interconnection networks, reconfigurable architectures and fast algorithms.
ECS-Electrical & Computer Sci

EEL 6769 . Parallel Knowledge Processing Systems
3(3,0). PR: EEL 5762 and EEL 5874 and EEL 6707 or C.I. Design and performance of computer architectures supporting parallel reasoning techniques, including concurrency in search algorithms, genetic algorithms, semantic networks, marker-propagation, and rule-based systems.
ECS-Electrical & Computer Sci

EEL 6785 . Computer Network Design
3(3,0). PR: EEL 4768C or C.I. Network types and network protocols. Design of networks and analysis of their performance.
ECS-Electrical & Computer Sci

EEL 6786 . Advanced Networking Hardware Design
3(3,0). PR: EEL 4781, EEL 4768C, or C.I. Advanced design techniques, specifically for packet-switched networks (wired, wireless, or optical).
ECS-Electrical & Computer Sci

EEL 6788 . Advanced Topics in Computer Networks
3(3,0). PR: EEL 4781 or C.I. Advanced topics in the networking field, driven by the latest research and technology developments

EEL 6812 . Introduction to Neural Networks
3(3,0). PR: EEL 5825 or C.I. Artificial neural network theory, models, and architectures. Neurobiological basis, learning theory, applications, and hardware

ECS-Electrical & Computer Sci

implementation issues.

ECS-Electrical & Computer Sci

EEL 6823 . Image Processing II

3(3,0). PR: EEL 5820 or C.I. Advance topics in image processing; nonlinear and adaptive filtering morphological processing, color image processing, texture analysis, and image encoding.

ECS-Electrical & Computer Sci

EEL 6843 . Machine Perception

3(3,0). PR: EEL 5820 or EEL 5825 or C.I. Advanced methods of machine understanding; simulation of intelligent machine systems; automatic recognition systems; visual tracking systems; multispectral feature analysis.

ECS-Electrical & Computer Sci

EEL 6845 . Intelligent Control

3(3,0). PR: C.I. Design and development of intelligent machine systems; decision theory; intelligence modeling; neural models; advanced techniques in intelligent control.

ECS-Electrical & Computer Sci

EEL 6875 . Engineering of Artificial Intelligence Systems

3(3,0). PR: EEL 5874 or C.I. Introduction to the engineering of knowledge-based automated reasoning systems including the use of representation languages and object-oriented techniques. It is based on LISP.

ECS-Electrical & Computer Sci

EEL 6876 . Current Topics in Artificial Intelligence in Engineering Systems

3(3,0). PR: EEL 6875 or C.I. Research in current topics including artificial intelligence, relevant to engineering systems including causal modeling, qualitative reasoning, temporal reasoning, and inductive reasoning. Review of current literature.

ECS-Electrical & Computer Sci

EEL 6878 . Modeling and Artificial Intelligence

3(3,0). PR: EEL 6875 or C.I. Introduction to various applications of artificial intelligence techniques as they affect the engineering aspects of computer-based simulation, modeling, and training. The course will be taught as a seminar, making significant use of the current research.

ECS-Electrical & Computer Sci

EEL 6883 . Software Engineering II

3(3,0). PR: EEL 5881 or equivalent; C.I. Continuation of EEL 5881. Emphasis on term projects and case studies.

ECS-Electrical & Computer Sci

EEL 6885 . Software Engineering Quality Assurance Methods

3(3,0). PR: EEL 5881, EEL 6883. Methods for verification and validation of software quality, including software engineering metrics and models.

ECS-Electrical & Computer Sci

EEL 6886 . Software Testing Theory

3(3,0). PR: Graduate standing or C.I.; and Probability and Statistics; Calculus through Differential Equations; Numerical Methods and Matrix Algebra; Data Structures and Algorithms; C or C++ programming. Issues and current research in testing software-intensive systems. Application of mathematics, statistics, and operations research to software test; test automation; projects and analysis of literature.

ECS-Electrical & Computer Sci

EEL 6887 . Software Engineering Life-Cycle Control

3(3,0). PR: EEL 5881, EEL 6883. Issues in software development life-cycle control including project cost and time estimation, methods and models, manpower allocation, and system configuration management.

ECS-Electrical & Computer Sci

EEL 6893 . Continuous System Simulation II

3(3,0). PR: EEL 5891. Continuation of EEL 6426 including advanced features of Continuous Simulation Languages such as user-defined macros, linear analysis package, sampled data systems. A simulation study term project is required.

ECS-Electrical & Computer Sci

EEL 6895 . Current Issues in Real-Time Simulation

3(3,0). PR: EEL 5771C, EEL 5891. Design considerations in real-time, computer-based, training simulator systems. Laboratory assignments.

ECS-Electrical & Computer Sci

EEL 6897 . Software Development for Real-Time Engineering Systems

3(3,0). PR: EEL 5881, EEL 6883. Issues associated with developing software for real-time systems, including parallel processing, task synchronization, and task scheduling.

ECS-Electrical & Computer Sci

EES 5605 . Outdoor Noise Control

3(3,0). PR: C.I. Community noise evaluation and control, legislative standards, instrumentation and measurement, abatement methods, and noise modeling.

ECS-Civil & Environmental

EEX 5051 . Exceptional Children in the Schools
3(3,0). PR: Senior standing or C.I. Characteristics, definitions, educational problems, and appropriate educational programs for the exceptional children in schools.
ED-Child, Family & Comm Sci

EEX 5750 . Communication with Parents and Agencies
3(3,0). Presentation of methods of interacting with community agencies, supporting and collaborating with families, developing a case management system, and facilitating program transition.
ED-Child, Family & Comm Sci

EEX 6028 . Challenges of Poverty in Special Education
3(3,0). PR: C.I. Examines the impact of poverty on students with disabilities in high poverty schools and the challenges this impact has on teaching these students.
ED-Child, Family & Comm Sci

EEX 6065 . Programming for Students with Disabilities at the Secondary Level
3(3,0). PR: Graduate standing or C.I., and EEX 5051. Addresses instructional needs of secondary students with disabilities. It provides information on instruction, academic and social-personal skills, and transition planning.
ED-Child, Family & Comm Sci

EEX 6224 . Observation and Assessment of Young Children
3(3,0). Study of formal and informal observation and assessment.
ED-Child, Family & Comm Sci

EEX 6342 . Seminar: Critical Issues in Special Education
3(3,0). PR: EEX 5051. An examination of research and current literature dealing with some of the critical issues in all areas of special education.
ED-Child, Family & Comm Sci

EEX 6612 . Methods of Behavioral Management
3(3,0). Analysis of the principles of behavior management and precision teaching and application of these principles to the solving of classroom management problems.
ED-Child, Family & Comm Sci

EEX 7320 . Program Evaluation and Planning in Special Education
3(3,0). PR: Admission to Education Ph.D. program. Focus on evaluation models and summative program evaluations. Students are required to demonstrate knowledge of systemic program planning, models of program funding and program change.
ED-Human Services/Wellness

EEX 5702 . Planning Curriculum for Pre-Kindergarten Children with Disabilities
3(3,0). Focus on curriculum planning; developmentally appropriate practices and implementation of individualized instruction for pre-kindergarten children with disabilities.
ED-Child, Family & Comm Sci

EEX 6017 . Typical and Atypical Applied Child Development
3(3,0). Focus on the stages and sequence of development and the impact of disabilities and biomedical risk factors on learning and development.
ED-Child, Family & Comm Sci

EEX 6061 . Instructional Strategies PREK-6
3(3,0). A varying exceptionalities strategies (SLD,EH,MH) course using a cross-categorical model. The course is concerned with the pre-k handicapped child through grade 6. A required field experience must be completed with the class depending on prior experience.
ED-Child, Family & Comm Sci

EEX 6107 . Teaching Spoken and Written Language
3(3,0). Diagnosis and remediation of spoken and written language problems found in the exceptional populations. Overview of alternative methods of communication.
ED-Child, Family & Comm Sci

EEX 6266 . Assessment and Curriculum Prescriptions for the Exceptional Population
3(3,0). Addresses contemporary assessments and models for assessing exceptional children. Also addresses curriculum and prescription.
ED-Child, Family & Comm Sci

EEX 6524 . Organization and Collaboration in Special Ed
3(3,0). PR: C.I. Addresses evaluation, assessment, personnel resource, grant writing, and other administrative issues. Presents collaborative models of intervention and service delivery.
ED-Child, Family & Comm Sci

EEX 6863 . Supervised Teaching Practicum with Exceptional Children
2-7(12-40). PR: Bachelor's degree, approved program, and C.I. Supervised observation and teaching of an exceptional student.
ED-Child, Family & Comm Sci

EEX 7527 . Professional Writing/ Grant Writing in Special Education
3(3,0). PR: Admission to Education Ph.D. Writing for professional publication in special education; review and edit works of others; grant writing and review for private foundations and state and federal agencies.
ED-Human Services/Wellness

EEX 7766 . Technology Research/ Training in Special Education

3(3,0). PR: Admission to Education Ph.D. program. Computer-assisted instruction and technology with special needs populations, demonstrates emerging technologies and provides instruction in personal productivity tools for special educators in higher education.

ED-Human Services/Wellness

EEX 7865 . Internship in College Instruction in Special Education

3(3,0). PR: Admission to Education Ph.D. program. Supervised experience in design, delivery, and evaluation of a college course in special education or disability services.

ED-Human Services/Wellness

EEX 7866 . Internship in Practicum Supervision in Special Education

3(3,0). PR: Admission to Education Ph.D. program. Supervised experience in observing, supervising, and evaluating student teacher performance in a practicum setting in special education or disability services.

ED-Human Services/Wellness

EEX 7867 . Personnel Preparation: Special Education

3(3,0). PR: Admission to Education Ph.D. program. Focus on issues and strategies in preparation of teachers for students with disabilities; course development, implementation, adaptations/ modifications for pre-service personnel with disabilities.

ED-Human Services/Wellness

EEX 7936 . Current Issues/ Trends in Special Education

3(3,0). PR: Admission to Ph.D. Education program. Analysis and review of contemporary issues and trends in special education, selecting and defending a position on efficacy, legal, ethical, social, and policy issues.

ED-Human Services/Wellness

EGC 6431 . Guiding Human Relationships I

3(3,0). PR: C.I. Human relationship skills that will enhance intrapersonal and interpersonal relationship skills in classrooms.

ED-Child, Family & Comm Sci

EGC 6432 . Guiding Human Relationships II

3(3,0). PR: C.I. Advanced human relationship skills that will enhance intrapersonal and interpersonal relationship skills in classrooms.

ED-Child, Family & Comm Sci

EGC 6437 . Advanced Counseling Techniques

3(3,0). PR: MHS 6400, MHS 6401, or C.I. A presentation of advanced techniques, approaches and strategies to counseling and psychotherapy. Includes an experiential component.

ED-Child, Family & Comm Sci

EGI 6051 . Understanding the Gifted/Talented Student

3(3,0). A study of characteristics of the gifted/talented students; theories and research; identification procedures; special problems; educational forces.

ED-Child, Family & Comm Sci

EGI 6245 . Program Planning & Methodology for Gifted/Talented Students

3(3,0). PR: Graduate standing or C.I. A study of organization, curriculum, strategies, and activities for the gifted/talented student; diagnostic teaching; learning-teaching styles; instructional materials; individualized instruction.

ED-Child, Family & Comm Sci

EGI 6246 . Education of Special Populations of Gifted Students

3(3,0). Focuses on needs of gifted subgroups, including females, minorities, handicapped, and students with learning and emotional problems. S.E.

ED-Child, Family & Comm Sci

EGI 6305 . Theory and Development of Creativity

3(3,0). This course focuses on the concept of creativity and explores various means of integrating creative strategies and instructional content areas.

ED-Child, Family & Comm Sci

EGI 6306 . The Nature and Development of Creativity

3(3,0). PR: Graduate standing or C.I. Explores theories and research about the concept and development of creativity.

ED-Educational Foundations

EGN 5035 . Topics in Technological Development

3(3,0). PR: C.I. Selected topics in the technological development of western civilization including the weight-driven clock, steam engine, electric light, etc.

ECS-College-ECS

EGN 5720 . Internal Combustion Engine Analysis and Optimization

3(2,3). PR: EGN 3343 or EGN 3358 or C.I. Internal combustion engine operating principles. Topics covered include engine design and operating parameters, combustion, thermodynamics, induction flow, and basic

EGN 5840 . Small Rocket Applications for Teachers

3(3,0). PR: Admission to Martin Marietta/UCF Academy. Earth and space environments, rocket propulsion, meteorological and environmental measurements, payload launch procedures, orbits and trajectories, safety, model rocket experiments, field trips, student science

mathematical models. ECS-Industrial & Management	experiments. ECS-College-ECS
EGN 5855C . Metrology 3(2,2). PR: EIN 4391C or C.I. Advanced topics in inspection and measurement with applications in engineering and manufacturing. ECS-Industrial & Management	EGN 5858C . Prototyping and Product Realization 3(2,1). PR: Basic knowledge and/or experience in CAD/CAM technology or C.I. Product design and development cycle including design for functionality and manufacturability. Fundamentals, applications and practice of rapid prototyping and reverse engineering technologies. ECS-Industrial & Management
EGN 6721C . Experimental Methods for High Performance Engine Manufacturing 3(2,3). PR: EGN 5270C; ESI 6247; STA 5205 OR STA 6207; or C.I. This course examines the unique problems encountered when one-off manufacturing of high performance engines due to the high level of component interaction. ECS-Industrial & Management	EIN 5108 . The Environment of Technical Organizations 3(3,0). PR: Graduate status or C.I.; EGN 4624 recommended. Presentation and investigation into the principles required to transform technologists into managers focusing on engineers, scientists, and other professionals providing services in technically-oriented organizations. ECS-Industrial & Management
EIN 5117 . Management Information Systems I 3(3,0). PR: C.I. The design and implementation of computer-based Management Information Systems. Consideration is given to the organizational, managerial, and economic aspects of MIS. ECS-Industrial & Management	EIN 5140 . Project Engineering 3(3,0). PR: Graduate standing or C.I. Role of engineer in project management with emphasis on project life cycle, quantitative and qualitative methods of cost, schedule, and performance control. ECS-Industrial & Management
EIN 5248C . Ergonomics 3(2,2). PR: C.I. Applications of anthropometry, functional anatomy, mechanics, and physiology of musculoskeletal system concepts in the engineering design of industrial tools, equipments, and workstations. ECS-Industrial & Management	EIN 5251 . Human-Computer Interaction: Usability Evaluation 3(3,0). Usability paradigms/principles; cognitive walkthroughs; heuristic, review-based, model-based, empirical and storyboard evaluation; techniques; query techniques; laboratory techniques; and field study approaches. ECS-Industrial & Management
EIN 5255 . Interactive Simulation 3(3,0). PR: Post-Baccalaureate status or C.I. Introduction to significant topics relative to the development and use of simulators for knowledge transfer in the technical environment. ECS-Industrial & Management	EIN 5317 . Training System Design 3(3,0). PR: Seniors, post bac or graduate standing or C.I. How human performance deficiencies should be addressed from a systems design point of view. Manpower, personnel, and training considerations will be examined. ECS-Industrial & Management
EIN 5356 . Cost Engineering 3(3,0). Cost estimation and control of engineering systems throughout the product life cycle. ECS-Industrial & Management	EIN 5368C . Integrated Factory Automation Systems 3(2,2). PR: EIN 4391C or C. I. Automated material handling systems, industrial robots, automated guided vehicles, automated storage and retrieval systems, economics, justification. ECS-Industrial & Management
EIN 5381 . Engineering Logistics 3(3,0). Study of the logistics life cycle involving planning, analysis and design, production, distribution, and support. ECS-Industrial & Management	EIN 5388 . Forecasting 3(3,0). PR: ESI 5219. Industrial applications of forecasting methods with emphasis on microcomputer-based packages. ECS-Industrial & Management
EIN 5392C . Manufacturing Systems Engineering 3(2,2). PR: EIN 4391C or C.I. The integration of manufacturing technologies and information processing concepts into a system for controlling the manufacturing enterprise.	EIN 5415C . Tool Engineering and Manufacturing Analysis 3(2,2). PR: EIN 4411C. Tool materials and design, tolerance technology, theory of metal cutting, and machineability.

<p>ECS-Industrial & Management</p> <p>EIN 5602C . Expert Systems in Industrial Engineering 3(2,2). Overview of basic concepts, architecture and construction of expert systems in IE. Intelligent simulation training systems, case studies and problems. Laboratory exercises. ECS-Industrial & Management</p>	<p>ECS-Industrial & Management</p> <p>EIN 5607C . Computer Control of Manufacturing Systems 3(2,2). PR: EIN 4391C, and EIN 4411C or EML 4535C; or C.I. Automated systems for manufacturing, numerical control (NC) machines, NC programming, robot control and programming, machine and system control. ECS-Industrial & Management</p>
<p>EIN 5936 . Seminar in Industrial Engineering: Doctoral Research 1(1,0). PR: C.I. Essential topics for doctoral research including research areas, skills, funding, proposals, ethics, mentors, seminars, societies, conferences, presentations, interviewing, grants, and publishing. ECS-Industrial & Management</p>	<p>EIN 6215 . System Safety Engineering and Management 3(3,0). PR: C.I. Occupational injury and accident statistics. Accident investigation and prevention methods. Hazard analysis. Occupational safety and health standards and regulations. Product safety and liability. ECS-Industrial & Management</p>
<p>EIN 6249C . Biomechanics 3(2,2). PR: EIN 5248C or C.I. Applications of body link system, kinematic aspect of body movement and mechanics of the human body concepts in the engineering design of work-systems. ECS-Industrial & Management</p>	<p>EIN 6258 . Human Computer Interaction 3(2,2). Computer task analysis, human-computer design guidelines and history, usability testing, next generation user interfaces, human-virtual environment interaction. ECS-Industrial & Management</p>
<p>EIN 6264C . Industrial Hygiene 3(2,2). PR: EIN 5248C or C.I. Evaluation and control of occupational hazards including heat, cold, noise, vibration, radiation, solid waste, air contaminants, illumination, ventilation, and other work environments. ECS-Industrial & Management</p>	<p>EIN 6270C . Work Physiology 3(2,2). PR: EIN 5248C or C.I. Applications of the concepts of endurance fatigue, recovery and the energy cost of work in the determination of work capacity, job design, personnel assignment, and work/rest scheduling. ECS-Industrial & Management</p>
<p>EIN 6322 . Engineering Management 3(3,0). PR: EIN 5117, EIN 5356, and EIN 5140. Capstone investigation and analysis of topics for improving engineering enterprises in national and international competitive environments. Quantitative engineering tools/methods will be used. ECS-Industrial & Management</p>	<p>EIN 6330 . Quality Control in Automation 3(3,0). PR: ESI 4234 or C.I. Quality control applications in industrial automation, implementation of quality control through automated inspection, statistical tolerancing, application of statistics in quality control. ECS-Industrial & Management</p>
<p>EIN 6336 . Production and Inventory Control 3(3,0). PR: EIN 4333 or equivalent. Review of models and techniques used in forecasting, production control and inventory control. Includes aggregate planning, production scheduling, inventory management, models, etc. ECS-Industrial & Management</p>	<p>EIN 6339 . Operations Engineering 3(3,0). PR: EIN 6357, ESI 5316, or C.I. Methods and models for design, management, and control of operational processes in engineering and technical organizations. Includes considerations of quality, productivity, performance, benchmarking, constraints, and strategy. ECS-Industrial & Management</p>
<p>EIN 6357 . Advanced Engineering Economic Analysis 3(3,0). PR: EGN 3613; STA 3032 or equivalent. Topics include measuring economic worth, economic optimization under constraints. Analysis of economic risk and uncertainty, foundations of utility functions. ECS-Industrial & Management</p>	<p>EIN 6398 . Advanced and Nontraditional Manufacturing Processes 3(3,0). PR: EIN 4391C or C.I. Latest methods and developments in manufacturing process engineering. ECS-Industrial & Management</p>
<p>EIN 6399 . Concurrent Engineering 3(3,0). Elements of concurrent engineering and its applications. Topics include quality function deployment, design for manufacturability, and design for assembly. ECS-Industrial & Management</p>	<p>EIN 6417 . Precision Engineering 3(3,0). PR: EGN 5855C or C.I. Designing for high precision, machine accuracy, error reduction, thermal effects, coordinate measuring machines, and machine calibration with laser interferometry. ECS-Industrial & Management</p>

EIN 6418C . Electronics Manufacturing

3(3,0). PR: EIN 4391C or C.I. Electronics fabrication and assembly, FMS and CAD/CAM in electronics, information and control systems, micromachining with lasers, and surface mount technology.

ECS-Industrial & Management

EIN 6524 . Simulation Modeling Paradigms

3(3,0). PR: ESI 5219 and one of ESI 5531, ESI 6546 or EIN 6645. Modeling techniques and designs for simulation, conditions for use, and implementation algorithms. Introduction to modeling theory and formalisms for computer simulation.

ECS-Industrial & Management

EIN 6645 . Real-Time Simulation Agents

3(3,0). PR: EIN 5255. Mathematical modeling and computer simulation of engineering and scientific systems as agents within a simulation. Examination of hardware, software, and solution methods for real-time systems.

ECS-Industrial & Management

EIN 6649C . Intelligent Tutoring Training System Design

3(2,2). PR: EIN 5317. A systems approach to building intelligent tutoring within training systems. Emphasis on removing the human instructor from the content training

ECS-Industrial & Management

EIN 6933 . Systems Acquisition

3(3,0). What the engineer needs to know about the systems acquisition process when dealing with government contracting agencies

ECS-Industrial & Management

EIN 6935 . Advanced Ergonomics Topics

3(3,0). PR: C.I. Seminar treatment of selected advanced topics in ergonomics.

ECS-Industrial & Management

ELD 6248 . Instructional Strategies for Students with Learning Disabilities

3(3,0). Instructional strategies for students with specific learning disabilities to include development, implementation, and evaluation of individualized educational plans and adaptation of curriculum and materials.

ED-Child, Family & Comm Sci

EMA 5060 . Polymer Science and Engineering

3(3,0). PR: EGN 3365. Structure and properties of polymers, preparation and processing of polymers, mechanical properties, use in manufacturing and high tech applications.

ECS-Mechanical/Matrls/Aerosp

EIN 6425 . Scheduling and Sequencing

3(3,0). Basic problems, models and techniques of scheduling. Emphasis on general job-shop scheduling problems. Analytical, graphical and heuristic methods are examined.

ECS-Industrial & Management

EIN 6529 . Simulation Design and Analysis

3(3,0). PR: All required courses in Simulation Modeling and Analysis or Interactive Simulation and Training Systems curricula. Integrates all aspects of the curriculum in a project-focused capstone course. Involves design, development, implementation, validation, and evaluation of a simulation project.

ECS-Industrial & Management

EIN 6647 . Intelligent Simulation

3(2,2). PR: EIN 6645 and EIN 6649C. The range of architectures and technologies relative to the simulation of intelligent processes

ECS-Industrial & Management

EIN 6930 . Manufacturing Engineering Seminar

3(3,0). PR: C.I. Presentation of latest manufacturing engineering technological advancements and related topics.

ECS-Industrial & Management

EIN 6934 . Contract Negotiations

3(3,0). PR: EIN 6933. A seminar on the contract negotiation phase of systems acquisition for the United States Government; Contract Formulation and Acquisition Process Management is emphasized.

ECS-Industrial & Management

EIN 6936 . Seminar in Advanced Industrial Engineering

3(3,0). Topical seminar. Potential topic areas include quality function deployment, axiomatic design, design quality, benchmarking, re-engineering processes.

ECS-Industrial & Management

ELD 6944 . Diagnostic Learning-Disabilities Laboratory

1(0,1). CR: ELD 6112 (Foundations and Diagnosis of LD). A laboratory designed for individual competence measurement of testing-evaluation skills.

ED-Child, Family & Comm Sci

EMA 5104 . Intermediate Structure and Properties of Materials

3(3,0). PR: EGN 3365. Fundamentals of dislocation theory, metallurgical thermodynamics and diffusion. Phase transformations, strengthening mechanisms and fracture. Introduction to engineering polymers, ceramics, and composites.

ECS-Mechanical/Matrls/Aerosp

EMA 5106 . Metallurgical Thermodynamics

3(3,0). PR: EGN 3365. Laws of thermodynamics, phase equilibria, reactions between condensed and gaseous phases, reaction equilibria in condensed solution and phase diagrams.

ECS-Mechanical/Matrls/Aerosp

EMA 5140 . Introduction to Ceramic Materials

3(3,0). PR: EGN 3365. Uses, structure, physical and chemical properties, and processing of ceramic materials. Discussions will include recent developments for high technology applications.

ECS-Mechanical/Matrls/Aerosp

EMA 5326 . Corrosion Science and Engineering

3(3,0). PR: EGN 3365. Electrochemical principles and applications to detecting and monitoring corrosion processes. Various forms of corrosion, their causes and control. Techniques of corrosion protection.

ECS-Mechanical/Matrls/Aerosp

EMA 5505 . Scanning Electron Microscopy

3(2,2). PR: EMA 5104 or C.I. A review of electron optics, beam/specimen interactions, image formation, x-ray analysis, specimen preparation, microelectronic applications and crystallography in the SEM.

ECS-Mechanical/Matrls/Aerosp

EMA 5584 . Biomaterials

3(3,0). PR: EGN 3365. Properties of natural biological materials and their relation to microstructure, biocompatibility, specific applications in orthopedic, cardiovascular, visual, neural, and reconstruction implants.

ECS-Mechanical/Matrls/Aerosp

EMA 5586 . Photovoltaic Solar Energy Materials

3(3,0). PR: EGN 3365. Materials properties basic to photovoltaics, structures, homojunction, heterojunction, and surface barrier solar cells, AMDS-1D modeling of c-Si, GaAs bulk and a-Si:H, CIGS, and CdTe thin film solar cells. May be repeated for credit.

ECS-Mechanical/Matrls/Aerosp

EMA 5610 . Laser Materials Processing

3(3,0). PR: EGN 3343 or EMA 5106 or C.I. Laser beam optics; laser-material interactions; laser heating, melting, vaporization. Plasma formation; laser surface treatment, welding, machining; laser material synthesis. Thin film deposition, crystal growth.

ECS-Mechanical/Matrls/Aerosp

EMA 6126 . Physical Metallurgy

3(3,0). PR: EMA 5104 or EMA 3124. Analytical methods in crystallography, dislocation theory, annealing, solid solutions, phases and phase diagrams, ferrous and non-ferrous alloy systems.

ECS-Mechanical/Matrls/Aerosp

EMA 5108 . Surface Science

3(3,0). PR: PHY 2049 and C.I. Methods of chemical and physical analysis of surfaces, with emphasis on ultra-high vacuum spectroscopies utilizing electron, ion and photon probes.

ECS-Mechanical/Matrls/Aerosp

EMA 5317 . Materials Kinetics

3(3,0). PR: Materials Thermodynamics. Topics include Arrhenius law, free energy, Johnson-Mehl equations, homogenous vs. heterogeneous reactions, mixing, electrodeposition, thermal analysis in kinetics. Graded S/U.

ECS-Mechanical/Matrls/Aerosp

EMA 5504 . Modern Characterization of Materials

3(2,2). PR: EMA 5104 or C.I. Techniques and operation of instrumentation (light, scanning, transmission, and auger microscopy) for the characterization of structure, defects, composition, and surfaces.

ECS-Mechanical/Matrls/Aerosp

EMA 5517 . Advanced Materials Characterization by Ion Beam Analysis

3(2,2). PR: EMA 5504 or C.I. Principle of interactions between ion beam and solid materials; sputtering and scattering theories; fundamentals and applications of secondary ion mass and Rutherford Backscattering spectrometric. May be repeated for credit.

ECS-Mechanical/Matrls/Aerosp

EMA 5585 . Materials Science of Thin Films

3(3,0). PR: Graduate standing or C.I. Interaction of thin film processing techniques with the structure and properties of the materials deposited.

ECS-Mechanical/Matrls/Aerosp

EMA 5587C . Characterization and Reliability of PV Cells

3(2,2). PR: EGN 3365. Photovoltaic characterization of solar cells, dark and light I-V, C-V, and quantum efficiency, physics of failure of microelectronic devices, solder bonds, encapsulation, PV module reliability.

ECS-Mechanical/Matrls/Aerosp

EMA 5705 . High Temperature Materials

3(3,0). PR: EMA 5104 or C.I. Desired material properties for high temperature applications, physical metallurgy of such materials, corrosion, hot corrosion and oxidation properties, aero- and land-based gas turbine requirements.

ECS-Mechanical/Matrls/Aerosp

EMA 6129 . Solidification and Microstructure Evolution

3(3,0). PR: EML 4142, EMA 5104, or C.I. Cooling process, nucleation, spinodal decomposition, interface instability, cells, dendrites, eutectic and peritectic microstructures, solute segregation, modeling project.

ECS-Mechanical/Matrls/Aerosp

EMA 6130 . Phase Transformation in Metals and Alloys

3(3,0). PR: EMA 5104 and EMA 5106 or C.I. Principles of thermodynamics, kinetics, and phase diagrams for the understanding of diffusion and diffusionless phase transformations in ferrous and non-ferrous alloys.
ECS-Mechanical/Matrls/Aerosp

EMA 6149 . Imperfections in Crystals

3(3,0). PR: EMA 5104 or C.I. Describes point, line, and planar defects in crystalline materials. Discusses vacancy formation, dislocation theory, plasticity, grain boundary modeling, and the interaction between defects.
ECS-Mechanical/Matrls/Aerosp

EMA 6516 . X-Ray Diffraction and Crystallography

3(3,0). PR: EMA 5104 or C.I. Theory and experimental techniques of x-ray diffraction of materials. Topics include the structure of crystalline solids, including lattices, point group and space group theory.
ECS-Mechanical/Matrls/Aerosp

EMA 6605 . Materials Processing Techniques

3(3,0). PR: EMA 5104 or C.I. Phase transformation; grain size; surface, powder, and composite processing; shape forming; polymer processes; liquid and vapor phase synthesis; radiation-induced processes, mathematical analysis, project.
ECS-Mechanical/Matrls/Aerosp

EMA 6628 . Materials Failure Analysis

3(3,0). PR: EMA 5104. Comprehensive overview of the general procedures for failure analysis, failure theories, causes of failure, fractography of different failures, and modern analytical tools.
ECS-Mechanical/Matrls/Aerosp

EME 5051 . Technologies of Instruction and Information Management

3(3,0). PR: Acceptance into Ed Media program or C.I. Theories and practices in utilizing instructional media and information technologies. Emphasis on new and emerging technologies and their effects on the school and media program.
ED-Teaching & Learning Princ

EME 5054 . Instructional Systems Technology: A Survey of Applications

3(3,0). Applications of instructional technology in settings other than public schools. Survey of facilities, programs, and services in business, industry, religion, government, higher education, and medical settings.
ED-Ed Research, Tech & Lead

EME 5057 . Communication for Instructional Systems Application

3(3,0). PR: EME 5056. Applications of technology, communications theory, platform skills, and instructional design to the effective presentation of training programs.

EMA 6136 . Diffusion in Solids

3(3,0). PR: EMA 5104 and EML 5060 or C.I. Fundamental equations and mechanisms of diffusion. Diffusion in metallic, ionic, and semiconducting materials with emphasis on measurement techniques.
ECS-Mechanical/Matrls/Aerosp

EMA 6515 . X-ray and Auger Electron Spectroscopic Techniques

3(3,0). PR: EMA 5108 or EMA 5504. A hands on course on x-ray and auger spectroscopy. Topics will include theory on XPS, AES, instrumentation, vacuum science, data interpretation and analysis charge referencing.
ECS-Mechanical/Matrls/Aerosp

EMA 6518 . Transmission Electron Microscopy

3(3,0). PR: EMA 5104 or C.I. An introduction to the theory and operation of a transmission electron microscope. Electron diffraction techniques, contrast from images, analytical microscopy, and specimen preparation.
ECS-Mechanical/Matrls/Aerosp

EMA 6626 . Mechanical Behavior of Materials

3(3,0). PR: EMA 5104 or EMA 4223. Fundamentals of the mechanical behavior of materials; advanced treatment of elasticity, plasticity, viscoelasticity, creep, fracture and fatigue in a variety of material classes.
ECS-Mechanical/Matrls/Aerosp

EME 5050 . Fundamentals of Technology for Educators

3(3,0). PR: Post-bac or C.I. Designed to provide participants with an introduction to the field of educational technology content with emphasis on using and integrating technology in K-12 to improve the teaching and learning process.
ED-Ed Research, Tech & Lead

EME 5052 . Electronic Resources for Education

3(3,0). PR: Graduate standing or C.I. Study and application of electronic resources available for education including techniques for locating, evaluating, and integrating them into the classroom.
ED-Ed Research, Tech & Lead

EME 5056 . Communication for Instructional Systems Process

3(3,0). Principles of written and oral communications for instructional technologists; development of assertiveness and interpersonal skills; conducting training programs for employees; creating hard copy materials.
ED-Ed Research, Tech & Lead

EME 5208 . Production Techniques for Instructional Settings

3(3,0). PR: Acceptance into Ed Media Program or C.I. Skills in producing instructional materials. Emphasis on graphic, audio, video, and photographic skills and the

and instruction. ED-Ed Research, Tech & Lead	application of instructional and communication theories. ED-Teaching & Learning Princ
EME 5225 . Media for Children and Young Adults 3(3,0). PR: Acceptance into Ed Media Program or C.I. Survey of materials for children's and young adult's informational and recreational needs; analysis, evaluation, and utilization of print and non-print materials. ED-Teaching & Learning Princ	EME 5408 . Computer Applications in Instructional Systems 3(3,0). PR: EME 2040 or C.I. Introduction to applications for the design, production, and management of interactive courseware within instructional systems. ED-Ed Research, Tech & Lead
EME 5810 . Teaching and Learning with Technology 1(1,0). Overview of technologies for teaching and for learning. Practical strategies for using technology in the classroom. (May be repeated 3 times for credit.) ED-Teaching & Learning Princ	EME 6053 . Current Trends in Instructional Technology 3(3,0). PR: EME 6613. Survey of current trends and issues of importance to the field of instructional technology. ED-Ed Research, Tech & Lead
EME 6058 . Current Trends in Educational Media 3(3,0). PR: C.I. Survey of current trends and issues of importance to the field of educational media. ED-Teaching & Learning Princ	EME 6062 . Research in Instructional Technology 3(3,0). PR or CR: EDF 6481, EME 6613, or EME 6605. Critical review and evaluation of landmark research in the areas of educational media, instructional design, and instructional systems. ED-Teaching & Learning Princ
EME 6105 . Collection Development Policies and Procedures 3(3,0). PR: Acceptance into Ed Media program or C.I. Principles of collection development for the school library media center. Acquisition, weeding, inventory, and maintenance procedures. Emphasis on intellectual freedom and evaluation of the collection. ED-Teaching & Learning Princ	EME 6207 . Multimedia Instructional Systems I 3(3,0). PR: EME 5408 (or equivalent) and EME 6613 or C.I. Creation of interactive Web-based multimedia instructional content using graphic, audio, video, and authoring tools. Discussion of copyright, cost, media attributes, and other relevant issues. ED-Ed Research, Tech & Lead
EME 6209 . Multimedia Instructional Systems II 3(3,0). PR: EME 6207 or EME 6613, or C.I. Advanced techniques in delivery and management of Web-based multimedia instructional content. Integration of media into Web-based instruction. Discussion of delivery and management issues. ED-Ed Research, Tech & Lead	EME 6313 . Media Systems Design 3(3,0). PR: EME 5054, EME 6613. Principles of communication, learning theory, and research in instructional technology applied to the design of mediated instructional messages. ED-Ed Research, Tech & Lead
EME 6405 . Application Software for Educational Settings 3(3,0). PR: EME 5050 or EME 5052 or C.I. Use of software applications in instructional settings by students and teachers. Includes integrated packages (word processing, database, spreadsheet, telecommunications) graphics software, presentation software, and desktop publishing software as they relate the K-12 curriculum, students, and teacher productivity. ED-Ed Research, Tech & Lead	EME 6457 . Distance Education: Technology Process Product 3(3,0). PR: EME 6207 (or equivalent) and EME 6613 or C.I. Instruction and how it is delivered at a distance. Examines technologies, processes, and products of distance education with emphasis on e-learning. ED-Ed Research, Tech & Lead
EME 6507 . Multimedia in the Classroom 3(3,0). PR: EME 6405 or C.I. Emphasis on the elements and applications of multimedia programs for use by K-12 students and teachers. Includes authoring, design, delivery systems, hardware, software. ED-Ed Research, Tech & Lead	EME 6602 . Integration of Technology into the Curriculum 3(3,0). PR: EME 5050, EME 5052, EME 6405, EME 6507 or C.I. Resources, materials, and strategies for systemic achievement of curriculum goals; investigation of innovative and effective technological advances and practices for use in teaching and learning. ED-Ed Research, Tech & Lead
EME 6605 . Role of the Media Specialist in	EME 6607 . Planned Change in Instructional

Curriculum and Instruction

3(3,0). PR: Acceptance into Ed Media program or C.I. Development of skills in instruction and instructional design. Emphasis on teaching, consultation, and media skills and curricular involvement of the media specialist.
ED-Teaching & Learning Princ

EME 6613 . Instructional System Design

3(3,0). PR: Graduate standing or C.I. Systematic design of instruction including task analysis, learner analysis, needs assessment, content analysis, specification of objectives, media selection, evaluation and revision. Analysis of ID models.
ED-Ed Research, Tech & Lead

EME 6706 . Administrative Principles in Media Centers

3(3,0). PR: Acceptance in Ed Media program or C.I. Principles of planning, evaluating, budgeting, staffing, and marketing the school media program. Development of policies and procedures for the school media center, legislation technology, professionalism.
ED-Teaching & Learning Princ

EME 6805 . Organization of Media and Information

3(3,0). PR: Acceptance into Ed Media program or C.I. Methods for organizing print and non-print media, with instruction in cataloging and classification, using standard bibliographic tools and procedures. May be repeated for credit.
ED-Teaching & Learning Princ

EME 6940 . Theory into Practice in Educational Technology

3(3,0). PR: Completion of all core courses in educational technology. Practicum in facilitating the utilization of instructional media and information technologies.
ED-Ed Research, Tech & Lead

EME 7942 . Doctoral Internship in Educational Technology

3(3,0). PR: Completion of Ph.D. core and 75% specialization. Higher education teaching assignment as an intern under a senior faculty mentor in Educational Technology or Instructional Systems.
ED-Ed Research, Tech & Lead

EML 5060 . Mathematical Methods in Mechanical, Materials and Aerospace Engineering

3(3,0). PR: MAP 2302. Vector field theory, generalized coordinates, complex variables, contour integration and LaPlace and Fourier transforms and inversions, variable coefficient ODEs and solution of PDEs for governing equations of heat transfer, ideal fluid flow, and mechanics.
ECS-Mechanical/Matrls/Aerosp

EML 5105 . Gas Kinetics and Statistical Thermodynamics

3(3,0). PR: EAS 4134 or EML 4703. Molecular and statistical viewpoint of gases and thermodynamics.

Technology

3(3,0). PR: EME 6705 or EME 6706. In-depth study of the processes of planned change and adoption/rejection of innovations in educational settings.
ED-Ed Research, Tech & Lead

EME 6705 . Administration of Instructional Systems

3(3,0). PR: EME 5408, EME 6613. Provides opportunities for students to examine parameters, problems, and areas of importance in the management of instructional systems.
ED-Ed Research, Tech & Lead

EME 6707 . Technology Leadership and Coordination in the Schools

3(3,0). PR: EME 5050 or EME 5052 or C.I. A graduate course in educational technology designed to provide a context for the role of a school-based professional with skills in educational technology. Includes planning, administration, training, leadership, budgeting, ethics, evaluation, and grant writing.
ED-Ed Research, Tech & Lead

EME 6807 . Information Sources and Services

3(3,0). PR: Acceptance into Ed Media program or C.I. Development of skills in identifying appropriate information sources for school media centers, providing reference services, and teaching research skills and search strategies.
ED-Teaching & Learning Princ

EME 7634 . Advanced Instructional Systems Design

3(3,0). PR: EME 6613. Analysis of fundamental concepts of theoretical and procedural instructional systems design models with an emphasis on their cognitive origins, pedagogical bases, current and future values.
ED-Ed Research, Tech & Lead

EML 5025C . Engineering Design Practice

3(2,2). PR: C.I. The course is designed to familiarize students with basic CAD/CAM solid modeling techniques in a project oriented environment. Students will construct part models, drawings, and assemblies. Use of in-house software.
ECS-Mechanical/Matrls/Aerosp

EML 5066 . Computational Methods in Mechanical, Materials and Aerospace Engineering

3(3,0). PR: EML 3034. Error Norms, interpolation and extrapolation, quadratures and adaptive quadratures, solutions of linear and nonlinear systems of equations, functional approximation, solution of ODE's and MWR.
ECS-Mechanical/Matrls/Aerosp

EML 5131 . Combustion Phenomena

3(3,0). PR: EML 4703, EML 3101. Physical and chemical aspects of combustion phenomena. Rate processes, chemical kinetics, structure, propagation and stability of

Boltzmann collision integral, partition functions, non-equilibrium flows. Applications in thermo-fluid systems.
ECS-Mechanical/Matrls/Aerosp

premixed and diffusion flames.
ECS-Mechanical/Matrls/Aerosp

EML 5152 . Intermediate Heat Transfer

3(3,0). PR: EML 4142, EML 5713, EML 5060. An intermediate-level course dealing with heat and mass diffusion, boundary layer problems, and radiation from real bodies. Emphasis on combined modes, numerical methods.
ECS-Mechanical/Matrls/Aerosp

EML 5211 . Continuum Mechanics

3(3,0). PR: EML 3500 or EML 4703 or EAS 4200 or C.I. Introduction to tensors; deformation and strain; stress; balance laws, applications in Newtonian fluid dynamics and isotropic linear elasticity.
ECS-Mechanical/Matrls/Aerosp

EML 5224 . Acoustics

3(3,0). PR: EML 4220. CR: EML 5060. Elements of vibration theory and wave motion; radiation, reflection, absorption, and transmission of acoustic waves; architectural acoustics; control and abatement of environmental noise pollution; transducers.
ECS-Mechanical/Matrls/Aerosp

EML 5228C . Modal Analysis

3(3,0). PR: EML 3303, EML 4220, and EML 5060. Theoretical basis. Measurement techniques, excitation, transducers, data acquisition. Detailed data analysis, modal parameter extraction, curve-fitting procedures. Modeling.
ECS-Mechanical/Matrls/Aerosp

EML 5237 . Intermediate Mechanics of Materials

3(3,0). PR: EML 3500, EML 5060. Elements of elasticity. Failure theories. Bending and torsion. Thin plates. Energy principles. Thick-walled cylinders. Applications to design.
ECS-Mechanical/Matrls/Aerosp

EML 5245 . Tribology

3(3,0). PR: EGN 3365, EGN 3331 and EML 3701. Principles of fluid film lubrication (liquid and gas, journal and thrust bearings), contact mechanics (rolling element bearings), design of bearings and load bearing surfaces, friction and wear of materials, tribotesting.
ECS-Mechanical/Matrls/Aerosp

EML 5271 . Intermediate Dynamics

3(3,0). PR: EML 3321. Dynamics of particles, rigid bodies, and distributed mass systems. Hamilton's principle. Lagrange's equations. Numerical methods. Mechanisms.
ECS-Mechanical/Matrls/Aerosp

EML 5290 . Introduction to MEMS and Micromachining

3(3,0). PR: Graduate standing or C.I. Introduction of Micro-Electro-Mechanical-Systems (MEMS) and micromachining (microfabrication) methods. Etching and etching mask. Basics of silicon macromachining processing. Fundamentals of bulk micromachining. Thin film formation and surface micromachining. Microplating and LIGA process. Nonlithographic micromachining process including laser. May be repeated for credit.
ECS-Mechanical/Matrls/Aerosp

EML 5291 . MEMS Materials

3(3,0). PR: EML 5060, EML 5211, or C.I. Introduction of materials that are frequently used for MEMS applications such as silicon, metal, ceramics and polymers. The course will focus on fundamental principles involved in structures and properties of the materials, and their applications in MEMS.
ECS-Mechanical/Matrls/Aerosp

EML 5292 . Fundamental Phenomenon and Scaling laws in Miniature Engineering Systems

3(3,0). PR: EML 5060, EML 5211, or C.I. Introduction to meso-, micro-, and nano-scales, and related terminology, constitutive relationships at these scales and how these relationships affect the behavior and performance of systems. Effect of miniaturization on a few common engineering systems.
ECS-Mechanical/Matrls/Aerosp

EML 5311 . System Control

3(3,0). PR: EML 3312C; CR: EML 5060. Modern control theory for linear and non-linear systems; controllability and observability. Linear state feedback and state estimators, compensator design.
ECS-Mechanical/Matrls/Aerosp

EML 5402 . Turbomachinery

3(3,0). PR: EML 3101, EML 4703 or EAS 4134. Application of the principles of fluid mechanics, thermodynamics, and aerodynamics to the design and analysis of steam and gas turbines, compressors, and pumps.
ECS-Mechanical/Matrls/Aerosp

EML 5532C . Computer-Aided Design for Manufacture

3(2,3). PR: EGN 4535C. Builds on introductory material covered in EML 4535C. Topics include computer

EML 5546 . Engineering Design with Composite Materials

3(3,0). PR: EML 5237. Mechanics of structural components of composite materials under static, thermal

modeling for the synthesis, simulation, design and manufacture of mechanical, thermal, and aerospace systems.

