



**Graduate Catalog, 2014-2015**

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# Contents

About UCF...	1
Overview...	1
Mission Statement...	1
UCF Story...	1
Facts...	5
State of Florida Board of Governors...	7
University of Central Florida Board of Trustees...	7
University of Central Florida Administration ...	8
Interdisciplinary Studies...	11
College of Graduate Studies...	12
Overview...	12
Mission Statement...	12
College of Graduate Studies Administration...	13
Graduate Council...	13
College Graduate Coordinators...	13
Graduate Program Directors...	14
Graduate Faculty and Graduate Faculty Scholars...	14
Special Study—Graduate Completion Project...	18
Research...	19
Overview...	19
Research Strengths...	19
Research and Employment Opportunities...	19
CREOL...	20
IST...	20
FSEC...	20
Burnett School of Biomedical Sciences (College of Medicine)...	21
AMPAC...	21
Nanoscience Technology Center...	22
Central Florida Research Park ...	22
Office of Research & Commercialization...	22
UCF Colleges and Special Programs...	23
College of Arts and Humanities...	23
College of Business Administration...	24
College of Education and Human Performance...	25
College of Engineering and Computer Science...	28
College of Health and Public Affairs...	29
College of Medicine...	31
College of Nursing...	31
College of Optics and Photonics...	33
College of Sciences...	34
Rosen College of Hospitality Management...	35
Burnett School of Biomedical Sciences, College of Medicine...	36
Interdisciplinary Studies...	37
Modeling and Simulation Program...	37
Special Academic Programs...	38
Student Services and Resources...	42
Academic Services ...	42
Campus Faiths and Ministries...	42
Career Services...	42
Computer Services and Telecommunications...	42
Counseling Center...	43
Creative School for Children ...	43
Experiential Learning...	43
Graduate Student Center...	44
Housing and Residence Life...	44
Integrity and Ethical Development...	44
International Services Center...	44
Intramural Sports...	45

Multicultural Academic and Support Services (MASS)...	45
Off-Campus Student Services...	46
Office of Instructional Resources...	46
Office of Student Conduct...	46
Office of Student Rights and Responsibilities...	46
Office of Student Financial Assistance...	47
Office of Student Involvement...	47
Pathways To Success...	47
Public Safety and Police Department...	47
Recreation and Wellness Center...	48
Registrar's Office...	49
Rosen College Student Life...	49
Student Disability Services...	49
Student Government Association...	49
Student Legal Services...	50
Student Union...	50
Parking and Transportation...	50
UCF Alumni Association...	51
UCF Bookstore...	51
UCF Health Services...	51
University Libraries...	51
University Ombuds Office...	53
University Writing Center...	53
Veterans Academic Resource Center (VARC)...	54
Veterans Services...	54
<b>Policies...</b>	<b>55</b>
Overview...	55
General University Policies...	55
General Graduate Policies...	60
International Graduate Student Policies...	79
Graduate Certificate Program Policies...	83
Master's Program Policies ...	85
Education Specialist Programs...	91
Doctoral Program Policies...	93
<b>Admissions...</b>	<b>102</b>
Overview...	102
U.S. Citizens and Resident Aliens...	103
International Students...	106
Information for All Applicants...	110
Residency...	115
<b>Current Students/Registration...</b>	<b>115</b>
Overview...	115
Online Registration...	116
Immunization Form...	116
Continuing Graduate Students...	116
Enrollment of International Students...	116
Nondegree-seeking Students...	116
Holds...	116
Audit Registration...	117
Senior Citizen Audit...	117
State Employee Registration...	117
UCF Employee Registration...	117
Fee Payments...	117
Residency...	117
Fee Invoices...	117
Mandatory Health Information...	118
Name Changes...	118
Address and E-Mail Changes...	118
Transcript Requests...	118
Enrollment Certifications...	119

Withdrawal Policy and academic record change requests...	120
Financial Support...	121
Student Responsibility to Inform Offices...	121
Parking...	121
Visitor Information Center...	121
Financial Information...	122
Overview...	122
Financial Support Requirements...	122
Graduate Fellowships...	122
Graduate Assistantships...	124
Graduate Tuition Support...	127
Paid Health Insurance Coverage ...	128
Student Financial Assistance...	129
Tax Obligations...	135
Tuition and Fees...	135
costs and Residency...	138
Graduate Programs...	139
Doctoral Programs...	139
Biomedical Sciences PhD...	139
Business Administration PhD ...	143
Accounting Track...	144
Finance Track...	147
Management Track...	150
Marketing Track...	153
Chemistry PhD...	156
Civil Engineering PhD...	161
Computer Engineering PhD...	165
Computer Science PhD...	170
Conservation Biology PhD...	174
Applied Conservation Biology Track...	178
Ecology and Organismal Biology Track...	182
Criminal Justice PhD...	185
Education EdD...	188
Education PhD...	191
Communication Sciences and Disorders Track...	194
Counselor Education Track...	196
Elementary Education Track...	199
Early Childhood Track...	201
Exceptional Education Track...	203
Exercise Physiology Track...	206
Higher Education Track...	208
Instructional Technology Track...	210
Mathematics Education Track...	212
Methodology, Measurement, and Analysis Track...	215
Reading Education Track...	217
Science Education Track...	220
Social Science Education Track...	222
Teaching English to Speakers of Other Languages (TESOL) Track...	224
Educational Leadership EdD...	227
Executive Track...	228
Higher Education Track...	230
Electrical Engineering PhD...	232
Environmental Engineering PhD...	237
Hospitality Management PhD...	241
Industrial Engineering PhD...	243
Materials Science and Engineering PhD...	250
Mathematics PhD...	253
Mechanical Engineering PhD...	257
Modeling and Simulation PhD...	260
Nursing PhD...	270