ECS-Mechanical/Matrls/Aerosp

vibratory loads. Instability. Lamina and laminate theory, energy methods, failure theories, and structural joining methods.

ECS-Mechanical/Matrls/Aerosp

EML 5572 . Probabilistic Methods in Mechanical Design

3(3,0). PR: EML 3500, STA 3032. Uncertainty modeling in design. Use of probabilistic mathematics to assess strength, stiffness, toughness, and stability. Applications.

ECS-Mechanical/Matrls/Aerosp

EML 5587C . Mechanics of Biostructures I

3(2,3). PR: Graduate standing or C.I. Part I of a two semester course. Mechanical analysis of hard (bone) and soft (organs, connective tissues, etc.) biostructures and the analysis includes preparation and experimental testing for constitutive equations for predictive modeling.

ECS-Mechanical/Matrls/Aerosp

EML 5588C . Mechanics of Biostructures II

3(2,3). PR: EML 5587C. Part II of a two semester course. Mechanical analysis of hard (bone) and soft (organs, connective tissues, etc) biostructures and the analysis includes preparation and experimental testing for constitutive equations for predictive modeling.

ECS-Mechanical/Matrls/Aerosp

EML 5605 . Applied HVAC Engineering

3(3,0). PR: EML 4600. Applications of HVAC systems design with the objective of optimizing energy efficiency, humidity control, ventilation and indoor air quality. May be repeated for credit.

ECS-Mechanical/Matrls/Aerosp

EML 5606 . HVAC Systems Engineering

3(3,0). PR: EML 3101, EML 4142, EML 3034. Heating, ventilation, air-conditions and refrigeration principles, system design and analysis. May be repeated for credit.

ECS-Mechanical/Matrls/Aerosp

EML 5713 . Intermediate Fluid Mechanics

3(3,0). PR: EML 4703. CR: EML 5060. Fluid kinematics; conservation equations; Navier-Stokes equations; boundary layer flow, inviscid flow, circulation and vorticity; low Reynolds number flow; turbulence.

ECS-Mechanical/Matrls/Aerosp

EML 5937 . Mechanical, Materials, and Aerospace Engineering Graduate Seminar

1(1,0). MMAE graduate student seminar. Graded S/U.

ECS-Mechanical/Matrls/Aerosp

EML 6062 . Boundary Element Methods in Engineering

3(3,0). PR: EML 5237 or EML 5713 or C.I. Integral (numerical) solution of potential, Poisson and diffusion equations; applications to heat transfer and fluid flow; complex variable boundary element methods.

ECS-Mechanical/Matrls/Aerosp

EML 6067 . Finite Elements in Mechanical, Materials, and Aerospace Engineering I

3(3,0). PR: EML 5237 or EML 5713. Finite element analysis of thermomechanical response of aerospace and mechanical components and structures. Plates and shells. Vibrations. Composite materials. Minimum weight design. CAD interface. Introduction to codes.

ECS-Mechanical/Matrls/Aerosp

EML 6068 . Finite Elements in Mechanical, Materials, and Aerospace Engineering II

3(3,0). PR: EML 6067 or C.I. Advanced finite element applications to aerospace and mechanical components and structures. Rotating systems. Fracture mechanics. Aeroelasticity. Buckling. Impact. Use of codes.

ECS-Mechanical/Matrls/Aerosp

EML 6085 . Research Methods in MMAE

3(3,0). PR: EML 5060 and EML 5211. Research project is a MMAE option under supervision of an advisor. A project report is due at the end of the semester. May be repeated for credit.

ECS-Mechanical/Matrls/Aerosp

EML 6104 . Classical Thermodynamics

3(3,0). PR: EML 3101 or C.I. A general postulative approach to classical macroscopic thermodynamics featuring states as fundamental constructs. Conditions of equilibrium, stability criteria, thermodynamic potentials. Maxwell relations and phase transitions.

ECS-Mechanical/Matrls/Aerosp

EML 6124 . Two-Phase Flow

3(3,0). PR: EML 5152. Introduction to two-phase flow and boiling heat transfer. General transport equations and models for analyzing two-phase systems. Emphasis placed on liquid-vapor systems.

ECS-Mechanical/Matrls/Aerosp

EML 6144 . Boiling and Condensation Heat Transfer

3(3,0). PR: EML 4142 or C.I. Phase changes heat transfer including boiling and condensation. Phenomenological treatment of pool boiling, two-phase flow, and convective boiling. Filmwise and dropwise condensation. Applications.

ECS-Mechanical/Matrls/Aerosp

EML 6154 . Conduction Heat Transfer

EML 6155 . Convection Heat Transfer

3(3,0). PR: EML 5152 or C.I. Classical and numerical techniques applied to the solution of steady and transient conduction problems. Applications to the design of thermal systems.

ECS-Mechanical/Matrls/Aersp

EML 6157 . Radiation Heat Transfer

3(3,0). PR: EML 5152 or C.I. Radiation properties of surfaces and analysis of radiative heat transfer between black, gray, non-gray and non-diffuse surfaces. Multimode problems.

ECS-Mechanical/Matrls/Aersp

EML 6223 . Advanced Vibrational Systems

3(3,0). PR: EML 4220, EML 5271 or C.I. Discrete and distributed parameter systems. Introduction to nonlinear and random vibrations. Concepts of modern dynamic analysis.

ECS-Mechanical/Matrls/Aersp

EML 6227 . Nonlinear Vibration

3(3,0). PR: EML 5060 and EML 5271. Robust, reliable algorithms for simulation of nonlinear phenomena; phase planes; limit cycles; stability; period-multiplying bifurcations; strange attractors; Poincare maps; Floquet theory; Lyapunov exponents; applications to mechanical and aerospace systems.

ECS-Mechanical/Matrls/Aersp

EML 6296 . MEMS Mechanism and Design

3(3,0). PR: EML 3500, EML 3601, EML 4142. Miniature Electro Mechanical Systems (MEMS) working mechanisms (mechanical, thermal, electric, piezoelectric, magnetic, etc.). Design rules. May be repeated for credit.

ECS-Mechanical/Matrls/Aersp

EML 6299 . Advanced Topics on Miniaturization

3(3,0). PR: EML 5060, EML 5211, or C.I. Advanced sensor and actuator devices, advanced micro-thermal systems, advanced topics on materials for MEMS, advanced topics on tribology for MEMS/NEMS, advanced topics on miniature power generation systems.

ECS-Mechanical/Matrls/Aersp

EML 6547 . Engineering Fracture Mechanics in Design

3(3,0). PR: EML 5237 or C.I. General understanding of elementary concepts. Practical application enabling useful prediction of fracture safety and characteristics. Some general knowledge of fracture mechanisms and fracture criteria.

ECS-Mechanical/Matrls/Aersp

EML 6712 . Mechanics of Viscous Flow

3(3,0). PR: EML 5060, EML 5713. Principal concepts and methods for viscous fluid motion. Incompressible

3(3,0). PR: EML 5152, EML 5713, or C.I. Convection heat, mass and momentum transfer in laminar and turbulent flows. Applications to the design of thermal systems.

ECS-Mechanical/Matrls/Aersp

EML 6158 . Gaseous Radiation Heat Transfer

3(3,0). PR: EML 6157. Development of Radiative Transfer Equation, radiative properties of gases, and solutions to gaseous radiation problems.

ECS-Mechanical/Matrls/Aersp

EML 6226 . Analytical Dynamics

3(3,0). PR: EML 5271. Kane method for kinematics and dynamics of particle and rigid bodies is developed and contrasted with Newton and Lagrange methods. Multibody dynamics.

ECS-Mechanical/Matrls/Aersp

EML 6295 . Sensors and Actuators for Micro Mechanical Systems

3(3,0). PR: EML 5060, EML 5211, or C.I. Introduction of smart materials and functional structures used for sensors and actuators in micromechanical systems.

Classifications of sensors and actuators. Physics of sensing and actuation. Evaluation of sensors and actuators.

Philosophy of selection of sensors and actuators for specific engineering requirements. Introduction of development of sensors and actuators in micromechanical systems.

ECS-Mechanical/Matrls/Aersp

EML 6297 . MEMS Characterization

3(3,0). PR: EML 5060, EML 5211, or C.I. Introduction of methods, techniques and philosophies being used to characterize MEMS for engineering applications.

Materials characterization, systems characterization (mechanical, electrical, optical, etc). Test methods and sample preparation. Test results analysis.

ECS-Mechanical/Matrls/Aersp

EML 6305C . Experimental Mechanics

3(2,2). PR: EML 4304, EML 5237. Selected topics in strain measurements, photoelasticity, holographic interferometry; laser speckle measurement; acoustic emission, measurement of correlation and coherence functions.

ECS-Mechanical/Matrls/Aersp

EML 6653 . Theory of Elasticity

3(3,0). PR: EML 5237. Review of stress and strain; solution by tensor stress and potential functions, axisymmetric problems; wave propagation.

ECS-Mechanical/Matrls/Aersp

EML 6725 . Computational Fluid Dynamics and Heat Transfer I

3(3,0). PR: EML 5152 or C.I. Finite Difference methods;

and compressible boundary layer analysis for laminar and turbulent flows.

ECS-Mechanical/Matrls/Aerosp

error and stability analysis; applications to model equations and further developments; matrix methods.

ECS-Mechanical/Matrls/Aerosp

EML 6726 . Computational Fluid Dynamics and Heat Transfer II

3(3,0). PR: EML 6725. Development of governing equations; turbulence modeling; numerical solution of Euler and potential equations, Navier-Stokes equations, and boundary layer equations; grid generation.

ECS-Mechanical/Matrls/Aerosp

EML 6808 . Analysis and Control of Robot Manipulators

3(3,0). PR: EML 4312, EML 5271, or C.I. Kinematics and dynamics of multibody systems, especially robot manipulators. Design and control of robot manipulators.

ECS-Mechanical/Matrls/Aerosp

EMR 6365 . Teaching Students with Mental Disabilities

3(3,0). Strategies for teaching students with mental disabilities: development, implementation, and evaluation of individualized plans; special approaches to teaching functional skills; developmental programming; data-based management.

ED-Child, Family & Comm Sci

ENC 5214 . Production and Publication Methods

3(3,0). PR: Graduate status or senior standing or C.I.

Theory and practice of production and publication methods for technical writers.

AS-English

ENC 5216 . Editing Professional Writing

3(3,0). PR: Graduate status or senior standing or C.I. The study of major issues in editing, including levels of edit, grammar and mechanics, visuals, style, and the impact of technology.

AS-English

ENC 5219 . Graphics in Technical Writing

3(3,0). PR: Graduate status or senior standing or C.I. A study of the creation and editing of graphics in technical documents.

AS-English

ENC 5225 . Theory and Practice of Document Usability

3(3,0). PR: Graduate status or senior standing or C.I.

Presents theory and practice of how document usability is assessed and improved.

AS-English

ENC 5237 . Writing for the Business Professional

3(3,0). PR: Graduate status or senior standing or C.I. A study of the major document designs for professionals in business, focusing on audience, purpose, style, arrangements, and content.

AS-English

ENC 5245 . Teaching Professional Writing

3(3,0). PR: Graduate status or senior standing or C.I.

Prepares students to determine writing needs of professional discourse communities, analyze those needs, and design in-house or freelance writing programs to address those needs.

AS-English

ENC 5256 . Gendered Rhetoric

3(3,0). PR: Graduate status or senior standing or C.I.

Questions women's and men's linguistic choices, the influence of medium and discipline of discourse, and consequences of status, power, and oppression.

AS-English

ENC 5276 . Writing/Consulting: Theory & Practice

3(3,0). PR: Graduate status or senior standing or C.I. The

theory and practice of assessing and responding to writing as a collaborator (as opposed to evaluator).

AS-English

ENC 5277 . Teaching Writing With Computers

3(3,0). PR: Graduate status or senior standing or C.I. To provide immersion in the theories and practices of writing in electronic spaces including current discourse conventions from speech and print media.

AS-English

ENC 5291 . Developing Professional Writing Projects

3(3,0). PR: Graduate status or C.I. Developing Professional Writing is a course in which students learn the basics of planning writing projects, including scheduling, budgeting, collaborative writing, production, and problem-solving.

AS-English

ENC 5306 . Persuasive Writing

3(3,0). PR: Graduate status or senior standing or C.I.

Theory and practice of writing persuasively.

AS-English

ENC 5335 . Rhetorical Traditions

3(3,0). PR: Graduate status or senior standing or C.I. To provide a foundation for research by familiarizing students with the chronological spectrum practice and

ENC 5337 . Modern Rhetorical Theory

3(3,0). PR: Graduate status or senior standing or C.I. With special attention to the rhetor-audience relationship, the course studies history and practice of modern rhetorical

theory of rhetoric form classical to contemporary times.
AS-English

theory.
AS-English

ENC 5338 . The Rhetorics of Public Debate
3(3,0). PR: Graduate status or senior standing or C.I. To examine how rhetorical theories further community goals, including activist, political, legislative, and other significant public debates.
AS-English

ENC 5344 . Proposal Writing
3(3,0). PR: Graduate status or senior standing or C.I. Theory and practice of writing proposals.
AS-English

ENC 5425 . Hypertext Theory and Design
3(3,0). PR: Graduate status, post bac, or senior standing, or C.I. Theoretical and practical study of the uses and premises of hypertext.
AS-English

ENC 5427 . Hypertext
3(3,0). PR: Graduate status or senior standing or C.I. A study of the theory and practice of computer-driven hypertext.
AS-English

ENC 5474 . Teaching Practicum
3(3,0). PR: ENC 5705, graduate status or senior standing, or C.I. To supplement and deepen theoretical and practical experiences during their first teaching semester, GTA's will participate in staff development and individual conferences with their mentors.
AS-English

ENC 5705 . Theory and Practice in Composition
3(2,1). PR: Graduate status or senior standing or C.I. Intensive study of theories of composition, with practical experience in the writing laboratory and in composition classes.
AS-English

ENC 5712 . Studies in Literacy and Writing
3(3,0). PR: Graduate standing or C.I. To study the theories of cultural and critical literacy, definitions of literacy, and current political issues in literacy studies.
AS-English

ENC 5945 . Community Literacy Practicum
3(3,0). PR: Graduate status or senior standing or C.I. Designed to deepen theoretical understanding of literacy through participation in a community literacy project.
AS-English

ENC 6217 . Technical Writing
3(3,0). Study of language, style, mechanics, graphics, and management necessary for technical editing.
AS-English

ENC 6244 . Teaching Technical Writing
3(3,0). The techniques and theories of teaching technical writing.
AS-English

ENC 6261 . Technical Writing, Theory and Practice
3(3,0). A study of major trends in technical communication theory and the practices this theory generates.
AS-English

ENC 6292 . Project Management for Technical Writers.
3(3,0). Managing a writing project from inception to production; planning, budgeting, personnel, writing, and editing.
AS-English

ENC 6296 . Computer Documentation
3(3,0). The theory and practice of producing software documentation from planning through production.
AS-English

ENC 6337 . Contemporary Rhetoric and Composition Theory
3(3,0). PR: Graduate standing or C.I. Instruction on politics of Basic Writing programs, rhetoric, ideology and cultural production, Poststructuralism and rhetoric or Feminist pedagogies. May be repeated for credit.
AS-English

ENC 6426 . Visual Texts & Technology
3(3,0). PR: Graduate standing. Studies visual dimensions of the texts of digital discourse.
AS-English

ENC 6428 . Rhetoric of Digital Literacy
3(3,0). PR: Graduate standing or C.I. Grad Standing or permission. Studies rhetorical dimensions of digital discourse.
AS-English

ENC 66339 . Rhetorical Movements
3(3,0). PR: Graduate standing or C.I. To study the principal rhetorical theories of the classical period and rhetoric of the eighteenth and nineteenth centuries. May be repeated for credit.
AS-English

ENC 6702 . Issues in Writing Assessment
3(3,0). PR: Graduate standing or C.I. To gain experience with the theory and practice of writing assessment, is more than testing: it involves a wide range of issues in rhetoric and composition.
AS-English

ENG 5009 . Methods of Bibliography and Research
3(3,0). PR: Graduate status or senior standing or C.I. Bibliographical, library and systematic approaches to research at the graduate level in language and literature. AS-English

ENG 6800 . Introduction to Texts and Technology
3(3,0). PR: Graduate standing or C.I. Basic concepts of graduate study in Texts and Technology. AS-English

ENG 6810 . Theories of Texts and Technology
3(3,0). PR: Acceptance into the Texts & Technology program, graduate standing, or C.I. Introduces general theoretical concepts as a basis for the advanced study of texts and technology. AS-English

ENG 6812 . Research Methods for Texts and Technology
3(3,0). PR: Acceptance into the Texts & Technologies program, graduate standing, or C.I. Prepares students to design, conduct, and critique empirical research in textual technologies, broadly conceived. AS-English

ENG 6939 . Topics in Text and Technology
3(3,0). PR: Graduate standing or C.I. Experimental methods of writing and research, possibly including photography, cinema, Internet, and other transformations of narrative form. May be repeated for credit 2 times. AS-English

ENG 6948 . Teaching Practicum in Texts and Technology
3(3,0). PR: Admission to T&T PhD. Provides instructor and peer support for first teaching of an online course. Online courses include Web-based, Media-enhanced, Web-enhanced, and computer lab-based courses. Graded S/U. AS-English

ENL 5237 . Eighteenth Century Studies
3(3,0). PR: Graduate status or senior standing or C.I. Reading, analysis, and discussion of literature in English: 1660-1880. AS-English

ENL 5256 . Victorian Literature
3(3,0). PR: Graduate status or senior standing or C.I. A study of the major prose works and selected poetry of British Victorian writers. AS-English

ENL 5347 . The Age of Milton
3(3,0). PR: Graduate status or senior standing or C.I.

ENG 5018 . Literary Criticism
3(3,0). PR: Graduate status or senior standing or C.I. Historical survey of major critics from classical antiquity to the modern era. AS-English

ENG 6801 . Texts and Technology in History
3(3,0). PR: Acceptance into the Texts and Technology Program, graduate standing, or C.I. Explores the history of relations between the texts & technology. We examine how various technologies have influenced the nature of texts they produce. AS-English

ENG 6811 . Cultural Contexts in Texts and Technology
3(3,0). PR: Graduate standing or C.I. Selected cultural contexts in which texts and technologies converge and where reciprocal mediation, definition, or transformation occurs. AS-English

ENG 6813 . Teaching Online in Texts and Technology
3(3,0). PR: Graduate standing. Pedagogical theory and practices to design online and electronic courses and curricula. Students learn strategies and construct pedagogical theories and best practices. Graded S/U. AS-English

ENG 6947 . Internship in Texts and Technology
3(3,0). PR: Admission to T&T PhD program. Internship in opportunity to integrate practical experience with theory and content from Texts and Technology program. Graded S/U. AS-English

ENL 5006 . British Literature: Medieval to Modern
3(3,0). PR: Graduate status or senior standing or C.I. Survey of British Literature from beginnings to present, with instruction in the fundamentals of prose, poetry, and drama. Emphasis on Literature's social and historical contexts. AS-English

ENL 5250 . The Victorian Age: Poetry
3(3,0). PR: Graduate status or senior standing or C.I. Poets of the Victorian period, including Tennyson, the Brownings, Arnold, Hopkins, Hardy, the Rossettis, Emily Bronte, and others. AS-English

ENL 5335 . Studies in Shakespeare
3(3,0). PR: Graduate status or senior standing or C.I. A selection of representative plays, with emphasis on Shakespeare's development as an artist: aesthetics of dramatic literature. AS-English

ENL 6217 . Gender and the Medieval Text
3(3,0). PR: Graduate status or C.I. Introduction to

Emphasis on the non-dramatic works of John Milton. Selections from the non-dramatic works of other 17th-century figures.
AS-English

Medieval studies and gender studies together. Readings in middle and modern English.
AS-English

ENV 5071 . Environmental Analysis of Transportation Systems
3(3,0). PR: CWR 3201; ENV 3001. Prediction and abatement of pollution from transportation sources. Analysis techniques and environment laws.
ECS-Civil & Environmental

ENV 5116C . Air Pollution Monitoring
3(2,3). PR: C.I. Air Pollution sampling techniques, equipment, and monitor siting. Emphasis on theory and direct applications in air pollution monitoring.
ECS-Civil & Environmental

ENV 5334 . Characterization of Hazardous Waste Sites
3(3,0). PR: CWR 4101C and ENV 4341 or C.I. Practical and comprehensive methods of hazardous waste site characterization to determine site properties, contamination type, magnitude and risk, and remedial actions.
ECS-Civil & Environmental

ENV 5335 . Hazardous Waste Management
3(3,0). PR: ENV 3001 or C.I. Engineering planning and analysis associated with the handling, storage, treatment, transportation, and disposal of hazardous wastes.
ECS-Civil & Environmental

ENV 5410 . Drinking Water Treatment
3(3,0). PR: ENV 4561. Drinking water treatment using existing and newly developed processes. Fe, Mn, As, NO₃, DBP₃, SOCs and other contaminants using oxidation, membranes, ion exchange, precipitation, sorption, and other processes.
ECS-Civil & Environmental

ENV 5505 . Sludge Management Operations in Environmental Engineering
3(3,0). PR: ENV 4561. Theory and design of sludge management operations and processes in environmental engineering, including stabilization dewatering and ultimate disposal.
ECS-Civil & Environmental

ENV 6015 . Physical/Chemical Treatment Systems in Environmental Engineering
3(3,0). PR: ENV 4561 and EES 4202C or C.I. Theory and design of physical and chemical operations and processes in environmental engineering using latest technologies.
ECS-Civil & Environmental

ENV 6016 . Biological Treatment Systems in Environmental Engineering
3(3,0). PR: EES 4111C and ENV 4561 or C.I. Theory and design of biological operations and processes in environmental engineering using the latest technologies.
ECS-Civil & Environmental

ENV 6046 . Membrane Mass Transfer
3(3,0). PR: ENV 6015 or C.I. Introduction to modeling of mass transfer in membrane systems; membrane morphology, mathematical development of mass transfer coefficients; fouling mechanisms, system modeling, and applications.
ECS-Civil & Environmental

ENV 6055 . Fate and Transport of Subsurface Contaminants
3(3,0). PR: EES 4111C, EES 4202C, CWR 5125. Principal concepts and modeling of the physical, chemical, and biological transport and transformation processes for subsurface contaminants.
ECS-Civil & Environmental

ENV 6058 . Particle Processes in Aquatic Systems
3(3,0). PR: EES 4202 or equivalent. Concepts of colloidal and interfacial processes in aquatic systems with their applications to environmental engineering.
ECS-Civil & Environmental

ENV 6106 . Theory and Practice of Atmospheric Dispersion Modeling
3(3,0). PR: C.I. Atmospheric composition and dynamics. Engineering methods of mathematical modeling, both for point source and mobile source. Current computer models will be used.
ECS-Civil & Environmental

ENV 6126 . Design of Air Pollution Controls
3(3,0). Current methods for engineering design and performance analysis of air pollution control equipment to include scrubbers, baghouses, electrostatic precipitators, VOC incinerators, others.
ECS-Civil & Environmental

ENV 6336 . Site Remediation and Hazardous Waste Treatment
3(3,0). PR: EES 4111C, EES 4202C, and ENV 4561 or C.I. Biological and physical/chemical remediation technologies, including theory and application, for groundwater and hazardous wastes.
ECS-Civil & Environmental

ENV 6347 . Hazardous Waste Incineration

ENV 6504I . Unit Operation and Processes

3(3,0). Theory and applications of design and operations of hazardous waste incinerators. Includes detailed consideration of air pollution control equipment.
ECS-Civil & Environmental

Laboratory

3(1,6). PR: ENV 6015 or equivalent. Bench and small pilot plant experimentation with sedimentation, coagulation, sorption gas-stripping, oxidation ion-exchange, etc. in water, waste-water industrial waste, or hazardous waste treatment.
ECS-Civil & Environmental

ENV 6515L . Biological Unit Operations and Processes Laboratory

3(1,6). PR: ENV 6016. Unit operations laboratory for biological processes in wastewater treatment, drinking water and remediation including obtaining biokinetic parameters in treatability studies biostability.
ECS-Civil & Environmental

ENV 6519 . Aquatic Chemical Processes

3(3,0). PR: EES 4202C and EES 4111C or C.I. The applicability of water chemistry and physical chemistry on natural waters and waste-water with emphasis on environmental engineering problems.
ECS-Civil & Environmental

ENV 6558 . Industrial Waste Treatment

3(3,0). PR: ENV 4561. Theories, methods, unit operations of management, reduction, treatment, disposal of industrial wastes.
ECS-Civil & Environmental

ENV 6616 . Receiving Water Impacts

3(3,0). PR: EES 4202C and EES 4111C or C.I. Study of fate and transport of pollutant loadings into receiving waters, based on physical, chemical, and biological interactions in natural systems.
ECS-Civil & Environmental

EPH 5335 . Physical and Sociological Implications of Handicapping Conditions

3(3,0). Overview of physical and sociological factors which may contribute to delayed learning or physical impairments in the exceptional populations. Physical interventions and first-aid practices are examined.
ED-Child, Family & Comm Sci

ESE 5214 . Secondary School Curriculum Improvement I

3(3,0). PR: Regular Certificate or C.I. Secondary School self studies for curriculum projects, accreditation reports, or staff development.
ED-Teaching & Learning Princ

ESE 6235 . Curriculum Design

3(3,0). PR: Basic Teacher Certificate or C.I. Goal analysis, task analysis, needs assessment, and writing performance objectives for developing courses of study.
ED-Educational Studies

ESE 6416 . Curriculum Evaluation

3(3,0). PR: ESE 6235 or an equivalent curriculum course.
ED-Educational Studies

ESI 5219 . Engineering Statistics

3(3,0). PR: C.I. Discrete and continuous probability distributions, hypothesis testing, regression, nonparametric stats and ANOVA.
ECS-Industrial & Management

ESI 5227 . Total Quality Improvement

3(3,0). PR: STA 3032 or equivalent. Quality improvement (QI) tools and techniques, advanced QI techniques, quality improvement systems, total quality management concepts and implementation, planning and management tools, and case studies.
ECS-Industrial & Management

ESI 5236 . Reliability Engineering

3(3,0). PR: ESI 4234 or equivalent, or C.I. Reliability theory and modeling approaches. Topics include: failure data analysis, maintainability, reliability standards (DOD), software reliability, reliability in design, and electronic systems reliability.
ECS-Industrial & Management

ESI 5315 . Research Foundations for IE and OR Modeling

3(3,0). PR: MAP 2302; ESI 5219 or equivalent; ESI 4312; and C.I. Research foundations for IE/OR modeling, including constructive analysis of published research, methods of proof, research foundations in decision theory, optimization, and related areas.
ECS-Industrial & Management

ESI 5316 . Operations Research

3(3,0). PR: STA 3032. Methods of operations research, including formulation for models and derivation of solutions; linear programming, network models queueing theory, simulation, and nonlinear optimization techniques.
ECS-Industrial & Management

ESI 5359 . Risk Assessment and Management

3(3,0). PR: ESI 5219 or STA 3032. Problems and complexities involved in risk assessment and management. Selected methodologies are illustrated through realistic applications in engineering and the sciences.
ECS-Industrial & Management

ESI 5419C . Engineering Applications of Linear and Nonlinear Optimization

3(2,2). PR: ESI 4312 or ESI 5316. Course covers linear and nonlinear optimization applications in production planning, staffing, engineering design, distribution networks, and other engineering areas. Focuses on practicing OR analysts.

ECS-Industrial & Management

ESI 5451 . Network Based Project Planning, Scheduling, and Control

3(3,0). PR: ESI 4312 or ESI 5316. Probabilistic and deterministic approaches for planning, scheduling, and controlling complex, large-scale projects. PERT, CPM, resource leveling, risk analysis.

ECS-Industrial & Management

ESI 5531 . Discrete Systems Simulation

3(3,0). PR: STA 3032. Methods for performing discrete systems simulation, including network modeling, will be treated.

ECS-Industrial & Management

ESI 6217 . Statistical Aspects of Digital Simulation

3(3,0). PR: ESI 5219 or C.I. Statistical issues in digital simulation including input data analysis, pseudorandom number generation, experimental design, and simulation output analysis.

ECS-Industrial & Management

ESI 6224 . Quality Management

3(3,0). PR: STA 3032 or equivalent or C.I. Philosophy and concepts of quality management, organization for quality, quality cost, quality audits and corrective actions, tools and techniques for improvement.

ECS-Industrial & Management

ESI 6225 . Quality Design and Control

3(3,0). PR: STA 3032 or equivalent. Concepts and methods for quality design and control, including statistical process control (SPC), control charts, process capability, product and process design and improvement, Taguchi methods, case studies. May be repeated for credit.

ECS-Industrial & Management

ESI 6247 . Experimental Design and Taguchi Methods

3(3,0). PR: STA 3032 or ESI 4234. Introduction to Taguchi concepts and methodologies, use of design of experiments for quality design and improvement.

ECS-Industrial & Management

ESI 6336 . Queueing Systems

3(3,0). PR: ESI 5219. Analysis of queueing systems and waiting line problems using analytical and Monte Carlo methods. Laboratory assignments.

ECS-Industrial & Management

ESI 6358 . Decision Analysis

3(3,0). PR: ESI 4312 or ESI 5316. Classical Bayesian analysis; utility and its measurement; multiattribute utility methods; influence diagrams; Analytic Hierarchy Process; behavioral aspects; simulation.

ECS-Industrial & Management

ESI 6427 . Linear Programming and Extensions

3(3,0). PR: ESI 4312 or ESI 5316. Simplex and Revised Simplex Method; interior-point methods; duality; large-scale optimization; decomposition algorithms; upper bounds; linearization; parametric LP; goal programming.

ECS-Industrial & Management

ESI 6437 . Nonlinear Mathematical Programming and Dynamic Programming

3(3,0). PR: ESI 4312 or ESI 5316. Optimal conditions and algorithms for unconstrained and constrained nonlinear problems. Introduction to dynamic programming approach to multistage problems.

ECS-Industrial & Management

ESI 6448 . Network Analysis and Integer Programming

3(3,0). PR: ESI 6427. Modeling and solution methods for problems that can be formulated in terms of flow in networks and for discrete optimization problems.

ECS-Industrial & Management

ESI 6529 . Advanced Systems Simulation

3(3,0). PR: ESI 5531. Combined networks discrete and continuous simulation, applications, statistical analysis and comparison of simulation languages.

ECS-Industrial & Management

ESI 6532 . Object-Oriented Simulation

3(2,2). Object-oriented modeling and development techniques for building large process-based discrete event simulation models. Concurrency in discrete event simulation. Object-oriented simulation environment.

ECS-Industrial & Management

ESI 6546 . Process Simulation

3(3,0). PR: MAP 2302. Basic principles of steady state and dynamic process simulation. Software and hardware trends. Math approaches using ordinary differential equations and differential-algebraic equations.

ECS-Industrial & Management

ESI 6551C . Systems Engineering

3(2,2). PR: ESI 4312 or ESI 5316. Integration and application of systems science, operations research, systems methodologies, and systems management for the design, production, and maintenance of efficient, reliable systems.

ECS-Industrial & Management

ESI 6001 . Seminar in Advanced Operations**ESI 6001 . Operations Research Practicum**

Research

3(3,0). PR: ESI 6427 or C.I. Topical seminar. Potential topic areas include tabu search, genetic algorithms, simulated annealing, neural networks. Analytic Hierarchy Process, and methods for large-scale optimization.
ECS-Industrial & Management

6(2,10). PR: C.I. Involves full-time participation and experience in an organization conducting operations research analyses.

ECS-Industrial & Management

EUH 5247 . Colloquium in Europe from 1919-1939

3(3,0). PR: Graduate status or senior standing or C.I. Reading and class discussion of the literature on selected topics in European history between 1919 and 1939.
AS-History

EUH 5285 . Colloquium in Europe Since World War II

3(3,0). PR: Graduate status or senior standing or C.I. Reading and class discussion of the literature on selected topics in European history since WW II.
AS-History

EUH 5371 . Colloquium in Spanish History

3(3,0). PR: Graduate status or senior standing or C.I. Reading and class discussion of the literature on selected topics in Spanish history.
AS-History

EUH 5415 . Rome and Early Christianity

3(3,0). PR: Graduate standing or C.I. Current trends in historical literature in christianity from its development as a distinct religion to its relations with and eventual "triumph" within the Roman Empire.
AS-History

EUH 5546 . Colloquium: British History

3(3,0). PR: Graduate status or senior standing or C.I. Selected topics in British history. May be repeated for credit when content is different. There is no standard syllabus because content is different with each offering.
AS-History

EUH 5579 . Colloquium in Soviet Russia

3(3,0). PR: Graduate status or senior standing or C.I. Reading and class discussion of the literature on selected topics in Russian history, 1911-present.
AS-History

EUH 5595 . Colloquium in Czarist Russia

3(3,0). PR: Graduate status or senior standing or C.I. Selected topics on the literature of Russia under the Czars prior to 1917.
AS-History

EUH 5608 . Colloquium European Intellectual History

3(3,0). PR: Graduate status or senior standing or C.I. Reading and class discussion of the literature on selected topics of European intellectual history.
AS-History

EUH 6939 . Seminar in European History

3(3,0). Research seminar on selected topics in European history. May be repeated for credit when content is different.
AS-History

EVR 5930 . Seminar in Conservation Issues

1(1,0). PR: Graduate status or senior standing or C.I. Contemporary topics stressing a broad base of conservation issues will be the focus of this seminar series. May be repeated for credit, as course content will differ.
AS-Biology

EVT 5260 . Cooperative Programs in Vocational Education

2-4(2-4,0). PR: Regular Certificate or C.I. Study of cooperative vocational programs and achievement of competencies needed to establish, manage, and coordinate co-op program activities in all vocational areas.
ED-Teaching & Learning Princ

EVT 5561 . Student Guidance in the Vocational Program

2-3(2-3,0). PR: Basic Teacher Certificate or C.I. Achievement of skills used by teachers as they gather student data, confer with students, and help students plan for employment or further education.
ED-Teaching & Learning Princ

EVT 5817 . Management of Vocational Programs

2-4(2-4,0). PR: Rank III Certificate or C.I. Study and achievement of selected competencies needed by vocational teachers, supervisors, and local administrators in the management of vocational education programs in the schools.
ED-Teaching & Learning Princ

EVT 6264 . Administration in Vocational Education

3(3,0). PR: Basic Teacher Certificate or C.I. Administrative responsibilities in a local program of vocational education that includes two or more fields of occupational education.
ED-Teaching & Learning Princ

EVT 6265 . Supervision in Vocational Education

3(3,0). PR: Basic Teacher Certificate or C.I. Supervisory techniques for planning and implementing improvement of staff, curriculum, and personal relations in vocational education

EVT 6267 . Vocational Program Planning, Development, and Evaluation

2-4(2-4,0). PR: Basic Teacher Certificate or C.I. Achievement of selected teacher competencies related to program objectives, courses of study, long-range plans

ED-Teaching & Learning Princ

and techniques for evaluating vocational program effectiveness.

ED-Teaching & Learning Princ

EVT 6664 . School/Community Relations for Vocational Education

2-4(2-4,0). PR: Basic Teacher Certificate or C.I. Achievement of proficiency in the use of media techniques to promote the vocational program. Development and maintenance of productive relationships between school and community groups. ED-Teaching & Learning Princ

EXP 5067 . Human Factors and Aging

3(3,0). PR: Graduate status, post-bac, or senior standing or C.I. An overview of issues related to enhancing quality of life of elderly through the implementation of basic human factors principles in environmental and task design. AS-Psychology

EXP 5208 . Sensation and Perception

3(3,0). PR: Graduate status or senior standing or C.I. A study involving human information processing with regard to physical and psychological variables in sensory and perceptual phenomena. AS-Psychology

EXP 5256 . Human Factors I

3(3,0). PR: Graduate status or senior standing or C.I. Survey of human factors literature. Introduction to topics including human capabilities and human interfaces with human-machine systems. AS-Psychology

EXP 5445 . Psychology of Learning and Motivation

3(3,0). PR: DEP 5057, and graduate status or senior standing or C.I. Examination of theories and research concerning the acquisition and retention of behavior, as well as motivational factors which influence learning and behavior. AS-Psychology

EXP 6116 . Visual Performance

3(3,0). PR: EXP 5208 or C.I. The psychology, physics and physiology of vision with an emphasis on the human visual response and applications of vision research. AS-Psychology

EXP 6126 . Psychoacoustics

3(3,0). PR: Graduate standing. The psychology, physics, and physiology of hearing and the auditory system. AS-Psychology

EXP 6255 . Human Performance

3(3,0). PR: C.I. Human performance dimensions and concepts of assessment of human capabilities; performance acquisition, information processing and decision making; applications of principles to the understanding of stress and performance effectiveness. AS-Psychology

EXP 6257 . Human Factors II

3(3,0). PR: EXP 5256 (HFI). The second in the series of basic human factors courses involving an in-depth examination of issues. AS-Psychology

EXP 6258 . Human Factors III

3(3,0). PR: EXP 5256, EXP 6257. The third in the series of basic human factors courses. Current topics in human factors, exchange of information on practical field experience in human factors. AS-Psychology

EXP 6506 . Human Cognition and Learning

3(3,0). PR: EXP 3404 and EXP 3513. Research and theory relating to attention, memory, problem solving, and reasoning. AS-Psychology

EXP 6541 . Advanced Human-Computer Interaction

3(3,0). PR: EIN 6258 or C.I. Principles and guidelines of advanced human-computer interaction as they apply to a variety of complex Human-Machine Systems. AS-Psychology

EXP 6938 . Teaching Seminar

3(3,0). PR: C.I. Orientation to and supervision in teaching assigned courses. AS-Psychology

EXP 6946 . Human Factors Internship

8(0,12). PR: EXP 5256, EXP 6257, PSY 6216, PSY 6217, EXP 6255, or C.I. Supervised placement in an industrial, governmental, or consulting setting. Student completes a specific project under the supervision of an organizational sponsor and a faculty member. AS-Psychology

FIL 5609 . Film and Internet Business

3(3,0). PR: Graduate status or senior standing or C.I. Survey of the business of financing and distributing films. Explores various, including feature films, short films, television documents and the Internet

FIN 5405 . Financial Concepts

3(3,0). PR: Acceptance into the graduate program, ACG 5005 and ECO 5005 and ECO 5415 or equivalents. Effects of financial decisions upon the firm, interrelationships of these effects and alternatives available to financial

AS-Film Program

managers in making these financial decisions.
BA-Finance

FIN 5407 . Financial Foundations

1.5(1.5,0). PR: Acceptance to graduate study, ACG 5005 and ECO 5006. Effects of financial decisions upon the firm, interrelationships of these effects and alternatives available to financial managers in making these financial decisions.
BA-Finance

FIN 6314 . Management of Financial Institutions

3(3,0). PR: Graduate standing and FIN 6406. Analysis of management policies of financial institutions including asset, liability, and capital management. Study of the legal, economic, and regulatory environment faced by banks.
BA-Finance

FIN 6406 . Strategic Financial Management

3(3,0). PR: MBA Professional Core I. Emphasis on the theory and analytical techniques associated with the major financial decisions of corporate management, including risk analysis, capital budgeting, short- and long-term financial management.
BA-Finance

FIN 6425 . Asset Management and Financial Decisions

3(3,0). PR: Graduate standing and FIN 6406. Considers the interrelated decision-making process of asset allocations, corporate fundraising, dividend policies, and market maximization.
BA-Finance

FIN 6475 . Business Valuation

3(3,0). PR: Graduate standing and FIN 6406. Theory and practice of estimating the value of small, closely held businesses.
BA-Finance

FIN 6515 . Analysis of Investment Opportunities

3(3,0). PR: Graduate standing and FIN 6406. Deals with the theory and tools of analysis required in the management of financial assets.
BA-Finance

FIN 6536 . Seminar in Investments

3(3,0). PR: Graduate standing, FIN 6406, and FIN 6515. Analysis of options, futures, and other derivative securities and their use in hedging strategies. Other topics include institutional equity and bond portfolio management techniques.
BA-Finance

FIN 6605 . International Financial Management

3(3,0). PR: ECO 6416, FIN 6406. The theory of finance as applied to the operations of multinational firms and international capital markets.
BA-Finance

FIN 7807 . Corporate Finance Theory

3(3,0). PR: Admission to the Business doctoral program and FIN 6406 or equivalent, ECO 6416 or equivalent, or C.I. Elaborate coverage of significant theoretical/classical literature and review of empirical literature to provide a sound framework of conceptual knowledge for doctoral students.
BA-Finance

FIN 7811 . Seminar in Financial Markets and Institutions

3(3,0). PR: Admission to Business doctoral program and FIN 6406 or equivalent, ECO 6416 or equivalent, and C.I. Extensive study of the theoretical and empirical literature dealing with current theory of the operation of financial markets and financial intermediaries.
BA-Finance

FIN 7816 . Investment Theory

3(3,0). PR: Admission to Business doctoral program, FIN 7807, QMB 7565, and C.I. Extensive coverage of theoretical and empirical literature dealing with modern investment thought, portfolio theory, capital market equilibrium, and related topics.
BA-Finance

FIN 7915 . Directed Research in Finance

3(3,0). PR: Admission to the business doctoral program, FIN 7811, FIN 7816, and C.I. Advanced study of theory and evidence in specialized areas of finance. Study designed to lead toward student's dissertation. By definition, topical areas will vary.
BA-Finance

FIN 7930 . Seminar in Finance

3(3,0). PR: Admission to the business doctoral program, FIN 7811, FIN 7816, and C.I. Study of private sector financial theory, policy, empires, and decision-making.
BA-Finance

FLE 5335 . Foreign Language Methods at the Elementary Level

3(3,0). PR: C.I. or FLE 4333 or FLE 5870, EDG 4323 or EDG 6236, and fluency in target language and English. Methods of planning and teaching foreign language at the elementary level. The emphasis is on teaching communicatively and on integrating culture in the K-6 classroom. May be repeated for credit.
ED-Teaching & Learning Princ

FLE 5870 . Methods of Teaching Foreign Languages

3(3,0). PR: Graduate status or senior standing or C.I. This

FLE 5875 . Computer Applications in Teaching Foreign Languages

course introduces prominent theories and applied research in the field of second language acquisition. It also offers guidance in the practical matters of teaching lower division language courses at university and community college levels.

AS-Foreign Languages

FLE 6455 . Curriculum and Materials in Foreign Language Teaching

3(3,0). PR: FLE 4333 (Foreign Language Teaching in the Secondary School) or teaching experience. Fluency in the target language and English. A review of contemporary curricular designs as they pertain to teaching foreign languages, with attention being directed to the development of new programs and materials.

ED-Teaching & Learning Princ

FLE 6705 . Testing and Evaluation in Foreign Language Education

3(3,0). PR: FLE 4333 (Foreign Language Teaching in the Secondary School) or teaching experience. Fluency in the target language and English. General principles of test construction and administration in foreign language instruction, including practical experience in test analysis and the preparation of valid test items.

ED-Teaching & Learning Princ

GEB 5941 . Professional Business Practicum

1.5(1.5,0). PR: Acceptance in the graduate program. The practicum is to provide a professional business work experience for students entering the MBA program without such experience.

BA-College-BA

GEB 6115 . Entrepreneurship

3(3,0). PR: Graduate standing. Seminar on topics concerning the entrepreneurial process in small and large organizations, including needs assessment, sources and methods of innovation, financing, and barriers to entrepreneurship.

BA-Marketing

GEB 6367 . The Global Environment of Sport

3(3,0). PR: CBA Masters Program of Study Foundation Core, and acceptance into the Sport Business Management program. With the continuing development of sport as a global enterprise comes the need to understand the global environment. The focus of this course is on the international business environment and how sport may best operate within that environment.

BA-College-BA

GEB 6443 . Sport and Social Issues

1.5(1.5,0). PR: CBA Master's program of study foundation core, and acceptance into the Sport Business Management program. Provides a broad understanding of how social issues impact sport and how sport impacts

3(3,0). PR: Graduate status or senior standing or C.I. Survey, analysis, and evaluation of computer software and Internet materials for teaching foreign languages.

AS-Foreign Languages

FLE 6695 . Professional Development in Foreign Language Education

3(3,0). PR: FLE 4333 (Foreign Language Teaching in the Secondary School) or teaching experience. Fluency in the target language and English. Introduction to the professional development of the foreign language educator by means of instruction in action research, grant writing, and writing for publication/conference presentation.

ED-Teaching & Learning Princ

FSS 6365 . Management of Food Service Operations

3(3,0). PR: Graduate standing. The examination of techniques and mechanisms employed in the management of food service operations. Comparisons, case studies, and selected topics focus on private and public operations.

UCF-Hospitality Management

GEB 5954 . Entrepreneurship Field Project

3(3,0). PR: C.I. Technical and business students partner to provide feasibility assessments or business plans related to emerging business opportunities.

BA-Management

GEB 6365 . International Business Analysis

3(3,0). PR: MBA Professional Core I. Extensive coverage of international business environment with emphasis on the functional operation of multinational firms.

BA-Finance

GEB 6442 . Moral and Ethical Issues in Sport

1.5(1.5,0). PR: CBA Master's program of study foundation core, and acceptance into the Sport Business Management program. Broad understanding of the moral and ethical issues in sport including a special focus on the responsibility of governing bodies and decision-makers in sport including faculty, coaches, athletic directors, presidents, league commissioners, the NCAA, and the media. Issues will also include equity for women and people of color, academic abuses of student-athletes at the high school and college level, illegal recruitment of student-athletes, use of performance enhancing drugs, agents, and gambling.

BA-College-BA

GEB 6895 . Business Analysis

1.5(1.5,0). PR: CBA Master's program of study foundation core. Emphasis on analytical techniques suited for business analysis and decision-making. Includes topics on forecasting, working capital management, and small

society. Included will be an historical overview of sport, athletes' rights, race and gender in sport, the Olympics and international sport, youth sport, the commercialization of sport, and the influence of the media on sport.

BA-College-BA

business finance.
BA-Finance

GEB 6897 . Managing Challenges in Service Organizations

1.5(1.5,0). PR: Admission to MBA program. Course explores the challenge of managing service organizations. Topics include: customer expectations, satisfaction, loyalty, retention, strategy, research, promotion, staffing, and service delivery systems.
BA-Marketing

GEB 6936 . Business of Sport Media

3(3,0). PR: CBA Master's program of study foundation core, and acceptance into the Sport Business Management program. History of how media has evolved from radio, network television and magazines into the multi-dimensional world of regional and national cable, the internet, the networks, huge rights fees and other new elements. The way sports media provides so much of the revenue for sports as an entertainment industry has made it the anchor for the sports industry.
BA-College-BA

GEB 7910 . Research Methods in Business

3(3,0). PR: Admission to Business doctoral program and ECO 6416 or equivalent, or C.I. A foundation research course in business, exposing students to a full range of research experiences.
BA-Economics

GEB 7932 . Business Ph.D. Foundations

3(3,0). PR: Admission to the Ph.D. Program. A multidisciplinary introduction to doctoral-level study of business administration.
BA-Economics

GEO 6472 . World Political Geography

3(3,0). PR: Graduate standing or C.I. Examination of the theoretical foundations of world political geography, the elements comprising it, and the comparative regional representations.
AS-Political Science

GEY 5007 . Women and Healthy Aging

3(3,0). PR: Graduate standing or senior undergraduate. The examination of the health promotion opportunities and bio-psycho-social challenges of women as they age.
HPA-Nursing

GEY 5600 . Physiology of Aging

3(3,0). PR: BSC 2010C or PCB 3703C or PET 4351 or equivalent. The purpose of this course is to develop the student's understanding of the effects of human aging on various body systems.
ED-Teaching & Learning Princ

GEY 5648 . Gerontology: An Interdisciplinary Approach

3(3,0). PR: Graduate status or senior standing or C.I. The study of aging will be presented from a man interdisciplinary and multidisciplinary approach spanning the social sciences and health.
AS-Psychology

HFT 6228 . Critical Issues in Hospitality Human Resources

3(3,0). PR: Graduate student status. Analysis of HR critical factors affecting operation and profitability of hospitality enterprises. Examination of emotional labor, empowerment, burnout, service orientation, turnover, absenteeism, compensation.
UCF-Hospitality Management

HFT 6245 . Managing Hospitality and Guest Services Organizations

3(3,0). PR: Graduate standing. Analysis of the unique problems of managing organizations in hospitality and guest services industry.
UCF-Hospitality Management

HFT 6247 . Organizational Communication in Hospitality/Tourism Enterprises

3(3,0). PR: Graduate standing. Developing the ability to view communication as an essential skill for demonstrating the knowledge in the areas of hospitality of guest service management, hospitality marketing, and hospitality finance and accounting.
UCF-Hospitality Management

HFT 6251 . The Management of Lodging Operations

3(3,0). PR: Acceptance into the graduate program. Presentation and analysis of the unique management techniques applicable in the diverse segments of the lodging industry.
UCF-Hospitality Management

HFT 6259 . Case Studies in Lodging Management

3(3,0). PR: Graduate standing. The case study approach is used to analyze and integrate the various management

HFT 6267 . Case Studies in Restaurant Management

3(3,0). PR: Graduate standing. This elective course will allow students to apply the principles of management

human resource, and service department functions that comprise a hotel's operation.
UCF-Hospitality Management

HFT 6296 . Hospitality/Tourism Strategic Issues
3(3,0). PR: Enrollment limited to graduating Hospitality Management graduate students. Capstone experience with strategic decision-making principles in hospitality/tourism. Application of skills, knowledge and understanding of areas of concern for formulating and implementing operational strategies.
UCF-Hospitality Management

HFT 6347 . Advanced Vacation Ownership Resort Planning
3(3,0). PR: Graduate standing. In-depth study of the tools and techniques available for project feasibility and investment.
UCF-Hospitality Management

HFT 6476 . Feasibility Studies for the Hospitality/Tourism Enterprises
3(3,0). PR: Graduate standing. Exploration of the many and varied facets of the economic decision making process as it applies to hospitality projects. Components of a financial feasibility study are analyzed as an aid to the decision making process of an investment in the hospitality industry.
UCF-Hospitality Management

HFT 6526 . Vacation Ownership Resort Sales Management
3(3,0). PR: Graduate standing. Application and analysis of competitive sales management strategies via the use of critical thinking models, decision-making simulations, and field operation procedures commonly used to manage the sales process.
UCF-Hospitality Management

HFT 6533 . Hospitality/Tourism Industry Brand Management
3(3,0). PR: Graduate standing. This elective course will introduce graduate students to critical topics, both theoretical and applied, that demonstrate why brands are important to consumers of hospitality and tourism services and, consequently, for the successful management of hospitality and tourism corporations.
UCF-Hospitality Management

HFT 6596 . Strategic Marketing in Hospitality and Tourism
3(3,0). PR: Graduate standing. An examination of the role of marketing strategy within the overall strategic planning process of hospitality/tourism organizations. Topics such as marketing environments, competition analysis, consumer behavior, product/service mix, differentiation, segmentation, target marketing, positioning, relationship marketing, and strategic alliances are studied and analyzed.
UCF-Hospitality Management

analysis, and planning that they have learned in their prior coursework to issues in multi-unit restaurant operations.
UCF-Hospitality Management

HFT 6319 . Convention Center Management
3(3,0). PR: Graduate standing. Exploration of the major components of center management, including finance, legal issues, facilities operation, marketing, event logistics and working with suppliers and vendors.
UCF-Hospitality Management

HFT 6446 . Hospitality/Tourism Information Technology
3(3,0). PR: Graduate student status. Analysis and design of hospitality/tourism industry information systems. Data management, system implementation and current trends in hospitality/tourism technology are discussed.
UCF-Hospitality Management

HFT 6477 . Financial Analysis of Hospitality Enterprises
3(3,0). PR: Graduate standing. Specialized accounting and finance tools of analysis as related to the hospitality industry. Application of budgeting and pricing models, break-even analysis and internal control.
UCF-Hospitality Management

HFT 6528 . Convention and Conference Sales and Services
3(3,0). PR: Graduate standing. A process-oriented approach to selling to the convention/conference market and servicing their events. Analyzes the differences between and among venues and markets.
UCF-Hospitality Management

HFT 6586 . Research Methods in Hospitality and Tourism
3(3,0). PR: Graduate student status. A survey of primary research methods used by decision makers in the various sectors of the hospitality and tourism industry. Formulation of research problems, statement of hypotheses, variables and level of measurements, research designs, data collection.
UCF-Hospitality Management

HFT 6608 . Hospitality/Tourism Law and Ethics Seminar
3(3,0). PR: Graduate standing. An interactive approach to the impact of changing social values, current legislation, and case law on management of hospitality and tourism enterprises. Professional Code of Ethics as applied to the hospitality industry are discussed.
UCF-Hospitality Management

HFT 6636 . Hospitality/Tourism Risk Management
3(3,0). PR: Graduate standing. Examination of policy and behavioral issues of risk management and hospitality. Focuses on risk management principles most relevant within hospitality and tourism.
UCF-Hospitality Management

HFT 6710 . International Tourism Management
3(3,0). PR: Graduate standing. A review and critical analysis of the issues and techniques of international tourism management with specific attention to the economic, sociocultural, and environmental impacts.
UCF-Hospitality Management

HFT 7258 . Strategies and Tactics: Lodging
3(3,0). PR: Admission to Ph.D. program in Business Administration. Extensive review of the theoretical and empirical literature related to current strategies and operations of lodging enterprises throughout the world.
UCF-Hospitality Management

HFT 7715 . Strategies and Tactics: Travel and Tourism
3(3,0). PR: Admission to Ph.D. program in Business Administration. An in-depth investigation of the various components of travel and tourism focusing on the role of policy in their operation and development.
UCF-Hospitality Management

HIM 6288 . Health Care Coding and Diagnosis
3(3,0). PR: Graduate status. Analysis and use of ICD and CPT coding procedures.
HPA-Health Professions

HIS 5158 . Classic and Contemporary Historical Thought
3(3,0). PR: Graduate status or senior standing or C.I. Course will explore work of important historians influenced by social theory to gain an understanding of their main concepts.
AS-History

HIS 6905 . History Capstone Class
3(3,0). PR: Satisfactory completion of 21 - 24 hours of graduate-level course work. Advanced historiographical and bibliographical readings for preliminary exams and submission of a research plan for thesis topic.
AS-History

HIS 6942 . Internship
3(3,0). PR: C.I. The graduate internship in Archival Arrangement is a one-semester course in which students seeking their Master's degree in History learn principles of managing and preserving manuscript collections.
AS-History

HFT 6707 . Travel and Tourism Economics
3(3,0). PR: Graduate Student Status and undergraduate course in micro economics. Examines and evaluates the impact of Travel and Tourism on the local, regional, national and international economies.
UCF-Hospitality Management

HFT 6797 . Event Administration
3(3,0). PR: Graduate standing. Examination of event management, focusing on sports and entertainment. Covers promotion, budgeting, marketing, crowd control, production, legal issues, customer service, ticketing and concessions.
UCF-Hospitality Management

HFT 7546 . Strategies and Tactics: Guest Service Management
3(3,0). PR: Admission to Ph.D. program in Business Administration. Comprehensive review of the theory, methods, and research findings related to the management of guest service organizations, with special emphasis on hospitality and tourism enterprises.
UCF-Hospitality Management

HFT 7876 . Strategies and Tactics: Foodservice
3(3,0). PR: Admission to Ph.D. program in Business Administration. Extensive review of the theoretical and empirical literature related to current strategies and operations of lodging enterprises throughout the world.
UCF-Hospitality Management

HIS 5067 . Introduction to Public History
3(3,0). PR: Graduate status or senior standing or C.I. Examine and discuss the practice of history in museums, archives, documentary editing, historical publication, media, historical societies, and government agencies.
AS-History

HIS 6159 . Historiography
3(3,0). Selected topics in the study of history.
AS-History

HIS 6941 . Teaching Practicum
3(3,0). PR: C.I. This graduate level course is made available to those students seeking experience in teaching college level history courses.
AS-History

HIS 6945 . Internship in Historical Editing and Publishing
3(3,0). PR: Graduate standing. Introduction to the fundamentals of historical editing, with emphasis on the processing and publication of historical documents and articles.
AS-History

HIS 6946 . Teaching Practicum

3(3,0). Student observation, participation, direction, and leadership in a college survey course.
AS-History

HSA 5198 . Health Care Computer Applications

3(3,0). PR: Graduate status. Overview of health information systems, with an emphasis on computer applications. Discussion of software and hardware requirements.
HPA-Health Professions

HSA 5258 . CPT Coding for Health Services Administrators

3(3,0). PR: HSC 6636 or C.I., or BS in Health-related field. Emphasis on developing skills to facilitate an understanding of CPT Coding process and the compliance issues relevant to the process.
HPA-Health Professions

HSA 6112 . International Health Systems

3(3,0). PR: Graduate status. Survey of health care systems in developed and developing countries.
HPA-Health Professions

HSA 6126 . Principles of Managed Care

3(3,0). PR: PHC 6160. Components of managed care, contract requirements, provider practice patterns, and financing elements.
HPA-Health Professions

HSA 6155 . Health Economics and Policy

3(3,0). PR: Microeconomics or C.I. Examines how the interests and interactions of patients, providers, insurers, the government, and others impact the allocation and distribution of health care.
HPA-Health Professions

HSA 6189 . Health Care Coding and Diagnosis

3(3,0). PR: Graduate standing. Analysis and use of ICD and CPT coding procedures.
HPA-Health Professions

HSA 6505 . Risk Management in Health Care

3(3,0). PR: Graduate status. Course explores risk management and its specific applications to the health services field. Focus: insurance; quality assurance; dispute resolution; clinical records management.
HPA-Health Professions

HSA 6510 . Special Issues in Practice Management

3(3,0). PR: HSA 6508, HSA 6119, or PHC 6160. Methods of dealing with market driven & government initiated changes in medical practices.
HPA-Health Professions

HSA 6752 . Health Care Statistical Tools

3(3,0). PR: Graduate status. Computer based course

HSA 5177 . Foundations of Health Care Finance

3(3,0). PR: Admission to graduate program in HSA or C.I. Preparatory course for graduate students who are not prepared to take the required health care finance course.
HPA-Health Professions

HSA 5257 . ICD9 Coding for Health Services Administrators

3(3,0). PR: HSC 6636, B.S. in Health related field, or C.I. Emphasis on developing basic skills to facilitate an understanding of the coding process and the compliance issues relevant to the process. May be repeated for credit.
HPA-Health Professions

HSA 6108 . Health Care Organization and Management II

3(3,0). PR: HSA 6185, HSA 5198, HSC 6911. Emphasis on planning, development, marketing approaches, and problem-solving using computer methods.
HPA-Health Professions

HSA 6119 . Health Care Organization and Management

3(3,0). PR: HSC 6911. Planning, development, and marketing methods.
HPA-Health Professions

HSA 6128 . Health Care Services Management

3(3,0). PR: Graduate status. Conceptization and development of customer service in health care organizations. The focus is on the links between theory and practical applications.
HPA-Health Professions

HSA 6185 . Health Care Human Resources

3(3,0). PR: Graduate status. Study of health care organizations, including modern management, human performances, and leadership.
HPA-Health Professions

HSA 6385 . Health Care Quality Management

3(3,0). PR: Graduate status. Mechanisms of enhancing quality of service and care.
HPA-Health Professions

HSA 6508 . Principles of Practice Management

3(3,0). Studies the various models of practice organization and delivery. Emphasis is on risk management as it applies to medical practices.
HPA-Health Professions

HSA 6511 . Health Care Leadership

3(3,0). PR: Graduate status or C.I. Practical applications of leadership theory in health services organizations.
HPA-Health Professions

HSA 6759 . Health Care Outcomes Management

3(3,0). PR: Graduate status. Measure and methods of

focusing on statistical quality tools, such as cause and effect diagrams, pareto and control charts, and root cause analysis, used in the management of healthcare organizations.
HPA-Health Professions

HSA 6815 . Practicum in Health Care Management
2-6(0,20). PR: Graduate status or C.I. Supervised practicum in health care institution management.
HPA-Health Professions

outcomes assessment and evaluation. Development, structure, and evaluation of performance of health system. Assessing quality of services and quality management.
HPA-Health Professions

HSA 6925 . Capstone in HSA
3(3,0). PR: Graduate status. Case analysis approach to solving current health services administration problems and issues. Prepares students for comprehensive examination experience.
HPA-Health Professions

HSC 5317 . Health Methods: Teaching Strategies and Interventions
3(3,0). PR: Admission to Graduate certificate in Health and Wellness or C.I. Application of the knowledge of teaching strategies, methodology, and curriculum to develop a comprehensive school health program.
ED-Teaching & Learning Princ

HSC 5595 . AIDS: A Human Concern
3(3,0). Focus on epidemiology, transmission, prevention, legal and health care issues, economic impact, psychosocial aspects, sexuality, substance abuse, ethics, hotlines, referral services and the decision-making process.
HPA-Health Professions

HSC 6175 . Advanced Trends in Health Care Finance Theory
3(3,0). PR: C.I. or PHC 6160. Public health funding philosophies; evolving market strategies of insurers and managed care organizations; macroeconomic implication of alternative financing policies.
HPA-Health Professions

HSC 6247 . Community Health Education
3(3,0). Development and evaluation of community health education programs within voluntary health organizations. HMOs, hospitals, and academic institutions.
HPA-Health Professions

HSC 6306 . Organization and Management of Health Science Programs
3(3,0). PR: Graduate status or C.I. Management of professional health education programs in various institutional settings: university, community college, academic medical centers. Includes program planning, development, and evaluation.
HPA-Health Professions

HSC 6412 . Epidemiology
3(3,0). PR: Graduate status or C.I. A study of the distribution and determinants of diseases and injuries in human populations.
HPA-Health Professions

HSC 6568 . Issues in Geriatric Health Care
3(3,0). Identification of the health care needs of the elderly and the services required to meet them. Analysis of the current issues, problems, and trends in geriatric health.
HPA-Health Professions

HSC 6636 . Issues and Trends in the Health Professions
3(3,0). Exploration of current status, issues, problems, and future trends in the practice and education of health professionals.
HPA-Health Professions

HSC 6656 . Health Care Ethics
3(3,0). PR: Graduate standing or C.I. Provides an understanding of central concepts and values in medical ethics in order to provide a foundation for sound ethical decision-making.
HPA-Health Professions

HSC 6815 . Practicum in Health Science Education
2-6(0,20). PR: Graduate status or C.I. Supervised practicum in academic, clinical, or community instructional program.
HPA-Health Professions

HSC 6911 . Scientific Inquiry in the Health Profession
3(3,0). PR: Graduate status or C.I. Research design and statistical evaluation in health professions.
HPA-Health Professions

HSC 7930 . Special Issues in Health Services Administration
3(3,0). PR: Admission to Ph.D. program or C.I. Selected problems in health services administration. Course may be repeated with different content. May be repeated for credit.
HPA-Health Professions

HSC 8118 . Advanced Health Care Organization Theory
3(3,0). PR: Admission to Ph.D. program or C.I. New

HUM 5802 . Applied Contemporary Humanities
3(3,0). PR: HUM 5803, graduate status or senior standing, or C.I. Development of an application research project

theories of health care management, emphasizing organizational structure, health care leadership, and information management in health care decision-making.

HPA-Health Professions

HUM 5803 . Theories and Methods of the Humanities

3(3,0). PR: Senior undergraduate standing and at least one of the following: HUM 3251, HUM 3320, or PHI 4808 or graduate standing. Approaches, concepts, methods, and theoretical issues in the Humanities with an emphasis on critical analysis of diverse disciplinary and interdisciplinary theories and methods.

AS-Philosophy

relevant to contemporary cultural issues, using Humanities theories and methods.

AS-Philosophy

HUN 5937 . Nutrition and Exercise Physiology

3(3,0). This course correlates human nutrition with exercise physiology. Nutritional concepts are related to human performance and fitness.

HPA-Health Professions

IDS 5145 . Interdisciplinary Course in Simulation

3(3,2). PR: Calculus, matrix algebra, probability & statistics, high level programming language. An interdisciplinary course on simulation with hands-on experience in discrete event modeling, continuous modeling and shared virtual world. May be repeated for credit.

ECS-College-ECS

IDS 5709 . Autonomous Characters

3(3,0). PR: Graduate status or senior standing or C.I. Interdisciplinary study of autonomous characters-computer programs that mimic human behavior-in games, simulations and interactive literature. Formal models of strategy, tactics and actions.

AS-Digital Media

IDS 5717C . Introduction to Modeling and Simulation

3(2,2). PR: STA 2023 or equivalent. Introduction to the theory and practice of modeling and simulation with emphasis on multidisciplinary scientific underpinnings.

UCF-Interdisciplinary

IDS 5718 . Science & Technology of Dynamic Media

3(3,0). PR: Graduate status or senior standing or C.I. Graduate level survey of key scientific, technical issues in interactive media. Information algorithms, objects, models. Theories of computer graphics, sound, modeling, simulation, interfaces, artificial intelligence.

AS-Digital Media

IDS 5719 . Quantitative Aspects of Modeling and Simulation

3(3,0). PR: MAC 2241 or equivalent. Introduction to matrix algebra and other discrete mathematics topics for modeling and simulation applications.

UCF-Interdisciplinary

IDS 6308 . Ways of Knowing

3(3,0). PR: Admission to the Master's program in Liberal Studies. Theoretical models of knowledge as exemplified by various disciplines and interdisciplinary activity. Focus on epistemological issues raised in past and present works.

AS-Liberal Studies

IDS 6351 . Critical Thinking and Writing

3(3,0). PR: IDS 6308 and IDS 6669. Focus on refining critical understanding of interdisciplinary research and organization and presentation of interdisciplinary ideas, building on first two core courses.

AS-Liberal Studies

IDS 6503 . International Trends in Instructional Systems

3(3,0). PR: EME 6613. International and multicultural issues and how they affect the global impact of technology in education, training, and quality management.

ED-Ed Research, Tech & Lead

IDS 6504 . Adult Learning

3(3,0). PR: Graduate standing. An examination of theory and research on adult learning with emphasis on practical applications, instruction, and technology use in educational and workplace settings.

ED-Ed Research, Tech & Lead

IDS 6669 . Interdisciplinary Approaches to Research

3(3,0). PR: IDS 6308. Interdisciplinary survey of methodologies used in academic disciplines. Basic concepts, research paradigms, and contemporary issues explored.

AS-Liberal Studies

IDS 6933 . Seminar in Teaching Mathematics and Science

3(3,0). PR: Graduate standing and valid Florida Teaching Certificate or C.I. This course is designed so that graduate students may study specific areas related to curriculum, instruction, and assessment in mathematics and science education. (May be repeated for credit.)

ED-Teaching & Learning Princ

IDS 6934 . Using Technology in Mathematics and Science

3(2,1). PR: Graduate standing and valid Florida Teaching Certificate or C.I. This course emphasizes the learning and use of technology in the teaching of mathematics and science.

ED-Teaching & Learning Princ

IDS 6937 . Reflecting on Instruction of Mathematics and Science

3(3,0). PR: Graduate standing and valid Florida Teaching Certificate or C.I. Focuses on the work of Dewey and Piaget as it applies to mathematics and science teaching. Emphasizes integrating math and science teaching. ED-Teaching & Learning Princ

IDS 7500 . Seminar in Educational Research

1-3(1-3,0). PR: Admission into doctoral program in Education or C.I. An examination of education related research initiatives. May be repeated for credit. ED-Teaching & Learning Princ

IDS 7502 . Case Studies in Research Design

3(3,0). PR: Admission into the Ph.D. in Education. A critical analysis of educational research design. ED-Teaching & Learning Princ

IDS 7691 . Structure-Function-Relationships of Biomolecules I

5(5,0). PR: Admission to Biomolecular Sciences Ph.D. program. First semester of a two-semester sequence with lectures and literature discussion of structure-function relationships of action and functions of biomolecules presented from an interdisciplinary perspective. HPA-Molecular & Microbiology

IDS 7693 . Structure-Function Relationships of Biomolecules II

5 (5,0). PR: Admission to Ph.D. in Biomolecular Sciences and IDS 7691. Second semester of a two semester sequence with lectures and literature discussion of structure-function relationships of action and functions of biomolecules presented from an interdisciplinary perspective. HPA-Molecular & Microbiology

INP 5825 . Human-Computer Interface (HCI) Design: A Team Approach

3(3,0). PR: Graduate status or senior standing or C.I. Interdisciplinary approach to human-computer interface design, including behavior, engineering, computer science, and instructional aspects. Tools and techniques for team development and the evaluation of software for usability. AS-Psychology

INP 6088 . Applied Problems in Industrial/Organizational Psychology

3(3,0). PR: Admission to I/O Psychology Master's program or C.I. A review of applied behavioral problems recurrent in the professional practice of industrial/organizational psychology. AS-Psychology

INP 6215 . Assessment Centers and Leadership

3(3,0). PR: Graduate admission and C.I. Survey of assessment center technology and application with

IDS 6939 . Reforming Curriculum in Mathematics and Science Education

3(3,0). PR: Graduate standing and valid Florida Teaching Certificate or C.I. Emphasizes the reform movement including technology, history of curriculum, curriculum theory, and standards documents. ED-Teaching & Learning Princ

IDS 7501 . Issues and Research in Education

3(3,0). PR: Admission to Ph.D. in Education or C.I. An examination of major issues impacting education and related practical and methodological issues in research. ED-Teaching & Learning Princ

IDS 7690 . Frontiers in Biomolecular Sciences

1(1,0). PR: Admission to Biomolecular Sciences Ph.D. program. Cross-disciplinary biomolecular research seminar, collaboration between chemistry, biology, and molecular biology and microbiology. May be repeated for credit. HPA-Molecular & Microbiology

IDS 7692L . Experiments in Biomolecular Sciences

3(3,0). PR: Admission to Biomolecular Sciences Ph.D. program. Interdisciplinary collaboration between chemistry, biology, and molecular and microbiology involving laboratory rotation in one to three labs. May be repeated for credit. Graded S/U. HPA-Molecular & Microbiology

IDS 7938 . Research Cluster Seminar

3(3,0). PR: Admission into the Ph.D. program in Education or C.I. An examination of research issues focusing on interdisciplinary inquiry in education. ED-Child, Family & Comm Sci

INP 6058 . Job and Task Analysis

3(3,0). PR: C.I. A review of current theory and practice in the collection, quantification, analysis, manipulation and summarization of position, job and task data. AS-Psychology

INP 6094 . Current Topics in Industrial/Organizational Psychology

3(3,0). PR: Admission into the I/O Psychology Master's program or C.I. A review of the theoretical and empirical literature relevant to selected topics in Industrial/Organizational Psychology. AS-Psychology

INP 6317 . Organizational Psychology and Motivation

3(3,0). PR: Graduate admission and C.I. Review of theories, research and application of psychological

emphasis on leadership theory and practice.
AS-Psychology

principles to organizational settings and human motivation.
AS-Psychology

INP 6605 . Training and Performance Appraisal
3(3,0). PR: Graduate admission and C.I. Survey of theories, research and practice in the areas of industrial/organizational training and performance appraisal.
AS-Psychology

INP 6946 . Industrial Psychology Practicum I
3(1,6). PR: Graduate admission and C.I. Supervised placement in an applied setting.
AS-Psychology

INP 6947 . Industrial Psychology Practicum II
3(3,0). PR: Graduate admission and C.I. Supervised research in industry. May be repeated for credit.
AS-Psychology

INP 7071 . Research Methods in Industrial-Organizational Psychology
3(3,0). PR: Admission to the doctoral I/O Psychology program and PSY 6216. A review of research methodology in organizational settings, focusing on hypothesis testing, quasi-experimental designed, non-experimental designs, and sampling procedures.
AS-Psychology

INP 7075 . Current Theory and Research in Industrial and Organizational Psychology
2(2,0). PR: Ph.D. student in Psychology or closely-related discipline. Critical analysis of current theory and research published in the periodical scientific literature germane to the field of Industrial and Organizational Psychology. May be repeated for credit.
AS-Psychology

INP 7089 . Human Factors Professional Issues
1(1,0). PR: Admission to the Human Factors Ph.D. program. Ethical principles of Psychologists, Code of Conduct, grant/proposal writing, publication of research, academic and applied career paths, licensing requirements, and job search/preparation.
AS-Psychology

INP 7214 . Industrial Psychology I
3(3,0). PR: Admission to the doctoral I/O Psychology program. Review of the theoretical and practical issues and the research literature related to criterion development and personnel selection.
AS-Psychology

INP 7251 . Industrial Psychology II
3(3,0). PR: Admission to the doctoral I/O Psychology program. Review of the theoretical and practical issues and the research literature related to retaining, theory and program design/evaluation and performance appraisal/feedback.
AS-Psychology

INP 7310 . Organizational Psychology I
3(3,0). PR: Admission to the doctoral I/O Psychology program. Review of the theoretical and practical issues and research literature related to work motivation theory, attitude theory, and decision theory.
AS-Psychology

INP 7311 . Organizational Psychology II
3(3,0). PR: Admission to the doctoral I/O Psychology program. Review of the theoretical and practical issues and research literature related to small group theory and process and organization theory.
AS-Psychology

INP 7315 . Psychometric Theory and Practice
3(3,0). PR: PSY 6216 and graduate admission. The construction, evaluation, and use of psychological measures; classical test theory, views of reliability, and item analysis; validity; generalizability theory; item response theory.
AS-Psychology

INP 7919 . Directed Doctoral Study in Industrial - Organization Psychology
3(3,0). PR: Admission to the doctoral I/O Psychology program. Directed study in areas of organization development theory, career development theory consumer behavior, individual assessment, or other relevant topics in I/O psychology. May be repeated for credit.
AS-Psychology

INP 7933 . Seminar in Industrial and Organizational Psychology
3(3,0). PR: Admission to I/O Ph.D. or C.I. In-depth treatment of selected topics in industrial and organizational psychology. May be repeated for credit 3 times.
AS-Psychology

INR 6007 . Seminar in International Politics
3(3,0). Introduces the student to the advances in international relations theory and research through a broad sampling of approaches and methods.
AS-Political Science

INR 6039 . International Political Economy
3(3,0). PR: Graduate or post-bac status. A survey of

INR 6086 . International Public Policy
3(3,0). PR: Graduate standing. Examines endogenous and

major themes, concepts, theories, and methods of international political economy, which also entails policy discussion and applications.
AS-Political Science

exogenous variables involved in selected issues in the arena of international public policy.
AS-Political Science

INR 6107 . Seminar in Foreign and Defense Policy
3(3,0). PR: Graduate standing. Examination of domestic and international factors which influence the development of selected foreign and defense policy issues.
AS-Political Science

INR 6275 . International Politics of the Middle East
3(3,0). PR: Graduate standing or C.I. Analysis of the international relations of the Middle East both among Middle Eastern states, as well as relations with other states, especially the great powers.
AS-Political Science

INR 6352 . Global Environmental Politics
3(3,0). PR: Admission to Political Science M.A. or C.I. Unique environmental struggles and issues on the international and global levels.
AS-Political Science

INR 6405 . International Environmental Law
3(3,0). PR: Graduate standing. Examination of the international treaty regime governing the global environment, including biodiversity, the atmosphere, the ocean, and hazardous waste.
AS-Political Science

INR 6507 . International Organization
3(3,0). PR: Graduate standing or C.I. A survey of the theories, structures, issues, and agents of international organization, focusing on the effects of regional and global governance on state behavior.
AS-Political Science

INR 6607 . International Relations Theory
3(3,0). PR: Graduate standing or C.I. A survey of primary theoretical approaches to understanding and explaining international relations.
AS-Political Science

INR 6716 . Politics of International Trade Policy
3(3,0). PR: Graduate standing or C.I. A survey of the theories and agents of international trade policy-making at the sub-national, nation-state, regional, and global levels.
AS-Political Science

ISM 5020 . MIS Foundations
1.5(1.5,0). PR: Acceptance to graduate study. Information systems are an integral part of modern organizations. This course provides an introduction to information systems from an organizational and managerial perspective.
BA-Management Inform. System

ISM 5021 . Introduction to Management Information Systems
3(3,0). PR: Acceptance into the graduate program. Designed to provide the student with the fundamentals of business data processing and management information systems used by organizations in a modern society.
BA-Management Inform. System

ISM 5123 . Concepts of Systems Analysis and Design
3(3,0). PR: Completion of ISM 5021 and graduate standing. Using a traditional life-cycle approach, the course introduces practical tools and techniques for organizational analysis and the subsequent design of an information system.
BA-Management Inform. System

ISM 5256 . Concepts of Business Programming
3(3,0). PR: Admission to graduate study. Principles of programming including program design, fundamental programming constructs, and database access.
BA-Management Inform. System

ISM 6121 . Advanced Information Systems Analysis and Design
3(3,0). PR: MS/MIS technical foundation core and CBA masters program of study foundation core. This course covers advanced topics of information systems development, including analysis of system requirements, design, implementation and operation.
BA-Management Inform. System

ISM 6217 . Advanced Database Administration
3(3,0). PR: MS/MIS technical foundation core and CBA master's program of study foundation core. This course covers various database technologies in business organizations, including database systems, multidatabase systems, data warehousing, data mining, and object-oriented databases.
BA-Management Inform. System

ISM 6227 . Management of Telecommunications
3(3,0). PR: MS/MIS technical foundation core and CBA master's program of study foundation core. This course will focus on the strategic management of networks (voice, video, image, and data). coverage includes network management systems, LANs and the internet.
BA-Management Inform. System

ISM 6305 . Information Resources Management
3(3,0). PR: CBA Master's program of study foundation core. This course provides an investigate of issues

ISM 6367 . Strategic Information Systems
1.5(1.5,0). PR: MBA Professional Core I. This course concerns the strategic deployment and management of

relevant to effectively managing IT activities and the challenges facing IT managers and some potential solutions to deal with them.

BA-Management Inform. System

information technology (IT) within today's complex business organizations.

BA-Management Inform. System

ISM 6395 . Seminar - Management Information System

3(3,0). PR: ISM 6305, ISM 6121, and graduate standing.

This seminar covers theoretical foundations and current research directions in management information systems. Topics include organizational and managerial processing; systems design, development and implementation.

BA-Management Inform. System

ISM 6407 . Decision Support Systems

1.5(1.5,0). PR: CBA Master's program of study foundation core. This course addresses several aspects of organizational decision-making, including: management science and decision support systems.

BA-Management Inform. System

ISM 6422 . Intelligent Systems for Business Applications

3.0. PR: CBA Master's program of study foundation core and ISM 6407. An introduction to expert systems and data mining in the context of business applications.

BA-Management Inform. System

ISM 6485 . Electronic Commerce

3(3,0). PR: MS/MIS technical foundation core and CBA Master's program of study foundation core. This course will provide an understanding of electronic commerce, including an overview of the infrastructure and technologies, comparative analysis of markets, e-commerce applications, and website development.

BA-Management Inform. System

ISM 6537 . Quantitative Models for Business Decisions

3(3,0). PR: CBA Master's program of study foundation core. Quantitative techniques useful for the solution of business problems. Mathematical model building to aid the decision-making process is stressed.

BA-Management Inform. System

ISM 6539 . Service Organizations and Operations Management

3(3,0). PR: CBA Master's program of study foundation core. In-depth study of the unique characteristics, challenges, and quantitative techniques associated with managing organizations in the service sector.

BA-Management Inform. System

ISM 6930 . Seminar in Management Information Systems

3(3,0). PR: MS/MIS technical foundation core and CBA Master's program of study foundation core. This course will focus on current MIS topics of technological and management relevance.

BA-Management Inform. System

ISM 7027 . Systems Support of Organizational Decision-Making

3(3,0). PR: Doctoral standing and C.I. This course focuses on support systems for organizational decision-making, including knowledge management systems.

BA-Management Inform. System

ISM 7029 . Organizational Impacts of Information Technology

3(3,0). PR: Doctoral standing and C.I. Examination of impact of IT, IT-based innovation, and IT management in organizations.

BA-Management Inform. System

ISM 7317 . Information System Project Implementation & Management

3(3,0). PR: C.I. Research issues in information systems project implementation and management.

BA-Management Inform. System

ISM 7909 . Comprehensive Research Project

3(3,0). PR: Doctoral standing and C.I. This course allows students to conduct a research project of limited scope from idea to execution to manuscript preparation.

BA-Management Inform. System

ISM 7916 . Seminar on Behavioral Information Systems Research

3(3,0). PR: Doctoral standing and C.I. This research seminar focuses on research in the use of information technology by individuals, groups, and organizations.

BA-Management Inform. System

ISM 7926 . Management Information Systems Research Forum

1(1,0). PR: Doctoral standing and C.I. Research and pedagogical issues in information systems, including research presentations by faculty, doctoral students, and invited scholars.

BA-Management Inform. System

ISM 7936 . Seminar on Technical Information Systems Research

3(3,0). PR: Doctoral standing and C.I. This research seminar focuses on current research in the technical fields of Information Systems. It covers both research areas and research methods.

BA-Management Inform. System

ISM 7038 . Theoretical Foundations for Information

IAE 5105 . CEWP Teacher Consultant

Systems Research

3(3,0). PR: Doctoral standing and C.I. This course is a Ph.D. seminar on using theory in information systems research.

BA-Management Inform. System

3(3,0). PR: C.I. This course is designed for Fellows of the CFWP Summer Institute who will plan, practice, and present writing inservice components to public schools.
ED-Teaching & Learning Princ

LAE 5295 . Writing Workshop I

1-3(1-3,0). PR: C.I. Students will engage in exploration and practice of effective writing strategies. May include teaching small groups of students. May be repeated for credit.

ED-Teaching & Learning Princ

LAE 5319 . Methods of Elementary School Language Arts

3(3,0). PR: EDG 4323. Principles, procedures, organization and current practices in reading, writing, listening, and talking.

ED-Teaching & Learning Princ

LAE 5337 . Literacy Strategies for Middle and Secondary Teaching

3(3,0). PR: EDG 6236 or C.I. Designed to assist teachers and graduate students in understanding the adolescent learner. This course will examine theory, strategies, research, resources and implementation options for effective middle and secondary literacy programs.

ED-Teaching & Learning Princ

LAE 5338 . Teaching Writing in Middle and High School

3(3,0). PR: EDG 6236 or C.I. Techniques and methods in teaching dialects, semantics, and the various grammars within the context of writing.

ED-Teaching & Learning Princ

LAE 5346 . Methods of Teaching English Language Arts

3(3,0). PR: EDG 6236 or C.I. Designed for alternative certification and Master's of Arts students to explore the strands, methods and materials related to school curriculum in teaching English.

ED-Teaching & Learning Princ

LAE 5367 . English Composition and Literature for Teachers of Advanced Placement

3(3,0). PR: Graduate status or senior standing, and C.I. A two-week summer institute for secondary school teachers preparing to teach Advanced Placement courses.

AS-English

LAE 5415 . Children's Literature in Elementary Education

3(3,0). Survey of children's literature: criteria for selection according to literary elements and child development needs. Methods for presenting to children; integrating literature with elementary curricula.

ED-Teaching & Learning Princ

LAE 5465 . Literature for Adolescents

3(3,0). PR: Senior standing or C.I. Selecting and evaluating books for adolescents with emphasis on the use of literature in the development of young people.

ED-Teaching & Learning Princ

LAE 5495 . Assessing Writing

3(3,0). PR: C.I. Students will explore a variety of strategies for assessing students' writing including holistic scoring, primary trait scoring, and portfolio assessment.

ED-Teaching & Learning Princ

LAE 6296 . Writing Workshop II

3(3,0). PR: Writing Workshop I or C.I. Designed for teachers who have completed a previous writing workshop course. Includes history, theory, research, and strategies for teaching writing.

ED-Teaching & Learning Princ

LAE 6366 . Studies in Adolescent Literature

3(3,0). PR: LAE 4464, LAE 5465, or C.I. Analysis of major works in genre, examination of criticism, instructional strategies, and research in teaching adolescent literature.

ED-Teaching & Learning Princ

LAE 6417 . Investigation in Children's Literature

3(3,0). PR: A previous survey course in children's literature. Learning through the utilization of children's literature; literature analysis and evaluation; storytelling; visual and reference materials.

ED-Teaching & Learning Princ

LAE 6616 . Trends in Language Arts Education

3(3,0). PR: Basic Teacher Certificate or C.I. Historical development and trends; English usage systems; materials; instructional strategies.

ED-Teaching & Learning Princ

LAE 6637 . Research in Teaching English

3(3,0). Examination and interpretation of major research in English education. Design of models for research in language instruction in secondary schools.

ED-Teaching & Learning Princ

LAE 6792 . Teacher Researcher

3(3,0). PR: C.I. Theory, strategies, and research methodologies for teachers studying teaching and learning in classrooms

LAE 6936 . Seminar in Language Arts Education

3(3,0). PR: Graduate standing or C.I. Provides classroom teachers with opportunities to conduct in-depth explorations of timely topics related to teaching language

ED-Teaching & Learning Princ

and literacy.

ED-Teaching & Learning Princ

LAH 5713 . Colloquium in U.S. - Latin American Relations

3(3,0). PR: Graduate status or senior standing or C.I. The course will analyze U.S.-Latin American relations from an historical perspective. It will be presented through readings and discussion of selected materials.

AS-History

LAH 6938 . Seminar in Latin American History

3(3,0). Research seminar in selected topics in Latin American history. May be repeated for credit when content is different.

AS-History

LEI 6443 . Recreation

3(2,1). A comprehensive study of public, private, and school recreation programs.