Nursing Practice DNP...	272
Adult/Gerontology Clinical Nurse Specialist Track...	276
Adult/Gerontology Nurse Practitioner Track...	279
Executive Track...	282
Family Nurse Practitioner Track...	285
Optics and Photonics PhD...	288
Physical Therapy DPT...	291
Physics PhD...	296
Planetary Sciences Track...	299
Clinical Psychology PhD...	302
Applied Experimental and Human Factors Psychology PhD...	305
Industrial and Organizational Psychology PhD...	311
Public Affairs PhD...	314
Criminal Justice Track...	316
Governance and Policy Research Track...	320
Health Services Management and Research Track...	323
Public Administration Dual Degree - MPA Track...	327
Public Administration Track...	330
Social Work Track...	334
Security Studies PhD...	337
Sociology PhD...	340
Texts and Technology PhD...	343
<b>Specialist Programs...</b>	<b>348</b>
Education EdS...	348
Master's + 30 Track...	349
School Counseling Track...	351
Educational Leadership EdS...	353
School Psychology EdS...	355
<b>Master's Programs...</b>	<b>357</b>
Accounting MSA...	357
Aerospace Engineering MSAE...	360
Accelerated BS to MS Track...	362
Space Systems Design and Engineering Track...	364
Thermofluid Aerodynamic Systems Design and Engineering Track...	367
Anthropology MA...	370
Applied Learning and Instruction MA...	373
Biology MS...	377
Biomedical Sciences MS...	379
Biotechnology MS...	382
Professional Science Master...	385
Business Administration MBA...	388
Lockstep Evening MBA Track...	389
Executive M.B.A. Track...	391
1 Year Full-Time MBA Track...	393
Professional MBA Track (Downtown Orlando and Regional Campuses)...	395
Career and Technical Education MA...	397
Chemistry MS...	399
Civil Engineering MS...	401
Structural and Geotechnical Engineering Track...	403
Transportation Systems Engineering Track ...	406
Water Resources Engineering Track...	409
Civil Engineering MSCE...	411
Clinical Psychology MA...	415
Communication MA...	418
Interpersonal Communication Track...	420
Mass Communication Track...	423
Communication Sciences and Disorders MA...	427
Accelerated BA/BS-MA Track...	431
Communication Science and Disorders Consortium Track...	434
Computer Engineering MSCpE...	437

Accelerated BS to MS Track...	442
Computer Science MS...	443
Conservation Biology - Professional Science Masters...	446
Counselor Education MA...	449
Mental Health Counseling Track...	450
School Counseling Track...	453
Counselor Education MEd...	455
School Counseling Track...	456
Criminal Justice MS...	458
Professional Track...	459
Research Track...	462
Digital Forensics MS...	464
Digital Media MA...	466
Visual Language and Interactive Media Track...	467
Educational Leadership MA...	470
Higher Education/Student Personnel Track...	471
Higher Education/Community College Education Track...	473
Student Athlete Support Services Track...	474
Educational Leadership MEd...	476
Electrical Engineering MSEE...	478
Accelerated BS to MS Track...	482
Elementary Education MA...	484
Elementary Education MEd...	487
Engineering Management MSEM...	490
Professional Engineering Management PSM Track...	491
Environmental Engineering MS...	493
Environmental Engineering Sciences Track...	495
English MA...	498
Environmental Engineering MSEnvE...	498
Exceptional Student Education K-12 MA...	502
Exceptional Student Education MEd...	504
Forensic Science MS...	506
Health Care Informatics MS, Professional Science Masters Program...	509
Health Sciences MS...	512
Executive Health Services Administration Track...	512
Health Services Administration Track...	515
History MA...	518
Accelerated Graduate Program in History Track...	521
Public History Track...	523
Hospitality and Tourism Management MS...	526
Industrial and Organizational Psychology MS...	529
Industrial Engineering MS...	532
Accelerated BS to MS Track...	537
Industrial Engineering MSIE...	539
Instructional Design and Technology MA...	544
Educational Technology Track...	545
e - Learning Track...	546
Instructional Systems Track...	548
Interactive Entertainment MS...	551
Interdisciplinary Studies MA...	553
Interdisciplinary Studies MS...	555
K-8 Mathematics and Science Education MEd...	557
Management MS...	559
Business Analytics Track...	559
Human Resources/Change Management Track...	561
Marriage, Couple, and Family Therapy MA...	563
Materials Science and Engineering MSMSE...	566
Accelerated BS to MS Track...	569
Mathematical Science MS...	571
Industrial Mathematics Track...	573

- Mechanical Engineering MSME...575
  - Accelerated BS to MS Track...577
  - Mechanical Systems Track...579
  - Thermofluids Track...582
- Modeling and Simulation MS...585
  - Professional Science Masters...594
- Music MA...597
- Nonprofit Management MNM...600
  - Out of State MNM Cohort Track...602
  - Public Administration Dual Degree MPA Track...605
- Nursing MSN...607
  - Family Nurse Practitioner Track...611
  - Leadership and Management Track...614
  - Adult/Gerontology Nurse Practitioner Track...617
  - Nurse Educator Track...620
- Optics and Photonics MS...623
  - Optics Track...628
  - Photonics Track...631
- Physics MS...633
  - Planetary Sciences Track...636
- Political Science MA...638
- Public Administration MPA...641
  - Nonprofit Management Dual Degree Track...643
- Reading Education MEd...646
- Real Estate MS...648
- Research Administration MRA...650
- Social Work MSW...652
  - Online Part-Time Track...653
  - Orlando Full-Time Advanced Standing Track...657
  - Orlando Full-Time Track...661
  - Orlando Part-Time Track...665
  - Osceola Regional Campus Track...670
- Sociology MA, Applied...674
  - Domestic Violence Track...676
- Spanish MA...679
- Sport and Exercise Science MS...681
  - Applied Exercise Physiology Track...682
  - Coaching Track...684
  - Sport Nutrition Track...685
- Sport Business Management MSBM...687
- Taxation MST...689
- Teacher Education MAT...692
  - Art Education Track...693
  - English Language Arts Education with ESOL Endorsement Track...695
  - Mathematics Education Track...698
  - Middle School Mathematics Education Track...700
  - Science Education-Biology Track...703
  - Science Education-Chemistry Track...705
  - Middle School Science Education Track...708
  - Science Education-Physics Track...710
  - Social Science Education Track...713
- Teacher Leadership MEd...715
  - Art Education Track...717
  - Curriculum Leadership Track...718
  - Educational Technology Track...720
  - English/Language Arts Education Track...721
  - Global, International and Comparative Education Track...723
  - Gifted Education Track...724
  - Intervention Specialist Track...726
  - Mathematics Education Track...727