ED-Teaching & Learning Princ

LIN 5137 . Linguistics

3(3,0). PR: Graduate status or senior standing or C.I. Modern linguistic theories and studies focusing on language acquisition and development, contemporary American English, semantics, and para-linguistics.

AS-English

LIN 5675 . English Grammar and Usage

3(3,0). PR: Graduate status or senior standing or C.I. An overview of modern grammar, including structural, transformational and rhetorical grammar, along with an examination of controversial usage.

AS-English

LIN 6932 . Problems in Linguistics

3(3,0). PR: LIN 5137. Study of the application of linguistics to various aspects of teaching and communication.

AS-English

LIT 5028 . Form and Theory of Short Story

3(3,0). PR: Graduate status or senior standing or C.I. Evolving forms and theories of short fiction and the implications of form and theory.

AS-English

LIT 5039 . Studies in Contemporary Poetry

3(3,0). PR: Graduate status or senior standing or C.I. English language poetry from 1945 to the present. Emphasis will be on American poets, but others such as English or Australian will be included.

AS-English

LIT 5097 . Studies in Contemporary Fiction

3(3,0). PR: Graduate status or senior standing or C.I. Fiction in the last 20 years in the United States and Britain. May be repeated for credit when content is different

AS-English

LIT 5250 . The Victorian Age: Poetry

3(3,0). PR: Graduate status or senior standing or C.I. Poets of the Victorian period, including Tennyson, the Brownings, Arnold, Hopkins, Hardy, the Rossettis, Emily Bronte, and others.

AS-English

LIT 5269 . Nineteenth-Century Essays

3(3,0). PR: Graduate status or senior standing or C.I. English non-fiction prose of the 19th century.

AS-English

LIT 5309 . Popular Culture and Media

3(3,0). PR: Graduate status or senior standing or C.I. Study of contemporary media and the literature of popular culture.

AS-English

LIT 5366 . The Romantic Revolt (19th Century Literature)

3(3,0). PR: Graduate status or senior standing or C.I. The romantic revolt in poetry and prose; English, American and Continental literature from 1798 to 1832.

AS-English

LIT 5387 . Captives, Housewives, and Coquettes

3(3,0). PR: Graduate status or senior standing or C.I. Course considers early American women's literature from 17th to 19th centuries.

AS-English

LIT 5389 . Studies in Gender & Fiction Writing

3(3,0). PR: Graduate status or senior standing or C.I. Graduate study of gender's implications for teaching and practice of fiction writing.

AS-English

LIT 5556 . Advanced Feminist Theories

3(3,0). PR: Graduate status or senior standing or C.I. Graduate-level Feminist theories from "French feminism" to "critical race theories."

AS-English

LIT 6009 . Literary Genres

3(3,0). PR: Graduate standing. Provenance, structure, and critical problems in a specific genre such as tragedy, the epic, the novel, or the lyric. May be repeated for credit

LIT 6105 . World Literature

3(3,0). PR: Graduate standing. Study of the influence on British and American literature of selected foreign works read in translation. May be repeated for credit when

when content is different. AS-English	content is different. AS-English
LIT 6246 . Major Authors 3(3,0). PR: Graduate standing. Study of a single author or of two or three associated authors, with emphasis on biography, bibliography, and style. May be repeated for credit when content is different. AS-English	LIT 6365 . Movements in Literature 3(3,0). PR: Graduate standing. Study of a movement such as naturalism, romanticism, or classicism, or of a literary period such as the Baroque or the Southern Renaissance. May be repeated for credit when content is different. AS-English
MAA 5210 . Topics in Advanced Calculus 4(4,0). PR: MAA 4226 or equivalent, graduate status or senior standing, or C.I. Topics in multivariable calculus, including limits, continuity, integration, differentiation, Taylor's theorem, inverse and implicit function theorems. AS-Mathematics	MAA 5405 . Complex Variables 3(3,0). PR: MAC 2313, and graduate status or senior standing or C.I. Analytic functions. Integration in the complex plane. Laurent series and residue calculus. Inversion of Laplace transformations. Conformal mappings. Applications in engineering and the physical sciences. AS-Mathematics
MAA 5416 . Foundations of Analysis 3(3,0). PR: MAA 4226, and graduate status or senior standing or C.I. Topological spaces, compactness results, connectedness, analytical and differentiable manifolds, topological groups, Lie groups, representation theory for classical groups, Green, Stoke and Gauss' theorems. AS-Mathematics	MAA 6306 . Real Analysis 3(3,0). PR: MAA 5210. Sets, function spaces, Lebesgue measure, Lebesgue-Stieltjes measure, measurable functions, convergence notions, general measure and integration, Radon-Nikodym theorem. AS-Mathematics
MAA 6404 . Complex Analysis 3(3,0). PR: MAA 5405, MAP 4307, MAA 4226, or C.I. Review of complex variable theory; advanced topics chosen from conformal mapping and its applications, boundary behavior, numerical techniques; singular integrals. AS-Mathematics	MAA 6508 . Hilbert Spaces with Applications 3(3,0). PR: MAP 2302, MAS 3106, or C.I. Normed and inner product spaces; Hilbert spaces; orthonormal systems; linear operators and spectral decomposition; applications to differential and integral equations. AS-Mathematics
MAA 6531 . Analysis of Manifolds 3(3,0). PR: Matrix or Linear Algebra, MAA 4226 or MAA 5210, or C.I. Derivatives as linear transformations, inverse function theorem, manifolds and integration of real-valued functions on manifolds, wedge products, differential forms, vector analysis as a specific case. AS-Mathematics	MAD 5205 . Combinatorics and Graph Theory II 3(3,0). PR: MAD 4203, graduate status or senior standing, or C.I. Polya's theory of counting; Latin squares and rectangles; block designs; coding theory; probabilistic methods; hypergraphs; applications. AS-Mathematics
MAD 6309 . Advanced Graph Theory I 3(3,0). A seminar devoted mainly to reading papers and presenting their content. Advanced areas of graph theory will be covered. Primarily for Ph.D. students in Mathematics and Computer Science. AS-Mathematics	MAD 6608 . Finite Fields and Coding Theory 3(3,0). PR: MAP 5311 or C.I. General theory of fields, existence, construction and implementation of finite fields, polynomials over $GF(p^n)$, solving equations: emphasizing fields of characteristic 2. AS-Mathematics
MAE 5318 . Current Methods in Elementary School Mathematics 3(3,0). PR: EDG 4323. Strategies of instruction of computation and concepts of number, geometry, and measurement; instructional materials. (Meets Elementary Education certification requirements.) ED-Teaching & Learning Princ	MAE 5327 . Teaching Middle School Mathematics 3(3,0). PR: EDG 6236 or C.I. Students will develop skills in planning and delivering mathematics instruction in grades 5-9. The use of technology, cooperative learning, ESOL, and manipulatives is considered. ED-Teaching & Learning Princ
MAE 5336 . Current Methods in Secondary School Mathematics 3(3,0). PR: EDG 4323 or EDG 6236 or C.I. Required special methods course for mathematics 6-12	MAE 5935 . Post-Secondary Mathematics 3(3,0). PR: Graduate status or senior standing or C.I. The course will focus on issues which are faced by teachers of collegiate mathematics. Topics will be selected from

certification. Assessment, curriculum, technology, practical classroom ideas and activities.
ED-Teaching & Learning Princ

teaching issues, program issues, and other issues.
AS-Mathematics

MAE 6145 . Mathematics Curriculum, K-12
3(3,0). PR: At least six semester hours of graduate credit in Mathematics Education or C.I. Development of historical and current issues and forces in mathematics curriculum. New mathematics programs and contemporary curricular issues will be emphasized.
ED-Teaching & Learning Princ

MAE 6337 . Teaching Algebra in the Secondary School
3(3,0). PR: MAE 3330 or C.I. Addresses specific techniques for developing algebra skills for pre-algebra through precalculus algebra needs. Logical deductions, problem solving, computer applications, and innovative methods are explored.
ED-Teaching & Learning Princ

MAE 6338 . Teaching Geometry in the Secondary School
3(3,0). PR: MAE 3330 or C.I. This course addresses specific techniques for developing geometry skills beginning in the general mathematics classes of grade 6 through the high school geometry course.
ED-Teaching & Learning Princ

MAE 6517 . Diagnosis/Remediation of Difficulties in Mathematics for the Classroom Teacher
3(3,0). PR: Basic Teacher Certificate or C.I. The study of techniques for diagnosis and remediation of difficulties in mathematics.
ED-Teaching & Learning Princ

MAE 6641 . Problem Solving and Critical Thinking Skills
3(2,1). PR: Regular certificate or C.I. Development of procedures and practices necessary to implement critical thinking skills and problem-solving techniques in the schools.
ED-Teaching & Learning Princ

MAE 6656 . Using Technology in the Instruction of K-12 Mathematics
3(3,0). PR: CAP 6613 or C.I. The application of computer technology to mathematics instruction including calculators, CAI, CMI, application software, simulators, and video disc technology.
ED-Teaching & Learning Princ

MAE 6899 . Seminar in Teaching Mathematics
3(3,0). PR: Six semester hours of graduate credit in Mathematics Education. Development of historical and current issues, forces, and individuals and their impact on the teaching of mathematics K-12. Consideration of advanced instructional techniques. (May be repeated for credit.)
ED-Teaching & Learning Princ

MAE 7640 . History of Mathematics Education
3(3,0). PR: Doctoral standing. Study of issues and forces that have shaped mathematics education including policies, classroom practices, curriculum development, instructional materials, technology and assessment of learning.
ED-Teaching & Learning Princ

MAE 7795 . Seminar on Research in Mathematics Education
3(3,2). PR: Doctoral standing.
ED-Teaching & Learning Princ

MAN 5021 . Management Foundations
1.5(1.5,0). PR: Acceptance to graduate study, ACG 5005 and ECO 5006. Theory and practice of managing organizations to include planning, organizational theory, human behavior, and control.
BA-Management

MAN 5050 . Management Concepts
2(2,0). PR: Acceptance in MBA program. Theory and practice of managing organizations to include planning, organizational theory, human behavior, and control.
BA-Management

MAN 5867 . Small Business Institute
3(3,0). PR: C.I. Hands-on small business consulting course. Students are assigned teams and work with a local small business.
BA-Management

MAN 6116 . Managing A Diverse Workforce
3(3,0). PR: MAN 6285. Course designed to provide students with an understanding of managing a diverse workforce.
BA-Management

MAN 6117 . Diversity Management Issues in Sport
1.5(1.5,0). PR: CBA Master's program of study foundation core, and admission to the Sport Business Management Program. Examines all diversity aspects in sport including race, gender, sexual preference, and disability issues. Included is an examination of the contrast between those competing in sport and those administering sport; the evolution of the history of the diversity issues from a one-dimensional black/white, male focus to one encompassing women, other people of color, and the internationalization of sports, and the meaning of managing diversity in sport as a business imperative.

BA-College-BA

MAN 6127 . Leadership in Sport

1.5(1.5,0). PR: CBA Master's program of study foundation core, and admission to the Sport Business Management Program. Theory, research, and practice of leadership in sports organizations. Special attention is given to contemporary leadership issues with leaders of sports industry leading many of the discussions. Examines the multiple roles that leaders can help sports organizations play in serving the community, including both traditional and creative philanthropy and case studies of model community service programs of sports teams, leagues, and college athletics departments.
BA-College-BA

MAN 6158 . Human Resources Management Issues

3(3,0). PR: MAN 6305 or C.I. A course providing advanced study in selected topics of current interest in human resource management.
BA-Management

MAN 6245 . Organizational Behavior and Development

3(3,0). PR: CBA Master's program of study foundation core. The analysis of human behavior in organizations in terms of the individual, small group, intergroup relationships, and the total organization.
BA-Management

MAN 6285 . Change Management

3(3,0). PR: Graduate standing or C.I. Course designed to familiarize students with change management processes and interventions.
BA-Management

MAN 6286 . Innovation and Strategic Change

3(3,0). PR: Graduate standing or C.I. An in-depth examination of strategic and innovation processes as they relate to the management of emerging technologies from invention to commercialization.
BA-Management

MAN 6296 . Executive Leadership

3(3,0). PR: Admission to the Executive MBA Program. A review of the theory, research, and practice of leadership in organizations. Special attention to contemporary leadership issues, including transactional and transformational leadership.
BA-Management

MAN 6299 . Creative and Innovative Management

3(3,0). PR: Graduate standing or C.I. This course examines the emerging theories and practices related to creative and innovative management. It combines the creativity of new concepts, new ideas, new directions, and the like with their innovative implementation in a management context.
BA-Management

MAN 6305 . Human Resources Management

3(3,0). PR: Graduate standing or C.I. Course is designed as an overview of human resources practices, techniques and strategies.
BA-Management

MAN 6311 . Advanced Topics in Human Resources Management

3(3,0). PR: MAN 6305 or C.I. An in-depth analysis of current human resource issues related to the attraction, management, and retention of human capital.
BA-Management

MAN 6323 . Human Resources Information Systems

3(3,0). PR: MAN 6305 or C.I. Planning, designing, selecting, implementing, and maintaining human resource information systems.
BA-Management

MAN 6325 . Applied Research Tools

3(3,0). PR: MAN 6305 and MAN 6285. Development of applied qualitative and quantitative research skills for collecting, analyzing and reporting data to organizations, within the context of managing human resources and change.
BA-Management

MAN 6385 . Strategic Human Resources Management

3(3,0). PR: MAN 6305 or C.I. Examination of the strategic orientation of human resources management and the development of the human resources architecture aligned with the organization's strategy and task environment.
BA-Management

MAN 6395 . Leadership Development and Coaching

3(3,0). PR: Graduate standing or C.I. Course is designed to prepare students to understand the nature and role of leadership development with an emphasis on coaching.
BA-Management

MAN 6448 . Conflict Resolution and Negotiation

3(3,0). PR: Graduate standing or C.I. Theory and processes of negotiation in a variety of settings, with relevance to the broad spectrum of negotiation faced by managers.
BA-Management

MAN 6449 . Alternative Dispute Resolution

3(3,0). PR: Graduate standing or C.I. Theory and practice of conciliation, mediation, fact finding, and arbitration as alternatives to business litigation.

BA-Management

MAN 6515 . Research and Development Management

3(3,0). PR: Graduate standing and MAN 5050. An examination of the function of research and development and the impact of technological innovation on our economic and social systems.

BA-Management

MAN 6721 . Applied Strategy and Business Policy

3(3,0). PR: MBA Professional Core I and taken in last semester of program. This capstone course integrates the various functional disciplines in business administration. It focuses on the theories and frameworks in the field of strategic management.

BA-Management

MAN 6915 . Applied Field Project

3(3,0). PR: MAN 6325 or C.I. Supervised field research project addressing a specific organizational problem or approved practicum within an organization.

BA-Management

MAN 7075 . Foundations of the Management Discipline

3(3,0). PR: Ph.D. standing. Presents seminal contributions that have profoundly affected the evolution of the management discipline, and examines social dynamics that influence the development of ideas.

BA-Management

MAN 7207 . Organization Theory

3(3,0). PR: Doctoral status. Study of impact of environment, technology, size and innovation on organization structure, functions and development.

BA-Management

MAN 7275 . Organizational Behavior

3(3,0). PR: Doctoral standing or C.I. In-depth review of the classic and modern organizational behavior research literature, which deals with management of individual and group behavior in organizations.

BA-Management

MAN 7306 . Seminar in Human Resources Management

3(3,0). PR: Graduate standing or C.I. Course provides a graduate-level overview of theory and research in human resources management. Topics covered include human resources strategy, legal issues, staffing, training, performance appraisal and compensation.

BA-Management

MAN 7776 . Business-Level Strategic Management

3(3,0). PR: Admission to doctoral program and C.I. In-depth review of the classic and modern business-level strategy research literature, which deals with topics such as competitive strategy, industry analysis and the strategy process.

BA-Management

MAN 7777 . Corporate-Level Strategic Management

3(3,0). PR: Admission to doctoral program and C.I. In-depth review of the classic and modern corporate-level strategy research literature, which deals with topics such as diversification, cooperative alliances and acquisitions strategies.

BA-Management

MAN 7900 . Directed Readings in Management

3(3,0). PR: Admission to doctoral program and C.I. Directed readings in the area of management concentration, as determined by the student's doctoral study advisory committee. May be repeated for credit.

BA-Management

MAP 5106 . Introduction to Quantitative Aspects of Modeling and Simulation

3(3,0). PR: MAC 2253, graduate status or senior standing, or C.I. An introduction to calculus, matrix algebra, probability and statistics, and high level programming languages. A student who has mastered this content does not have to take this course.

AS-Mathematics

MAP 5117 . Mathematical Modeling

3(3,0). PR: STA 4321, MAP 4363, graduate status or senior standing, or C.I. Introduction to modeling in industrial and scientific applications; techniques for studying statistical and deterministic models.

AS-Mathematics

MAP 5336 . Ordinary Differential Equations and Applications

3(3,0). PR: MAP 2302, and graduate status or senior standing or C.I. Existence and uniqueness of solutions of differential equations, systems of ordinary differential equations, autonomous systems, phase plane analysis, stability, bifurcations.

AS-Mathematics

MAP 5385 . Applied Numerical Mathematics

3(3,0). PR: MAP 2302, graduate status or senior standing, or C.I. Classical topics or numerical analysis and their applications. Romberg integration. Richardson

MAP 5396 . Splines and Data Fitting

3(3,0). PR: MAS 3106, MAS 3105, MAP 2302, and graduate status or senior standing or C.I. Univariate splines and their application to data fitting. Applications to

extrapolation, Gaussian quadrature schemes.
AS-Mathematics

regression analysis, differential and integral equations. Algorithms to use different types of splines in computation.
AS-Mathematics

MAP 5404 . Mathematical Foundations for Industrial Engineering and Operations

3(3,0). PR: MAP 2302, ESI 5219 or equivalent, ESI 4312, and graduate status or senior standing or C.I. Methods of proof, set theory; basic elements of topology, real analysis, graph theory, and matrix analysis.
AS-Mathematics

MAP 5407 . Applied Mathematics I

3(3,0). PR: MAP 2302, and graduate status or senior standing or C.I. Calculus of variations. Hamilton's principle, Rayleigh-Ritz method, Sturm-Liouville theory, Green's functions for ordinary differential equations, introduction to integral equations.
AS-Mathematics

MAP 5426 . Special Functions

3(3,0). PR: MAP 2302, and graduate status or senior standing or C.I. Series and integral representations, generating functions, recurrence relations and orthogonality properties of the special functions. Emphasis on Bessel, Legendre and hypergeometric functions.
AS-Mathematics

MAP 5435 . Advanced Mathematics for Engineers

3(3,0). PR: MAP 2302, and graduate status or senior standing or C.I. Linear Algebra and matrix methods, ordinary differential equations, Fourier series, partial differential equations, numerical methods for differential equations, and applications to engineering.
AS-Mathematics

MAP 5514 . Linear and Nonlinear Waves I

3(3,0). PR: MAP 2302, MAP 4363, and graduate status or senior standing, or C.I. Equations of motion in inviscous and viscous fluids, energy equation and energy flux, linear theory of gravity and capillary-gravity waves, variational principles for water waves.
AS-Mathematics

MAP 5931 . Research Seminar

1(1,0). PR: Graduate status or senior standing or C.I. Four instructors will introduce the students to a research area by presenting necessary background and presenting current investigations. Different branches of mathematics will be presented for a sense of diversity.
AS-Mathematics

MAP 6110 . Measure and Probability

3(3,0). PR: MAA 5210 or C.I. Measure and integration, probability measures, random variables, distribution and characteristic functions. Convergence in LP, probability, distribution and with probability one.
AS-Mathematics

MAP 6111 . Mathematical Statistics

3(3,0). PR: MAP 6110 or C.I. Strong laws of large numbers, consistency and asymptotic normality, complete and sufficient statistics, maximum likelihood and least squares, optimal estimators, hypothesis testing.
AS-Mathematics

MAP 6112 . Asymptotic Methods in Mathematical Statistics

3(3,0). PR: MAP 6111 or C.I. Large sample theory, Martingale sequences, probability measures on metric spaces, absolute continuity and singularity, Hellinger distance, functions of statistics, asymptotic theory of estimation.
AS-Mathematics

MAP 6118 . Introduction to Nonlinear Dynamics

3(3,0). PR: MAP 5336, PHY 2048 or equivalent, or C.I. Nonlinear differential equations; bifurcation theory; Hamiltonian dynamics; integrable systems and breakdown of integrability; chaos in conservative and dissipative systems.
AS-Mathematics

MAP 6207 . Optimization Theory

3(3,0). PR: MAA 4226 or C.I. Lagrangian function and duality, Kuhn-Tucker theorem, quadratic programming and Wolfe's theorem, Griffith and Stewart's method, search methods for unconstrained optimization.
AS-Mathematics

MAP 6356 . Partial Differential Equations

3(3,0). PR: MAP 4364 or MAP 5435 or equivalent. First and second order linear equations; classification; analytical methods including Green's functions and integral representations; introduction to nonlinear equations; applications.
AS-Mathematics

MAP 6386 . Numerical Solutions of PDE

3(3,0). PR: MAP 6456, MAP 5385, or C.I. Numerical solution of linear and nonlinear partial differential equations of parabolic, elliptic and hyperbolic type using finite difference and spectral methods.
AS-Mathematics

MAP 6398 . Multivariate Splines and Surface Fitting

3(3,0). PR: MAP 5396 or C.I. Approximation of functions of several variables, tensor product splines, theory of multivariate splines, box splines, surface fitting, applications to statistics, computer graphics.
AS-Mathematics

MAP 6408 . Applied Mathematics II

MAP 6410 . Advanced Transform Methods

3(3,0). PR: MAP 3302 and MAA 5405 or equivalent. Asymptotic series, asymptotic expansion of integrals, regular and singular perturbation expansions, boundary layer, multiple scales, WKB theory.
AS-Mathematics

MAP 6420 . Generalized Functions

3(3,0). PR: MAP 6506 or C.I. Spaces of test functions and their duals, calculus of distributions, convolution and tempered distributions, Fourier transforms of distributions, and applications to PDEs.
AS-Mathematics

MAP 6424 . Transform Methods

3(3,0). PR: MAA 5405 or C.I. Laplace, Fourier, Hankel, and other integral transforms, inversion theorems; the Z transform; applications to physical problems.
AS-Mathematics

MAP 6465 . Wavelets and Their Applications

3(3,0). PR: MAP 4364, MAA 6508, or C.I. Continuous wavelet transforms, discrete wavelet transforms, frames, Zak transform, multi-resolution analysis, orthonormal bases of compactly supported wavelets, spline wavelets.
AS-Mathematics

MAP 6507 . Wave Propagation through Random Media

3(3,0). PR: MAP 2302, EEE 5542, or C.I. Development of mathematical models for laser communications and laser radar in atmospheric turbulence. Free-space propagation of Gaussian beams and classical theories of propagation.
AS-Mathematics

MAP 7357 . Advanced Topics in Partial Differential Equations

3(3,0). PR: MAP 6356 or C.I. Variational techniques, perturbation and asymptotic methods, hyperbolic systems, Lie group methods, parabolic, elliptic, or free boundary value problems, spectral analysis.
AS-Mathematics

MAR 5941 . Small Business Consulting

3(3,0). PR: Graduate status, all foundation classes, FIN 6406, MAR 6816. Provides students opportunity to apply knowledge learned in classroom to real business situations. Open to undergraduate majors in the College of Business Administration with approval of the department chair.
BA-Marketing

MAR 6151 . Global Marketing

3(3,0). PR: CBA Master's program of study foundation core. Comprehensive study of marketing transactions and management activities from a global perspective.
BA-Marketing

3(3,0). PR: MAP 6424 or C.I. Fourier analysis and sliding-window Fourier transform, sampling theory and its applications in signal analysis and optics, Radon transforms, the technique of back projection.
AS-Mathematics

MAP 6421 . Integral Equations

3(3,0). PR: MAA 5405 or C.I. Successive approximations, Volterra equations, Fredholm theory, Hilbert-Schmidt theory, Neumann series, singular integral equations, the Riemann-Hilbert problem.
AS-Mathematics

MAP 6445 . Approximation Techniques

3(3,0). PR: MAA 4227, MAA 5210 or C.I. Normed linear spaces; Weierstrass approximation theorem; Tchebycheff approximation by polynomials; trigonometric approximation; orthogonal expansions and least squares approximations.
AS-Mathematics

MAP 6506 . Functional Analysis

3(3,0). PR: MAA 4226 or C.I. Normed vector spaces, linear operators, Baire Category theorem, Banach fixed point theorem, Hahn-Banach theorem and applications, open mapping and closed graph theorem with applications, Hilbert space, Gateaux and Frechet.
AS-Mathematics

MAP 7119 . Advanced Nonlinear Dynamics

3(3,0). PR: MAP 6118 or C.I. Solitons, inverse scattering transform, breakdown or integrability, analytic structure of dynamical systems, fractal aspects of turbulence.
AS-Mathematics

MAR 5055 . Marketing Foundations

1-3(1-3,0). PR: Acceptance into the graduate program. Study of functions, institutions, and basic marketing of goods in the U.S. economy.
BA-Marketing

MAR 6077 . Contemporary Marketing Problems

3(3,0). PR: Graduate standing, MAR 6816, or C.I. Analysis of contemporary marketing problems resulting from social, economic, and political developments.
BA-Marketing

MAR 6406 . Sales Management and Control

3(3,0). PR: Graduate standing and MAR 5055 or equivalent. Designed to provide an analysis of the sales and management process. Topics covered include selection and training, compensation, behavioral issues and sales planning, evaluation, and control.
BA-Marketing

MAR 6407 . Professional Selling in Sport

3(3,0). PR: CBA Master's program of study foundation core, and admission to the Sport Business Management program. This course offers a comprehensive understanding of the sales process in the sport arena. An overview of sales theory and its applications in sports are examined.

BA-Marketing

MAR 6456 . Advanced Industrial Marketing Management

3(3,0). PR: MAR 5055 or equivalent or C.I. This course provides a comprehensive introduction to the distinctive characteristics of industrial markets. The course reviews what is known about organizational buying behavior which provides the foundation necessary to formulate marketing strategies.

BA-Marketing

MAR 6616 . Marketing Research Methods

3(3,0). PR: Graduate standing, ECO 6416. Investigation of primary research methods used to generate information for marketing decision-makers. Problem definition, research design, data collection, data processing, statistical interpretation, and communication of research results.

BA-Marketing

MAR 6677 . Marketing Engineering

3(3,0). PR: CBA Master's program of study foundation core. Acquire knowledge about a variety of planning and decision models used to creatively solve marketing problems.

BA-Marketing

MAR 6710 . Strategic Sport Marketing

3(3,0). PR: CBA Master's program of study foundation core. This course offers a comprehensive understanding of the marketing of sport and marketing through sport. Theoretical and practical applications of sport marketing are examined.

BA-Marketing

MAR 6809 . Digital Marketing Management

3(3,0). PR: CBA Master's program of study foundation core. Understand how digital marketing differs from conventional marketing. Develop an ability to formulate digital marketing applications and build viable digital marketing strategies.

BA-Marketing

MAR 6816 . Strategic Marketing Management

3(3,0). PR: CBA Master's program of study foundation core, and admission to the Sport Business management program. Marketing competitive strategy formulation with respect to product, pricing, promotion and distribution. Course aims at developing strategic thinking, functional marketing expertise and analytical skills.

BA-Marketing

MAR 6839 . Marketing of High-Technology Products

3(3,0). PR: CBA Master's program of study foundation core. Understand high technology marketing issues. Acquire concepts and tools to develop high technology business models. Develop insights into branding, new product development, forecasting and CRM.

BA-Marketing

MAR 6845 . Services Marketing

3(3,0). PR: MAR 5055 or equivalent or C.I. Marketing in services industries is the focus of study with particular emphasis on unique aspects of services marketing, the service marketing mix, and the implementation of service strategies.

BA-Marketing

MAR 7575 . Seminar in Consumer Behavior

3(3,0). PR: ECO 7423 and admission to the Ph.D. program. Provides doctoral students with a broad exposure to the literature of consumer behavior theories and methods.

BA-Marketing

MAR 7638 . Seminar in Marketing Theory, Scaling, and Measurement

3(3,0). PR: ECO 7423 and admission to the Ph.D. program. Provides doctoral students with a foundation in marketing theory, scaling, and measurement.

BA-Marketing

MAR 7666 . Seminar in Marketing Models

3(3,0). PR: ECO 7423 and ECO 7425 and admission to the Ph.D. program. Course provides an overview of mathematical models utilized in marketing contexts.

BA-Marketing

MAR 7807 . Seminar in Marketing Strategy

3(3,0). PR: ECO 7423 and admission to the Ph.D. program. Provides doctoral students with a broad exposure to the literature surrounding marketing strategy and management issues.

BA-Marketing

MAS 5145 . Advanced Linear Algebra and Matrix Theory

3(3,0). PR: MAS 3105, and graduate status or senior standing or C.I. LU and LDU decompositions, linear spaces, inner product spaces, systems of linear equations, eigenvalues and canonical forms, variational principles and applications.

AS-Mathematics

MAS 5311 . Abstract Algebra with Applications

3(3,0). PR: MAS 4301 or undergraduate abstract algebra

MAS 6147 . Multilinear Algebra

3(3,0). PR: MAS 5145 or C.I. Algebraic theory of tensor

and graduate status or senior standing or C.I. Group actions, the class equation, Sylow Theorems, polynomial rings, Euclidian domains, principal ideal domains, field extensions, modules, and semi-simple rings.

AS-Mathematics

MAS 6463 . Doubly Stochastic Measures

3(3,0). PR: MAP 6506, MAP 5416, MAP 6111, MAP 6110, or C.I. Doubly stochastic matrices, Birkhoff's theorem, double stochastic measures, Douglas-Lindentrauss theorem, copulas, Frechet bounds, dependence of random variables, Markov operators.

AS-Mathematics

MCB 5205 . Infectious Processes

3(3,0). PR: MCB 3020C or C.I. Discussion of current theories of the infectious process and the response of host cells and tissue to infection.

HPA-Molecular & Microbiology

MCB 5505 . Molecular Virology

3(3,0). PR: Graduate standing or C.I. An in-depth overview of the fundamental aspects and current concerns in modern virology including HIV, tumor viruses Prion disease, virus-host interaction, genome replication and pathogenesis.

HPA-Molecular & Microbiology

MCB 5654 . Applied Microbiology

3(3,0). PR: MCB 3020C or C.I. Microbial biochemistry of industrial processes including economics, screening, scale up, quality control and applied genetics.

HPA-Molecular & Microbiology

MCB 6226 . Molecular Diagnostics

3(3,0). PR: PCB 3523, PCB 4524 and MCB 5225 or C.I. A course in basic laboratory skills used in molecular genetic or clinical diagnostic laboratories for detecting genetic diseases.

HPA-Molecular & Microbiology

MCB 6417C . Microbial Metabolism

3(3,0). PR: C.I. Relationship between microbial metabolism and principal cellular activities, emphasizing transport, respiration, differentiation, and synthesis.

HPA-Molecular & Microbiology

MHS 5005 . Introduction to the Counseling Profession

3(3,0). PR: Completion of phase II of education professional preparation or C.I. Overview of the philosophy, organization, administration, and roles of counselors in various work settings

ED-Child, Family & Comm Sci

MHS 6042 . Character Education in the Schools

3(3,0). PR: C.I. An examination of issues in the field of character education.

ED-Child, Family & Comm Sci

and exterior products of finite and infinite dimensional vector spaces and linear transformations. Some category theory will be discussed. Applications to other areas of algebra will be presented.

AS-Mathematics

MAT 5711 . Scientific Computing

3(3,0). PR: MAC 2313, MAP 2302, graduate status or senior standing, or C.I. Basic programming skills using Mathematica, Maple, Matlab, or Java in solving basic scientific computing problems; preparing students for advanced computational methods and algorithms.

AS-Mathematics

MCB 5225 . Molecular Biology of Disease

3(3,0). PR: Graduate standing or C.I. An in-depth study of the molecular biological mechanisms of diseases in experimental animal models and human populations.

HPA-Molecular & Microbiology

MCB 5527 . Genetic Engineering and Biotechnology

3(3,0). PR: PCB 3523 and PCB 4524 or C.I. Principles of genetic engineering/biotechnology in bacteria, yeast, viral, mammalian, non-mammalian systems, plants, including human gene therapy, novel pharmaceuticals, recombinant proteins will be discussed in depth.

HPA-Molecular & Microbiology

MCB 5932 . Current Topics in Molecular Biology

Variable. PR: Graduate standing or C.I. Selected current research topics from the primary literature reflecting recent advances in molecular biology. May be repeated for credit.

HPA-Molecular & Microbiology

MCB 6407C . Laboratory Methods in Molecular Biology

5(3,4). PR: PCB 4524 and MCB 4404, or C.I.

Experimental techniques and design in laboratory biological research.

HPA-Molecular & Microbiology

MCB 6528 . Plant Molecular Biology

3(3,0). PR: PCB 4524 or C.I. Structure and function of plant genomes, genes, gene products and experimental approaches for genetic engineering for production of edible vaccines, antibodies or other pharmaceuticals.

HPA-Molecular & Microbiology

MHS 6020 . Mental Health Care Systems

3(3,0). PR: MHS 5005 or C.I. Foundations of mental health counseling including organizational, administration, fiscal, and accountability structures.

ED-Child, Family & Comm Sci

MHS 6070 . Diagnosis and Treatment in Counseling

3(3,0). PR: MHS 6400, MHR 6401. Examines diagnosis in the assessment and treatment of mental disorders and the use of the DSM IV. Disorders reviewed with emphasis on symptoms and implications for treatment.

ED-Child, Family & Comm Sci

MHS 6220 . Individual Psychoeducational Testing I
3(3,0). An overview of appraisal instruments for individual testing with emphasis on administration, scoring, and interpretation. Designed for practitioners interested in understanding individual assessment.
ED-Child, Family & Comm Sci

MHS 6221 . Individual Psychoeducational Testing II
3(3,1). PR: C.I. Analysis of test theory and practice in administration, scoring, and interpretation of tests assessing achievement, visual-motor and cognitive ability, adaptive behavior, and self-concept.
ED-Child, Family & Comm Sci

MHS 6306 . Applied Career Development
3(3,0). PR: EDH 6044. A study of career development theories, concepts and models in the delivery of career services in a variety of career development settings.
ED-Child, Family & Comm Sci

MHS 6307 . Applied Career Development II
3(3,0). PR: EDH 6044 Career Development; MHS 6306. This course is designed to offer students practical supervised experiences in the delivery of career development services.
ED-Child, Family & Comm Sci

MHS 6400 . Theories of Counseling and Personality
3(3,0). PR: MHS 5005 or MHS 6020, EDF 6481, or C.I. Major theories and approaches to counseling, correlating them with counterpart theories of personality and learning.
ED-Child, Family & Comm Sci

MHS 6401 . Techniques of Counseling
3(1,2). PR: MHS 6400 or C.I. The nature of counseling and its relationships to theoretical concepts.
ED-Child, Family & Comm Sci

MHS 6403 . Techniques of Play Therapy and Expressive Arts
3(3,0). PR: Graduate standing in mental health counseling or related field. This course provides a theoretical foundation for using expressive arts in counseling.
ED-Child, Family & Comm Sci

MHS 6407 . Counseling for Wellness
3(3,0). PR: C.I. Introduction to wellness concepts and topics in counseling including spirituality, health, stress research, positive assessment and others.
ED-Child, Family & Comm Sci

MHS 6420 . Counseling Special Populations
3(3,0). PR: MHS 5005 or MHS 6020 or C.I. Application of counseling principles with various special populations including multicultural subgroups, persons of abuse, exceptional children, gay and lesbian people, etc.
ED-Child, Family & Comm Sci

MHS 6421 . Foundations of Play Therapy and Play Process
3(3,0). PR: Graduate standing in mental health counseling or related field. Theories and application of the principles of play in the counseling process with children.
ED-Child, Family & Comm Sci

MHS 6422 . Theories of Play Therapy and Play Process
3(3,0). PR: MHS 6421. This course will provide an overview of different play therapy theories and the application of those in the counseling process.
ED-Child, Family & Comm Sci

MHS 6424 . Applications of Play Therapy with Special Populations
3(3,0). PR: Graduate standing in mental health counseling or related field. This course provides an overview of applications of play therapy with specific populations such as groups, parents, families and/or traumatized children.
ED-Child, Family & Comm Sci

MHS 6430 . Family Counseling I
3(1,2). PR: MHS 5005 or MHS 6020 or C.I. Presentation of specific family counseling theories. An evolution and current state of the art.
ED-Child, Family & Comm Sci

MHS 6431 . Family Counseling II
3(1,2). PR: MHS 6430, EDF 6481, or C.I. Presentation of techniques to work with entrenched, paradoxical, and 'fixed' family systems that pose problems for the family and the counselor.
ED-Child, Family & Comm Sci

MHS 6433 . Developmental Process of the Resilient Family
3(3,0). PR: C.I. This course will examine models that focus on the resiliency of families throughout the life cycle and implications in counseling.
ED-Child, Family & Comm Sci

MHS 6440 . Couples Counseling
3(3,0). PR: Graduate standing or C.I. Overview of couple counseling theory and technique. In addition the course covers special problems and stressors in the couple relationship.
ED-Child, Family & Comm Sci

MHS 6450 . Counseling Substance Use and Abuse
3(3,0). PR: MHS 5005 or MHS 6020, or C.I. Examination within systematic, theoretical framework of the function that a substance, individual, and the

MHS 6465 . Counseling Victims and Perpetrators of Family Violence
3(3,0). Examination of counseling interventions used with victims and perpetrators of family violence.

environment play in use and abuse of illicit and licit substances. ED-Child, Family & Comm Sci	ED-Child, Family & Comm Sci
MHS 6480 . Human Sexuality and Relationships 3(3,0). A basic course in understanding how human beings form intra- and interpersonal relationships and how sexuality develops. ED-Child, Family & Comm Sci	MHS 6500 . Group Procedures and Theories in Counseling 3(3,0). PR: MHS 6401. This course is designed to give the student an understanding of the role of theories in group counseling as well as the many process applications of groups. ED-Child, Family & Comm Sci
MHS 6510 . Advanced Group Counseling 3(1,2). PR: MHS 6500 or C.I. This course is designed to give students practical experience in leading groups. It is also intended to challenge students to explore professional and advanced issues in group counseling. ED-Child, Family & Comm Sci	MHS 6600 . Consultation, Staffing, and Case Management 3(2,0). PR: MHS 6500 or C.I. Understanding the counselor's role as consultant and staffing team member. Study of case management procedures. ED-Child, Family & Comm Sci
MHS 6702 . Ethical & Legal Issues 3(3,0). PR: C.I. Studies of ethical standards and legal issues in counseling and other human service professions. ED-Child, Family & Comm Sci	MHS 6803 . Practicum in Counselor Education 3(3,0). PR: MHS 5005, MHS 6400, MHS 6401, MHS 6500, C.I. Supervised counseling emphasizing competence in (1) individual counseling (2) working with groups (3) tests in educational-career-personal counseling. May be repeated for credit. ED-Child, Family & Comm Sci
MHS 6830 . Counseling Internship 1-6(1,1-6). PR: C.I. Supervised placement in setting appropriate for program track. (May be repeated for credit.) ED-Child, Family & Comm Sci	MHS 6930 . Current Trends in Counselor Education 3(3,0). PR: MHS 5005 or 6500 or C.I. Current trends affecting the rapid changes in the counseling field. ED-Child, Family & Comm Sci
MHS 7311 . Technology Issues in Counselor Education 3 (3,0). PR: Admission to Ph.D. in Education--Counselor Education track. Technology issues in counselor education including ethics, use of on line counseling, on line supervision, and addiction. ED-Child, Family & Comm Sci	MHS 7340 . Advanced Career Development 3(3,0). PR: Admission to Ph.D. in Education. An advanced study of career development theories, occupational and educational information, approaches to career decision-making, life-style and leisure in the development of the whole person. ED-Child, Family & Comm Sci
MHS 7406 . Advanced Theories in Counseling 3(3,0). PR: Admission to Ph.D. program in Education--Counselor Ed track. Examination of counseling theories including historical foundations and emerging theories. ED-Child, Family & Comm Sci	MHS 7611 . Supervision in Counselor Education 3(3,0). PR: Admission to Ph.D. in Education--Counselor Ed. track. An examination of the process and various theories of supervision in counselor education. ED-Child, Family & Comm Sci
MHS 7700 . Professional Issues in Counselor Education 3(3,0). PR: Admission to Ph.D. program in Education--Counselor Ed. track. Emphasis on professional issues related to counselor education including teaching, research, and service. ED-Child, Family & Comm Sci	MHS 7730 . Research Seminar in Counselor Education 3(3,0). PR: Admission to Ph.D. in Education. An examination of outcome research design, methodological issues and empirical basis of counseling. ED-Child, Family & Comm Sci
MHS 7808 . Practicum in Counseling Supervision 3(3,0). PR: Admission to Ph.D. program in Education. Integration of theory and practice in counseling supervision. ED-Child, Family & Comm Sci	MHS 7840 . Internship in Counselor Education 3(3,0). PR: Admission to Ph.D. program in Education--Counselor Ed. track. Examine and practice the various roles within a Counselor Education program under direct supervision. ED-Child, Family & Comm Sci

MHS 7901 . Advanced Practicum in Counselor Education

3(3,0). PR: Admission to Ph.D. program in Education--Counselor Ed. track. This course provides advanced graduate students an opportunity to demonstrate and develop counseling skills.
ED-Child, Family & Comm Sci

MLS 6940 . Supervision and Administration in the Laboratory

3(3,0). PR: Graduate standing or C.I. Management strategies and skills in the laboratory setting. Explores motivation theory, communication issues, ethics, personnel administration and regulatory agencies.
HPA-Molecular & Microbiology

MLS 6941 . Principles of Laboratory Education and Training

3(3,0). PR: Graduate standing or C.I. Application of learning theories and curriculum planning to the laboratory didactic and practical teaching environment. To include goal and task analysis, performance objectives and evaluation mechanisms.
HPA-Molecular & Microbiology

MLS 6942 . Advanced Specialization in Immunonematology; Theory

3(3,0). PR: Graduate standing or C.I. Theoretical aspects of blood collection, testing, storage and transfusion of blood, red cell antigen genetic and immunological theory, transfusion therapy and serological characteristics of antibodies.
HPA-Molecular & Microbiology

MLS 6943 . Advanced Specialization in Immunoematology: Practice

3(3,0). PR: Acceptance in the Specialist in Blood Banking program. Supervised practice in donor recruitment, phlebotomy, donor testing. Component preparation, HLA typings, transfusion service and management in the community blood center.
HPA-Molecular & Microbiology

MMC 6202 . Legal and Ethical Issues for Communication

3(3,0). A study of social, ethical and legal issues for communications practitioners and the impact on media consumers.
AS-Communication

MMC 6307 . International Communication

3(3,0). Case studies on global communication, coping with cultures, communicating across cultures, global media, global news flow and persuasive communication. May be repeated for credit.
AS-Communication

MMC 6402 . Mass Communication Theory

3(3,0). A study of mass communication theory and research traditions.
AS-Communication

MMC 6407 . Visual Communication Theory

3(3,0). A study of the visual world as it relates to theories of visual interpretation.
AS-Communication

MMC 6445 . Mass Media Research I

3(3,0). Quantitative approaches to mass communication research.
AS-Communication

MMC 6446 . Mass Media Research II

3(3,0). Qualitative approaches to mass communication research.
AS-Communication

MMC 6567 . Seminar in New Media

3(3,0). A study of the development and convergence of new technologies and their mediation.
AS-Communication

MMC 6600 . Media Effects and Audience Analysis

3(3,0). A study of the effects of communication on society emphasizing the research in media effects.
AS-Communication

MMC 6606 . Advertising and Society

3(3,0). A study of the social and ethical impact of advertising focusing on the development and presentation of advertising messages.
AS-Communication

MMC 6607 . Communication and Society

3(3,0). The importance of the mass media, their structure, role, and problems.
AS-Communication

MMC 6612 . Communication and Government

3(3,0). A study of the relationship between the media and government.
AS-Communication

MTG 5256 . Differential Geometry

3(3,0). PR: MAA 4227, graduate status or senior standing, or C.I. Differentiable manifolds, tangent space and tangent bundle, flows and vector fields, Lie derivatives, cotangent space and cotangent bundles, Riemann metrics, connections and geodesics, applications in classical mechanics.
AS-Mathematics

MTG 6348 . Topological K-Theory

3(3,0). PR: C.I. or MTG 4302. Chain and cochain complexes; general cohomology theories; exact couples and spectral sequences; Atiyah-Hirzebruch spectral sequence; topological K-theory; Chern character; applications.
AS-Mathematics

MUE 5348C . K-12 Music Methods

4(4,0). PR: Graduate standing in Music Education or C.I. Organization and administration of instruction for comprehensive music education, K-12. Instructional planning, techniques, and materials for general, choral, and instrumental music education.
ED-Teaching & Learning Princ

MUE 6175 . Teaching Music Performance

3(3,0). PR: Graduate standing in MA or MED in Music Education or C.I. Techniques and skills for planning, administering and directing performing music organizations. Examination of historical, sociological and philosophical foundations of music education.
ED-Teaching & Learning Princ

MUE 6349 . Advanced General Music

3(3,0). PR: Basic Teacher Certificate or C.I. Analysis of current materials, new programs, and teaching techniques in general music, K-12. Emphasis on practical applications. Examinations of psychological foundations of music education.
ED-Child, Family & Comm Sci

MUE 6946 . Practicum in Music Education

3(0,14). PR: Basic Teacher Certificate. MUE 6349, MUE 6610 and MUE 6630 or C.I. Field experience in teaching music. (May be repeated for credit.)
ED-Child, Family & Comm Sci

MUM 5806 . Performing Arts Management

3(3,0). PR: Graduate status or senior standing or C.I. Structure of nonprofit performing arts organization (PAOs), examining the fundamental elements of administration, audience development, marketing, and fund-raising.
AS-Music

MUS 5365 . Music and Technology

3(3,0). PR: Graduate status or senior standing, or C.I. The emergence of technology in music including MIDI, CD ROM, and the high-tech music classroom.
AS-Music

MUS 6105 . Musicianship I

3(3,0). PR: Admission into M.Ed. in Music Education or C.I. An integrated study of music history with applications of theory and aural skill development.
AS-Music

MUS 6106 . Musicianship II

3(3,0). PR: Admission into M.Ed. in Music Education or C.I. A continual and integrated study of music history with applications of music theory and aural skill development.
AS-Music

MUS 6107 . Musicianship III

3(3,0). PR: Admission into M.Ed. in Music Education or C.I. Advanced integrated study of history with applications of theory and aural skill development.
AS-Music

MUT 5381 . Arranging and Composing Music

3(3,0). PR: Satisfactory placement tests in theory, sight-singing, and ear training, and graduate status or senior standing or C.I. Arranging and composing music for instrumental and vocal ensembles. Some emphasis on compositional techniques of the 20th century.
AS-Music

MVB 5451 . Trumpet V

2(1,0). PR: Graduate status or senior standing and C.I. May be repeated for credit.
AS-Music

MVB 5452 . French Horn V

2(1,0). PR: Graduate status or senior standing and C.I. May be repeated for credit.
AS-Music

MVB 5453 . Trombone V

2(1,0). PR: Graduate status or senior standing and C.I. May be repeated for credit.
AS-Music

MVB 5454 . Baritone V

2(1,0). PR: Graduate status or senior standing and C.I. May be repeated for credit.
AS-Music

MVB 5455 . Tuba V

2(1,0). PR: Graduate status or senior standing and C.I. May be repeated for credit.
AS-Music

MVK 5451 . Piano V

2(1,0). PR: Graduate status or senior standing and C.I. May be repeated for credit.
AS-Music

MVK 5453 . Organ V

2(1,0). PR: Graduate status or senior standing and C.I. May be repeated for credit.
AS-Music

MVO 5250 . Advanced Secondary Instruction

1(1,0). PR: Graduate status or senior standing, and C.I. Advanced instructional techniques on a secondary instrument or in voice. May be repeated for credit.
AS-Music

MVP 5451 . Percussion V

2(1,0). PR: Graduate status or senior standing and C.I. May be repeated for credit.

MVS 5451 . Violin V

2(1,0). PR: Graduate status or senior standing and C.I. May be repeated for credit.

AS-Music

MVS 5452 . Viola V

2(1,0). PR: Graduate status or senior standing and C.I.
May be repeated for credit.
AS-Music

MVS 5454 . Bass V

2(1,0). PR: Graduate status or senior standing and C.I.
May be repeated for credit.
AS-Music

MVS 5456 . Guitar V

2(1,0). PR: Graduate status or senior standing and C.I.
May be repeated for credit.
AS-Music

MVW 5451 . Flute V

2(1,0). PR: Graduate status or senior standing and C.I.
May be repeated for credit.
AS-Music

MVW 5453 . Clarinet V

2(1,0). PR: Graduate status or senior standing and C.I.
May be repeated for credit.
AS-Music

MVW 5455 . Saxophone V

2(1,0). PR: Graduate status or senior standing and C.I.
May be repeated for credit.
AS-Music

NGR 5004L . Advanced Health Assessment, Health Promotion, and Diagnostic Reasoning Clinical

2(0,2). PR: Baccalaureate in Nursing Basic Health Assessment course. Application of skills for advanced health assessment, health promotion, and diagnostic reasoning for individuals over the lifespan and populations. Graded S/U.
HPA-Nursing

NGR 5141 . Pathophysiological Bases for Advanced Nursing Practice

3(3,0). PR: Baccalaureate Degree in Nursing. Critical examination of the physiological and pathophysiological mechanisms affecting individuals.
HPA-Nursing

NGR 5252 . Psycho-Social Factors and Health Care Outcomes in the Elderly

3(3,0). PR: Post-baccalaureate or graduate status or C.I. Interdisciplinary perspective to examine the relationship between client characteristics, client health care provider interactions and health care outcomes in the elderly.
HPA-Nursing

NGR 5637 . Advanced Practice Nursing in Rural Settings

3(3,0). PR: Graduate student in COHPA. Focus is on

AS-Music

MVS 5453 . Cello V

2(1,0). PR: Graduate status or senior standing and C.I.
May be repeated for credit.
AS-Music

MVS 5455 . Harp V

2(1,0). PR: Graduate status or senior standing and C.I.
May be repeated for credit.
AS-Music

MVV 5451 . Voice V

2(1,0). PR: Graduate status or senior standing and C.I.
May be repeated for credit.
AS-Music

MVW 5452 . Oboe V

2(1,0). PR: Graduate status or senior standing and C.I.
May be repeated for credit.
AS-Music

MVW 5454 . Bassoon V

2(1,0). PR: Graduate status or senior standing and C.I.
May be repeated for credit.
AS-Music

NGR 5003 . Advanced Health Assessment, Health Promotion, and Diagnostic Reasoning

3(3,0). PR: B.S. in Nursing; Basic Health Assessment course. CR: Advanced Health Assessment Clinical: NGR 5141. Advanced health assessment, health promotion, and diagnostic reasoning for individuals over the lifespan and populations.
HPA-Nursing

NGR 5090 . Urgent Care for the Advanced Practice Nurse

3(3,0). PR: NGR 6240C or C.I. Advanced practice evaluation and management of clients in urgent care settings.
HPA-Nursing

NGR 5195C . International Perspectives of Global Health

3(2,1). PR: Graduate standing or C.I. An analysis of global health in comparison with that of USA and other nation's health care systems.
HPA-Nursing

NGR 5635 . Transdisciplinary and Community-Based Strategies of Health Professionals

3(3,0). PR: Graduate standing or C.I. A study of healthcare issues and strategies encountered by speech-language pathologists and nurse practitioners when promoting transdisciplinary and collaborative interactions.
HPA-Nursing

NGR 5660 . Health Disparities: Issues and Strategies

3(3,0). PR: Graduate standing. Explores disparities in access, utilization, services, outcomes, and status for

advance practice nursing in rural environments and delivery services within constraints of sparse resources and geographical remoteness.
HPA-Nursing

different US populations: data, research, programmatic issues; and strategies to close the gaps.
HPA-Nursing

NGR 5714 . Clinical Teaching Strategies for Health Professional Education

3(3,0). PR: EDG 6236 or Teaching Strategies for Health Professionals, or C.I. In depth study of the development, implementation, and evaluation of clinical education programs for health profession students. May be repeated for credit.
HPA-Nursing

NGR 5715 . Instructional Technology Resources for Health Professional Education

3(3,0). PR: EDG 6236, Teaching Strategies for Health Professionals, or C.I. Analysis of effective teaching learning strategies with emphasis on developing techniques for teaching through technology resources.
HPA-Nursing

NGR 5720 . Organizational Dynamics

3(3,0). PR: Baccalaureate Degree in Nursing. Analysis of theories and models of health care organizational systems. Emphasis on nursing administration roles.
HPA-Nursing

NGR 5744 . Health Care Systems, Policy and Health Professionals

1(1,0). PR: Admission to the MSN program or C.I. Examine social responses to health and illness, health care systems and policies and the role of advanced practice nurses.
HPA-Nursing

NGR 5745 . Professional Obligations and Activities of Advanced Practice Nursing

1(1,0). PR: NGR 5746. Examine professional obligations of advanced practice nursing. Opportunity to develop skills for taking certification exam.
HPA-Nursing

NGR 5746 . Cultural, legal, ethical, and political issues of Advanced Practice Nursing

1(1,0). PR: Baccalaureate degree in Nursing. Examine legal, ethical and political issues related to advanced practice nursing.
HPA-Nursing

NGR 5791 . Teaching Strategies for Health Professionals

3(3,0). PR: Bachelors in nursing or C.I. Analysis of internal and external controls on curriculum development for health professionals; application of selected teaching learning theories to classroom and clinical practice.
HPA-Nursing

NGR 5800 . Nursing Theory/Research I

4(4,0). PR: Baccalaureate degree in Nursing or NUR 4836, undergraduate statistics course or C.I. Explores and analyzes the conceptual and theoretical bases of nursing, examines and critiques research designs and methods commonly used in nursing research.
HPA-Nursing

NGR 5801 . Nursing Research II/Statistics

4(4,0). PR: BSN, NGR 5800, undergraduate Statistics or C.I. Measurement strategies in nursing research, data planning and collection techniques, statistical data analysis and interpretation of results, research proposal development, outcomes research and statistical software.
HPA-Nursing

NGR 5871 . Health Care Informatics

3(3,0). PR: Baccalaureate in health related field or C.I. Use of information systems, clinical data management, communication strategies, and decision-making models.
HPA-Nursing

NGR 5880 . Professional Ethics

3(3,0). PR: C.I. Clinical cases and other professional ethical issues related to codes of conduct and research; application of ethical principles. May be repeated for credit.
HPA-Nursing

NGR 5930 . Issues in Health Care for the Homeless

3(3,0). PR: Pre-senior level baccalaureate status or admission to the graduate program; C.I. Emphasis on socioeconomic, political, nursing, medical, health practice and research related to care of the homeless.
HPA-Nursing

NGR 5931 . Interdisciplinary Care at End-of-Life

3(3,0). PR: Graduate status or C.I. Examination of interdisciplinary roles and strategies for enabling patients, families; and caregivers to approach end-of-life free from avoidable distress and suffering.
HPA-Nursing

NGR 6099C . Advanced Skills for the Management of Illness and Injuries

3(2,1). PR: Pre-enrollment in nurse practitioner clinical course or C.I. Development of pathological, theoretical, and clinical skills for the evaluation, diagnosis, intervention, and management of illnesses and injuries.
HPA-Nursing

NGR 6192 . Pharmacology for Advanced Nursing Practice

NGR 6240 . Adult I for APNs

3(3,0). PR: Pre-Admit MSN Prog AND/FNP track. NGR

3(3,0). PR: NGR 5141. Comprehensive study of medications used in the promotion and maintenance of health across the lifespan. Examination of the implications for advanced nursing practice.
HPA-Nursing

NGR 6240L . Adult I Clinical for APNs
3(0,3). PR: Preadmit to MSN prog FNP/ANP track, NGR 5003C, 5141, 6334C, 6192. CR: NGR 6240C.
Application of skills for evaluation, diagnosis, and management of health needs of adults and communities.
Graded S/U.
HPA-Nursing

NGR 6242L . Adult II Clinical for APNs
2(0,2). PR: NGR 6240C, NGR 6334C, NGR 6192 CR: NGR 6242. Application of theory and skills for the evaluation, diagnosis, and management of the complex health needs of adults. Graded S/U. May be repeated for credit.
HPA-Nursing

NGR 6331L . Pediatrics I Clinical for APNs
2(0,2). PR: Admission of MSN program PNP or FNP track, NGR 5003, NGR 6141. CR: Pediatrics I, NGR 6192, Focused Pediatrics. Evaluation diagnosis and management of the primary care needs of children and their families.
HPA-Nursing

NGR 6332L . Pediatrics II Clinical for APNs
3(0,3). PR: Pediatrics I, Pediatrics I Clinical, NGR 6192.; CR: Pediatrics II. Evaluation, diagnosis, and management of the complex health needs of children and their families. Graded S/U.
HPA-Nursing

NGR 6335 . Focused Pediatrics for APNs
2(2,0). PR: Admission to MSN program PNP or FNP track, NGR 5003, NGR 5141. CR: Pediatrics I, Pediatrics I Clinical, Focused Pediatrics Clinical, NGR 6192.
Development of advanced knowledge in the physical and developmental assessment of children and families across the lifespan.
HPA-Nursing

NGR 6336 . Medically Complex Infants and Toddlers
3(3,0). PR: Admission to the Infant and Toddler Development Specialist Certificate program or the MSN Program. Biomedical risk factors affecting infant/toddler development and the impact on their families.
HPA-Nursing

NGR 6722 . Financial Management and Resource Development
3(3,0). PR: Admission to MSN program, NGR 5720. Comprehensive overview of health care economics for the nurse executive, financial management, resource development and impact on nursing and health care services.
HPA-Nursing

5003,5141, 6334C. CR: Adult I APN clin or C.I.
Development of theoretical skills for evaluation, diagnosis, and management of health needs of adults and communities.
HPA-Nursing

NGR 6242 . Adult II for APNs
2(2,0). PR: NGR 6242C, 6334C, 6192. CR: Adult II for APN Clinical or C.I. Development of theoretical foundation for the evaluation, diagnosis, and management of the complex health needs of adults.
HPA-Nursing

NGR 6331 . Pediatrics I for APNs
2(2,0). PR: Admission to MSN program FNP or PNP track, NGR 5003, 5141. CR: Pediatrics I Clinical, NGR 6192, Focused Pediatrics (PNP students only). Evaluation, diagnosis, and management of the primary care needs of children, their families and communities.
HPA-Nursing

NGR 6332 . Pediatrics II for APNs
3(3,0). PR: Pediatrics I, Pediatrics I Clinical, NGR 6192 ; CR: Pediatrics II, Clinical or C.I. Foundation for the evaluation, diagnosis, and management of the complex health needs of children and their families.
HPA-Nursing

NGR 6334 . Women's Health for APNs
2(2,0). PR: Admit MSN prog ANP/FNP track, NGR 5003, 5141. CR: Womens Health APN Clin. 6192 or C.I.
Development of theoretical skills for evaluation, diagnosis, and management of women.
HPA-Nursing

NGR 6335L . Focused Pediatrics Clinical for APNs
1(0,1). PR: Pre- Ped I for APNs; NGR 6192; co-focused Pediatrics for APNs. Application of theory and skills for the in depth developmental and physical assessment of children and their families. Graded S/U. May be repeated for credit.
HPA-Nursing

NGR 6482L . Women's Health for APNs Clinical
1(0,1). PR: Admit to MSN program. GNP/ANP track, NGR 5003, 5141. CR: Women's Health for APNs, NGR 6192 or C.I. Application of skills for evaluation, diagnosis, and management of the health needs of women. Graded S/U.
HPA-Nursing

NGR 6723 . Nursing Leadership and Management I
3(3,0). PR: Admission to MSN prog, NGR 5720 Org. Dynamics. CR: Enrollement in NGR 6723L. Nursing leadership topics including health care delivery systems across the continuum, patient care delivery models, staffing, personnel management, and legal and regulatory requirements.
HPA-Nursing

NGR 6723L . Nursing Leadership Role Specialization Practicum I

2(0,2). PR: Admission to MSN program, NGR 5720. CR: NGR 6723. Preceptor experience with a nurse leader in area of role specialization. Experience will focus on the analysis, synthesis, and application of content in NGR 6723 Graded S/U.

HPA-Nursing

NGR 6724 . Nursing Leadership and Management II

3(3,0). PR: Admission to MSN Prog., NGR 5720 Organizational Dynamics, NGR 6723, NGR 6723L. Nursing leadership topics including management information systems, quality management, program evaluation, strategic planning, ethics, and issues and trends.

HPA-Nursing

NGR 6724L . Nursing Leadership Role Specialization Practicum II

3(0,3). PR: NGR 5720, 6723, 6723L CR: NGR 6724. Preceptor experience with a nurse leader in area of role specialiation. Experience will focus on the analysis, synthesis, and application of content in NGR 6724L. Graded S/U.

HPA-Nursing

NGR 6752 . Clinical Nurse Specialist I

3(3,0). PR: NGR 5141; NGR 6192, NGR 5720, NGR 5003. Foundation for CNS practice; common clinical problems across the lifespan; role delineation.

HPA-Nursing

NGR 6752L . Clinical Nurse Specialist I Practicum

2(0,2). PR: NGR 6752, NGR 6722. Implementation of the clinical expert, educator, and leadership roles of the CNS.

HPA-Nursing

NGR 6753 . Clinical Nurse Specialist II

2(0,2). PR: Clinical Nurse Specialist I and Clinical Nurse Specialist I Practicum. Continuation of CNS; management of acute and/or complex patients across the lifespan; consultant, case manager, change agent and research roles.

HPA-Nursing

NGR 6753L . Clinical Nurse Specialist II Practicum

2(0,2). PR: Clinical Nurse Specialist II. Implementation of CNS role with emphasis on the consultant, case manager, change agent, and researcher. Graded S/U.

HPA-Nursing

NGR 6813 . Research Scholarly Work

3(3,0). PR: Admission to MSN program and NGR 5801. Develop, conduct, and complete a scholarly work evaluating research findings for application to advanced practice.

HPA-Nursing

NGR 6940 . NP Certificate Practicum

5(0,5). PR: Pre NGR 6334 or NGR 6242. Supervised advanced clinical practice in the role of the nurse practitioner in an individual preceptorship. May be repeated for credit. Graded S/U.

HPA-Nursing

NGR 6941 . Advanced Practice Practicum

Variable 1-6. PR: NGR 6334C or NGR 6242C. Supervised advanced clinical practice in the role of the nurse practitioner in an individualized preceptorship.

HPA-Nursing

NGR 7115 . Philosophical and Theoretical Foundations of Nursing Science

3(3,0). PR: Doctoral standing in School of Nursing or C.I. Analysis of the nature and levels of theory in science disciplines, historical and contemporary approaches to knowledge generation, and implications for nursing science.

HPA-Nursing

NGR 7123 . Concept Development in Nursing

3(3,0). PR: NGR 7115. Philosophical foundations and conceptualization techniques of concept development and analysis to advance the synthesis of knowledge in nursing.

HPA-Nursing

NGR 7190 . Healthcare Systems and Policy

3(3,0). PR: Doctoral standing in the School of Nursing or C.I. Underpinnings of healthcare policy; healthcare policy formation and change agency; influences on healthcare systems; related analysis and research.

HPA-Nursing

NGR 7661 . Healthcare for Vulnerable Populations

3(3,0). PR: Doctoral standing in the School of Nursing or C.I. Health and healthcare issues of vulnerable populations and the influence of social, cultural, political and economic factors.

HPA-Nursing

NGR 7815 . Qualitative Methods in Nursing Research

3(3,0). PR: Doctoral standing in the School of Nursing or C.I. In-depth knowledge of qualitative research theories, designs and methods for nursing research. Application of theory to a contemporary problem.

HPA-Nursing

NGR 7816 . Quantitative Methods for Nursing Research II

3(3,0). PR: NGR 7816. Advanced research designs; multivariate and biostatistical data analysis in nursing research.

HPA-Nursing

NGR 7817 . Quantitative Methods for Nursing Research I

3(3,0). PR: Doctoral standing in the School of Nursing or C.I. Designing quantitative studies and related statistical analysis; maximizing statistical power; ethical issues related to nursing research.
HPA-Nursing

NGR 7823 . Psychometrics and Measurement for Nursing Research

3(3,0). PR: NGR 7817, NGR 7815, or C.I. Developing, testing and applying measurement theory in physiological and psychosocial research. Analysis of psychometric properties of instruments and methods appropriate to theoretical perspectives and scientific rigor.
HPA-Nursing

OSE 5050 . Fundamentals and Applications of Photonics

3(3,0). PR: Graduate standing or C.I. Introduction to optics and photonics emphasizing the concepts governing applications of current interest for science and engineering senior and first-year graduate students and working scientists and engineers.
UCF-Optics

OSE 5111 . Optical Wave Propagation

3(3,0). PR: Graduate standing or C.I. Optical propagation of light waves as applied to isotropic, anisotropic, and inhomogeneous media, guided waves and Gaussian beams.
UCF-Optics

OSE 5143 . Fiber Optics Communication

3(3,0). PR: EEL 3552C, EEL 3470. Use of fiber optics as a communication channel. Principles of fiber optics. Mode theory, transmitters, modulators, sensors detectors and demodulators.
ECS-Electrical & Computer Sci

OSE 5234L . Applied Optics Laboratory

3(1,3). PR: Graduate Standing or C.I. Laboratory techniques for observing optical phenomena and quantitative experimental study of geometrical optics, optical interferometry, diffraction, and image processing.
UCF-Optics

OSE 5414 . Fundamentals of Optoelectronic Devices

3(3,0). PR: Graduate standing or C.I. Operation, methods of fabrication, applications, and limitations of various optoelectronic devices including quantum well semiconductor devices.
ECS-Electrical & Computer Sci

OSE 5511 . Laser Principles

3(3,0). PR: PHY 3101, MAP 2302, PHY 4424, graduate status or senior standing, or C.I. Classical introduction to the basic principles of laser gain media, properties of resonators and modes, description of specific laser systems

NGR 7820 . Innovative Technologies in Healthcare

3(3,0). PR: Doctoral standing in the School of Nursing or C.I. Application of innovative technologies in healthcare to research, teaching and practice. Legal, ethical and cultural issues related to technology transfer
HPA-Nursing

OSE 5041 . Introduction to Wave Optics

3(3,0). PR: EEL 4440 or PHY 4424 or C.I. Electromagnetic foundation of light waves as applied to reflection, diffraction, interference, polarization, coherence, and guided waves.
ECS-Electrical & Computer Sci

OSE 5051L . Electro-Optics Laboratory

3(1,4). PR: EEL 4440 or OSE 5041 or C.I. Study of laboratory techniques for optical measurements and performance of measurements on electro-optic devices to determine operational characteristics.
ECS-Electrical & Computer Sci

OSE 5115 . Interference and Diffraction

3(3,0). PR: Graduate status or senior standing, or C.I. Interference of light, optical interferometry, Fraunhofer and Fresnel scalar diffraction, diffraction gratings, temporal coherence, spatial coherence, and partial coherence.
AS-Physics

OSE 5203 . Fundamentals of Applied Optics

3(3,0). PR: Graduate standing or C.I. Fundamentals of Geometrical Optics, Geometrical Theory of Image Formation, Optical System Layout, Radiometry.
UCF-Optics

OSE 5312 . Fundamentals of Optical Science

3(3,0). PR: Graduate standing or C.I. Microscopic theory of absorption, dispersion, and refraction of materials; wave propagation, introduction to lasers and nonlinear optics.
UCF-Optics

OSE 5421 . Integrated Optics

3(3,0). PR: Graduate standing or C.I. The propagation and loss characteristics in dielectric optica waveguides, fundamental concepts of both integrated and fiber optic devices, numerical modeling of complex integrated optical components.
UCF-Optics

OSE 5630C . Thin Film Optics

3(2,1). PR: PHY 4424 or EEL 4440 and OSE 5041 or OSE 5630C. Principles of thin film optics and its applications in optical, electro-optical, and laser systems.
ECS-Electrical & Computer Sci

AS-Physics	
<p>OSE 6118 . Optical Propagation in Inhomogeneous Media 3(3,0). PR: Graduate standing or C.I. Basic concepts of optical wave scattering and propagation in inhomogeneous media with applications to material sciences, optical remote sensing, biomedical optics, imaging, and image analysis. UCF-Optics</p>	<p>OSE 6211 . Fourier Optics 3(3,0). Application of Fourier transform theory to optical systems design. Development of optical correlation techniques. Holographic techniques and applications. ECS-Electrical & Computer Sci</p>
<p>OSE 6225 . Radiation and Detection 3(3,0). PR: C.I. Radiometry, Planck radiators, spectrometers, photon-counting statistics, detector noise analysis, detector mechanisms. ECS-Electrical & Computer Sci</p>	<p>OSE 6265 . Optical Systems Design 3(3,0). PR: OSE 5203 or C.I. Design principles of lens and mirror optical systems; evaluation of designs using computer techniques. ECS-Electrical & Computer Sci</p>
<p>OSE 6334 . Nonlinear Optics 3(2.5,0.5). PR: PHY 5346. Maxwell's equations in nonlinear media, frequency conversion techniques (SHG, SFG, OPO), stimulated scattering, phase conjugation, wave-guided optics, nonlinear crystals. AS-Physics</p>	<p>OSE 6335 . Nonlinear Guided Wave Optics 3(3,0). PR: PHY 5346, PHY 6347, and OSE 6334. The physics and applications of nonlinear optical interactions in fibers and planar waveguides is discussed, including parametric processes, all-optical effects and solitons. AS-Physics</p>
<p>OSE 6347 . Quantum Optics 3(3,0). PR: PHY 5606, PHY 5346, OSE 5511. Semiclassical treatment of light/matter interactions (quantized atomic states plus Maxwell's equations). Density matrix theory, coherent optical transients, pulse propagation. AS-Physics</p>	<p>OSE 6432 . Fundamentals of Photonics 3(3,0). PR: OSE 5111 and graduate standing or C.I. Principles of guided wave optics, electro-optics, acousto-optics and optoelectronics. UCF-Optics</p>
<p>OSE 6445 . High Speed Photonics 3(3,0). PR: Graduate standing or C.I. Generation, transmission, detection, and manipulation of high speed optical signals. UCF-Optics</p>	<p>OSE 6455L . Photonics Laboratory 3(1,3). PR: Graduate standing or C.I. experimental study of photonic devices and systems including liquid crystal displays, fiber-optic sensors, laser diodes, electro optic modulation, acousto-optic modulation, lightwave detection, optical communications, and photonic signal processing. ECS-Electrical & Computer Sci</p>
<p>OSE 6457 . Photonic Signal Processing 3(3,0). Design, building and testing of photonic information processing systems using fiber-optics bulk polarization optics, acousto-optics, liquid crystals, micromirrors, and integrated optics. ECS-Electrical & Computer Sci</p>	<p>OSE 6473 . Optical Networks 3(3,0). PR: Graduate standing or C.I. The interplay between the current state of electronic digital networking and optical transmission and switching technologies and the principles that underlie the present optical networking technology. UCF-Optics</p>
<p>OSE 6526L . Laser Engineering Laboratory 3(1,3). PR: OSE 6560, OSE 5511, or C.I. Designing and device implementation of diode pumped solid-state lasers, nonlinear frequency conversion, Q-switching, mode locking, and pulse second harmonic generation. ECS-Electrical & Computer Sci</p>	<p>OSE 6528 . Specific Laser Systems 3(3,0). PR: OSE 5511 or C.I. Review of laser principles, specifics of gas, ion, solid state, dye, metal vapor, free electron, and semiconductor lasers and power supplies. AS-Physics</p>
<p>OSE 6560 . Laser Engineering 3(3,0). PR: OSE 5041 or C.I. Principles of laser amplification and oscillations; design of lasers; general characteristics of excitation systems. ECS-Electrical & Computer Sci</p>	<p>OSE 6615L . Optoelectronic Device Fabrication Laboratory 3(3,0). PR: Graduate standing or C.I. Design and micro-fabrication of semiconductor optoelectronics devices including passive waveguides, light emitting diodes (LEDs), laser diodes (LDs), photodetectors and electro-</p>

	<p>optic modulators. UCF-Optics</p>
<p>OSE 6817 . Advanced Topics in Electro-Optics 3(3,0). PR: C.I. Current research topics in electro-optics, such as optical computing, binary optics, advanced system design issues, novel laser systems. ECS-Electrical & Computer Sci</p>	<p>OSE 6854 . Near Field Optics 3(3,0). PR: Graduate standing or C.I. An introduction to the underlying phenomenology and the potential applications of near-field optics in using light to locate, identify, and manipulate structures on nanometre scales. UCF-Optics</p>
<p>PAD 5041 . Ethics and Values in Public Administration 3(3,0). Examination of ethics in the public sector. Public concerns, past patterns, and individual/social aspects of ethical behavior are explored. HPA-Public Administration</p>	<p>PAD 5142 . Nonprofit Organizations 3(3,0). PR: Admission to certificate program or C.I. Overview of nonprofit management, including history, governance structures, criteria used to establish nonprofit status, range of organizations, and application of management theory. HPA-Public Administration</p>
<p>PAD 5145 . Volunteerism in Nonprofit Management 3(3,0). PR: Admission to certificate program or C.I. Human resource development in nonprofit organizations, including board selection, development and leadership, volunteer recruitment, training, retention and theories of motivation, leadership, ethical issues. HPA-Public Administration</p>	<p>PAD 5146 . Nonprofit Resource Development 3(3,0). PR: Post-bac status or C.I. Examines human resource development and financial resource development in nonprofit organizations including management issues. HPA-Public Administration</p>
<p>PAD 5336 . Introduction to Urban Planning 3(3,0). Issues of urbanization, regional development, land use and comprehensive planning, environmental planning, and social planning. HPA-Public Administration</p>	<p>PAD 5337 . Urban Design 3(3,0). Planning techniques such as planned unit developments, capital improvements planning, and growth management, and planning methods, including needs assessment and graphic design. HPA-Public Administration</p>
<p>PAD 5338 . Land Use and Planning Law 3(3,0). Review of national and local aspects of the legal underpinnings of urban planning aspects such as zoning, growth management, and environmental regulation. HPA-Public Administration</p>	<p>PAD 5356 . Managing Community and Economic Development 3(3,0). PR: graduate standing or C.I. Overview of economic development activities focusing on policy and managerial issues at the local level. HPA-Public Administration</p>
<p>PAD 5425 . Dispute Resolution in the Public Sector 3(3,0). An examination of the skills needed to resolve disputes in the public sector through facilitation, mediation, and other alternative methods. HPA-Public Administration</p>	<p>PAD 5427 . Labor Relations in the Public Sector 3(3,0). Current trends and developments in employment relations in the public sector, especially employee organization, negotiations, and the collective bargaining process. HPA-Public Administration</p>
<p>PAD 5806 . Local Government Operations 3(3,0). Operational Functions of municipal and county governments and the role of the chief executive officer. HPA-Public Administration</p>	<p>PAD 5807 . Administrative Practice in the Public Sector 3(3,0). The application of various theoretical concepts to the "real world" of public administration. Policy formulation and execution are examined through the case study mode. HPA-Public Administration</p>
<p>PAD 5850 . Grant and Contract Management 3(3,0). PR: PAD 3003 or C.I. Study of government or public nonprofit agency grant and contract administration and management responding to funding assistance solicitations and grant and contract preparation, evaluation, and presentation. HPA-Public Administration</p>	<p>PAD 6035 . Public Administration in the Policy Process 3(3,0). Analysis of the role of the public administrator in the analysis, formulation, implementation, and evaluation of public policies, especially at the state and local levels. HPA-Public Administration</p>

PAD 6037 . Public Organization Management
3(3,0). Structure, functioning, performance of public organizations; behavior of individuals and groups; application for public management, includes both macro and micro approaches to organizational behavior.
HPA-Public Administration

PAD 6062 . Advanced Concepts and Applications in Public Administration
3(3,0). PR: Completion of all core requirements. An integrative course applying the skills, knowledge, and values considered in the program to selected public problems.
HPA-Public Administration

PAD 6207 . Public Financial Management
3(3,0). PR: Graduate standing or C.I. Survey of financial management functions in local government, such as accounting, fund structures, debt and case management, and financial reporting.
HPA-Public Administration

PAD 6227 . Public Budgeting
3(3,0). PR: Graduate standing or C.I. Budgets as planning programming documents, stressing the relationships of policy and budgetary decisions, problems in grantsmanship and revenue decision making, program budgeting, PPBS, and incrementalism.
HPA-Public Administration

PAD 6327 . Public Program Evaluation Techniques
3(3,0). Techniques and skills utilized in the evaluation of public programs.
HPA-Public Administration

PAD 6339 . Housing Development & Planning
3(3,0). PR: Graduate standing or C.I. Metropolitan and regional planning course with primary focus on familiarizing students with housing planning and development in communities.
HPA-Public Administration

PAD 6355 . Growth Management Approaches & Techniques
3(3,0). PR: Graduate standing or C.I. Regional and metropolitan planning course that focuses on how growth management works in communities.
HPA-Public Administration

PAD 6417 . Human Resource Management
3(3,0). Administrator as manager and motivator of public employees with particular emphasis on organizational behavior and contemporary public service legislation.
HPA-Public Administration

PAD 6701 . Analytic Techniques for Public Administration II

PAD 6053 . Public Administrators in the Governance Process
3(3,0). An examination of the political, social, economic, and moral context of modern public administration, with special attention to the ethical dimensions of the administrator's role.
HPA-Public Administration

PAD 6149 . Nonprofit Administration
3 (3,0). PR: Graduate standing or C.I. Provides an overview of nonprofit leadership and board development, focusing on the ethical, legal and administrative responsibilities of those individuals responsible for nonprofit management.
HPA-Public Administration

PAD 6208 . Nonprofit Financial Management
3(3,0). PR: Graduate standing or C.I. Financial management in nonprofit organizations, including nonprofit funding, budgeting policies and procedures, orientation of department managers to budgeting, estimating income and expenses, and ethical implications of budgeting and finance.
HPA-Public Administration

PAD 6307 . Policy Implementation
3(3,0). Program analysis and organization structure as policy tools, examining the implementation of differential policy and the administrator as policy maker and change agent
HPA-Public Administration

PAD 6335 . Strategic Planning and Management
3(3,0). PR: Graduate Standing or C.I. An examination and analysis of planning, goal setting, and strategic management in public sector organizations.
HPA-Public Administration

PAD 6353 . Environmental Program Management Research
3(3,0). Research of environmental programs, problems, issues, and policies to prepare persons working for or entering government service for environmental program staff or management responsibilities.
HPA-Public Administration

PAD 6387 . Transportation Policy
3(3,0). PR: Graduate status or C.I. An examination of the process of public policy formulation and implementation in the field of transportation.
HPA-Public Administration

PAD 6700 . Analytic Techniques for Public Administration I
3(3,0). Statistical methodology and use of computers as a tool for decision making in the public sector.
HPA-Public Administration

PAD 6716 . Information Systems for Public Managers and Planners

3(3,0). PR: Completion of PAD 6700. Applied analytical tools for administrators in the public sector. Practical use of computers in policy and decision making.
HPA-Public Administration

PAD 6834 . Comparative Global Public Administration

3(3,0). PR: Graduate status or C.I. Public Administration at the national level, to include political system, policy structure, institutional frameworks, institutional capacity and level of technology.
HPA-Public Administration

PAD 6946 . Internship

3(3,0). PR: C.I.
HPA-Public Administration

PAD 7419 . Advanced Public Human Resource Management

3(3,0). PR: PAD 6417 or C.I. Contemporary issues public sector personnel management, including public employee motivation, merit pay, performance appraisal, affirmative action, productivity enhancement, merit pay, performance appraisal, affirmative action, productivity enhancement, civil service reforms, comparative personnel management.
HPA-Public Administration

PAF 7110 . Ethics and Public Affairs

3(3,0). PR: Admission to Ph.D. Program or C.I. Basic philosophical principles of ethical theories as they impact practitioner-level ethical demands for public managers.
HPA-College-HPA

PAF 7250 . Social Justice and Public Policy

3(3,0). PR: Admission to Ph.D. Program or C.I. Examination of how public policy and institutions shape social justice in the United States. Emphasizes different concepts of social justice and public policies.
HPA-College-HPA

PAF 7510 . Seminar in Program Evaluation in Public Affairs

3(3,0). PR: Admission to Ph.D. Program or C.I. Critical analysis of program evaluation literature. Development of skills necessary to conduct program evaluations and impact assessments.
HPA-College-HPA

PAF 7601 . Comparative Analysis in Global Public Affairs

3(3,0). PR: Admission to Ph.D. in Public Affairs. Comparative analysis in Public Affairs from global perspective examining and comparing US Public Affairs and International Global areas.
HPA-College-HPA

3(3,0). PR: C.I. Use of systems concept, software and computers in contemporary public sector management and planning information systems.
HPA-Public Administration

PAD 6934 . Special Issues in Public Administration

3(3,0). Substantive and theoretical issues confronting the broad spectrum of contemporary public administration. May be repeated for credit when content is different.
HPA-Public Administration

PAD 7026 . Advanced Seminar in Public Administration

3(3,0). PR: PAD 6053, PAF 7802. Discuss emerging issues in public administration research using current journal articles and exemplary research in areas such as public management.
HPA-Public Administration

PAF 7000 . Foundations of Public Affairs

3(3,0). PR: Admission to Ph.D. program or C.I. Introduction to public affairs - with special emphasis on the interrelationships among criminal justice, health services administration, public administration and social work.
HPA-College-HPA

PAF 7230 . Strategic Change and Management in Public Affairs

3(3,0). PR: Admission to Ph.D. Program or C.I. Traditional organizational behavior in public affairs within the context of public agency interests and the demand for organizational change.
HPA-College-HPA

PAF 7300 . Policy Analysis in Public Affairs

3(3,0). PR: Admission to Ph.D. Program or C.I. Public policy development and impact analysis in criminal justice, health administration, public administration, and social work.
HPA-College-HPA

PAF 7600 . Legal Foundations of Public Affairs

3(3,0). PR: Admission to Ph.D. program in Public Affairs. Legal issues, reasoning, and research related to administration and public affairs.
HPA-College-HPA

PAF 7750 . Pedagogy in Public Affairs

3(3,0). PR: Admission to Ph.D. Public Affairs. Identifies and examines recurrent and salient issues in Public Affairs pedagogy, and how these have affected pedagogy for the discipline.
HPA-College-HPA

PAF 7802 . Advanced Research Methods in Public Affairs

3(3,0). PR: Admission to Ph.D. Program or C.I. Advanced social science methodology. Critical evaluation of research; the design and conduct of research. A solid background in research methodology is required.

HPA-College-HPA

PAF 7809 . Applied Quantitative Methods in Public Affairs

3(3,0). PR: PAF 7804. Application and review of knowledge and skills for quantitative analysis in public affairs.

HPA-College-HPA

PAF 7820 . Seminar in Qualitative Methods in Public Affairs

3(3,0). PR: Admission to Ph.D. Program or C.I. Qualitative research methods and their application to the study of public affairs. Methods examined include case studies, focus groups, ethnographic studies, qualitative interviews, and content analysis.

HPA-College-HPA

PAF 7982 . Dissertation Seminar in Public Affairs

3(3,0). PR: Admission to Ph.D. Program or C.I. To provide guidance during the initial stages of dissertation preparation.

HPA-College-HPA

PCB 5107C . Advanced Cell Biology

4(3,2). PR: PCB 3063 and PCB 3023, graduate status or senior standing, or C.I. Review of selected topics in cell biology with emphasis on current research in areas of membrane structure, protein targeting, cytoskeleton, signalling and cell cycle.

AS-Biology

PCB 5238 . Immunopathology

3(3,0). PR: PCB 3233. In-depth overview of diseases due to deficiencies or over-reactivity of the immune system.

HPA-Molecular & Microbiology

PCB 5256C . Advanced Developmental Biology

4(3,2). PR: PCB 3063 and ZOO 4603C or equivalent, graduate status or senior standing, or C.I. Lecture and literature review of emerging areas in plant and animal developmental biology.

AS-Biology

PCB 5326C . Ecosystems of Florida

5(3,2). PR: PCB 3034, PCB 3034L or equivalent, and graduate status or senior standing or C.I. Ecosystems of Florida will be discussed to include geography, geology, climate, energetics, nutrient cycling, community structure and conservation.

AS-Biology

PCB 5435C . Marine Ecology of Florida**PAF 7804 . Advanced Quantitative Methods I**

3(3,0). PR: Admission to Ph.D. Program or C.I. An investigation of data analysis strategies, including presentation of results, building upon knowledge of hypothesis testing and multivariate statistics.

HPA-College-HPA

PAF 7810 . Seminar in Survey Research in Public Affairs

3(3,0). PR: Admission to Ph.D. Program or C.I. In-depth analysis of research survey methods and their application. Focus on interviews and questionnaires.

HPA-College-HPA

PAF 7840 . Seminar in Secondary Data Analysis in Public Affairs

3(3,0). PR: PAF 7802. In-depth examination of the availability and use of archival data. Advantages and limitations of secondary data analysis discussed.

HPA-College-HPA

PCB 5045C . Conservation Biology

4(3,2). PR: PCB 3034 and PCB 3063 or C.I. Scientific basis of conservation; conservation of ecosystems, populations, exploited species, and endangered species. Weekend field trips are required.

AS-Biology

PCB 5108 . Concepts in Plant Cell Biology

4(4,0). PR: PCB 3023 and PCB 3063 or graduate standing or C.I. Plant cell biology, including cytoskeletal dynamics, cell signaling, cell cycle regulation, protein targeting and organelle structure and function.

AS-Biology

PCB 5239 . Tumor Biology

3(3,0). PR: PCB 4524. A course designed to provide an introduction and broad overview of the current knowledge and research in the field of cancer biology.

HPA-Molecular & Microbiology

PCB 5275 . Signal Transduction Mechanics

3(3,0). PR: PCB 3523 and PCB 4524. A course emphasizing various signal transduction cascades used in mammalian cells to control growth and differentiation. Discussion of original research papers will occur.

HPA-Molecular & Microbiology

PCB 5328C . Landscape Ecology

4(3,2). PR: PCB 3034, STA 2023, graduate status or senior standing, or C.I. Influence of spatial heterogeneity on ecological processes. Emphasizes quantitative methods (e.g., GIS, remote sensing and modeling) to characterize landscape patterns and dynamics.

AS-Biology

PCB 5485 . Models in Ecology

4(2,6). PR: BSC 4312C, graduate status or senior standing, or C.I. Survey of experimental methods used in the study of marine communities in central and southern Florida, combining field manipulation and readings from primary literature.

AS-Biology

PCB 5520 . Behavioral Ecology

3(3,0). PR: graduate status or senior standing, and C.I. Introduction to the field of Behavioral Ecology which studies evolution of animal behavior in the wild.

AS-Biology

PCB 5665C . Human Genetics

4(3,2). PR: PCB 3063, graduate status or senior standing, or C.I. Human Genetics provides a theoretical framework for understanding the biology of the human species.