Science Education Track...	729
Social Science Education Track...	730
Teaching English to Speakers of Other Languages MA...	732
Theatre MA...	734
Urban and Regional Planning MS...	737
<b>Master's in Fine Arts Programs...</b>	<b>740</b>
Creative Writing MFA...	740
Emerging Media MFA...	742
Studio Art and the Computer Track...	743
Digital Media Track...	746
Literary, Cultural, and Textual Studies Track...	750
Technical Communication Track...	752
Theatre MFA...	755
Acting Track...	756
Theatre for Young Audiences Track...	759
<b>Certificate Programs...</b>	<b>763</b>
Adult-Gerontology Nurse Practitioner Certificate...	763
Aging Studies Graduate Certificate...	765
Applied Operations Research Certificate...	766
Autism Spectrum Disorders Certificate...	767
Career Counseling Certificate...	768
Children's Services Certificate...	769
Clinical Nurse Leader Certificate...	770
Clinical Nurse Specialist Adult-Gerontology Certificate...	771
Cognitive Sciences Certificate...	772
Community College Education Certificate...	775
Computer Forensics Certificate...	776
Conservation Biology Certificate...	777
Construction Engineering Certificate...	778
Corporate Communication Certificate...	779
Corrections Leadership Certificate...	781
Crime Analysis Certificate...	782
Criminal Justice Executive Certificate...	783
Design for Usability Certificate...	784
e-Learning Professional Development Certificate...	785
Emergency Management and Homeland Security Certificate...	786
Entrepreneurship Certificate...	788
ESOL Endorsement K-12 Certificate...	789
Ethics Certificate, Theoretical and Applied...	790
Family Nurse Practitioner Certificate...	791
Fundraising Certificate...	793
Gender Studies Certificate...	795
Gifted Education Certificate...	796
Global, International and Comparative Education Certificate...	797
Health Care Informatics Certificate...	798
Industrial Ergonomics and Safety Certificate...	799
Initial Teacher Professional Preparation Certificate...	801
Instructional Design for Simulations Certificate...	802
Instructional/Educational Technology Certificate...	803
Intervention Specialist Certificate...	804
Juvenile Justice Leadership Certificate...	805
K-8 Mathematics and Science Education Certificate...	807
Marriage, Couple, and Family Therapy Certificate...	808
Mathematics Certificate...	809
Maya Studies Certificate...	810
Medical Speech-Language Pathology Certificate...	811
Military Social Work Certificate...	813
Modeling and Simulation of Technical Systems Certificate...	814
Nonprofit Management Certificate...	814
Nursing Education Certificate...	816

Play Therapy Certificate...	817
Police Leadership Certificate...	819
Prekindergarten Disabilities Certificate...	820
Professional Writing Certificate...	821
Project Engineering Certificate...	823
Public Administration Certificate...	824
Quality Assurance Certificate...	826
Reading Education Certificate...	827
Research Administration Certificate...	828
SAS Data Mining Certificate...	830
Severe or Profound Disabilities Certificate...	831
Social Science Education Certificate...	832
Social Work Administration Certificate...	833
Special Education Certificate...	834
Structural Engineering Certificate...	835
Systems Engineering Certificate...	836
Systems Simulation for Engineers Certificate...	837
Teaching English as a Foreign Language Certificate...	838
Technology Ventures Certificate...	840
Training Simulation Certificate...	841
Transportation Engineering Certificate...	842
Urban and Regional Planning Certificate...	843
World Languages Education - English for Speakers of Other Languages (ESOL) Certificate...	844
World Languages Education - Languages Other Than English (LOTE) Certificate...	846
<b>Nondegree Programs...</b>	<b>848</b>
Education Undecided or Certification...	848
Nondegree or Transient...	849
<b>Courses...</b>	<b>851</b>
<b>Understanding Course Info...</b>	<b>851</b>
<b>Courses List...</b>	<b>858</b>

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# About UCF

## 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 more than 59,000 students and nearly 200 graduate degree 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. In addition, this section describes the people and offices that make up UCF—including university, college, and school administration.

## 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 I-4 High-Technology 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.**

## UCF STORY

### Graduate Education that Creates Opportunities

The University of Central Florida is one of the largest and fastest growing research universities

in the country, recognized as one of the top 15 up-and-coming schools by US News & World Report (2014). Located in one of the most dynamic metropolitan areas in the United States—Orlando, Florida, UCF has the second largest enrollment among the nation’s public universities. UCF is a university that creates and provides opportunities for students and brings them to fruition.

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 more than 235,000 alumni, nearly 60,000 students, and 10,000 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

UCF’s colleges include Arts and Humanities, Sciences, Business Administration, Education and Human Performance, Engineering and Computer Science, Graduate Studies, Health and Public Affairs, Hospitality Management, Nursing and Medicine.

The university’s internationally renowned colleges, centers and institutes include the College of Optics and Photonics/CREOL (Center for Research and Education in Optics and Lasers), the Rosen College of Hospitality Management, the Advanced Materials Processing and Analysis Center (AMPAC), the Biomolecular Science Center, the Institute for Simulation and Training (IST), the Florida Solar Energy Center (FSEC), the NanoScience Technology Center, the National Center for Forensic Science, the Florida Space Institute, and the Florida Photonics Center of Excellence. For additional information regarding these centers and institutes and other research programs, go to [www.research.ucf.edu/centers.html](http://www.research.ucf.edu/centers.html).

## 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 that’s now more than 50 years old, UCF has moved rapidly from promise to academic prominence.