AS-Biology

PCB 6035C . Wetland Ecology

4(3,3). PR: PCB 3034 or equivalent, graduate standing, or C.I. Advanced study of ecological structure, function, and diversity of wetlands. Lectures, discussions, and field-based labs, including management, laws, and restoration.

AS-Biology

PCB 6046C . Advanced Ecology

5(3,4). PR: Ecology, statistics and 2 years of biological science. Population and community ecology with emphasis on growth, regulation, species interactions, succession, and community classification.

AS-Biology

PCB 6415 . Advanced Topics in Behavioral Ecology

1(1,0). PR: Graduate standing and ecology or evolution course. Discussion of the most recent literature (research) in behavioral ecology. Graded S/U. May be repeated for credit.

AS-Biology

PCB 6595 . Regulation of Gene Expression

3(3,0). PR: Advanced course in molecular biology of MCB 6407C. Concepts of molecular biology focusing on major areas in transcriptional and translational processes. HPA-Molecular & Microbiology

PCB 6655 . Advanced Invertebrate Genetics

1(0,2). PR: PCB 3063 or equivalent, graduate standing. Literature based discussion of recent developments in classical and molecular genetics of invertebrates. May be repeated for credit two times.

AS-Biology

PCB 6727 . Comparative Animal Physiology

3(3,0). PR: An undergraduate course in animal physiology or equivalent. Comparison of structural and functional adaptations of animal organ systems. Emphasis upon maximization of fitness under given environmental conditions.

AS-Biology

3(3,0). PR: PCB 3034, MAC 2311 (or equivalent), and graduate status or senior standing or C.I. A survey of how simulation models are applied to ecological questions of both a theoretical and managerial nature.

AS-Biology

PCB 5556C . Conservation Genetics

4(3,2). PR: PCB 3063 and PCB 4683, graduate status or senior standing, or C.I. Applications of genetic models to the understanding and conservation of animal and plant populations.

AS-Biology

PCB 5677 . Molecular Evolution

3(3,0). PR: PCB 3063 and PCB 4683C, graduate status or senior standing, or C.I. Provides an overview of molecular methods currently used to analyze diversity within and among species.

AS-Biology

PCB 6040 . Methods of data collection and analysis in behavioral ecology

1(1,0). PR: Graduate standing and STA 5175 or STA 5176. Discussion of methodology and data analysis in behavioral ecology

AS-Biology

PCB 6365 . Environmental Physiology

3(3,0). PR: Physiology and Ecology or C.I. The effects of major environmental factors on the physiology of plants and animals.

AS-Biology

PCB 6585C . Advanced Genetics

4(3,2). PR: Graduate standing and PCB 3063 or C.I. Recent advances in genetics, stressing molecular and developmental trends.

AS-Biology

PCB 6596 . Bioinformation and Genomics

3(3,0). PR: Admission to Biomolecular Sciences Ph.D. or C.I. New scientific approaches, technologies, and tools for analysis of genomic data-genome sequencing projects.

HPA-Molecular & Microbiology

PCB 6675C . Evolutionary Biology

4(3,2). PR: PCB 3034 and PCB 3063 or C.I. Review of modern concepts and theories in evolutionary biology with emphasis on readings in the primary literature.

AS-Biology

PCB 6930 . Current Topics in Ecology

1(1,0). PR: Graduate standing or C.I. Research on current ecological topics will be added . The instructor will assign readings on a weekly basis. Students will lead discussion. Graded S/U. May be repeated for credit.

AS-Biology

PCB 6933 . Contemporary Studies in Biology
2(2,0). PR: Graduate standing. Analysis of current publications and developments in theory and concepts of biological sciences. May be repeated for credit as content is variable.
AS-Biology

PCB 6935 . Topics in Genomics
1(1,0). PR: PCB 3063. Review current literature in Genomics, one of the fastest growing fields in Biology.
AS-Biology

PEM 5408C . Controlling Classroom Violence
3 (2,1). PR: Graduate standing; certified teacher. A hands-on course dealing with controlling disruption and violence as well as how teachers can protect themselves.
ED-Teaching & Learning Princ

PET 5355 . Exercise and Health
3(3,0). PR: Admission to Master's program or Certificate program. Will provide educators an in-depth understanding of energy pathways, and neuromuscular, cardiovascular, and respiratory systems during exercise. Emphasis on understanding principles of exercise adaptations and applying those principles to fitness/wellness settings.
ED-Teaching & Learning Princ

PET 5465 . Financial Issues in Sports and Fitness
3(3,0). PR: C.I. Examines basic financial concepts including understanding annual reports, developing budgets, financial analysis, and examining methods for increasing revenue and controlling cost in the sport industry.
ED-Child, Family & Comm Sci

PET 5635 . Advanced Human Injuries
3(3,0). PR: PET 2622C or C.I. The application of medical knowledge to sport with the emphasis on preserving the health of an athlete before, during and after performance.
ED-Teaching & Learning Princ

PET 5931 . Current Issues and Trends in Physical Education and Sport
3(3,0). PR: Admission to the Physical Education Graduate program or C.I. Examination of the current issues and trends encountered by professionals in physical education and sport.
ED-Teaching & Learning Princ

PET 6086 . Exercise As Preventive Medicine
3(3,0). PR: PET 6388. Prevention of select major risk hazards through exercise intervention.
ED-Child, Family & Comm Sci

PET 6089 . Personal and Organizational Wellness
3(3,0). Professional implications of the U.S. Wellness Movement and assessment of the nature and quality of corporate and other instructional programming

PCB 6934 . Molecular Mechanisms of Fertilization: Journal Club
1(1,0). PR: Graduate standing or C.I. Current topics in fertilization research includes analysis and discussion of primary literature in both vertebrate and invertebrate systems. Graded S/U.
AS-Biology

PCB 6959 . Cell Biology: Journal Club
1(1,0). PR: Graduate standing or C.I. Reading and critical analysis of current research in cell biology with emphasis on cell-cell communication, cell-ecm interaction and protein targeting. Graded S/U.
AS-Biology

PEO 5645 . Coaching Football
3(3,0). PR: C.I. Advanced principles and methods common to the coaching of football. Includes teaching and training methods, organization, motivation and strategies.
ED-Teaching & Learning Princ

PET 5405 . Introduction to Sports Administration
3(3,0). PR: C.I. This course will provide an overview of the sports industry. Fundamental leadership administration and research theories as well as information on current issues are emphasized.
ED-Child, Family & Comm Sci

PET 5466 . Marketing and Promoting Sports and Fitness Programs
3(3,0). PR: C.I. Introduces students to all aspects of sports marketing including planning, organizing, marketing, evaluating, and conducting special and sport events.
ED-Child, Family & Comm Sci

PET 5766 . Advanced Coaching Theory
3(3,0). PR: C.I. Advanced study of theories and methods of coaching for optimum sports performance.
ED-Teaching & Learning Princ

PET 6062C . Perceptual Motor Development
3(2,1). Theoretical and laboratory study of the relationship between perceptual motor development and learning. Special attention is given to identifying and remediating motor deficit.
ED-Teaching & Learning Princ

PET 6088 . Wellness Development in Children
3(3,0). An analysis of wellness characteristics and concepts as they affect the wellness of children.
ED-Teaching & Learning Princ

PET 6217 . Peak Performance in Sports
3(3,0). PR: Admission to Graduate Certificate in Coaching or C.I. An in-depth study of mental and physical performance, including mental rehearsal, motivation

ED-Teaching & Learning Princ	effort, and persistence. ED-Teaching & Learning Princ
<p>PET 6330 . Kinesiology 3(3,0). PR: Admission to the Graduate Certificate in Coaching or C.I. The study of man in motion with emphasis on temporal analyses; kinematics with two-and three-dimensional observations and kinetic analyses of the relationship between internal and external forces in translation and rotational movements. ED-Teaching & Learning Princ</p>	<p>PET 6357C . Environmental Perturbation and Human Performance 3(3,2). A study of physiological adaptation resulting from prescribed physical activity programs. ED-Child, Family & Comm Sci</p>
<p>PET 6362 . Exercise, Nutrition and Weight Control 3(3,0). PR: Graduate standing or C.I. Explores the interrelationship between nutrition, energy metabolism and exercise performance. ED-Child, Family & Comm Sci</p>	<p>PET 6367 . Bioenergetics of Human Movement and Performance 3(3,0). PR: PET 4351 (or equivalent). Analysis of substrate metabolism at rest, during acute exercise and following exercise training. ED-Child, Family & Comm Sci</p>
<p>PET 6381 . Physiology of Neuromuscular Mechanisms 3(3,0). Human body morphology and function critical in producing motion, strength, power, and endurance. ED-Child, Family & Comm Sci</p>	<p>PET 6388 . Cardiovascular Physiology 3(3,0). PR: Anatomy and Physiology or equivalent. Operation of the cardiovascular system in vivo. ED-Child, Family & Comm Sci</p>
<p>PET 6391 . Training and Conditioning Techniques for Coaches 3(3,0). PR: PET 5355. Knowledge and application of training and conditioning as it relates to the improvement of physical athletic performance and fitness. ED-Teaching & Learning Princ</p>	<p>PET 6406 . Planning and Operating Facilities for Sports and Fitness Programs 3(3,0). PR: C.I. This course will provide students with an understanding of the factors involved in planning, designing, equipping, and managing of sport facilities and event logistics. ED-Child, Family & Comm Sci</p>
<p>PET 6416 . Administrative Principles of Sport and Physical Education 3(3,0). PR: Admission to Master's program or certificate program. Will direct physical educators and coaches towards a practical understanding of strategies and tools necessary for effective management in sport and physical education. ED-Teaching & Learning Princ</p>	<p>PET 6455 . Facilities and Event Management 3(3,0). PR: CBA Master's program of study foundation core and admission to the Sport Business Management program. This course takes a comprehensive look into the discipline of public assembly facility management and event planning. Sports activities are held in large facilities that create unique opportunities for the manager. Various events held in such facilities also create unique opportunities. Those unique opportunities are examined in depth. BA-College-BA</p>
<p>PET 6476 . Leadership and Management in Sports and Fitness Programs 3(3,0). PR: C.I. Examines leadership, management fundamentals, professional knowledge, sports personnel and evaluation systems, leadership ethics, and communication skills required of leaders in the sports industry. ED-Child, Family & Comm Sci</p>	<p>PET 6478 . Legal Issues in Sports and Fitness Programs 3(3,0). PR: C.I. This course examines major legal issues in sports leadership. Emphasis is on providing legally sound programs that reduce the risk of litigation. ED-Child, Family & Comm Sci</p>
<p>PET 6505 . Wellness Technology in Physical Education 3(3,0). PR: Graduate standing in Education or C.I. Knowledge to perform health risk appraisals, fitness assessments utilizing wellness technology in a physical education setting. ED-Teaching & Learning Princ</p>	<p>PET 6515C . Measurement in Kinesiology and Physical Education 3(3,0). Techniques of measurement and evaluation of human performance and their applications to physical education. ED-Teaching & Learning Princ</p>

PET 6522 . Exercise Physiology Instrumentation
3(3,0). Instrumentation management and assessment protocols related to select exercise physiological parameters: anthropometric, bioenergetic, blood lactate, joint flexibility, and muscle rheology, strength and fatigue curve measurements.
ED-Child, Family & Comm Sci

PET 6646 . Methods and Curriculum in Adapted Physical Education
4(3,1). PR: PET 6645, PET 6655. Individualized educational and developmental programming for exceptional children. Presents models of service delivery and instruction. Practicum required.
ED-Child, Family & Comm Sci

PET 6655 . Developmental Aspects of Motor Disabilities
3(3,1). PR: C.I. Addresses developmental aspects of motor and health disabilities. A developmental focus is presented. Observation required.
ED-Child, Family & Comm Sci

PET 6910 . Problem Analysis - Review of Literature
3(3,0). PR: EDF 6432 and C.I. Comprehensive review of literature related to a selected topic in physical education; identification, analysis, and evaluation of developments, issues, and research problems. (May be repeated for credit.)
ED-Teaching & Learning Princ

PET 7365 . Cardiovascular Dynamics During Exercise
3(3,0). PR: Doctoral standing, PET 6388 or equivalent, or C.I. An examination of the cardiovascular regulatory mechanism responsible for the adjustment to acute and chronic exercise.
ED-Child, Family & Comm Sci

PET 7535 . Research and Experimental Design in Exercise Physiology
3(3,0). PR: Doctoral standing or C.I. An examination of different experimental designs and application to exercise physiology research.
ED-Child, Family & Comm Sci

PHC 6010 . Quantitative Methods in Epidemiology
3(3,0). PR: Admission to MSHS graduate program and PHC 6000. Principles of managerial epidemiology, quantitative methods, application of prostistics, use of personal computers to handle data and solve problems.
HPA-Health Professions

PHC 6160 . Health Care Finance
3(3,0). PR: Graduate status. The identification of resources available to health care institutions, allocation of resources, and control of resource expenditures.
HPA-Nursing

PHC 6411 . Health and Society

PET 6645 . Advanced Studies in Adapted Physical Education
3(3,1). PR: EEX 5050. Survey course that addresses the development, educational, and socialization needs of exceptional children. A minimum of 15 observation hours are required.
ED-Child, Family & Comm Sci

PET 6647 . Program Development in Adapted Physical Education
3(3,1). PR: C.I. Development of appropriate physical education programs for exceptional children. Course includes teacher-consultant, collaboration, in-service training, legislative issues, resource utilization.
ED-Child, Family & Comm Sci

PET 6690 . Exercise Testing and Prescription for Special Populations
3(3,0). PR: PET 6388. Designed to provide the student the basic understanding of exercise testing and prescription as it pertains to special populations.
ED-Child, Family & Comm Sci

PET 6946 . Practicum, Clinical Practice
3(3,0).
ED-Teaching & Learning Princ

PET 7368 . Regulation of Metabolism During Exercise
3(3,0). PR: Doctoral standing or C.I. An examination of the metabolic regulatory mechanism responsible for the adjustment to acute and chronic exercise.
ED-Child, Family & Comm Sci

PHC 6000 . Epidemiology
3(3,0). PR: Graduate status. A study of the distribution and determination of diseases and injuries in human populations.
HPA-Health Professions

PHC 6146 . Health Planning and Policy
3(3,0). Review of the determinants of the revolution of the health care system in the United States; analysis of public health, preventive medicine, and therapeutic medicine in terms of quality, access, and cost; methodologies and issues in comprehensive health planning; and trends in health policy development.
HPA-Health Professions

PHC 6164 . Health Care Finance II
3(3,0). PR: PHC 6160. Course facilitates the development of Strategic Financial Plans and its application to current health care management issues.
HPA-Health Professions

PHC 6420 . Case Studies in Health Law

3(3,0). Understanding health and illness as defined by patients, providers, and other persons in the social system.
HPA-Health Professions

3(3,0). Health law including patient care, liability, malpractice, workmen's compensation, and legal responsibilities of health personnel.
HPA-Health Professions

PHI 5627 . Theoretical and Applied Ethics

3(3,0). PR: Senior undergraduate standing and at least one of the following: PHI 3670, PHI 3638, or graduate standing or CI. A seminar in theoretical and applied ethics with emphasis on application in professional fields. Variable content.
AS-Philosophy

PHI 5665 . Knowledge, Responsibility, and Society

3(3,0). PR: Senior undergraduate standing and at least one of the following: PHI 3670, PHI 3638, PHI 4300, PHI 4341, PHI 4400, PHI 4633, PHI 4931 or graduate standing. A seminar exploring the relationship between ethics and epistemology with application to social concerns. Variable content.
AS-Philosophy

PHM 5035 . Environmental Philosophy

3(3,0). PR: PHI 3640, PHI 2630, graduate status or senior standing, or C.I. This course will provide an in-depth examination of the major contemporary positions in environmental philosophy, including deep ecology, ecofeminism, and social ecology.
AS-Philosophy

PHT 5003 . Foundations of Physical Therapy I

2(2,0). PR: Admission to the PT program. Introduction to the profession of physical therapy.
HPA-Health Professions

PHT 5005 . Foundations of Physical Therapy II

2(2,0). PR: Foundations of Physical Therapy I. Psychosocial aspects of disability. Focus on cultural diversity issues, communication skills, and different styles of learning and teaching.
HPA-Health Professions

PHT 5115 . Gross Anatomy/Neuroscience I

2(2,0). PR: Admission to PT program. In-depth study of human morphology emphasizing the back, spinal cord, cranial nerves, and upper and lower extremities. Regional cadaver dissection.
HPA-Health Professions

PHT 5115L . Gross Anatomy/Neuroscience I Lab

2(0,4). PR: Admission to PT program. Human cadaver dissection of the back, spinal cord, cranial nerves, and upper and lower extremities.
HPA-Health Professions

PHT 5118 . Gross Anatomy/Neuroscience II

2(2,0). PR: Gross Anatomy/Neuroscience I and Lab. CR: Gross Anatomy Neuroscience II Lab. In-depth study of human morphology emphasizing the brain, the cervical spine, pelvis, and the internal organs.
HPA-Health Professions

PHT 5118L . Gross Anatomy/Neuroscience II Lab

2(0,4). PR: Gross Anatomy Neuroscience I and Lab. CR: Gross Anatomy Neuroscience II. Directed Laboratory experiences with cadaver dissection; use of the skeleton, models, and computer programs to facilitate learning.
HPA-Health Professions

PHT 5125 . Clinical Kinesiology

2(2,0). CR: PHT 5125L. Investigates the mechanical aspects of human movement, joint mechanics of the upper and lower extremity, the vertebral column and tissue mechanics of relevant human tissues.
HPA-Health Professions

PHT 5125L . Clinical Kinesiology Lab

2(0,2). CR: PHT 5125. Concerned with the evaluation and practical application of aspects of human movement, joint mechanics of the upper and lower extremity, vertebral column and soft tissues.
HPA-Health Professions

PHT 5156 . Physiology of Therapeutic Exercise

2(2,0). PR: Admission to PT program. Exercise physiology investigates the physiological responses and adaptations to human movement including cardiovascular and pulmonary.
HPA-Health Professions

PHT 5156L . Physiology of Therapeutic Exercise Lab

2(0,4). CR: PHT 5156. Lab course emphasizing the clinical application of exercise physiology.
HPA-Health Professions

PHT 5218 . Theories and Procedures I

2(2,0). PR: CR Theories and Procedures I Lab. Theories of physical agents, heat, light, cold, water, sound, and massage; problem solving rationale and selection of interventions for inflammation, pain, edema, and weakness.
HPA-Health Professions

PHT 5218L . Theories and Procedures I lab

1(0,2). PR: CR Theories and Procedures I. Lab course on the clinical applications of heat, light, cold, water, sound, and massage.

PHT 5240 . Physical Assessment

1(1,0). CR: Physical Assessment Lab. Extensive theory and practice in the examination of the patient. Incorporate a systems approach utilizing screening and patient

HPA-Health Professions	problem-solving. HPA-Health Professions
PHT 5240L . Physical Assessment Lab 2(0,4). CR: Physical Assessment. Lab course emphasizing the examinations required to perform an evaluation of physical therapy patient. HPA-Health Professions	PHT 5241 . Therapeutic Exercises I 2(2,0). PR: CR Therapeutic Exercises I Lab. Theory of developing, implementing, and evaluating a therapeutic exercise program for patients with musculoskeletal dysfunction. HPA-Health Professions
PHT 5241L . Therapeutic Exercise Lab I 2(0,4). PR: Therapeutic Exercise I. Lab course emphasizing therapeutic exercise skills for the treatment of patients with musculoskeletal dysfunction. HPA-Health Professions	PHT 5260 . Patient Care Skills 2(2,0). CR: Patient Care Skills Lab. Affective, cognitive, and psychomotor skills, regarding patient care. Basic skills of patient care, transfers, mobility skills, draping, gait training. HPA-Health Professions
PHT 5260L . Patient Care Skills Lab 1(0,2). CR: Patient Care Skills. Skills of patient care, transfers, mobility skills. HPA-Health Professions	PHT 5306 . Pathology/Pharmacology 2(2,0). PR: Admission to PT program. Organized seminars on the pathophysiology and clinical manifestations of various medical conditions as they related to medical management in physical therapy practice. HPA-Health Professions
PHT 5411 . Foundations of Physical Therapy II 3(3,0). This course emphasized the psychosocial aspects of disability. Focus on cultural diversity issues, communication skills, and different styles of learning and teaching. HPA-Health Professions	PHT 5718 . Neurological Physical Therapy 2(2,0). CR: Neurological Physical Therapy Lab. Analysis of selected neuromotor theories and their clinical applications. Examinations and interventions for the evaluation and treatment of neurological patients presented. HPA-Health Professions
PHT 5718L . Neurological Physical Therapy Lab 1(0,2). CR: Neurological Physical Therapy. Lab Course emphasizing the clinical application of selected neuromotor theories. HPA-Health Professions	PHT 5722C . Physical Therapy Integration I 2(2,1). PR: Admission to PT program. Problem solving approach to selected dysfunctions, including burns and open wounds, and selected diagnostic procedures and therapy interventions. HPA-Health Professions
PHT 5805 . Clinical Education I 1(0,4). PR: Admission to PT program. Full-time supervised clinical education in physical therapy settings. Application of objectives of courses previously completed. HPA-Health Professions	PHT 6219 . Theories and Procedures II 2(2,0). PR: Theories and Procedures I and lab. CR: Theories and Procedures II Lab. Continuation of Theories and Procedures I. Focus on electrodiagnosis and electrophysiologic examinations and the interventions used in the treatment of pain and dysfunction. HPA-Health Professions
PHT 6219L . Theories and Procedures II Lab 1(0,2). PR: Theories and Procedures I and lab. CR: Theories and Procedures II. Lab course focusing on electrodiagnosis and electrophysiologic examinations, and the interventions used in the treatment of pain and dysfunction. HPA-Health Professions	PHT 6242 . Orthopedic Physical Therapy 2(2,0). CR: Orthopedic Physical Therapy Lab. Examination and interventions for the evaluation and treatment of specific orthopedic cases and injuries presented. HPA-Health Professions
PHT 6242L . Orthopedic Physical Therapy Lab 1(0,2). CR: Orthopedic Physical Therapy. Lab course emphasizing the examinations and interventions for the evaluation and treatment of specific orthopedic cases and injuries. HPA-Health Professions	PHT 6245 . Therapeutic Exercise II 3(3,0). PR: Therapeutic Exercise I. CR: Therapeutic Exercise II Lab. Exploration of the various therapeutic exercise modalities, and their application to the rehabilitation course of treatment. HPA-Health Professions

PHT 6245L . Therapeutic Exercise II Lab
1(0,2). PR: Therapeutic Exercise I and Lab. CR: Therapeutic Exercise II. Lab course emphasizing the use of the various therapeutic exercise modalities.
HPA-Health Professions

PHT 6374 . Gerontology in Physical Therapy
2(2,0). PR: Admission to PT program. Normal aging processes and health status of older people. Clinical decision making is emphasized in the care of the elderly.
HPA-Health Professions

PHT 6521 . Management of Physical Therapy Services
3(3,0). PR: Admission to PT program. Planning, organizing, delivering and evaluating physical therapy services within a health care system, including quality management, third party payers, DRG's and legislative impact.
HPA-Health Professions

PHT 6618 . Research Applications in Physical Therapy
2(2,0). PR: PHT 6606. To evaluate research studies, focus on evidence-based practice. SPSS and principles of epidemiology will be introduced.
HPA-Health Professions

PHT 6717C . Functional Rehabilitation
2(2,1). PR: Admission to PT program. Physical therapy assessment and intervention with spinal cord injury clients which include wheelchair, home and business evaluation and modifications. Include prosthetics and orthotics.
HPA-Health Professions

PHT 6719L . Advanced Neurological Physical Therapy Lab
1(0,2). PR: Neurological Physical Therapy and Lab. CR: Advanced Neurological Physical Therapy. Course Emphasizing examinations and interventions for the evaluation and treatment of patients with neurological disease. Emphasis on patients with spinal cord injury and neurological disease.
HPA-Health Professions

PHT 6822 . Advanced Clinical Applications I
1(0,8). PR: Clinical Education I. Eight weeks of full-time supervised clinical education in a physical therapy setting. All previous education objectives apply and are cumulative.
HPA-Health Professions

PHY 5015C . Physics for Teachers II
3(2,2). PR: Graduate status or senior standing or C.I. "Hands-on" lecture-laboratory course. Dynamics, electricity, magnetism, optics, nuclear radiation.
AS-Physics

PHT 6322C . Pediatric Physical Therapy
2(1,2). PR: Admission to PT program. Study of the normal neurodevelopmental sequences for pediatric clinical assessment and physical therapy intervention provided to clients with abnormal diseases and dysfunction.
HPA-Health Professions

PHT 6381C . Cardiopulmonary Physical Therapy
2(2,1). PR: Admission to PT program. Examinations and interventions for the management of chronic and acute cardiopulmonary problems. Teaching patient strategies for preventing/managing dysfunction.
HPA-Health Professions

PHT 6606 . Research Methods in Physical Therapy
2(2,0). PR: Admission to PT program. Methods of research applied to clinical environment of physical therapy. Coverage of the language, logic, design and analysis of clinical research.
HPA-Health Professions

PHT 6716C . Advanced Orthopedic Physical Therapy
2(2,1). PR: Orthopedic Physical Therapy. CR: Advanced Orthopedic Physical Therapy Lab. Specific rehabilitative protocols regarding particular orthopedic injuries and illnesses are presented. Focus on the previous course work in therapeutic modalities, anatomy, physiology, and therapeutic exercises incorporated.
HPA-Health Professions

PHT 6719 . Advanced Neurological Physical Therapy
2(2,0). PR: Neurological Physical Therapy and Lab. CR: Advanced Neurological Physical Therapy Lab. Examinations and interventions for the evaluation and treatment of the neurological patient. Emphasis on patients with spinal cord injury and neurological diseases.
HPA-Health Professions

PHT 6723C . Physical Therapy Integration II
2(2,1). PR: Physical Therapy Integration I. Focus on examinations and interventions for the evaluation and treatment of the spine. Various theoretical models explored. Case studies used for integration of information.
HPA-Health Professions

PHT 6823 . Advanced Clinical Applications II
1(0,12). PR: Advanced Clinical Application I. Full-time 12 week internship under the supervision of a physical therapist. Student practices and integrates skills with treatment knowledge from previous course work.
HPA-Health Professions

PHY 5100 . Topics in Contemporary Physics for Teachers
1(1,0). PR: Graduate status or senior standing or C.I. The study of recent findings in a selected area such as particle physics, surface physics, planetary atmospheres, lasers

	geophysics, etc. May be repeated for credit. AS-Physics
PHY 5140C . Ion-Solid Interactions 3(3,2). PR: PHY 4604 or PHY 4324, graduate status or senior standing, or C.I. Physical principals and related scientific and technological applications of ion-solid interactions. AS-Physics	PHY 5200C . Newtonian Mechanics for Teachers 1(0.5,1.5). PR: Graduate status or senior standing or C.I. A lab, lecture, demonstration course studying selected topics in classical mechanics. AS-Physics
PHY 5300C . Electricity for Teachers 1(0.5,1.5). PR: Graduate status or senior standing or C.I. Circuits, multimeters, oscilloscopes, circuit elements. AS-Physics	PHY 5302C . Electromagnetism for Teachers 1(0.5,1.5). PR: Graduate status or senior standing or C.I. Gauss' Law, Biot-Savart Law, Ampere's Law, Faraday's Law, Lenz's law, motors, generators, AC circuits and Maxwell's Equations. AS-Physics
PHY 5346 . Electrodynamics I 3(3,0). PR: PHY 4324, and graduate status or senior standing or C.I. Boundary value problems in electrostatics and magnetostatics. Maxwell's equations. EM fields in matter, wave generation and propagation; wave guides, resonant cavities. AS-Physics	PHY 5401C . Optics for Teachers 1(0.5,1.5). PR: Graduate status or senior standing or C.I. Geometrical and physical optics, spectrometers and lasers. AS-Physics
PHY 5455 . Modern X-Ray Science 3(3,0). PR: Graduate status or senior standing or C.I. An introduction to the science and applications of modern x-ray optics, x-ray lasers, etc., with a review of basic properties of x-rays. AS-Physics	PHY 5465C . Wave Motion for Teachers 1(0.5,1.5). PR: Graduate status or senior standing or C.I. Water waves, waves on strings, sound and vibrations. AS-Physics
PHY 5500C . Thermal Physics for Teachers 1(0.5,1.5). PR: Graduate status or senior standing or C.I. Engines, heat pumps, kinetic theory, phase changes, radiation, weather. AS-Physics	PHY 5524 . Statistical Physics 3(3,0). PR: PHY 3503, STA 3032, and graduate status or senior standing or C.I. A study of physical concepts and methods appropriate for the description of systems involving many particles. Ensemble theory, partition functions. Maxwell Boltzmann, Bose-Einstein, Fermi-Dirac statistics. AS-Physics
PHY 5606 . Quantum Mechanics I 3(3,0). PR: PHY 4605, and graduate status or senior standing or C.I. Basic postulates of quantum mechanics, operators, eigenvalues, parity, potential wells, harmonic oscillator, time dependent and time independent Schrodinger equation, matrix formulation, and time independent perturbation theory. AS-Physics	PHY 5846C . Methods of Experimental Physics 3(3,3). PR: Graduate status or senior standing or C.I. Introduction to methods of experimental physics, including instrumental design, data acquisition, vacuum, cryogenics, sample preparation, nuclear physics, transport, and spectroscopy. AS-Physics
PHY 5933 . Selected Topics in Biophysics of Macromolecules 3(3,0). PR: PHY 3101, CHM 2046, and graduate status or senior standing or C.I. Physical concepts and techniques used in the spectroscopic study of dynamic structure and function of biological macromolecules such as proteins; connections with other complex systems. May be repeated for credit. AS-Physics	PHY 6246 . Classical Mechanics 3(3,0). PR: C.I. Variational principles. Lagrange, Hamiltonian, and Poisson bracket formulations of mechanics. Hamilton's principle of least action. Hamilton-Jacobi theory. Perturbation theory. Continuous systems. Chaos. AS-Physics
PHY 6347 . Electrodynamics II 3(3,0). PR: PHY 5346 or C.I. Dynamics of charged	PHY 6353 . Accelerator Physics 3(3,0). PR: PHY 6347. Dynamics of charged particles in

particles in electromagnetic fields. Antennas; radiation by moving charges; magnetohydrodynamics; multipole radiation and electrodynamics of materials.
AS-Physics

PHY 6355 . Physics of Free Electrons

3(3,0). PR: PHY 6347. Interaction between electrons and fields, transmission lines, microwave tubes and waveguides, synchrotron radiation and undulators, the free electron laser in both the Compton and Raman regimes.
AS-Physics

PHY 6667 . Advanced Quantum Mechanics

3(3,0). PR: PHY 6624 or OSE 6347. Introduces advanced graduate students to the methods of Quantum field theory, essential for the understanding of many branches of physics.
AS-Physics

PHY 6964 . Graduate Candidacy Workshop

3(3,0). PR: PHY 5606, PHY 6624, PHZ 5156, AND PHY 5524. Preparation for the Ph.D. candidacy exam. Graded S/U.
AS-Physics

PHZ 5156 . Computational Physics

3(3,0). PR: PHZ 3151 or C.I. Computational methods applied to the solution of problems in many branches of physics. May be repeated for credit.
AS-Physics

PHZ 5405 . Condensed Matter Physics

3(3,0). PR: PHY 4604, PHY 3101, and graduate status or senior standing or C.I. Crystal lattice cell structure, phonons, free electron model, band theory of solids, Fermi surface, solid state applications, and polymers.
AS-Physics

PHZ 5432 . Introduction to Soft Condensed Matter Physics

3(3,0). PR: PHY 3503 or C.I. Introduction to the physics of polymers, colloids, surfactants using basic tools of statistical mechanics. Graded S/U.
AS-Physics

PHZ 5600 . Special Relativity for Teachers

1(1,0). PR: Graduate status or senior standing or C.I. Length contraction, time dialation, simultaneity, conservation of mass-energy, conservation of momentum, Compton scattering.
AS-Physics

PHZ 6427 . Condensed Matter Physics I

3(3,0). PR: PHY 5606, and either PHY 6624 or OSE 6347. Quantum theory of crystalline solids: crystals, electronic band structure, metals, insulators, semiconductors, electron interactions in solids, lattice

electromagnetic fields, electron optics, details of the electrostatic accelerator, the linear accelerator, and cyclic accelerators; properties of cavities and orbiting electrons; new accelerator schemes, including the free electron laser.
AS-Physics

PHY 6624 . Quantum Mechanics II

3(3,0). PR: PHY 5606 or C.I. Time dependent perturbation theory, exchange symmetry, Dirac Equation, second quantization, and scattering theory.
AS-Physics

PHY 6939 . Physics Research Seminar

3(3,0). PR: Graduate standing or C.I. Modern experimental and theoretical research methods and current topics will be presented by local practitioners from UCF's Department of Physics.
AS-Physics

PHY 7423 . Physics of Nanostructures

3(3,0). PR: PHY 6624 or CI. Electronic properties of mesoscopic nanostructures, conductance as transmission, s-matrix and Green's functions, localization, universal conductance fluctuations, single electron tunneling, chaos, nonequilibrium transport.
AS-Physics

PHZ 5304 . Nuclear and Particle Physics

3(3,0). PR: PHY 4604 or equivalent, and graduate status or senior standing or C.I. Particles and nuclei, symmetries and conservation laws, interactions, models.
AS-Physics

PHZ 5425C . Electron Solid Interactions

3(3,3). PR: Undergraduate senior or graduate status or C.I. The physics and applications of electron interactions with solids. Classroom and hands-on laboratory content.
AS-Physics

PHZ 5505 . Plasma Physics

3(3,0). PR: PHY 4324, and graduate status or senior standing or C.I. Introduction to theory and experimental basis of both weakly and highly ionized plasmas. Instabilities, plasma waves, nonlinear effects, controlled thermonuclear fusion.
AS-Physics

PHZ 6234 . Atomic Physics

3(3,0). PR: PHY 6624 or 6447. Brief review of spectroscopy, photoionization, inner shell processes, Auger effect, atom-atom collisions, electron-atom collisions, spin polarization.
AS-Physics

PHZ 6428 . Condensed Matter Physics II

3(3,0). PR: PHZ 6427. Many-body theory: Green's functions, Feynman diagrams, screening in electron gas, linear response theory, magnetism, conductivity, electron-phonon interactions, superconductivity, superfluid

dynamics. AS-Physics	AS-Physics
PLA 5937 . Seminar in Contemporary Legal Problems 3(1,2). PR: C.I. Analysis of current trends in legislation and court decisions and their significance to American society. HPA-Criminal Justice/Legal St	POS 6045 . Seminar in American National Politics 3(3,0). Examines major aspects of the American system, including mass behavior, public opinion, and political institutions AS-Political Science
POS 6127 . State Politics 3(3,0). PR: Graduate or pos-bac status. The graduate course in state politics surveys political behavior, processes, institutions and policies among the fifty states. AS-Political Science	POS 6174 . Seminar in Southern Politics 3(3,0). PR: Graduate standing or C.I. Will provide an overview of the political and social changes that have occurred in the American South in the post-World War II period. AS-Political Science
POS 6207 . Political Behavior 3(3,0). PR: Graduate status. A review of theory and findings in regard to mass political behavior, including participation, voter choice, public opinion, collective action, and communication. AS-Political Science	POS 6324 . Women and Public Policy 3(3,0). PR: Graduate standing. Analyzes U.S. public policies with differential impact on women, including policies regarding employment, family, health, reproduction and sexuality. Strong theoretical emphasis. AS-Political Science
POS 6403 . Teaching American Political Institutions 3(3,0). PR: Post-bac or graduate status. Seminar will equip students with essential knowledge of American politics and explore technologies for transferal of this knowledge into the secondary and college level classroom. AS-Political Science	POS 6639 . Seminar in Public Law and Judicial Politics 3(3,0). PR: Graduate or post-bac status. This course is intended to acquaint students broadly with the scholarly literature in the subfield of Public Law. Surveys the meaning of the field and its development, using books and articles to illustrate the major research and teaching concentration. AS-Political Science
POS 6743 . Geographic Information Systems for Environmental Politics 3(3,0). PR: Graduate standing or C.I. Provides an introduction to the theoretical assumptions, analytical possibilities and application of Geographic Information Systems for political science research. AS-Political Science	POS 6746 . Quantitative Methods in Political Research 3(3,0). PR: C.I. Methods of model building and research design, including conceptualization and measurement of political variables; techniques of data collection and quantitative analysis and computer usage. AS-Political Science
POS 6938 . Special Topics/Political Analysis 3(3,0). This course title covers all political analysis special topics courses which are not listed in the catalog with a course number. May be repeated for credit when content is different AS-Political Science	POT 6007 . Seminar in Political Theory 3(3,0). An examination of analytic and normative theories of politics and society, using selected topics as a substantive focus. AS-Political Science
PPE 5055 . Personality Theories 3(3,0). PR: Graduate status or senior standing or C.I. Critical theoretical models of personality development with applications to counseling, psychotherapy and psychological assessment. AS-Psychology	PSB 5005 . Physiological Psychology 3(3,0). PR: PSB 3002 and graduate status or senior standing or C.I. An advanced survey of the physiological basis of behavior, emphasizing the relationship between the nervous system and behavior. AS-Psychology
PSB 6446 . Advanced Abnormal and Clinical Psychopharmacology 3(3,0). PR: Graduate admission and C.I. Diagnosis of psychopathology and drug treatment of these disorders. Examination of the efficacy of psychoactive drugs. AS-Psychology	PSY 5605 . History and Systems of Psychology 3(3,0). PR: Acceptance to Clinical Psychology Ph.D. program or C.I. An examination of modern American psychology from its origins in the late 19th century to the present time. This course is intended for the Ph.D. in Clinical Psychology; in certain instances graduate students

	in other programs may enroll. AS-Psychology
PSY 6216 . Advanced Research Methodology I 4(3,2). PR: Graduate admission and C.I. Logic and procedures of psychological research and evaluation; application of experimental and non-experimental techniques in analyzing psychological variables; review of relevant psychological research. AS-Psychology	PSY 6217 . Advanced Research Methodology II 4(3,2). PR: PSY 6216, graduate admission, and C.I. Structure and planning of complex psychological experiments; internal and external validity; application of advanced experimental procedures in analyzing psychological variables; review of relevant psychological research. AS-Psychology
PSY 6219C . Advanced Research Methods III 4(3,2). PR: PSY 6216 and PSY 6217. Application of research design and statistical problems to selected human factors, industrial and/or clinical settings. AS-Psychology	PSY 6308 . Psychological Testing I 4(3,2). PR: PSY 6216. Theory of test construction, including test reliability and validity. AS-Psychology
PSY 6318 . Applied Testing and Selection 3(3,0). PR: PSY 6308, graduate admission, and C.I. Issues in selecting employees and an examination of currently used tests in industry. AS-Psychology	PSY 6908 . Directed Independent Studies 3(3,0). PR: C.I. Conduction of a selected research study under the supervision of a faculty member in the field of Human Factors Psychology. May be repeated for credit. AS-Psychology
PSY 6918 . Directed Research 3(3,0). PR: PSY 6217, EXP 6257, PSY 6938, ten additional graduate hours in PSY, and C.I. Directed Research involves supervised research activity in an agency setting. The student will devote 15 hours per week in the assigned setting to work on an applied research problem with joint supervision by faculty and agency staff. May be repeated for credit. AS-Psychology	PSY 6919 . Research Report 3(3,0). PR: PSY 6918. Preparation of a written report of a project completed in PSY 6918. This report will be in the form of a research publication or technical report. May be repeated for credit. AS-Psychology
PSY 6933 . Administration Seminar/Practicum 3(3,0). PR: Acceptance to Clinical Psychology Ph.D. program or C.I. The theories, issues, and techniques of administration in a mental health care delivery system. This course is intended for the Ph.D. in Clinical Psychology; in certain instances graduate students in other programs may enroll. AS-Psychology	PSY 6938 . Research Planning Seminar I 1(1,0). Clinical graduate student initiation of thesis proposal formulation under faculty supervision. AS-Psychology
PSY 6939 . Research Planning Seminar II 1(1,0). PR: PSY 6938. Clinical graduate student continued progress on thesis proposal formulation under faculty supervision. AS-Psychology	PSY 6940C . Research Practicum 1(0,2). PR: Graduate admission and C.I. The implementation of knowledge, skills, and abilities to conduct independent research. May be repeated for credit. AS-Psychology
PUP 6007 . Public Policy Analysis 3(3,0). Examination of the role of the state and the policy process (agenda-setting, formulation, implementation), and case studies in environmental, economic, education, or welfare or other policy AS-Political Science	PUP 6201 . Urban Environmental Policy 3(3,0). PR: Graduate standing or C.I. Covers the relationship between public policy, ecology, and the urban political landscape by tracing the trajectory of its development and prospects for sustainable cities. AS-Political Science
PUP 6207 . Politics of Sustainability 3(3,0). Probes the multiple political meanings of sustainability and illuminates the political consequences surrounding its use in various local and global contexts. AS-Political Science	PUP 6208 . Environmental politics 3(3,0). PR: Graduate or post-bac status. Examines the political ideas and practices which have shaped environmental politics and practices in the U.S. AS-Political Science

PUP 6247 . Contemporary Issues in Environmental Politics

3(3,0). PR: Graduate standing. A detailed examination of recent developments in one or more areas of environmental politics. Topics may include land and water regulation and pollution control.
AS-Political Science

PUP 6607 . Politics of Health

3(3,0). PR: Graduate or post-bac status. Analysis of public health policies, primary focus upon political processes, policy makers, and interest groups. Comparative health practices.
AS-Political Science

PUP 6938 . Special Topics/Public Policy

3(3,0). This course title covers all public policy special topics courses which are not listed in the catalog with a course number. May be repeated for credit when content is different.
AS-Political Science

PUR 6403 . Crisis Public Relations

3(3,0). PR: C.I. The course examines the management of crisis situations from a PR perspective, as well as how to manage issues to prevent them from becoming crises.
AS-Communication

QMB 7565 . Applied Statistical Business Decision Models

3(3,0). PR: Admission to Business doctoral program; ECO 6416 or equivalent; or C.I. Logic and procedures used in research and data evaluation in the business sciences applying advanced statistical models to decision-making problems.
BA-Economics

RED 5147 . Developmental Reading

3(3,0). PR: EDG 4323. Principles, procedures, organization, and current practices in the elementary reading program. Materials and methods of instruction.
ED-Teaching & Learning Princ

RED 5514 . Classroom Diagnosis and Development of Reading Proficiencies

3(3,1). PR: RED 5147 or equivalent. Classroom diagnosis and corrective teaching in reading; instructional materials. Case study required.
ED-Teaching & Learning Princ

RED 6116 . Trends in Reading Education

3(3,0). PR: Basic Teacher Certificate or C.I. Analysis of historical development and current trends; management systems; instructional strategies and investigation of research.
ED-Teaching & Learning Princ

RED 6148 . Severe Language-Based Reading and Writing Disabilities

3(3,0). PR: Graduate Status. Development, assessment, and instruction of reading, writing, and spelling, with emphasis on phonemic awareness, decoding, text comprehension, spelling, and written expression.
HPA-Communicative Disorders

RED 6336 . Reading in the Content Areas

3(3,0). PR: Basic Teacher Certificate or C.I. Identification and evaluation of reading skills, diagnosis of reading problems, and development of methods and materials to increase student reading performance.
ED-Teaching & Learning Princ

RED 6337 . Reading in the Secondary School

3(3,0). PR: RED 6336, Basic Teacher Certification, or C.I. Nature of the adolescent reader; organizational patterns, principles, and procedures; diagnostic and remediation materials.
ED-Teaching & Learning Princ

RED 6746 . Management of Reading Programs

3(3,0). Overview of K-12 reading instruction goals and program management models; role of reading supervisor and in-service needs assessment and delivery.
ED-Teaching & Learning Princ

RED 6845 . Advanced Evaluation and Instruction in Reading

3(3,0). PR: RED 5514 or C.I. Administration and interpretation of formal and informal evaluation strategies. Factors and instructional techniques contributing to reading achievement. Case studies, parent involvement.
ED-Teaching & Learning Princ

RED 6846 . Reading Practicum

6(0,6). PR: RED 6845 or C.I. Evaluation and instructional practices for individualization of reading instruction in a laboratory setting. Parent interview and case report.
ED-Teaching & Learning Princ

RED 6946 . Practicum, Clinical Practice

3(3,0).
ED-Teaching & Learning Princ

RET 5910 . Research Methods in Cardiopulmonary Physiology

3(3,0). Introduction to methods used in scientific and medical research in cardiopulmonary physiology. Literature review, experimentation, and data analysis.
HPA-Health Professions

SCE 5325 . Teaching Middle School Science

3(3,0). PR: EDG 6236 or C.I. This course will provide experiences that promote effective science teaching in grades 5-9 including interdisciplinary teaming, technology use, ESOL, and inquiry in science.
ED-Teaching & Learning Princ

SCE 5716 . Methods in Elementary School Science

3(3,0). PR: EDG 4323. Organization of instruction in elementary school science including methods, evaluation, materials, strategies, and current practices.
ED-Teaching & Learning Princ

SCE 5825 . Space Science for Educators

3(3,0). PR: Senior standing or C.I. Introduction to space science, manned space flight, and space education curriculum.
ED-Teaching & Learning Princ

SCE 6146 . Environmental Education for Educators

3(2,1). PR: Graduate standing and a valid Florida Teaching Certificate or C.I. Emphasizes the importance of environmental education in the school curriculum. Includes facilitator training in national environmental education programs.
ED-Teaching & Learning Princ

SCE 6237 . Science Programs in Secondary School

3(3,0). PR: Basic Teacher Certificate or C.I. Study of historical development and current trends; analysis of science curricula, materials.
ED-Teaching & Learning Princ

SCE 6238 . Inquiry in the Sciences

3(3,1). PR: Graduate standing or science certification. Teaching science by inquiry in the secondary school and development of inquiry lessons.
ED-Teaching & Learning Princ

SCE 6616 . Trends in Elementary School Science Education

3(3,0). PR: Basic Teacher Certification or C.I. Study of historical development and current trends; analysis of science curricula, materials.
ED-Teaching & Learning Princ

SDS 6200 . Procedures for Group Testing

3(2,1). PR: EGC 5005 or EGC 6426, EDF 6481 or EDF 6482. Survey of various educational and psychological objective instruments used in schools to measure achievement, aptitude, interests, ability. Emphasis on administration and score interpretation.
ED-Child, Family & Comm Sci

SDS 6411 . Counseling with Children and Adolescents

3(3,0). PR: EGC 6436 and EDF 6155 or C.I. Study of counseling theory, process, and techniques as applied to children and adolescents. Course will contain an experiential component.
ED-Child, Family & Comm Sci

SDS 6426 . Guidance and Counseling of Gifted/Talented Individuals

3(3,0). Guidance and counseling procedures and strategies for gifted/talented students; self-assessment; group dynamics; communication with parents; career goals; alternate educational opportunities.
ED-Child, Family & Comm Sci

SDS 6620 . Organization and Administration of School Counseling and Guidance Programs

3(3,0). PR: EGC 5005. In-depth analysis of counseling and guidance programs in schools, including the development and management of comprehensive programs.
ED-Child, Family & Comm Sci

SOP 5059 . Advanced Social Psychology

3(3,0). PR: SOP 3004, graduate status or senior standing, or C.I. The major findings and theories in social psychology including an in-depth review of relevant research.
AS-Psychology

SOW 5105 . Human Behavior and Social Environment I: Individual

3(3,0). PR: Admission to MSW program. Study of human development and psychosocial functioning of individuals at various life stages with particular attention to implications of human diversity.
HPA-Social Work

SOW 5106 . Human Behavior and Social Environment II: Social Systems

3(3,0). Study of the patterns and dynamics of families, groups, organizations, and communities from a social work and a systems perspective.
HPA-Social Work

SOW 5109 . Violence Against Women: A Global Perspective

3(3,0). PR: Graduate status or C.I. An introduction to the types of violence that impact women from a global perspective. Community, political, and economic issues that support violence against women will be discussed by country, ethnic group(s) within countries, and religious principles.
HPA-Social Work

SOW 5132 . Diverse Client Populations

3(3,0). Study of human diversity, focusing on the needs, resources, problems, and service issues of several identified minority client populations.
HPA-Social Work

SOW 5235 . Social Welfare Policies and Services
3(3,0). Study of societal responses to human needs; forces shaping social welfare systems; introduces frameworks for analyzing social policies and services.
HPA-Social Work

SOW 5306 . Social Work Practice II: Intervention Approaches
3(3,0). Study of selected social work theories, strategies, and techniques for helping people and improving system responsiveness to human needs.
HPA-Social Work

SOW 5387 . Nonprofit Resource Development
3(3,0). PR: Admission to certificate program or C.I. Resource Development in nonprofit organizations, including board development and leadership, volunteer program development, staff development, grant funding, fundraising, marketing, and government contract development and management.
HPA-Social Work

SOW 5432 . Evaluating Social Work
3(3,0). Study of single case designs in social work; recording methods; behavioral and standardized measures; applications to individuals, families, groups, programs, communities.
HPA-Social Work

SOW 5533 . Generalist Field Education II
2(2,0). PR: MSW. Continuation of SOW 5532 Generalist Field Education I in the same field agency for 224 clock hours. Graded S/U.
HPA-Social Work

SOW 5537 . Generalist Field Education Integrative Seminar I I
1(1,0). PR: Admission to MSW program. CR: Generalist Field Education II. Continuation of Generalist Field Education Integrative Seminar I to facilitate student integration of generalist social work practice and theory while strengthening partnerships in the community. Graded S/U.
HPA-Social Work

SOW 5624 . Social Work Practice in Mexican Culture
3(3,0). PR: C.I. The practice of social work in Mexican culture through cultural immersion, seminars, field visits and language instruction.
HPA-Social Work

SOW 5635 . Social Work Practice in Schools
3(3,0). PR: Social Work graduate standing or C.I. Study of knowledge, skills and abilities necessary for competent practice with students, their teachers, families, schools and communities.
HPA-Social Work

SOW 5644 . Interventions with Elderly and Their Families

SOW 5305 . Social Work Practice I: Generalist Practice
3(3,0). Study of social work functions, knowledge, values, roles and skills; the use of a generalist model of practice.
HPA-Social Work

SOW 5355 . Studies in Social Work Practice
3(3,0). PR: C.I. Analysis of one or more urban practice issues and approaches. May be repeated for credit.
HPA-Social Work

SOW 5404 . Social Work Research
3(3,0). Study of group research designs in social work; quantitative analyses; and related ethical issues.
HPA-Social Work

SOW 5532 . Generalist Field Education I
2(2,0). PR: Admission to MSW Prog/. Supervised practice of social work in an agency for 224 clock hours. Graded S/U.
HPA-Social Work

SOW 5534 . Generalist Field Education Integrative Seminar I
1(1,0). PR: Admission to MSW program. CR: SOW 5532. Seminar designed to facilitate student integration of generalist social work practice and theory while strengthening partnerships in the community. Graded S/U.
HPA-Social Work

SOW 5604 . Medications in Social Work Practice
3(3,0). PR: Graduate standing, pos-bac status, senior in SW program or C.I. The study of the effects that psychotropic medications can have within the counseling/helping relationship.
HPA-Social Work

SOW 5625 . Social Work with Women
3(3,0). Alternative approaches to the treatment of women in the urban setting.
HPA-Social Work

SOW 5642 . Aging In Social Situations
3(3,0). PR: Admission to MSW program or Gerontology Certificate Program or C.I. Knowledge about elderly in social situations or environmental context.
HPA-Social Work

SOW 5652 . Children Services in Social Work
3(3,0). PR: Graduate standing. Study of societal responses

3(3,0). PR: Admission to Gerontology graduate certification program or MSW program or C.I. Study of concepts, skills, models and theories for intervening with aged. Special attention is given to minority populations.
HPA-Social Work

to children's needs. Development of skills for preventing family breakdown, placing children in alternative care, and reuniting children with their families.
HPA-Social Work

SOW 5655 . Child Abuse: Treatment and Prevention
3(3,0). The social worker's role and interventions with victims of child abuse and their family members.
HPA-Social Work

SOW 5662 . Strategies in Employee Assistance Programs
3(3,0). Techniques for establishing, providing, and evaluating services to people with problems which affect job performance.
HPA-Social Work

SOW 5670 . Gay and Lesbian Experience in American Society
3(3,0). PR: Seniors or graduate status. Sexual orientation in a cultural context: resources and policies affecting gay and lesbian people; and professional considerations in interventions with and for gay and lesbian clients.
HPA-Social Work

SOW 5695 . Documentation Skills for Helping Professionals
3(3,0). PR: MSW social work students, C.I. Study of documentation skills and record keeping for helping professionals.
HPA-Social Work

SOW 5712 . Interventions with Substance Abusers
3(3,0). Strategies for working with persons who abuse drugs, alcohol, and other substances.
HPA-Social Work

SOW 5713 . Prevention and Treatment of Adolescent Substance Abuse
3(3,0). PR: Graduate status or C.I. An indepth review of prevention, intervention and treatment of adolescent substance abuse.
HPA-Social Work

SOW 5846 . Spirituality in Professional Counseling
3(3,0). PR: Graduate standing, post-bac status, seniors, or C.I. Examination of spirituality as it relates to professional counseling.
HPA-Social Work

SOW 6123 . Psychosocial Pathology
3(3,0). PR: All first-year courses in the MSW Program SOW 5305, 5105, 5404, 5325, 5306, 5106, 5432, 5532, 5132, 5533. Study of psychosocial dynamics of dysfunctional behavior in individuals.
HPA-Social Work

SOW 6246 . Policy Analysis and Social Change
2(2,0). PR: All first-year courses in the MSW Program SOW 5305, 5105, 5404, 5235, 5105, 5404, 5235, 5532, 5306, 5106, 5432, 5132, 5533. Study of urban problems, policies, and planning from the perspective of their impact on individuals and families.
HPA-Social Work

SOW 6324 . Clinical Practice with Groups
3(3,0). PR: Advanced standing in MSW program. Group work theories, interventions and techniques applied to persons with emotional, social and psychological problems.
HPA-Social Work

SOW 6348 . Clinical Practice with Individuals
3(3,0). PR: Advanced standing in MSW program. Behavioral, crisis, and psychosocial theories applied to persons with emotional, social, and psychological problems.
HPA-Social Work

SOW 6373 . Clinical Supervision
3(3,0). PR: MSW graduate student, Ph.D. status or C.I. Supervisory theory and practice in clinical settings.
HPA-Social Work

SOW 6383 . Social Work Administration
3(3,0). PR: Graduate standing. Designed as a general introduction to the multi-faceted nature of social work administration in public and private non-profit settings.
HPA-Social Work

SOW 6384 . Administrative Supervision in Social Work
3(3,0). PR: Graduate standing in social work. Administrative social work supervision within various community-based public and non-profit settings.
HPA-Social Work

SOW 6386 . Seminar in Social Welfare Planning and Implementation
3(3,0). PR: Admission to Ph.D. program or C.I. Social welfare planning, implementation, and evaluation at the community and organizational levels. Emphasizes

SOW 6399 . Advanced Administration in Social Welfare
3(3,0). PR: Admission to Ph.D. program or C.I. Attributes, skills, behaviors, and problems with executive roles in public human service organizations. Emphasizes the

planning needs of oppressed groups.
HPA-Social Work

mission of the organization as well as mobilization of resources.
HPA-Social Work

SOW 6492 . Theory Building in Social Work
3(3,0). PR: Admission to the Ph.D. program or C.I. Epistemological, ontological, and methodological implications of knowledge building in social work.
HPA-Social Work

SOW 6535 . Clinical Field Education I
3(3,0). PR: SOW 5532 and SOW 5533. CR: Clinical Field Integrative Seminar I. Supervised specialist practice in a field agency for 304 clock hours. Graded S/U.
HPA-Social Work

SOW 6536 . Clinical Field Education II
3(3,0). PR: SOW 6535 Clinical Field Education I. CR: Clinical Field Integrative Seminar II. Continuation of SOW 6535, Clinical Field Education I, in the same field agency for 304 additional clock hours. Graded S/U.
HPA-Social Work

SOW 6548 . Clinical Field Integrative Seminar I
1(1,0). PR: SOW 5532 and SOW 5533; CR: SOW 6535. Seminar designed to facilitate student integration of clinical social work practice and theory while strengthening partnerships in the community. Graded S/U.
HPA-Social Work

SOW 6549 . Clinical Field Integrative Seminar II
1(1,0). PR: MSW. Continuation of Clinical Field Integrative Seminar I to facilitate student integration of clinical social work practice and theory while strengthening partnerships in the community. Graded S/U.
HPA-Social Work

SOW 6612 . Clinical Practice with Families
3(3,0). PR: Advanced standing in MSW program. Family-focused models of intervention applied to families in transition and to problems such as divorce, single parenting, and blended families.
HPA-Social Work

SOW 6656 . Clinical Practice with Children and Adolescents
3(3,0). PR: Advanced standing in MSW program. Social work practice and treatment of children and adolescents.
HPA-Social Work

SOW 6689 . Sex Therapy
3(3,0). Intervention approaches for sex-related problems.
HPA-Social Work

SOW 6914 . Intergrative Research Project in Clinical Practice
2(2,0). PR: Advanced standing in MSW program. Student-selected research on an issue of clinical practice in urban settings.
HPA-Social Work

SPA 5327 . Aural Habilitation/Rehabilitation
3(3,0). PR: SPA 6204, SPA 6401. Principles and procedures involved in speech and language acquisition, management, utilization of residual hearing, speech reading, and the use of hearing aids.
HPA-Communicative Disorders

SPA 5473 . Multicultural Aspects of Communication Disorders and Differences
3(3,0). PR: Graduate status. Introduction to cultural and linguistic diversity among individuals with communication disorders and differences. Special emphasis on African, Hispanic, Asian, and Native-American.
HPA-Communicative Disorders

SPA 5477 . Aging and Communication
3(3,0). PR: Senior status or C.I. Study of the changes in communication with normal aging, focusing on assessment and management of older individuals with communication disorders.
HPA-Communicative Disorders

SPA 5559 . Augmentative and Alternative Communication Systems
3(3,0). PR: Senior status or C.I. The total integrated network of techniques, aids, strategies, and skills individuals use to supplement or replace inadequate natural speaking ability.
HPA-Communicative Disorders

SPA 5561 . Counseling in Communicative Disorders
3 (3,0). PR: Senior status or C.I. Interviewing and counseling for individuals with communication disorders and their families.
HPA-Communicative Disorders

SPA 5570 . Administration and Management of Communicative Disorders Programs
3(3,0). PR: SPA 6553, SPA 5327. Methods and techniques for organization and administration of speech-language and hearing disorders in public school, hospital, rehabilitation center, and private practice facilities.
HPA-Communicative Disorders

SPA 6132 . Advanced Speech Science
3(3,0). PR: Graduate status. Advanced study of the anatomy and physiology for speech production, the acoustic and physiological measurement of speech, application of speech science to clinical practice.
HPA-Communicative Disorders

SPA 6204 . Advanced Articulation/Phonological Disorders

3(3,0). PR: Graduate status or C.I. SPA 3112 & SPA 3112L, SPA 4291C. Advanced theory, diagnosis, and treatment of articulation/phonological disorders including developmental apraxia of speech, dysarthria, and cleft palate; communicative differences vs. disorders emphasized.

HPA-Communicative Disorders

SPA 6211 . Voice Disorders

3(3,0). PR: Graduate status. Study of the etiology, evaluation, and management of voice disorders in children and adults.

HPA-Communicative Disorders

SPA 6225 . Fluency Disorders

3(3,0). PR: Graduate status. Study of the etiology, evaluation, and management of disorders of fluency in children and adults.

HPA-Communicative Disorders

SPA 6236 . Motor Speech Disorders in Adults and Children

3(3,0). PR: Graduate status. A study of dysarthrias, apraxias, and other motor speech disorders in adults and children associated with neurological problems, brain injury and systemic disease.

HPA-Communicative Disorders

SPA 6245 . Communication Disorders in Cleft Palate-Velopharyngeal Dysfunction

3(3,0). PR: Graduate status. Introduction to the management of communication and feeding disorders related to cleft palate and/or velopharyngeal dysfunction.

HPA-Communicative Disorders

SPA 6308 . Auditory Evaluation and Assessment Procedures for Special Populations

4(4,0). PR: Graduate status or C.I. Audiometric testing and functional communicative assessment procedures for geriatric, pediatric, and other special populations.

HPA-Communicative Disorders

SPA 6309 . Auditory Processing of Language

3(3,0). PR: Graduate status. Diagnosis, intervention and management of auditory-specific language and information processing deficits in children.

HPA-Communicative Disorders

SPA 6345 . Amplification

4(4,0). PR: Graduate status or C.I. Hearing aids, selective evaluation procedures, electroacoustic measurements, coupling techniques, and orientation and counseling.

HPA-Communicative Disorders

SPA 6353 . Hearing Conservation

4(4,0). PR: SPA 4032. Industrial audiometry, community noise abatement, and public school hearing conservation.

HPA-Communicative Disorders

SPA 6401 . Language Disorders in Infants and Toddlers

3(3,0). PR: Graduate status. Assessment and intervention of communication disorders in infants and toddlers incorporating transdisciplinary and family-centered models.

HPA-Communicative Disorders

SPA 6404 . Preschool Language Disorders

3(3,0). PR: SPA 4400 or equivalent. Graduate students will apply their knowledge of the normal processes of language development to the diagnosis and intervention of communicative impairments of infants and toddlers.

HPA-Communicative Disorders

SPA 6407 . Seminar in Language

2-3(2-3,0). PR: SPA 6225, SPA 6132, SPA 6211. Examines innovative and disorder-specific evaluation and treatment in adult and pediatric language disorders.

HPA-Communicative Disorders

SPA 6410 . Aphasia and Related Disorders

3(3,0). PR: Graduate status. Study of language disorders in adults with focal lesions to the central nervous system, including an emphasis on etiology, differential diagnosis, and treatment.

HPA-Communicative Disorders

SPA 6413 . School-Aged Language Disorders

3(3,0). PR: SPA 440 or equivalent. Application of the normal process of later language acquisition to the evaluation and management of school-aged children with spoken and written language disorders.

HPA-Communicative Disorders

SPA 6417 . Cognitive-Linguistic Communication Disorders

3(3,0). PR: SPA 6410. Evaluation and treatment of right hemisphere dysfunctions, traumatic brain injury, and dementias, with special emphasis on memory, cognition, pragmatics and other issues affecting functional communication.

HPA-Communicative Disorders

SPA 6474 . Assessment of Culturally and Linguistically Diverse Populations

3(3,0). PR: SPA 5473. Study of speech and language assessment of individuals from culturally and linguistically diverse (CLD) backgrounds.

HPA-Communicative Disorders

SPA 6475 . Management of Culturally and Linguistically Diverse Populations
3(3,0). PR: SPA 5473. Study of communication differences and the role of native and second languages and cultures in management of communication disorders.
HPA-Communicative Disorders

SPA 6526 . Seminar in Speech Pathology
2(2,0). PR: SPA 6225, SPA 6132, SPA 6211. Examines innovative and disorder-specific evaluation and treatment procedures. Topics will be in the area of adult and pediatric speech disorders.
HPA-Communicative Disorders

SPA 6553L . Differential Diagnosis in Speech and Language Laboratory
1(0,4). PR: SPA 6204, SPA 6413, SPA 6211, SPA 6225, SPA 6404, 6410, SPA 6236; CR: SPA 6553. Practice in the differential diagnosis of speech and language disorders with emphasis on interviewing, test administration and interpretation, report writing, and case presentations. May be repeated for credit.
HPA-Communicative Disorders

SPA 6805 . Research in Communicative Disorders
3(3,0). PR: STA 4163 or HSA 4700. Introduction to empirical research in communicative disorders, with emphasis on hypothesis testing, research design, data analysis, and interpretation of results.
HPA-Communicative Disorders

SPA 6843 . Severe Language-Based Reading and Writing Disabilities
3(3,0). PR: Graduate status. Development, assessment, and instruction of reading, writing, and spelling, with emphasis on phonemic awareness, decoding, text comprehension, spelling, and written expression.
HPA-Communicative Disorders

SPA 6943C . Advanced Clinical Practicum
3(3,6). PR: SPA 4052L. Advanced supervised practicum in evaluation and management of speech, language and hearing disorders. May be repeated for credit.
HPA-Communicative Disorders

SPC 6219 . Modern Communication Theory
3(3,0). Comparative analysis of theories and models of human communication, behavior systems, encoding and decoding processes, interaction variables, and social context.
AS-Communication

SPN 5502 . Hispanic Culture of the United States
3(3,0). PR: Graduate status or senior standing or C.I. An analysis of the Hispanic culture of the United States, past and present.
AS-Foreign Languages

SPN 5506 . Spanish American Culture and

SPA 6505 . Entry-Level Clinical Practicum
3(0,6). PR: SPA 4052. Entry-level supervised practicum in evaluation and management of speech, language and hearing disorders. May be repeated for credit.
HPA-Communicative Disorders

SPA 6553 . Differential Diagnosis In Speech and Language
3(3,0). PR: Graduate status. Procedures for diagnosing speech and language disorders in children and adults, with emphasis on interviewing, test administration and interpretation, and report writing.
HPA-Communicative Disorders

SPA 6567 . Feeding and Swallowing Disorders
3(3,0). PR: SPA 6236, SPA 6211. Evaluation and management of feeding and swallowing disorders in children and adults.
HPA-Communicative Disorders

SPA 6826 . Seminar in Research
2(2,0). PR: SPA 6225, SPA 6132, SPA 6211. Examination of major issues in research of clinical or theoretical importance.
HPA-Communicative Disorders

SPA 6942C . Intermediate Clinical Practicum
3(0,6). PR: SPA 4052L. Intermediate supervised practicum in evaluation and management of speech, language and hearing disorders. May be repeated for credit.
HPA-Communicative Disorders

SPA 6952 . Clinical Research Project
1 (0,1). PR: SPA 6946 (12 credit hours). Students complete a research project on a relevant topic in communicative disorders, based on their clinical experience in externship.
HPA-Communicative Disorders

SPC 6442 . Small Group Communication
3(3,0). A study of communication and its effect on small group behavior.
AS-Communication

SPN 5505 . Spanish Peninsular Culture and Civilization
3(3,0). PR: Graduate status or senior standing or C.I. An analysis of the salient characteristics of Spanish culture and civilization.
AS-Foreign Languages

SPN 5705 . Introduction to Spanish Linguistics

<p>Civilization 3(3,0). PR: Graduate status or senior standing or C.I. An analysis of the salient characteristics of Spanish American culture and civilization. AS-Foreign Languages</p> <p>SPN 5825 . Spanish Dialectology 3(3,0). PR: Graduate status or senior standing or C.I. This course is a survey of the diversity found within the Spanish language with respect to phonological constraints, morphosyntax, second language influences, and historical development. AS-Foreign Languages</p>	<p>3(3,0). PR: Graduate status or senior standing or C.I. An introduction to main concepts and methods of analyses focusing on Spanish morphology, syntax, semantics, and phonology as well as dialectology and sociolinguistics. AS-Foreign Languages</p> <p>SPN 5845 . History of the Spanish Language 3(3,0). PR: Graduate status or senior standing or C.I. An overview of linguistic characteristics of Latin and its evolution into Spanish with historical development of phonetic, morphological, and syntactic properties. AS-Foreign Languages</p>
<p>SPN 5920 . AP Spanish Language 3(3,0). PR: Graduate status or senior standing or C.I. Participants will enhance their knowledge of the language and culture of Spanish-speaking peoples and develop further proficiency in listening, comprehension, speaking, reading, and writing. AS-Foreign Languages</p>	<p>SPN 6805 . Spanish Morphosyntax 3(3,0). A study of Spanish morphology and syntax from different perspectives. AS-Foreign Languages</p>
<p>SPN 6940 . Teaching Methods for the Spanish Classroom 3(3,0). PR: Graduate standing and acceptance into the GTA program. Practical training for all GTA's who will be involved in teaching lower division Spanish classes. AS-Foreign Languages</p>	<p>SPS 6125 . Infant Development Assessment 3(2,1). PR: Graduate admission and C.I. Analysis of test theory and practice in administration, scoring, and interpretation of instruments assessing cognitive, visual-motor ability and adaptive behavior to pre- and primary school children. ED-Child, Family & Comm Sci</p>
<p>SPS 6175 . Cultural Diversity and Nonbiased Assessment 3(3,0). An investigation of some of the major multicultural issues with emphasis on administration, scoring, and interpretation of instruments related to this population. ED-Child, Family & Comm Sci</p>	<p>SPS 6191 . Individual Psychoeducational Diagnosis I 4(4,0). PR: Graduate admission and C.I. CR: SPS 6206. Measurement of intellectual and cognitive functioning of children and adults. Administration, scoring and interpretation of Wechsler scales and selected psychometric instruments. ED-Child, Family & Comm Sci</p>
<p>SPS 6192 . Individual Psychoeducational Diagnosis II 4(4,0). PR: Graduate admission and C.I. CR: SPS 6948. Measurement of intellectual and cognitive functioning of children and adults. Administration, scoring, and interpretation of Binet IV, K-ABC, Woodcock-Johnson, and other psychometric instruments. ED-Child, Family & Comm Sci</p>	<p>SPS 6194 . Assessment of Special Needs 3(3,0). PR: SPS 6191, SPS 6192. Measurement of social, behavioral, and emotional functioning in children and adolescents. ED-Child, Family & Comm Sci</p>
<p>SPS 6206 . Psychoeducational Interventions 3(3,0). PR: SPS 6191. This course will enable school psychology students to link psychoeducational assessment results to appropriate prescriptive interventions. ED-Child, Family & Comm Sci</p>	<p>SPS 6225 . Behavioral and Observational Analysis of Classroom Interactions in Schools 3(3,0). PR: Graduate admission. An intensive review of the principles and procedures of applied behavioral and observational analysis and assessment as they relate to changing behavior in schools. ED-Child, Family & Comm Sci</p>
<p>SPS 6601 . Introduction to Psychological Services in Schools 3(3,1). PR: Graduate admission and C.I. A course presenting an overview of the philosophy, organization, programs, and operation of school psychological services. ED-Child, Family & Comm Sci</p>	<p>SPS 6606 . School Consultation Techniques 3(3,0). PR: C.I. Theories and models of school consultation and clinical practice in the consultative role. ED-Child, Family & Comm Sci</p>
<p>SPS 6608 . Seminar in School Psychology</p>	<p>SPS 6703 . Child and Adolescent Deviant Behavior and</p>

3(3,0). PR: C.I. Diagnostic, instructional, and prescriptive intervention techniques.
ED-Child, Family & Comm Sci

Treatment

3(3,0). PR: Graduate admission and C.I. Behavior disorders in school-age children and adolescents as classified in current terminology, and a review of treatment options such as therapy and medication.
ED-Child, Family & Comm Sci

SPS 6801 . Developmental Bases of Diverse Behaviors

3(3,0). PR: Graduate admission and C.I. The major social and educational policy concerns posed by developmental and cultural diversity in our society, with implications for teaching, learning and intervention.
ED-Child, Family & Comm Sci

SPS 6931 . Ethical and Legal Issues in School Psychological Services

3(3,0). PR: Graduate admission. Introduction to ethical codes, professional standards, ethical-legal decision-making models and case studies impacting the delivery of school psychological services.
ED-Child, Family & Comm Sci

SPS 6946 . Practicum in School Psychology

3(0,3). PR: SPS 6661, SPS 6192. Provides each student with an orientation to public schools and experiences which broadly sample the spectrum of psychoeducational assessment and interventions for practicing school psychologists.
ED-Child, Family & Comm Sci

SPS 6948 . School Psychology Internship

6(0,6). PR: Graduate admission and C.I. Supervised placement in school setting.
ED-Child, Family & Comm Sci

SPW 6216 . Golden Age Prose

3(3,0). A study of the major prose works of the Spanish Golden Age.
AS-Foreign Languages

SPW 6217 . Spanish American Prose I

3(3,0). A study of the principal characteristics of Spanish American prose from Colonial times to post-independence.
AS-Foreign Languages

SPW 6218 . Spanish American Prose II

3(3,0). A study of the principal characteristics of Spanish American prose from modernism to the present.
AS-Foreign Languages

SPW 6269 . Nineteenth Century Spanish Novel

3(3,0). A study of the major writers and literary movements of the 19th century with emphasis on the novels of Valera, Perez Galdos, Clarin and Pardo Bazan.
AS-Foreign Languages

SPW 6306 . Spanish American Drama I

3(3,0). An analysis of dramatic texts from Pre-Columbian times to the end of the nineteenth century.
AS-Foreign Languages

SPW 6307 . Spanish American Drama II

3(3,0). An analysis of Spanish American Drama from modernism to the present.
AS-Foreign Languages

SPW 6315 . Golden Age Drama

3(3,0). An analysis of the meaning and artistic values of selected theatrical works of the Spanish Golden Age.
AS-Foreign Languages

SPW 6356 . Spanish American Poetry

3(3,0). A study of the different movements and their contribution to Spanish American poetry.
AS-Foreign Languages

SPW 6405 . Medieval Spanish Literature

3(3,0). An intensive study of the major genres of the period. Emphasis on selected works by major writers.
AS-Foreign Languages

SPW 6585 . Contemporary Peninsular Literature

3(3,0). A study of the major writers and literary movements from the Generation of 1927 to the present.
AS-Foreign Languages

SPW 6725 . The Generation of 1898

3(3,0). An analysis of the major works of writers of the Generation of 98 such as Ganivet, Unamuno, Baroja, Azorin, and Machado.
AS-Foreign Languages

SPW 6825 . Seminar Series

3(3,0). PR: Graduate standing or C.I. A seminar course that focuses on a single author, a geographical area or a specific topic within a period or literary movement from Spain, Latin American or Hispanics in the U.S. May be repeated for credit.
AS-Foreign Languages

SPW 6919 . Advanced Spanish Graduate Research

3(3,0). PR: Graduate student in Spanish M.A program. Introduce historical and literary criticism at the graduate level. Teach methods for independent study and provide students with tools needed for research in Spanish

SPW 6971 . Thesis

3(3,0). This course is intended for students in the M. A. program who wish to exercise the option of writing a thesis. May be repeated for credit.
AS-Foreign Languages

linguistics, literary criticism and culture.
AS-Foreign Languages

SSE 5115 . Methods in Elementary School Social Science

3(3,0). PR: EDG 4323. Study of instructional programs in social sciences; objectives; materials; techniques; current research; and their application in elementary school setting.
ED-Teaching & Learning Princ

SSE 5391 . Global Education: Theory and Practice

3(3,0). PR: Graduate standing or C.I. Examines the theoretical underpinnings of teaching about the world along with a variety of theoretically grounded teaching strategies for engaging students in global education.
ED-Teaching & Learning Princ

SSE 5776 . Democracy and Education

3(3,0). PR: Graduate standing or C.I. Explores the intersection of theory and practice with regard to promoting democratic life in schools. Will examine competing theories of democracy and education, investigate problem areas in schools related to democracy, and consider examples of practice.
ED-Teaching & Learning Princ

SSE 5790 . Inquiry and Instructional Analysis in Social Science Education

3(3,0). PR: Admission to M.A. program or alternative certification program. Study of instructional programs in social science education and related scholarship; development of an inquiry about the intersection of theory and practice in social science teaching.
ED-Teaching & Learning Princ

SSE 6617 . Trends in Elementary School Social Studies Education

3(3,0). PR: Basic Teacher Certificate or C.I. Historical development and current trends, strategies for inquiry instruction, intellectual, social, and personal dimensions of social studies.
ED-Teaching & Learning Princ

SSE 6636 . Contemporary Social Science Education

3(3,0). PR: Basic Teacher Certificate of C.I. A survey of recent developments and contemporary programs in all areas of the social sciences.
ED-Teaching & Learning Princ

STA 5103 . Advanced Computer Processing of Statistical Data

3(3,0). PR: STA 4163 and knowledge of a programming language, graduate status or senior standing, or C.I. Use of SAS and other statistical software packages; data manipulation; graphical data presentation; data analysis; creating analytical reports.
AS-Statistics

STA 5139 . Credibility Theory and Loss Distribution

3(3,0). PR: STA 4322, graduate status or senior standing, or C.I. Full and partial credibility. The credibility premium. Exact credibility. Parametric and nonparametric estimation of credibility. Loss models for claim severities and frequencies. Aggregate claims models.
AS-Statistics

STA 5175 . Biometry

3(3,0). PR: STA 2023, graduate status or senior standing, or C.I. Design and analysis of experiments with emphasis on biological/ecological application; one-way and multi-way ANOVA; regression; ordination; classification.
AS-Statistics

STA 5176 . Introduction to Biostatistics

3(3,0). PR: STA 4163 or STA 4173, graduate status or senior standing, or C.I. Fixed-effects model, random-effects model, repeated measures design, logistic regression, survival analysis, Kaplan-Meier estimates, proportional hazards model.
AS-Statistics

STA 5185 . Advanced Theory of Interest

3(3,0). PR: MAC 2312 and STA 2023, graduate status or senior standing, or C.I. Measurement of Interest, valuation of annuities, determination of yield rates on investments, fixed income securities, mortgages, etc.
AS-Statistics

STA 5205 . Experimental Design

3(3,0). PR: STA 4164, STA 5206 or ESI 5219, and graduate status or senior standing, or C.I. Construction and analysis of designs for experimental investigations. Blocking, randomization, replication; incomplete block designs; factorial and fractional designs; design resolution.
AS-Statistics

STA 5206 . Statistical Analysis

3(3,0). PR: STA 2023; not open to students who have completed STA 4164. Graduate status or senior standing or C.I. Data analysis; statistical models; estimation; tests or hypotheses; analysis of variance, covariance, and multiple comparisons; regression and nonparametric methods.
AS-Statistics

STA 5505 . Categorical Data Methods

3(3,0). PR: STA 4163 or STA 5206, and graduate status or senior standing or C.I. Considers discrete probability distributions, contingency tables, measures of association, and advanced methods, including loglinear modeling, logistic regression, McNemar's Test, Mantel-Haenszel test.
AS-Statistics

STA 5646 . Casualty Insurance

3(3,0). PR: STA 4322 and STA 4641, graduate status or senior standing, or C.I. Individual risk rating and classification of risk for property/casualty insurance. Re insurance and expense issues. Reserves for insurance and loss adjustment expenses. Investment income.
AS-Statistics

STA 5825 . Stochastic Processes and Applied Probability Theory

3(3,0). PR: STA 4321, and graduate status or senior standing or C.I. Conditional probability and conditional expectations, sequences of random variables, branching processes, random walks, Markov chains, recurrent events, renewal theory, queueing theory, and simple stochastic processes.
AS-Statistics

STA 6106 . Statistical Computing I

3(3,0). Computer systems, approximating probabilities/percentiles, random number generation, linear model computations, density estimation.
AS-Statistics

STA 6132 . Pension Actuarial Science

3(3,0). PR: Graduate standing and STA 4322 and STA 4130. Pension plan funding basic theory and applications. Types and calculations of pension benefits, stochastic modeling of pension funding. Practical considerations.
AS-Statistics

STA 6135 . Life Contingencies and Insurance Models II

3(3,0). PR: STA 6133. Multiple life and multiple decrement risk analysis and insurance models with options and expenses.
AS-Statistics

STA 6226 . Sampling Theory and Applications

3(3,0). PR: STA 4321. Different techniques of sampling, sampling for proportions, choosing sample size, ratio estimates, effects of sampling and non-sampling errors.
AS-Statistics

STA 6237 . Nonlinear Regression

3(3,0). PR: STA 6236 (or knowledge of linear regression). Nonlinear regression: model specification, diagnostics. Estimation: nonlinear least squares, SAS, Gauss Newton algorithm. Robust regression: M-estimation adaptive robust regression. Logistic regression, Poisson regression
AS-Statistics

STA 5703 . Data Mining Methodology I

3(3,0). PR: STA 5103 and STA 5206, graduate status or senior standing, or C.I. Data mining to uncover valuable information through SEMMA (Sample, Explore, Model, Modify, and Access). Process with neural network and decision tree.
AS-Statistics

STA 5940 . Statistical Advice for Researchers

1(1,0). PR: Graduate status or senior standing or C.I. Discussion of student-supplied statistical problem, data sources, sampling techniques, computer package usage, analysis, interpretation. May be repeated for credit. Graded S/U.
AS-Statistics

STA 6107 . Statistical Computing II

3(3,0). PR: STA 6329 (or knowledge of matrix algebra), STA 6236 (or knowledge of linear regression), and familiarity with a higher level programming language (e.g., FORTRAN, C++, MATLAB). Linear regression: stepwise regression, Gauss-Jordan pivots, stand-up regression, residual analysis, Nonlinear regression; Gauss-Newton algorithm, derivative-free methods, constraints, iteratively reweighted least squares. General maximum likelihood methods: Newton-Raphson and Fisher-scoring, conjugate gradient and quasi-Newton methods, EM algorithm.
AS-Statistics

STA 6133 . Life Contingencies and Insurance Models I

3(3,0). CR: STA 6326 or C.I. Economics of insurance and utility theory, life tables, life insurance premiums and reserves evaluation.
AS-Statistics

STA 6207 . Response Surface and Mixture Experiments

3(3,0). PR: STA 5205. Approximating response functions; first-order and second-order response surfaces; ridge systems; mixture problems, component proportions, and the analysis of mixture data.
AS-Statistics

STA 6236 . Regression Analysis

3(3,0). PR: MAS 3105 and STA 4164. General linear model, model aptness and remedial measures, regression through the origin, independent and dependent indicator variables, multicollinearity, outliers, biased regression.
AS-Statistics

STA 6238 . Logistic Regression

3(3,0). PR: STA 6236. Studies of logistic regression models: estimation, interpretation, model building strategies and assessments, and polytomous regression, SAS programming in the application of logistic regression modeling.
AS-Statistics

STA 6246 . Linear Models

3(3,0). PR: STA 6329, STA 4164, and STA 4322. Theoretical development of full rank linear statistical models, least squares and maximum likelihood estimation, interval estimation, hypothesis testing, and introduction to less than full rank models.
AS-Statistics

STA 6327 . Theoretical Statistics II

3(3,0). PR: STA 6326. Point estimation, sufficient statistics, completeness, exponential family, maximum likelihood estimators, statistical hypotheses, best tests, likelihood ratio tests, noncentral distributions.
AS-Statistics

STA 6346 . Advanced Statistical Inference I

3(3,0). PR: STA 6327. Decision rules, risk functions, utility theory, the loss function, prior information and subjective probability, Bayesian analysis.
AS-Statistics

STA 6466 . Advanced Probability Theory

3(3,0). PR: STA 6327 or MAP 6111. Basic concepts of probability theory, modes of convergence, probability inequalities, weak law of large numbers, Central Limit Theorem, strong law of large numbers.
AS-Statistics

STA 6507 . Nonparametric Statistics

3(3,0). PR: STA 4321. Theory and methods for one and two sample problems; one and two way layouts; independence problems; regression problems.
AS-Statistics

STA 6673 . Risk Theory and Actuarial Applications

3(3,0). PR: STA 6326. Collective risk models, ruin theory and risk management in actuarial science.
AS-Statistics

STA 6679 . Actuarial Research Methods

3(3,0). PR: STA 6133 and STA 5185. Research study in actuarial subjects of current interest in life, property/casualty and/or pension.
AS-Statistics

STA 6705 . Data Mining Methodology III

3(3,0). PR: Graduate standing and STA 5703. Current topics in data mining.
AS-Statistics

STA 6714 . Data Preparation

3(3,0). PR: STA 5103. Variable reduction, variable clustering, missing value imputation, and data survey. Additional data preparation topics associated with data mining techniques.
AS-Statistics

STA 6326 . Theoretical Statistics I

3(3,0). PR: MAC 3313. Distribution of random variables, conditional probability and independence, some special distributions, distributions of functions of random variables, limiting distributions.
AS-Statistics

STA 6329 . Statistical Applications of Matrix Algebra

3(3,0). PR: MAC 2313 and STA 4164 or STA 5206. Basic theory of determinants, inverses, generalized inverses, eigenvalues and eigenvectors, partitioned matrices. Diagonalization and decomposition theorems, least squares and statistical applications.
AS-Statistics

STA 6347 . Advanced Statistical Inference II

3(3,0). PR: STA 6346. Minimax analysis, invariance, admissibility, maximal invariants, sequential analysis.
AS-Statistics

STA 6467 . Advanced Probability Theory II

3(3,0). PR: STA 6466. Accuracy of point estimators, relative efficiency, multivariate normal distribution, testing goodness of fit, U-statistics, statistical functionals, density estimation, asymptotic normality and efficiency.
AS-Statistics

STA 6662 . Statistical Methods for Industrial Practice

3(3,0). Variance components, PCRs, autocorrelation structures, charting, EVOP, design strategies, calibration, standards, and associated awards.
AS-Statistics

STA 6677 . Actuarial Models

3(3,0). PR: STA 4130. Impact of explanatory variables on a failure time distribution, joint distributions, multiple decrement models, insurance pricing models.
AS-Statistics

STA 6704 . Data Mining Methodology II

3(3,0). PR: STA 5703 and STA 6106. Statistical techniques for data mining that include discriminant analysis, logistic regression, and factor analysis.
AS-Statistics

STA 6707 . Multivariate Statistical Methods

3(3,0). PR: MAS 3105, STA 4163, and STA 4322. Concepts of statistical relationships among several variables and methods for inference. Multivariate normal, Hotelling's T^2 , multivariate analysis of variance, canonical correlations and principal components.
AS-Statistics

STA 6857 . Applied Time Series Analysis

3(3,0). PR: STA 4322, MAS 3105. Stationarity, autocorrelation, moving averages and autoregressive processes. Non-stationary time series. Identification and estimation. Forecasting.
AS-Statistics

STA 6931 . Topics in Actuarial Science

3(3,0). PR: Graduate standing and at least 9 hours of actuarial science classes. Topics may include: survey of actuarial practices, financial mathematics, ruin theory, insurance law, asset liability management. May be repeated for credit.
AS-Statistics

STA 6948 . Actuarial Science Practicum

3(3,0). PR: STA 4183 or STA 5185. Study and projects on problems in actual practice; discussions and presentations by practioners from life insurance, casualty, etc.
AS-Statistics

SYA 5625 . ProSeminar

3(3,0). PR: Graduate status or senior standing or C.I. Survey of conceptual issues, methodological concerns, and findings in substantive sociological areas that currently dominate scholarly inquiry, including such topics as crime, deviance, community, alcoholism, education.
AS-Sociology & Anthropology

SYA 5937 . Advanced Population

3(3,0). PR: Graduate status or senior standing or C.I. Examines the theories, methods, and information utilized by demographers and focuses on techniques of application of those skills.
AS-Sociology & Anthropology

SYA 6126 . Social Theory

3(3,0). PR: Regular graduate standing or C.I. The study of selected sociological theories in terms of relevance, usefulness, and adequacy for applied sociology.
AS-Sociology & Anthropology

SYA 6305 . Social Research

3(3,0). PR: Regular graduate standing or C.I. Research methodology including problem conceptualization, sampling designs, research proposals, data collection, and evaluation techniques for applied settings.
AS-Sociology & Anthropology