## Campus Accomplishments

- UCF ranks among the top 50 “Best Values in Public Colleges” in the U.S. according to Kiplinger (2013). The Princeton Review also designated UCF as one of the best overall bargains based on cost and financial aid among the most academically outstanding colleges in the nation (Princeton Review, 2014).
- The year 2013 marked the 50th anniversary of the founding of UCF.
- UCF, along with the University of South Florida and Florida International University, have formed the Florida Consortium of Metropolitan Universities. The consortium was granted \$4.9 million for An Urban University Coalition Response to Florida Computer Information Technology Workforce Needs and \$3.6 million for An Innovative and Collaborative Approach to Increasing the Supply of Quality Accounting Graduates in Florida.
- The Board of Trustees approved a new interdisciplinary professional science master’s degree program in nanotechnology.
- In 2013, 36 members of the charter class graduated from the UCF College of Medicine.
- The UCF Business Incubator Program was named the 2013 Incubator Network of the Year by the National Business Incubation Association.
- Rosen College of Hospitality Management is now partnered with Bournemouth University in Bournemouth, U.K. Students majoring in hospitality, restaurant or event management will be able to attend Bournemouth University beginning in Spring 2015.
- UCF Army ROTC was selected as one of the top programs in the country, winning its first national salute from the U.S. Army Cadet Command and becoming one of eight programs honored with the prestigious MacArthur Award.

## Notable Programs and Awards

- U.S. News & World Report (2014) ranks UCF’s Counselor Education program seventh in the nation.
- UCF’s College of Optics and Photonics ranked No. 14 among the nation’s atomic, molecular and optical sciences programs (U.S. News & World Report, 2014).

- Two Pegasus professors of Optics received national recognition. Peter Delfyett, PhD, won the Florida Academy of Sciences' 2014 Medalist Award for his outstanding contributions toward the advancement of science. Shin-Tson Wu, PhD, has been selected to receive the Esther Hoffman Beller Medal from The Optical Society (OSA) for his broad and significant impact to academia and industry in photonics education.
- The Nonprofit Management program ranks No. 25 in the nation (U.S. News & World Report, 2014).
- The Criminal Justice and Healthcare Management program ranked in the top 50 (U.S. News & World Report, 2014).
- In total, 16 UCF programs were ranked in U.S. News & World Report's top-100 list of Best Graduate Schools (2014), in the Colleges of Engineering and Computer Science, Business Administration, Education and Human Performance, Health and Public Affairs, and Nursing.
- UCF is ranked among the top 100 U.S. public universities (U.S. News & World Report, 2014) and top 150 universities worldwide for engineering, technology, and computer sciences (Academic Ranking of World Universities, 2013).
- For the past eight years, UCF's College of Engineering and Computer Science has also ranked in the top ten graduate engineering schools for Hispanics by the Hispanic Business magazine.
- UCF's College of Engineering and Computer Science is a leading college for its diverse graduate student body; 22 percent are women and 36 percent are international students.
- UCF's Florida Interactive Entertainment Academy (FIEA) is named the No. 2 graduate school for game design (Princeton Review, 2014).
- Dr. Shin-Tson Wu, Pegasus professor of optics, has been selected to receive the Esther Hoffman Beller Medal from The Optical Society (OSA) for his broad and significant impact to academia and industry in photonics education. (2014)
- UCF Vice-President Dr. MJ Soileau received the Chairman's Award from the Metro Orlando Economic Development Commission for his contributions to the development of a leading research institute.
- In April 2013, UCF was awarded a \$55 million NASA grant to build and launch into space an instrument the size of a microwave oven that will provide unprecedented imaging of the Earth's upper atmosphere. The award is the largest single grant in UCF's history, and UCF will become the first Florida university to lead a NASA mission.
- UCF biologist Kate Mansfield is receiving national attention for her work studying sea turtles. She was interviewed on NPR's Science Friday and her research has been covered in National Geographic and the Smithsonian Magazine. (2014)
- The research of Dr. Deborah Beidel, professor of clinical psychology in the College of Sciences, has earned more than \$7 million in contract and grant funding in just six years as she continues to find ways to help people cope with anxiety disorders.
- The National Institutes of Health is funding a total of \$7.2 million for 26 research projects at UCF.
- UCF professor and medical doctor, Jihe Zhao, discovered a DNA-repairing protein that may be key to preventing recurrence of some cancers (2013).
- UCF School of Visual Arts and Design graduate Mohammed "Mo" Hassan (Class of 2011) won an Oscar for his work in the making of the Disney movie "Frozen".

### Notable Research

- College of Sciences was awarded a \$928K grant to develop a virtual apps program for the student body. The project will enable students to access software applications on any device and will be available Fall 2015.

### Degrees of Distinction

With 1,959 full-time faculty, the university offers 90 bachelor's degrees, 80 master's degrees, three specialist degrees, and 30 doctoral degrees as well as 70 graduate certificate programs and one professional program (Medicine).



The list of prominent alumni gets longer with each graduation ceremony. A sampler of notable alumni includes Kevin Beary, former Sheriff, Orange County, Florida; Juanita Black, president, Mental Health Association of Central Florida; John C. Bersia, Pulitzer Prize-winning writer; Lee Constantine, Florida State Senator; Phil Dalhausser, Olympic Gold Medalist, volleyball; Ericka Dunlap, Miss America 2004; Cheryl Hines, actress; R. Glenn Hubbard, former chair, U.S. Council of Economic Advisors; George Kalogridis, president, Walt Disney World Resort; Mark Miller, country music singer/songwriter, Sawyer Brown band; William W. Parsons Jr., Director, NASA's John C. Stennis Space Center; Angel Ruiz, president and CEO, Ericsson North America; Nicole Stott, space shuttle astronaut; Daniel Tosh, standup comedian/television host, and Al Weiss, President of Worldwide Operations, Walt Disney Parks and Resorts.

## 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 Hispanic/Latino (13%), African-American (10%), and Asian/Pacific Islander (10%) students and represents 64 of Florida's 67 counties, all 50 states, and 145 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 and 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 Rosen College 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, University of South Florida and the University of Florida that now involves more than 25 local and regional economic development organizations, 14 community colleges and thousands of companies.

## Orlando and Beyond

In addition to its 1,415-acre main campus in Orlando, UCF has area campuses in Daytona Beach, Cocoa, and Clermont; centers in Deland, 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 giving students throughout central Florida the chance to take classes, pursue degrees, and interact with faculty and staff.

## Pardon our Dust

More than 150 facilities improvement projects were completed in 2012-13, including:

- Classroom Building II / ROTC
- Greek Park Housing and Life Center
- Recreation and Wellness Center at Knights Plaza
- Multilingual and Multicultural Center Addition
- Arts Complex II Addition

- Baseball Stadium Expansion (Phase I)

The Board of Trustees approved the construction of a new building to replace Colbourn Hall.

## Virtual Campus

UCF's virtual campus Online@UCF is leading the way in the integration of technology, teaching, and learning. Twenty-four graduate degrees and 30 certificate programs are available online, in addition to many individual graduate level courses. Essential student services, such as parking, course registration, and textbook purchases are also available online.

For more information on UCF's online programs, visit [www.online.ucf.edu](http://www.online.ucf.edu).

## UCF Athletics

UCF shone in its American Athletic Conference debut. The football team was ranked No. 10 in the final AP Top 25, making it to the top 10 for the first time in school history! They ended the 2013 season 12-1, including victory over Baylor in the Tostitos Fiesta Bowl.

In 2014, the Knights women's track and field team broke into the USTFCCCA Top 25. At No. 25, UCF is the only team in The American to be recognized in the first regular season poll.

The 2013 Knights women's soccer team made it to the NCAA top 25. Ranked No. 22, UCF is one of only three Florida Universities to make the list. They won a record-setting 18 games in a row and ended the season unbeaten in their conference.

In 2013, UCF reported an 89% Graduation Success Rate for student-athletes – the highest in school history! The Knights rank No.1 among public institutions in the State of Florida. UCF's GSR also ranks highest among current American Athletic Conference institutions.

## Central Florida—A great place to be

UCF is located 13 miles east of downtown 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, amusement parks, lakes, golf courses, jogging trails, and nature preserves.

## UCF—A Time of Opportunity

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 culture of opportunity is driven by the diverse people it attracts, its Orlando location, its history of entrepreneurship, and its youth, relevance, and energy.

## FACTS

### 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:** Comprehensive Doctoral; Research Universities - Very High Research Activity
- **Number of Graduate Programs:** 32 Doctoral, 79 Master's, 68 Graduate Certificates, 3 Specialist Programs, and 1 Professional Program (Medicine)
- **Overall Student Enrollment in Fall 2013:** 59,770
- **Graduate Enrollment in Spring 2013:** 8,348, including 1,881 doctoral, 5,316 master's, and 1,151 nondegree-seeking students
- **Class Offerings:** Courses offered in Arts and Humanities, Business Administration, Education, Engineering and Computer Science, Health and Public Affairs, Hospitality Management, Medicine, Nursing, Optics and Photonics and Sciences are offered at night, online and at UCF's regional campuses.

### About UCF Graduate Students

- **Graduate Student Characteristics, Spring 2013**
- Doctoral - 52.5 percent full-time students, 47.5 percent part-time students
- Master's - 41.1 percent full-time students, 58.9 percent part-time students

- Gender - 59 percent female, 41 percent male
- **Average Age of Graduate Students. Spring 2013:** Approximately 31 years old
- **Ethnicity of Graduate Student Population, Spring 2013**
- White, Non-Hispanic - 57.76 percent
- Black, Non-Hispanic - 9.54 percent
- American Indian or Alaskan Native - Less than 1 percent
- Asian - 9.80 percent
- Hispanic - 12.88 percent
- Native Hawaiian/Other Pacific Islander - Less than 1 percent
- Multi-racial - 1.71 percent
- Not specified - 8.03 percent

### Financial Support for Graduate Students

- Assistantships - Each year over 1,000 graduate students are awarded graduate assistantships that provide financial support for their graduate education.
- Fellowships - Over 2 million dollars in support was awarded to approximately 500 master's and doctoral students.
- Tuition Remission - University fellows and graduate students appointed on full-time assistantships (20 hours per week) receive full resident (in-state) tuition remission. Students appointed on half-time assistantship appointments (10 hours per week) receive remission of one-half of the resident (in-state) tuition. All nonresident university fellow and graduate assistants with appointments totaling 20 hours per week are charged a "differential out-of-state fee" of \$0.00.
- Health Insurance - The College of Graduate Studies provides health insurance coverage for all university fellows and graduate assistants with appointments totaling 20 hours per week.

### Research Activities 2012-2013

Academic research fuels the innovation economy and UCF is an integral part of statewide efforts to attract, retain and grow high technology companies in Florida. UCF's programs in solar energy, optics and photonics, and simulation and training

are among the best in the nation. Our emerging programs in biomedical science, computer science, nanoscience, and materials are developing into national leaders.

Research faculty in these areas and their associated funding, which has totaled more than \$1.1 billion during the last 10 years, are the strength behind the development of new technologies. UCF's incubation and entrepreneurship programs help turn those technologies into companies. UCF's patents are regularly ranked among the strongest in the world.