SYA 6315 . Qualitative Research Methods

3(3,0). PR: Graduate standing. Examination of qualitative research methods, how and when they are employed, and processes of analyzing field observation, oral histories, and in-depth interviews.
AS-Sociology & Anthropology

SYA 6455 . Research Analysis

3(2,2). PR: SYA 6305, undergraduate statistics, regular graduate standing, or C.I. Data management, selection of statistics, data analysis, evaluation, data presentation, and computer skills.
AS-Sociology & Anthropology

SYA 6656 . Social Organization and Human Resources

3(3,0). PR: C.I. Complex organization theory, social systems analysis, competence in group dynamic skills, and use of human resources in agencies, businesses, and industries.
AS-Sociology & Anthropology

SYA 6657 . Program Design and Evaluation

3(3,0). PR: C.I. Techniques of system and policy assessment, evaluation, and design. Determination of consequences and implications of policies and practices in applied settings.
AS-Sociology & Anthropology

SYD 5795 . Class, Race, and Gender in American Society

3(3,0). PR: Graduate status or senior standing or C.I. Using theoretical and empirical studies, this course will provide a sociological examination of the intersections of race, class, and gender in American society.
AS-Sociology & Anthropology

SYD 6705 . Seminar in Race and Ethnicity

3(3,0). PR: Graduate standing in sociology or C.I. A sociological examination of the experiences of racial and ethnic groups in the United States.
AS-Sociology & Anthropology

SYD 6809 . Seminar in Gender Issues

3(3,0). PR: Graduate standing in Sociology or C.I. Using theoretical and empirical studies, this course will provide a sociological examination of gender issues that influence relationships between women and men.
AS-Sociology & Anthropology

SYD 6835 . Seminar in the Sociology of Aging

3(3,0). PR: Graduate standing or C.I. Research-oriented seminar covering historical, present and future sociocultural perspectives of aging.
AS-Sociology & Anthropology

SYO 6175 . Social Research in the Family

3(3,0). PR: General Soc. SYG 2000 or C.I. To offer an overview of current research in the family. The family will be viewed from the institutional level, individual social system, and individual level.
AS-Sociology & Anthropology

SYO 6515 . Issues in Social Disorganization

3(3,0). PR: C.I. Sociological study and analysis of the manner in which American society is organized and the consequences of the way in which its cultural premises are arranged.
AS-Sociology & Anthropology

SVP 5005 . Sociological Social Psychology**SVP 5526 . Sociological Criminology**

3(3,0). PR: Graduate status or senior standing or C.I. An exploration of sociological social psychological theories and their application in understanding the effects of society and groups on the individual.
AS-Sociology & Anthropology

SYP 5562 . Seminar on Domestic Violence: Theory, Research and Social Policy

3(3,0). PR: Graduate status or senior standing or C.I. A sociological examination and evaluation of theories, empirical research and social policy related to the study of domestic violence.
AS-Sociology & Anthropology

SYP 6515 . Deviant Behavior Issues

3(3,0). PR: C.I. An examination and evaluation of the forms of social deviance, and the organizations designed to respond to them.
AS-Sociology & Anthropology

SYP 6546 . Crime, Law, Inequality

3(3,0). PR: Graduate standing. The consequences of social stratification on criminality and treatment/protection by the legal system. This course examines literature concerning inequality and the sociology of law.
AS-Sociology & Anthropology

SYP 6563 . Reactions to Domestic Violence

3(3,0). PR: C.I. The reactions by communities, victims, and professionals to domestic violence. Topics include examination of policies on domestic violence, and issues relating to race, class, and gender.
AS-Sociology & Anthropology

TAX 5015 . Advanced Tax Topics

3(3,0). PR: Accounting major or minor, or equivalent. Advanced tax issues affecting individuals and business entities, including corporations and partnerships.
BA-Accounting

TAX 6135 . Taxation of Corporations and Shareholders

3(3,0). PR: TAX 4001 and graduate standing. Federal taxation relating to corporate organization, distributions, liquidations, accumulations, and reorganizations.
BA-Accounting

TAX 6405 . Taxation of Estates and Gifts

3(3,0). PR: TAX 4001 and graduate standing. Federal transfer taxes affecting gifts and estates.
BA-Accounting

TAX 6845 . Tax Planning and Consulting

3(3,0). PR: TAX 4001 and graduate standing. Individual and business tax planning.
BA-Accounting

THE 5248 . Musical Theatre in History

3(3,0). PR: Graduate status or senior standing or C.I. To examine current sociological knowledge and research on various issues in Criminology, and to further students' skills in developing/conducting research projects.
AS-Sociology & Anthropology

SYP 5738 . Seminar on the Welfare State & Aging

3(3,0). PR: Graduate status or senior standing or C.I. A sociological examination of old policies from a cross-cultural perspective.
AS-Sociology & Anthropology

SYP 6522 . Sociological Perspectives on Victims

3(3,0). PR: Graduate standing or C.I. An analytical examination of crime victims and victimology from a sociological perspective.
AS-Sociology & Anthropology

SYP 6561 . Child Abuse in Society

3(3,0). PR: C.I. A sociological examination of literature and current research pertaining to child abuse and neglect.
AS-Sociology & Anthropology

SYP 6565 . Elder Abuse and Neglect

3(3,0). PR: C.I. A sociological examination of elder abuse and neglect in the family and other social settings.
AS-Sociology & Anthropology

TAX 6065 . Tax Research

3(3,0). PR: TAX 4001 and graduate standing. Legal and ethical guidelines governing tax practice.
BA-Accounting

TAX 6205 . Partnership Taxation

3(3,0). PR: TAX 4001 and graduate standing. Federal taxation relating to partnership income including formation, distribution, and retirements.
BA-Accounting

TAX 6505 . International Taxation

3(3,0). PR: TAX 4001 and graduate standing. Study of federal tax issues related to international transactions affecting U.S. and foreign taxpayers.
BA-Accounting

THE 5246C . Musical Theatre

3(3,2). PR: graduate acting 1, graduate status, or C.I. Historical study of the origins and development of musical theatre up to and including the work of Andrew Lloyd Webber.
AS-Theatre

THE 5260 . Period Props, Furniture and Architecture

3(3,0). PR: Admission to MFA Musical Theatre Program. A chronological study of musical theatre from early Viennese operetta to the musicals of the modern age. Course will emphasize the work of composers, librettists, and lyricists as well as representative masterworks of a variety of genre. Emphasis will be placed upon historical trends and theatrical viability.
AS-Theatre

THE 5275 . Survey of Musical Theatre Dance
3(3,0). PR: Admission to MFA Musical Theatre Program. A chronological and theoretical study of the major choreographers and choreographer/directors of musical theatre.
AS-Theatre

THE 5376 . Theatre/Drama of Williams, Miller, and Inge
3(3,0). PR: Entrance into the Graduate Program. Study of Tennessee Williams, Arthur Miller, and William Inge from a literary, performance, and historical view, instilling in students a knowledge/appreciation of their plays.
AS-Theatre

THE 5386 . Oral Interpretation of Children's Literature
3(3,0). PR: Admission to MFA graduate program or C.I. The study of interpreting literature for and with the young.
AS-Theatre

THE 5945L . Theater Practicum I
1(0,20). PR: Graduate status or C.I. A laboratory course designed to develop students' practical working knowledge in Theater.
AS-Theatre

THE 6086 . Careers in Professional Theater
3(3,0). PR: MFA Theater Graduate Candidates (Musical Theater, Acting, Design/Tech, Research Methods). Practical courses focusing on job search skills and other aspects of marketing yourself.
AS-Theatre

THE 6265C . Costume History II
3(3,1). PR: Admission into the graduate program and Costume History I. Advanced study of historical changes in fashion and costume design from the Seventeenth Century through the Twentieth Century.
AS-Theatre

THE 6308 . Script and Score Analysis
3(3,0). PR: Admission to MFA Musical Theatre Program. Representative works from the musical theatre repertoire analyzed as dramatic and musical literature.
AS-Theatre

THE 6756 . Methods of Teaching Drama
3(3,0). PR: Acting for Young Audiences and Improvisation Studio. Methods of teaching drama in contained classroom settings

3(3,0). PR: Admission into the graduate program, THE 5910, or C.I. Advanced Chronological study of historical genres and styles of furniture, ornament and design and their interrelationships.
AS-Theatre

THE 5307 . Contemporary Theatre Practice
3(3,0). PR: THE 3110, THE 3111, THE 3306, Restricted to Theatre majors or departmental consent. Contemporary trends in plays and theatre production in the late 20th century.
AS-Theatre

THE 5385 . Dramatic Literature for Children
3(3,0). PR: Admission to MFA graduate program or C.I. An in-depth study of the growth and development of dramatic literature for children.
AS-Theatre

THE 5910 . Research Methods in Theatre
3(3,0). PR: MFA or MA in Theatre. Practice knowledge, skills and techniques needed by students to conduct research to include organization, styles, footnotes, and bibliographic forms
AS-Theatre

THE 5946L . Theater Practicum II
1(0,20). PR: Admission into the graduate program, Theater Practicum I. A laboratory course designed to develop students' practical working knowledge in theater
AS-Theatre

THE 6261C . Costume History I
3(3,1). PR: Admission to Theatre graduate program. Study of costume fashion from ancient Egypt to the mid 17th century, including period silhouette, costume parts and accessories, fabrics, color, and period motifs.
AS-Theatre

THE 6286 . Scenography: History and Development
3(3,0). PR: THE 5910. Study and exploration of the history and development of scenography for the theatre and designs from Classical Greece to present day.
AS-Theatre

THE 6507 . Dramatic Theory and Criticism
3(3,0). PR: Admission into Theatre graduate program and Research Methods course. Examination of principles of dramatic criticism from Aristotle to the present day.
AS-Theatre

THE 6947L . Theater Practicum III
1(0,20). PR: Admission into the graduate program, Theater Practicum II. A laboratory course designed to develop students' practical working knowledge in theater

AS-Theatre	AS-Theatre
<p>THE 6948 . Professional Internship 3(3,0). PR: Admission to MFA Musical Theatre Majors. Field work as company members of the Seaside Musical Theatre professional theatre. AS-Theatre</p>	<p>TPA 5042C . Costume Design Studio 3(3,0). PR: Admission into the graduate program, TPA 3043C, TPA 3044C, or C.I. Project oriented course in the advance study of Costume Design. AS-Theatre</p>
<p>TPA 5062C . Scene Design Studio 3(2,2). PR: Graduate status or C.I. Advanced work in the conceptualization and communication of scenic designs for the theatre. AS-Theatre</p>	<p>TPA 5081 . Design Concepts for Youth Theatre 3(3,0). PR: Admission to MFA graduate program or C.I. A study of design elements (lighting, costume, set) as they apply to youth theatre. AS-Theatre</p>
<p>TPA 5258C . AutoCad-2D for Theatre 3(2,2). PR: Admission into the MFA Design program. Two-Dimensional computer drafting and editing techniques applicable to theatre design. AS-Theatre</p>	<p>TPA 5299C . AutoCad-3D for Theatre 3(2,2). PR: Admission into the graduate program and TPA 5258C. Three-dimensional computer drafting and editing techniques applicable for theatre design. AS-Theatre</p>
<p>TPA 5405 . Theatre Management for Non-Majors 3(3,0). PR: THE 2020 or THE 2000, graduate status, or C.I. Study of university, community and professional theatre management with special attention to the principles of management to include management skills/function and organizational systems/performance as they relate to theatre organizations/institutions. AS-Theatre</p>	<p>TPA 5946C . Design Practicum I 1(0,20). PR: Admission into the MFA Design program. Practical experience as a member of the production team as a prop master or assistant scenic, costume, lighting, or sound designer. AS-Theatre</p>
<p>TPA 5949C . Design Practicum II 1(0,20). PR: Admission into the graduate program and TPA 5946C or C.I. Advanced work in the practical application of Properties and/or Design for the Theatre. AS-Theatre</p>	<p>TPA 6029 . Lighting Design Studio 3(2,2). PR: Design Studio and Costume Design Studio. Advanced work in the process of designing light for the stage with and emphasis on the use of light as artistic expression. AS-Theatre</p>
<p>TPA 6087 . Advanced Problems in Design 3(2,2). PR: TPA 5062C and TPA 5042C. Development of complete scenery, costume, lighting, and sound designs for selected plays and theatre buildings from research to design presentation. AS-Theatre</p>	<p>TPA 6087C . Advanced Problems in Design II 3(2,2). PR: MFA Candidates, Advanced Problems in Design I. Collaborative projects in design and production used to develop stronger abilities for conceptualization and communication of design ideas. AS-Theatre</p>
<p>TPA 6106C . Sound Design Studio 3(2,2). PR: MFA Design Candidate, Advanced Problems in Design I. Advanced work in the process of designing sound for the stage with an emphasis on the use of sound as artistic expression. AS-Theatre</p>	<p>TPA 6209C . Theatre Crafts 3(1,12). PR: MFA Design candidates, Advanced Problems in Design I. Advanced practical application course covering various design and technology based skills relating to the realization of departmental productions. AS-Theatre</p>
<p>TPA 6288C . Mask Making 3(2,2). PR: Admission to MFA graduate program or C.I. Masks as an art form in design and performance. AS-Theatre</p>	<p>TPA 6947 . Design Practicum III 1(0,20). PR: TPA 5949C. Practical experience as a member of the production team as a scenic, costume, lighting, or sound designer in an area not previously designed. AS-Theatre</p>
<p>TPA 6948L . Design Practicum IV 1(0,20). PR: MFA Design candidate, Design Practicum III. Practical experience as a member of the production team as a scenic, costume, lighting, or sound designer in an area not previously designed.</p>	<p>TPP 5125C . Improvisation Studio 2(2,2). PR: Acting for Youth Theatre. A study of spontaneous dramatic play and theatre exercises designed to develop self-discipline, creative freedom and resources for the stage and classroom.</p>

AS-Theatre

TPP 5156C . Acting Studio I

3(2,2). PR: Admission to MFA Performance Program. An advanced scene study course with emphasis on scene analysis and character development and application of acting techniques in modern contemporary American plays.
AS-Theatre

TPP 5273 . Musical Theatre Acting I

3(3,0). PR: Admission to MFA Musical Theatre majors. Integrated study in musical theatre acting, singing and movement applied to musical theatre performance, direction and choreography; emphasizing developing skills in textual and musical interpretation.
AS-Theatre

TPP 5386 . Directing for Young Audiences

3(3,0). PR: THE 5910 and Dramatic Literature for Children. Study of the principles, procedures, and practices of stage direction as it applies to theatre for young audiences.
AS-Theatre

TPP 5516C . Movement Studio II

2(2,1). PR: TPP 5515 or C.I. Principles and methods of movement for the stage focusing on gaining specific knowledge and skills in period styles of movement and basic unarmed combat.
AS-Theatre

TPP 5555C . Musical Theatre Dance II

2(2,4). PR: TPP 5554C. Advanced dance study with particular emphasis on the development and expression of characterization in dance.
AS-Theatre

TPP 5716C . Stage Voice II

2(2,1). PR: Admission to the MFA Performance program and TPP 5715C or C.I. Continuation of Graduate Voice Production I, studying Skinner's narrow transcription with consonants, review of all Linklater work, and introduction to the work of Arthur Lessac.
AS-Theatre

TPP 5885C . Puppetry

2(2,2). PR: Admission to MFA graduate program or C.I. Puppetry as an art form in design and performance.
AS-Theatre

TPP 6146 . Acting Studio III

3(2,2). PR: TPP 5157C. An advanced acting course dealing with Shakespeare and other verse playwrights, with emphasis on verse, scene analysis and character development.
AS-Theatre

AS-Theatre

TPP 5157C . Acting Studio II

3(2,2). PR: TPP 5156C or C.I. An advanced scene study course applying acting methodologies to the works of modern (1850-) European playwrights with emphasis on the works of Ibsen/Chekhov/Shaw.
AS-Theatre

TPP 5289C . Acting for Young Audiences

2(2,2). PR: Admission to MFA graduate program or C.I. A guided investigation of the principles and techniques of acting for young audiences.
AS-Theatre

TPP 5515 . Movement Studio I

2(2,0). PR: Admission to MFA Performance program. Graduate level course in principles and methods of movement for the stage focusing on relaxation, centering, increased physical control, and physical development of a character.
AS-Theatre

TPP 5554C . Musical Theatre Dance I

2(2,4). PR: MFA Musical Theatre Majors. Advanced dance study with particular emphasis on the development of principles of alignment, coordination, isolation, and sequencing.
AS-Theatre

TPP 5715C . Stage Voice I

2(2,1). PR: Admission to MFA performance program. An introduction/review class examining the fundamentals of speaking on stage: the correct production of sound, breathing, relaxation of physical tension, and articulation.
AS-Theatre

TPP 5754 . Musical Theatre Voice I

2(2,0). PR: Admission to MFA Musical Theatre program. Voice study devoted to the diagnosis and development of the singing voice and its application to musical theatre performance placing particular emphasis upon vocal technique.
AS-Theatre

TPP 5935C . Contemporary Practices in Youth Theatre

2(2,2). PR: Admission to MFA graduate program or C.I. Investigation of a particular subject in youth theatre. May be repeated for credit 4 times.
AS-Theatre

TPP 6159C . Acting Studio IV

3(2,2). PR: Acting Studio III. An advanced acting course designed to give the acting student a brief, but comprehensive view of acting styles.
AS-Theatre

TPP 6216C . Theatre for Young Audiences Tour
4(2,12). PR: Acting for Young Audiences and Improvisation Studio. Performance, administration and technical work on a touring production for young audiences.
AS-Theatre

TPP 6247 . Theatre for Social Change
3(3,0). PR: Methods of Teaching Drama. The study and application of interactive theatre techniques to effect change related to social, cultural, interpersonal and personal issues.
AS-Theatre

TPP 6274 . Musical Theatre Acting II
3(3,0). PR: Admission to MFA Musical Theatre Program. Advanced and integrated study with emphasis on the development of skills in musical theatre characterization.
AS-Theatre

TPP 6276 . Musical Theatre Acting IV
3(3,0). PR: Admission to MFA Musical Theatre program. Continuation of Musical Theatre Acting III with emphasis on the development of skills in scene work and role preparation.
AS-Theatre

TPP 6406C . Theatre Management
3(1,6). PR: Admission to MFA graduate program or C.I. Study and application of concepts and tools of theatre management.
AS-Theatre

TPP 6518C . Movement Studio IV
2(2,3). PR: Movement Studio III. Covers the principles/methods of armed/unarmed combat for the stage, including hand to hand, foil, epee, broadsword, sabre, rapier, dagger, and quarter staff combat.
AS-Theatre

TPP 6557C . Musical Theatre Dance IV
2(2,4). PR: TPP 6556C. Advanced dance study with particular emphasis on the development of musical theater dance style and choreography.
AS-Theatre

TPP 6717 . Stage Voice III
2(2,1). PR: Grad Voice Stud II. A continuation of the work started in Stage Voice I and II. Study of Shakespeare's language and text in performance.
AS-Theatre

TPP 6755 . Musical Theatre Voice II
2(2,0). PR: Admission to MFA Musical Theatre program. Advanced voice study placing particular emphasis upon textual analysis and characterization.
AS-Theatre

TPP 6757 . Musical Theatre Voice IV
2(2,0). PR: Admission to MFA Musical Theatre program.

TPP 6246C . Circus Arts
2(2,2). PR: Admission to MFA graduate program or C.I. Study of the history of the circus and introduction to a wide range of circus skills, like juggling, acrobatics, clowning and magic.
AS-Theatre

TPP 6248 . Storytelling for Young Audiences
3(3,0). PR: Admission to MFA graduate program or C.I. The study and application of storytelling as an art form.
AS-Theatre

TPP 6275 . Musical Theatre Acting III
3(3,0). PR: Admission to MFA Musical Theatre Program. Continuation of Musical Theatre Acting II with emphasis on the development of skills for musical theatre auditions.
AS-Theatre

TPP 6279 . Musical Theatre Master Class
3(3,0). PR: Admission to MFA Musical Theatre program. Masterclasses conducted by permanent staff members and guest artists of the Seaside Musical Theatre Company.
AS-Theatre

TPP 6517 . Movement Studio III
2(2,1). PR: TPP 5516C. Continuation of principles/methods of movement for the stage covered in Movement Studio II with focus on gaining specific skills in dance for musical theatre/period plays.
AS-Theatre

TPP 6556C . Musical Theatre Dance III
2(2,4). PR: TPP 5555C. Advanced dance study with particular emphasis on the development of jazz and tap technique.
AS-Theatre

TPP 6686 . Playwriting for Young Audiences
3(3,0). PR: Dramatic Literature for Children. Practical experience in the creative process of playwriting for young audiences.
AS-Theatre

TPP 6718C . Stage Voice IV
2(2,3). PR: Stage Voice III. A practical study of American and European dialects with application of Skinner and Lessac transcription.
AS-Theatre

TPP 6756 . Musical Theatre Voice III
2(2,0). PR: Admission to MFA Musical Theatre program. Continuation of Musical Theatre Voice II placing particular emphasis upon knowledge of musical theatre repertoire and its application to the history of the art form.
AS-Theatre

TSL 5143 . ESOL Strategies
3(3,0). PR: Graduate status or senior standing or C.I. This

Continuation of Musical Theatre Voice III placing particular emphasis on synthesizing scene-to-song vocal production.
AS-Theatre

course will survey cross-cultural communication and understanding, testing and evaluation, curriculum and methods of teaching ESOL to meet the needs of limited English proficient students.
AS-Foreign Languages

TSL 5245 . Computers and Technology for ESOL
3(3,0). PR: Graduate standing or C.I. Emphasizes research in computer assisted language learning, as well as design and evaluation of software and websites for learning English as a second language.
AS-Foreign Languages

TSL 5345 . Methods of ESOL Teaching
3(3,0). This course is designed to develop understanding, knowledge and skills of the current methods used in the teaching of ESOL.
ED-Teaching & Learning Princ

TSL 5376 . Reading and writing in a second language
3(3,0). PR: Graduate standing or C.I. Theoretical and pedagogical approaches to ESOL reading and writing.
AS-Foreign Languages

TSL 5525 . ESOL Cultural Diversity
3(3,0). This course is designed to identify major cultural groups represented by the LEP population in Florida schools and to understand their special needs.
ED-Teaching & Learning Princ

TSL 5940 . Issues in TEFL
3(3,0). PR: Graduate status or senior standing or C.I. Address issues specifically related to TEFL, such as materials adaptation, teaching in multi-level classrooms, learning styles, cultural issues, and curriculum syllabus design.
AS-Foreign Languages

TSL 6142 . Critical Approaches to ESOL
3(3,0). Emphasis placed on current research in second language acquisition as it relates to the development of ESOL curriculum and materials.
AS-Foreign Languages

TSL 6250 . Applied Linguistics in ESOL
3(3,0). Applying linguistics, psycholinguistics, and sociolinguistics to teaching English as a second language with emphasis on pronunciation, intonation, structural analysis, morphophonemics, and decoding from print to sound.
AS-Foreign Languages

TSL 6252 . Sociolinguistics for ESOL
3(3,0). PR: Graduate standing or C.I. Core concepts in the field of sociolinguistics as it relates to the teaching of English as a second language.
AS-Foreign Languages

TSL 6350 . Grammar for ESOL Teachers
3(3,0). PR: Graduate standing or C.I. Emphasis on English grammar for English as a Second Language teachers. Includes analytical and theoretical background, but primarily examines problematic grammar points for ESOL learners.
AS-Foreign Languages

TSL 6440 . Problems in Evaluation in ESOL
3(3,0). This course provides for the development of sound assessment knowledge necessary to prepare students to apply second language assessment theories, principles, and current research.
AS-Foreign Languages

TSL 6540 . Issues in Second Language Acquisition
3(3,0). Focuses on second language acquisition theories, principles, and current research as they relate to language-minority students acquiring English as a Second Foreign Language.
AS-Foreign Languages

TSL 6640 . Research in Second Language
3(3,0). PR: EDF 6481. This course focuses on research into language learning processes which serves as a knowledge base for effective teaching of language-minority students.
AS-Foreign Languages

TSL 6940 . ESOL Practicum
3(3,0). PR: C.I. Techniques and strategies for creating effective lesson plans for ESOL classroom activities.
AS-Foreign Languages

TSL 6971 . Thesis
3(3,0). This course is intended for graduate students in the TESOL MA program who wish to exercise the option of writing a thesis.
AS-Foreign Languages

TTE 5204 . Traffic Engineering
3(3,0). PR: TTE 4004. Study of operator and vehicle characteristics, and design for street capacity, signals, signs, and markings.
ECS-Civil & Environmental

TTE 5700 . Railroad Engineering
3(3,0). PR: TTE 4004 and C.I. The major technical factors in location, construction, maintenance, and operation of railroad transportation systems.
ECS-Civil & Environmental

TTE 5805 . Geometric Design of Transportation Systems

3(3,0). PR: TTE 4004. Study of geometric and construction design elements in the engineering of transportation systems.
ECS-Civil & Environmental

TTE 6205 . Highway Capacity

3(3,0). PR: TTE 4004 or C.I. Highway capacity for all functional classes of highway. Traffic signalization including traffic studies, warrants, cycle length, timing, phasing and coordination.
ECS-Civil & Environmental

TTE 6270 . Intelligent Transportation Systems

3(3,0). PR: TTE 4004 and TTE 5204 and C.I. Theories and applications of intelligent vehicle highway systems in transportation engineering.
ECS-Civil & Environmental

TTE 6526 . Planning and Design of Airports

3(3,0). PR: C.I. Background of aviation and airport development, aircraft characteristics. Planning and design of airport components. Heliport and STOL ports and pavement and drainage design.
ECS-Civil & Environmental

WST 5347 . Research Seminar in Gender Studies

3(3,0). PR: Graduate status or senior standing, or C.I. Research seminar exploring relationships among feminist theorizing, research, and social change, the development of gender studies programs and their relationships to other academic disciplines.
AS-Women's Studies

ZOO 5456C . Ichthyology

4(2,6). PR: ZOO 4310C, and graduate status or senior standing or C.I. Introduction to the biology of the fishes, their classification, evolution, and life histories.
AS-Biology

ZOO 5475C . Ornithology

4(2,6). PR: 6 hours of zoology, and graduate status or senior standing, or C.I. Introduction to the biology of birds, their classification, evolution, and life histories.
AS-Biology

ZOO 5517 . Methods for Studying Animal Behavior in Zoo Setting

1(1,0). PR: An animal behavior course, graduate status or senior standing, or C.I. Research techniques used to study animals in captivity.
AS-Biology

ZOO 5815 . Zoogeography

4(4,0). PR: 8 hours of zoology, and graduate status or senior standing or C.I. Principles and concepts concerning regional patterns of animal distributions of the world, both past and present.
AS-Biology

TTE 5835 . Pavement Design

3(3,0). PR: CEG 4101C. Pavement types, wheel loads, stresses in pavement components; design factors such as traffic configurations, environment, and economy.
ECS-Civil & Environmental

TTE 6256 . Traffic Operations

3(3,0). PR: TTE 4004 and STA 3032 or C.I. Fundamental theories and applications of traffic movements on streets and highways.
ECS-Civil & Environmental

TTE 6315 . Traffic Safety Analysis

3(3,0). PR: TTE 4004 and CI. Understanding crash research concepts, and identifying factors contributing to traffic crash occurrence.
ECS-Civil & Environmental

TTE 6625 . Mass Transportation Systems

3(3,0). PR: C.I. Planning, design, construction, operation, and administration of mass transportation systems.
ECS-Civil & Environmental

WST 5601 . Theories in Gender Studies

3(3,0). PR: Graduate status or senior standing, or C.I. Introduction to foundational scholarship in gender studies. Emphasis on theoretical and interdisciplinary approaches to gender and sexuality in contemporary scholarship.
AS-Women's Studies

ZOO 5463C . Herpetology

4(2,6). PR: 6 hours of zoology, and graduate status or senior standing, or C.I. Introduction to the biology of the amphibians and reptiles, their classification, evolution, and life histories.
AS-Biology

ZOO 5486C . Mammalogy

4(2,6). PR: 6 hours of zoology, and graduate status or senior standing, or C.I. Introduction to the biology of mammals, their classification, evolution, and life histories.
AS-Biology

ZOO 5745C . Essentials of Neuroanatomy

4(3,3). PR: Human/Comparative Anatomy, or Human/Animal Physiology or C.I. Fundamental concepts of both morphological and functional organization of the nervous system. Primary emphasis on human structure.
HPA-Molecular & Microbiology

ZOO 5881C . Fisheries Management

4(3,4). PR: ZOO 4310C, graduate status or senior standing, or C.I. Fisheries management of freshwater environments to include identification, sampling methods, farming and hatchery operations, propagation and population estimates.
AS-Biology

ZOO 5891 . Applied Conservation Biology

1(1,0). PR: Graduate status or senior standing or C.I.

Examination of issues surrounding care, maintenance and tracking animals in small populations.

AS-Biology

ZOO 5893L . Reproductive Management in Zoological Environments

1(1,0). PR: PCB 4732, graduate status or senior standing, or C.I. Laboratory techniques used to improve reproductive success of animals in a zoological environment.

AS-Biology

Understanding Course Info

Classification of Courses

- **3000-4999. Junior- and senior-level courses (Upper-division) and are designed primarily for these and other advanced students.** When approved for inclusion in an individual program of graduate study by a supervisory committee approved by UCF Graduate Studies, selected 4000-4999 courses may serve the needs of individual graduate students.
- **5000-5999. Beginning graduate and advanced undergraduate level courses.** Open to graduate students and those seniors who receive approval of the appropriate Dean(s).
- **6000-6999. Courses open only to graduate students.** (Seniors, within nine hours of graduation that have a minimum 3.0 GPA and do not register for more than twelve hours may request college permission to take a 6000-level class.) Students in 3+2 programs (combined bachelor's/master's programs) should check with their adviser before registering for 6000-level courses.
- **7000-7999. Doctoral-level courses.**

Florida's Statewide Course Numbering System

Courses in this catalog are identified by prefixes and numbers that were assigned by Florida's Statewide Course Numbering System. This common numbering system is used by all public postsecondary institutions in Florida and by twenty-six participating nonpublic institutions. The major purpose of this system is to facilitate the transfer of courses between participating institutions.

Each participating institution controls the title, credit, and content of its own courses and recommends the first digit of the course number to indicate the level at which students normally take the course. Course prefixes and the last three digits of the course numbers are assigned by members of faculty discipline committees appointed for that purpose by the Florida Department of Education in Tallahassee. Individuals nominated to serve on these committees are selected to maintain a representative balance as to type of institution and discipline field or specialization.

The course prefix and each digit in the course number have meaning in the Statewide Course Numbering System (SCNS). The list of course prefixes and numbers, along with their generic titles, is referred to as the "SCNS taxonomy." Descriptions of the content of courses are referred to as "course equivalency profiles."

Example of Course Identifier

Prefix	Level Code (first digit)	Century Digit (second digit)	Decade Digit (third digit)	Unit Digit (fourth digit)	Lab Code
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SYG	1	0	1	0	
Sociology, General	Freshman level at this institution	Entry-level General Sociology	Survey Course	Social Problems	No laboratory component in this course

General Rule for Course Equivalencies

Equivalent courses at different institutions are identified by the same prefixes and same last three digits of the course number and are guaranteed to be transferable between participating institutions that offer the course, with few exceptions. (Exceptions are listed below.)

For example, a survey course in social problems is offered by 31 different postsecondary institutions. Each participating institution uses "SYG_010" to identify its social problems course. The level code is the first digit and represents the year in which students normally take this course at a specific institution. In the SCNS taxonomy, "SYG" means "Sociology, General," the century digit "0" represent "Entry-Level General Sociology," the decade digit "1" represents "Survey Course," and the unit digit "0" represents "Social Problems."

In science and other areas, a "C" or "L" after the course number is known as a lab indicator. The "C" represents a combined lecture and laboratory course that meets in the same place at the same time. The "L" represents a laboratory course or the laboratory part of a course, having the same prefix and course number without a lab indicator, which meets at a different time or place.

Transfer of any successfully completed course from one institution to another is guaranteed in cases where the course to be transferred is equivalent to one offered by the receiving institution. Equivalencies are established by the same prefix and last three digits and comparable faculty credentials at both institutions. For example, SYG 1010 is offered at a community college. The same course is offered at a state university as SYG 2010. A student who has successfully completed SYG 1010 at the community college is guaranteed to receive transfer credit for SYG 2010 at the state university if the student transfers. The student cannot be required to take SYG 2010 again since SYG 1010 is equivalent to SYG 2010. Transfer credit must be awarded for successfully completed equivalent courses and used by the receiving institution to determine satisfaction of requirements by transfer students on the same basis as credit awarded to the native students. It is the prerogative of the receiving institution, however, to offer transfer credit for courses successfully completed which have not been designated as equivalent.

The Course Prefix

The course prefix is a three-letter designator for a major division of an academic discipline, subject matter area, or subcategory of knowledge. The prefix is not intended to identify the department in which a course is offered. Rather, the content of a course determines the assigned prefix used to identify the course.

Course Prefixes

PREFIXES	DESCRIPTION
ACG	Accounting: General
AFA	Afro-American Studies
AFH	African History
AMH	American History
AML	American Literature

ANG	Anthropology: Graduate
ARE	Art Education
ARH	Art History
ART	Art
ASH	Asian History
AST	Astronomy
BOT	Botany
BSC	Biological Sciences
BTE	Business Teacher Education
BUL	Business Law
CAP	Computer Applications for Computer Scientists
CCE	Civil Construction Engineering
CCJ	Criminology and Criminal Justice
CDA	Computer Design/Architecture
CEG	Civil Geotechnical Engineering
CEN	Computer Engineering
CES	Civil Engineering Structures
CGN	Civil Engineering
CGS	Computer General Studies
CHM	Chemistry
CHS	Chemistry: Specialized
CIS	Computer Science and Information Systems
CJC	Corrections
CJJ	Juvenile Justice
CLP	Clinical Psychology
COM	Communication
COP	Computer Programming
COT	Computing Theory
CPO	Comparative Politics
CRW	Creative Writing
CWR	Civil Water Resources
CYP	Community Psychology
DEP	Developmental Psychology

EAB	Experimental Analysis of Behavior
EAS	Aerospace Engineering
ECM	Engineering: Computer Math
ECO	Economics
ECP	Economic Problems and Policy
ECS	Economic Systems and Development
EDA	Educational Administration
EDE	Education: Elementary
EDF	Education: Foundations and Policy Studies
EDG	Education: General
EDH	Education: Higher
EDM	Education: Middle School
EDP	Educational Psychology
EDS	Education Supervision
EEC	Education: Early Childhood
EED	Education: Emotional Disorders
EEL	Engineering: Electrical
EES	Environmental Engineering Science
EEX	Education: Exceptional Child: Core Compet.
EGC	Counselor Education
EGI	Education: Gifted
EGN	Engineering: General
EIN	Industrial Engineering
ELD	Education: Specific Learning Disabilities
EMA	Materials Engineering
EME	Education: Technology and Media
EML	Engineering: Mechanical
EMR	Education: Mental Retardation
ENC	English Composition
ENG	English: General
ENL	English Literature
ENV	Engineering: Environmental
EPH	Education: Physical and Multiple Handicapped

ESE	Education: Secondary
ESI	Industrial/Systems Engineering
EUH	European History
EVR	Environmental Studies
EVT	Education: Vocational/Technical
EXP	Experimental Psychology
FIL	Film
FIN	Finance
FLE	Foreign Language Education
FSS	Food Service Systems
GEB	General Business
GEO	Geography: Systematic
GEY	Gerontology
HFT	Hospitality Management
HIM	Health Information Management
HIS	General History and Histrography
HSA	Health Services Administration
HSC	Health Sciences
HUM	Humanities
HUN	Human Nutrition
IDS	Interdisciplinary Studies
INP	Industrial and Applied Psychology
INR	International Relations
ISM	Information Systems Management
LAE	Language Arts and English Education
LAH	Latin American History
LEI	Leisure
LIN	Linguistics
LIT	Literature
MAA	Mathematics: Analysis
MAD	Mathematics: Discrete
MAE	Mathematics Education
MAN	Management

MAP	Mathematics Applied
MAR	Marketing
MAS	Mathematics: Algebraic Structures
MAT	Mathematics
MCB	Microbiology
MHS	Mental Health Services
MLS	Medical Laboratory Science
MMC	Mass Media Communication
MTG	Mathematics: Topology and Geometry
MUE	Music Education
MUM	Music: Commercial/Management/Administration
MUS	Music
MUT	Music: Theory
MVB	Applied Music: Brasses
MVK	Applied Music: Keyboard
MVO	Applied Music: Other
MVP	Applied Music: Percussion
MVS	Applied Music: Strings
MVV	Applied Music: Voice
MVW	Applied Music: Woodwinds
NGR	Nursing: Graduate
OSE	Optical Science and Engineering
PAD	Public Administration
PAF	Public Affairs
PCB	Process Biology (Cell/Molecular/etc.)
PEM	Phys. Edu. Acts. (Gen): Perform. Centered, Land
PEO	Phys. Edu. Acts. (Prof.): Object Centered, Land
PET	Physical Education Theory
PHC	Public Health Concentration
PHI	Philosophy
PHM	Philosophy of Man and Society
PHT	Physical Therapy
PHY	Physics

PHZ	Physics (Continued)
PLA	Paralegal/Legal Assistant/Legal Administration
POS	Political Science
POT	Political Theory
PPE	Personality
PSB	Psychobiology
PSY	Psychology
PUP	Public Policy
PUR	Public Relations
QMB	Quantitative Methods in Business
RED	Reading Education
RET	Respiratory Care
SCE	Science Education
SDS	Student Development Services
SOP	Social Psychology
SOW	Social Work
SPA	Speech Pathology and Audiology
SPC	Speech Communication
SPN	Spanish Language
SPS	School Psychology
SPW	Spanish Literature (Writings)
SSE	Social Studies Education
STA	Statistics
SYA	Sociological Analysis
SYD	Sociology: Demography/Area Studies/Minorities
SYO	Social Organization
SYP	Social Processes
TAX	Taxation
THE	Theatre Studies and General Resources
TPA	Theatre Production and Administration
TPP	Theatre Performance and Performance Training
TSL	Teaching English as a Second Language
TTE	Transportation Engineering

WST	Women's Studies
ZOO	Zoology

Authority for Acceptance of Equivalent Courses

State Board of Education Rule 6A-10.024(19), Florida Administrative Code, reads: "When a student transfers among postsecondary institutions that are fully accredited by a regional or national accrediting agency recognized by the United States Department of Education and that participate in the common course designation and numbering system, the receiving institution shall award credit for courses satisfactorily completed at the previous participating institutions when the courses are judged by the appropriate common course designation and numbering system faculty task forces to be academically equivalent to courses offered at the receiving institution, including equivalency of faculty credentials, regardless of the public or nonpublic control of the previous institution. The award of credit may be limited to courses that are entered in the course numbering system. Credits so awarded shall satisfy institutional requirements on the same basis as credits awarded to native students."

Exceptions to the General Rule for Equivalency

The following courses are exceptions to the general rule for course equivalencies and may not transfer. Transferability is at the discretion of the receiving institution:

- A. Courses in the _900-_999 series (e.g., ART 2905)
- B. Internships, practica, clinical experiences, and study abroad courses
- C. Performance or studio courses in Art, Dance, Theater, and Music
- D. Skills courses in Criminal Justice
- E. Graduate courses
- F. Courses not offered by the receiving institution

College preparatory or vocational preparatory courses may not be used to meet degree requirements and are not transferable.

Questions about the Statewide Course Numbering System and appeals regarding course credit transfer decisions should be directed to Dr. David R. Dees in Office of Undergraduate Studies, Millican Hall 210, Phone (407) 823-2691, or the Florida Department of Education, Statewide Course Numbering System, 1454 Turlington Building, Tallahassee, Florida 32399-0400. Special reports and technical information may be requested by calling telephone number (850) 488-6402 or SunCom 278-6402.

Special Courses

In addition to the regular courses listed in this catalog, special courses may be available. Consult an academic adviser for details. Only admitted graduate students may take special courses except the Special Topics/Seminars (5937 and 6938), which are open to eligible students with instructor permission.

In order to register for any of the special numbers below, a student must present a signed Registration Agreement form obtained from the Department or College/School.

	Special Grad	Grad and Prof
Directed Independent Studies	5907	6908
Directed Research	5917	6918
Special Topics/Seminars	5937	6938
Internships, Practica, Clinical Practice	5944	6946

Study Abroad	5957	6958
Research Report		6909
Treatise (Thesis or Research Report)	6971	
Thesis—Specialist		6973
Doctoral Research		7919
Doctoral Special Topics/Seminars		7939
Doctoral Dissertation		7980

These courses may be assigned variable credit. Some may be repeated upon approval.

Abbreviations in Course Descriptions

- **PR** - Denotes a PREREQUISITE course that must be taken and passed prior to enrollment in the listed course.
- **CR** - Denotes a COREQUISITE course that must be taken concurrently with or prior to the listed course.
- **C.I.** - Denotes that registration is contingent upon the CONSENT OF THE INSTRUCTOR.

Hours Code

Each course listed is followed by a code that shows hours of credit and contact hours.

Example

ECI 5215C ECS-CEE 3(2,3)

ECI 5215C is offered by the College of Engineering and Computer Science (ECS) in the Civil and Environmental Engineering (CEE) Department, carries 3 hours of credit, but requires 5 contact hours, which consist of 2 hours in class and 3 hours laboratory or field work.

College/Department Indicator

Following the course number for each course is an indicator denoting the college and department responsible for the course. The college designators are AS = Arts and Sciences, BA = Business Administration, ED = Education, ECS = Engineering and Computer Science, and HPA = Health and Public Affairs.

College	Abbreviation	Department
BA	ACCT	Accounting
AS	AAS	African American Studies
AS	ART	Art
AS	BIOL	Biology
AS	CHEM	Chemistry

ED	CFCS	Child, Family & Comm Sci
ECS	CEE	Civil & Environmental
BA	BUS	College-BA
ECS	ECS	College-ECS
HPA	HPA	College-HPA
AS	COMM	Communication
HPA	COMD	Communicative Disorders
ECS	CS	Computer Science
HPA	CJ/LS	Criminal Justice/Legal St
AS	DIG	Digital Media
BA	ECON	Economics
ED	ERTL	Ed Research, Tech & Lead
ED	ED F	Educational Foundations
ED	ES	Educational Studies
ECS	ECE	Electrical & Computer Sci
AS	ENG	English
AS	FILM	Film Program
BA	FIN	Finance
AS	LANG	Foreign Languages
HPA	HP	Health Professions
AS	HIST	History
UCF	HOSP	Hospitality Management
ED	HSW	Human Services/Wellness
ECS	IEMS	Industrial & Management
UCF	IDS	Interdisciplinary
AS	LS	Liberal Studies
BA	MAN	Management
BA	MIS	Management Inform. System
BA	MAR	Marketing
AS	MATH	Mathematics
ECS	MMAE	Mechanical/Matrls/Aerosp

HPA	M&M	Molecular & Microbiology
AS	MUSIC	Music
HPA	NURS	Nursing
UCF	OPT	Optics
AS	PHIL	Philosophy
AS	PHYS	Physics
AS	POLS	Political Science
AS	PSYCH	Psychology
HPA	PUB	Public Administration
HPA	SOWK	Social Work
AS	SOC/AN	Sociology & Anthropology
AS	STAT	Statistics
ED	TLP	Teaching & Learning Princ
AS	THEA	Theatre
AS	WOM	Women's Studies

Additional Course Fees

Some courses require additional fees for materials and supplies which are necessary due to the unique requirements of the course. Consult the [Additional Course Fees Table](#) for a listing of specific courses and their associated fees effective with the Fall semester.