- Total Research Awards - \$113.06 million
- Total Federal Awards - \$52.9 million
- Total State Awards - \$40.8 million
- Total Industry Awards - \$19.4 million
- Patents - UCF holds over 700 U.S. patents

### UCF Centers and Institutes Research

- Advanced Materials Processing and Analysis Center (AMPAC) - \$2.3 million
- Florida Solar Energy Center (FSEC) - \$11.2 million
- Institute for Simulation and Training (IST) - \$16.7 million
- NanoScience Technology Center - \$4.9 million
- Florida Space Institute - \$1.9 million

### College Research

- Education - \$10.8 million
- Engineering and Computer Science - \$17.9 million
- Health and Public Affairs - \$3.1 million
- Medicine - \$8.4 million
- Optics and Photonics (CREOL) - \$9.01 million
- Sciences - \$14.2 million



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## Office of the Provost and Vice President for Academic Affairs

Interim Provost and Vice President for Academic Affairs	Diane Z. Chase
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Associate Vice President, Academic Services Administration	Lynn Gonzalez
Assistant Vice President, Institutional Knowledge Management	Paige Borden

## Office of the Vice Provost for Academic Affairs

Interim Provost and Vice President for Academic Affairs	Diane Z. Chase
Associate Vice Provost, Faculty Relations	Lyman Brodie
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Director, Faculty Center for Teaching and Learning	Melody Bowdon
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Associate Vice President Division of Community Relations; Director, Metropolitan Center for Regional Studies	Diane Trees
Associate Vice President and Director, Office of Community Relations	Maritza Martinez
Assistant Vice President, Division of Constituent Relations	Glenna Oro
Director, Constituent Relations	Ana Petkov

Director, Diplomacy Program	Ambassador Harriet Elam-Thomas
Director, Global Perspectives Office; Special Assistant to the President for Global Perspectives	John Bersia
Director, Operational Excellence and Assessment Support	Patrice Lancey
Director, University Analysis and Planning Support	Sandra Archer
Executive Director, WUCF-TV	Polly Anderson

### Office of the Vice President for Student Development and Enrollment Services

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Associate Vice President, Undergraduate Admissions, Student Financial Assistance and Student Outreach	Gordon D. Chavis, Jr.
Associate Vice President	Sharon L. Ekern
Associate Vice President	Patricia MacKown
Associate Vice President	DeLaine Priest
Associate Vice President	Kerry Welch
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Assistant Vice President, Office of Budget and Personnel Support	David Pavlonnis

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Assistant Vice President, Advising and Career Services	Chanda Torres
University Registrar	Brian Boyd
Executive Director, Career Services	Lynn Hansen
Executive Director, Housing and Residence Life	Christi Hartzler
Director, Student Financial Assistance	Alicia Keaton
Director, Student Outreach Programs	Rhonda C. Hall

### Office of the Vice Provost for Information Technologies and Resources and CIO

Vice Provost and Chief Information Officer, Information Technologies and Resources	Joel L. Hartman
Associate Vice President, Center for Distributed Learning	Thomas Cavanagh
Chief Technology Officer, Computer Services and Telecommunications	Robert Yanckello
Director, Instructional Resources	Donald Merritt
Director, University Libraries	Barry B. Baker
Associate Director, Information Technologies and Resources	Karen Cobbs

### Office of the Vice Provost for Regional Campuses

Vice Provost, UCF Valencia West and Osceola	Jeffrey Jones
Associate Vice President, UCF Cocoa and Palm Bay	Denise L. Young
Associate Vice President, UCF Sanford/Lake Mary	David J. Mealor
Assistant Vice President, UCF Clermont/UCF Leesburg and UCF Ocala	Cecelia H. Rivers
Assistant Vice President, UCF Daytona Beach	Linda Bradley Thacker
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Associate Vice President, Enrollment Services, Communication and Outreach	Angela Peterson
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Assistant Vice Provost, Student Services and Advising	Pam Cavanaugh
Director, Enrollment Services	Deborah Bradford

Assistant Vice President	Michael Macedonia
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Director of Finances	Edward Jacobs
Director, Communications	Barbara Abney
Director, Research Compliance	Douglas Backman
Director, CREOL (Center for Research and Education in Optics and Lasers), within the College of Optics and Photonics	Bahaa Saleh
Director, Florida Solar Energy Center	James Fenton
Director, Institute for Simulation and Training	Randall Shumaker
Interim Director, Biomolecular Science Center, Burnett School of Biomedical Sciences, College of Medicine	Richard Pepler
Director, Advanced Materials Processing and Analysis Center and NanoScience Technology Center	Sudipta Seal
Director, Florida Space Institute	Raymond Lugo

### Office of Research & Commercialization

Vice President for Research & Commercialization	MJ Soileau
Associate Vice President for Research & Commercialization	Tom O'Neal
Assistant Vice President	Pallavoor Vaidyanathan

### College of Graduate Studies

Vice Provost and Dean	C. Ross Hinkle
Senior Associate Dean	Max C. Poole
Associate Dean	Jana Jasinski
Assistant Dean	Tracy R. Jones

Director, Office of Graduate Financial Assistance and Information/Publication Services	Debra Winter
Director, Graduate Admissions and Student Services	Barbara Rodriguez

**Office of Undergraduate Studies**

Interim Vice Provost and Dean, Undergraduate Studies	Elliot Vittes
Acting Director, Experiential Learning	Ulla Isaac
Director, EXCEL Program	Melissa Dagley
Director, Undergraduate Research	Kimberly Schneider
Interim Vice Provost and Dean, Bachelor of Applied Sciences	Elliot Vittes
Director, Research and Mentoring Program (RAMP) and McNair Scholars Program	Michael Aldarondo-Jeffries
Interim Associate Dean and Director, Academic Services	Heath Martin
Director, Pre-Professional Advising	TBA
Director, Interdisciplinary Studies	Michael Hampton
Director, Quality Enhancement Program	TBA

**Office of University Relations**

Vice President for University Relations and Senior Counsel to the President	Daniel C. Holsenbeck
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Associate Vice President, Communications and Public Affairs	Grant J. Heston
Assistant Vice President for University Relations and Director, Federal Relations	Greg Schuckman
Assistant Vice President for University Relation and Director, University Economic Development	Edward Schons
Assistant Vice President for University Relation and Director, Defense Transition Services	Alzo J. Reddick

**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. Interdisciplinary graduate studies are offered in areas such as biomolecular sciences, computer forensics, gender studies, gerontology, Maya studies, modeling and simulation, optics, and teaching English as a second language.

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# College of Graduate Studies

## OVERVIEW

The College 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, financial support, policies, appeals, program development and review, benchmarking, and completion of graduate degrees are important concerns of the College.

Working in conjunction with the Faculty Senate Committees and the college and graduate program coordinators, the UCF College of 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. Admission decisions are made by the graduate program directors and the College of Graduate Studies. Any policy questions about graduate issues should be directed to the College of Graduate Studies or the Graduate Council. Questions about operational procedures should be directed to individual college or graduate program coordinators or to the College of Graduate Studies.

## MISSION STATEMENT

**The UCF College of Graduate Studies provides leadership and services to create high-quality learning environments for graduate students.**

### About Our Mission

The UCF College of Graduate Studies is an advocate for graduate education, working to mobilize and manage 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.

The Graduate College is focused on three long-term goals for our graduate programs: (1) improving the quality of our existing programs, particularly assisting our doctoral programs; (2) developing access to graduate education for a few selected new programs and expanding enrollment in existing graduate programs in a manner that is consistent with maintaining program quality, particularly at the master's level, and (3) providing excellent student experiences in our graduate programs and building communities of scholars throughout the university community. Student progress, faculty capability, the quality of student experiences, and the quality of graduate programs and their assessment are all important to the university.

We collaborate with the faculty to develop policies and best practices that further the high academic standards and excellence of our graduate programs. We provide 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, institutes and centers, 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, the UCF College of 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.

## COLLEGE OF GRADUATE STUDIES ADMINISTRATION

Vice Provost and Dean	C. Ross Hinkle
Senior Associate Dean	Max Poole
Associate Dean	Jana Jasinski
Assistant Dean	Tracy R. Jones
Director, Graduate Financial Assistance and Information/Publications	Debra Winter
Director, Graduate Admissions and Student Services	Barbara Rodriguez

### Office of Graduate Admissions and Student Services

The Office of Graduate Admissions guides prospective students through the graduate application and admissions processes for those enrolled in graduate degree and certificate programs and students taking graduate courses in a nondegree status. The Student Services area works with graduate program staff and graduate students to assist with registration issues, to review and process administrative requests, to review and approve thesis and dissertation committees and to track responsible conduct in research compliance.

### Office of Academic Progress and Graduation

The Office of Academic Progress and Graduation works with the graduate programs, colleges, and graduate students, and provides assistance in tracking progress to degree. The Graduation area communicates with students that are at the point of graduation and ensures all degree requirements are met for certification.

In addition the Graduate College conducts special studies to learn more about our graduate programs and our graduate students to identify services and processes that can be improved or offered to enhance graduate student experiences.

### Office of Graduate Financial Assistance and Information/Publications

Graduate Financial Assistance assists students in applying for fellowships and in identifying other sources of financial support for graduate study. This office also oversees graduate tuition support, health insurance, and graduate fellowships, and the processing of graduate assistantship agreements and assessments. The Thesis and Dissertation office assists graduate students through format review and final submission of their thesis and dissertation documents. This office also manages the Graduate Student Center and develops and maintains the Graduate Catalog, websites, and other published materials for the College of Graduate Studies.

## 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 degree programs require final approval by the Board of Trustees, and approval for doctoral programs is required from the Florida Board of Governors. The Graduate Council has four committees that examine and formulate policies and procedures, hear petitions for variances from graduate program or university requirements, review new graduate program requests, review changes to existing graduate programs, additions, deletions and modifications to graduate courses, and provide input on graduate program reviews, among other matters. Each committee consists of four senate members and at least three non-senate members. For specific duties of the committees and the Council please see section 3.10.5 of the Faculty Senate Constitution at <http://www.facultysenate.ucf.edu/constitution/index.asp>.

## 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 College of Graduate Studies. The primary responsibilities of the college graduate coordinators are to identify academic opportunities for graduate education in their colleges, plan for enrollment growth and the use of resources in the graduate programs, 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 College of Graduate Studies on college graduate activities.

- College of Arts and Humanities—Lynn Hepner
- College of Business Administration—Dr. Taylor Ellis
- College of Education—Dr. Grant Hayes
- College of Engineering and Computer Science—Dr. Mostafa Bassiouni and Dr. Charles Reilly
- College of Health and Public Affairs—Dr. Ross Wolf
- College of Medicine—Dr. Annette Khaled
- College of Nursing—Dr. Susan Chase
- Rosen College of Hospitality Management—Dr. Alan Fyall
- College of Optics and Photonics—Dr. David Hagan
- College of Sciences—Dr. Teresa Dorman
- Interdisciplinary Studies—Dr. Michael Hampton
- Modeling and Simulation—Dr. Peter Kincaid

## GRADUATE PROGRAM DIRECTORS

The graduate program directors are appointed by the respective department Chairs (or Directors of other units with graduate academic programs) to work with the college and university personnel in furtherance of graduate education. Under the direction of the department chair, they are responsible for the graduate program's health and quality. They oversee the recruiting of graduate students and respond to inquiries; provide for student services such as mentoring, career development opportunities, and student orientations;

plan for office space for graduate assistants; inform students and faculty of student completion rates; inform students and faculty of financial support available to graduate assistants; and ensure program standards in their department.

Graduate program directors are the main contacts for each of the graduate programs. Prospective students can gain valuable information about the program and the application and admission process. New students should seek out graduate program directors for advisement before registering for courses. Current students should seek out the graduate program director if they experience problems with coursework, financial support, or other matters.

## GRADUATE FACULTY AND GRADUATE FACULTY SCHOLARS

### University-Wide Qualifications for Participation in Graduate Education

Graduate education requires the participation of highly competent faculty who are willing to share their specialized skills and knowledge with graduate students. Graduate faculty teach graduate courses, serve as members of thesis and dissertation committees, and serve as faculty advisors for thesis and dissertation students and chairs of thesis and dissertation committees. The following guidelines outline the minimal credentials necessary for faculty to serve the many different roles they play in graduate education. Programs may set higher qualification standards or additional requirements. As the university is committed to encouraging, facilitating, and rewarding interdisciplinary, multi-disciplinary, and cross-disciplinary educational and scholarly activities, service of faculty and staff members in more than one department, school, center/institute, or college is encouraged as a way to further this objective.

Faculty engaged in graduate education must possess either a terminal academic degree in, or closely-related to, the discipline in which they are teaching, or expertise in a field related to the topic of the thesis or dissertation, if serving on a thesis or dissertation committee. Substitution for the terminal degree may be granted with documented relevant



exceptional experience and scholarly or creative activity when recommended by the graduate program committee and approved by the department chair/unit director. No graduate student at UCF may teach UCF graduate courses as the instructor of record.

For the appointment of individuals in the process of obtaining a terminal degree, the College of Graduate Studies can certify that all requirements for a degree have been met.

Members of the Graduate Faculty cannot have personal or financial (including employment) arrangements that may pose a conflict of interest with a student on whose thesis or dissertation committee they serve.

This policy has five major sections:

- Section A defines the terms describing the roles played by faculty in graduate education
- Section B establishes the role of the graduate program committees in the process of appointing Graduate Faculty and Graduate Faculty Scholars.
- Section C establishes the roles and qualifications for appointment as Graduate Faculty and Graduate Faculty Scholars.
- Section D establishes procedures for review, renewal and termination of appointments to the Graduate Faculty.
- Section E establishes the responsibilities for the various members of dissertation committees.

### ***A.1: Faculty Roles in Graduate Education***

Faculty involved in graduate education comprise members of the Graduate Faculty (Sections C.1-C.2) and Graduate Faculty Scholars (Section C.3). These faculty may be eligible to assume the following roles as part of their involvement in graduate education at UCF:

- Instructor of record for graduate-level courses (graduate teaching)
- Member of a thesis or dissertation committee
- Chair of a thesis or dissertation committee: In the vast majority of cases, the chair is the advisor of the scholarly activities of the student. A chair of a thesis or dissertation committee also oversees all of the administrative functions of the committee. A Graduate Faculty Scholar

is not eligible to serve as a chair of a thesis or dissertation committee.

- Co-chair of a thesis or dissertation committee: a co-chair is a member of a thesis or dissertation committee who shares with the chair in the scholarly advisory activities of the student. In cases in which a Graduate Faculty Scholar oversees the day-to-day scholarly activities of the student, the Graduate Faculty Scholar may be appointed as a co-chair of the thesis or dissertation committee.
- Vice-chair of a thesis or dissertation committee: A vice-chair serves as a voice of experience in thesis and dissertation committees. A vice-chair must be appointed to committees in which the chair has no prior experience serving on thesis or dissertation committees. To be appointed as a vice-chair, the committee member must have prior experience serving on at least one thesis or dissertation committee that has successfully graduated a student.

Descriptions of the responsibilities of members and chairs of dissertation committees are detailed in Section E.

### ***B.1: Graduate Program Committees***

Each graduate program will be administered by a graduate program committee consisting of faculty members who participate in the program. An active graduate program committee is required for each graduate program in order to provide program oversight and to ensure that the qualifications of contributing individuals are appropriate for participation in graduate education. Graduate program committee members are appointed in accordance with established department/school procedures and the qualifications established in this document.

### ***B.2: Qualifications for Serving on Graduate Program Committees***

Tenured, tenure-earning, or ranked faculty who are members of the Graduate Faculty may serve on graduate program committees. The graduate program director will be the chair of the graduate program committee.

### ***C.1: The Graduate Faculty***

Tenured, tenure-earning, ranked Clinical or ranked Research professors, and ranked librarians are

eligible for appointment to the Graduate Faculty. Appointment to the Graduate Faculty begins with a nomination by the graduate program committee that is relevant to the graduate education duties of the individual faculty member. The nomination must then be approved by the department chair/unit director for review and appointment by the Dean of the College of Graduate Studies. Qualified graduate faculty members may be eligible to serve in more than one graduate program. Graduate faculty members who are outside of a student's program are eligible to serve as external members of a thesis or dissertation advisory committee.

Special graduate faculty nominations may be made to the Graduate Council at the discretion of the Dean of the College of Graduate Studies.

All graduate faculty are eligible to teach graduate courses, serve as members of thesis and dissertation committees, and serve as chairs or co-chairs of master's thesis committees.

### ***C.2: Eligibility Criteria for Service as Chairs of Thesis and Dissertation Committees***

All chairs and co-chairs must be approved by the graduate program committee of the student's program. Graduate program committees may specify additional guidelines for service as a chair or co-chair of thesis or dissertation committees.

Scholarly currency requirement to serve as a chair of a dissertation committee: For graduate faculty members to serve as a chair or co-chair of a dissertation committee, they must demonstrate significant current involvement in scholarly research or creative productivity. Scholarship and creative activity are evidenced and recognized through publications, presentations, performances, exhibits, awards and competitions. Other considerations include a continuing fulfillment of professional obligations through, for example, manuscript review, journal editorship, and national advisory and review panels. The criteria for scholarly currency are to be established by each graduate program and approved by the department chair/unit director. The criteria must be submitted to the Dean of the College of Graduate Studies prior to nominations for graduate faculty appointments and updated for the reappointment process.

Required thesis or dissertation committee experience: Graduate faculty who have not served as a member of a thesis or dissertation committee

to completion may serve as the chair of a thesis or dissertation committee, but must have a vice-chair appointed to the committee who has previously served as a member of a thesis or dissertation committee to completion.

### ***C.3: Graduate Faculty Scholars***

Other qualified individuals may serve as graduate faculty scholars in graduate faculty roles confined to specific, well-defined graduate faculty assignments. Graduate faculty scholars play important roles in graduate education at UCF, but their status as graduate faculty scholars is distinct from that of members of the Graduate Faculty.

The appointment of graduate faculty scholars begins with a nomination by the graduate program committee that is relevant to the graduate education duties of the individual. The nomination must then be approved by the department chair/unit director for review and appointment by the Dean of the College of Graduate Studies.

Graduate faculty scholars may be designated as "Teaching-Only" if their responsibilities will be restricted solely to teaching graduate courses.

Graduate faculty scholars may serve as members of thesis or dissertation committees for the purpose of bringing specific disciplinary knowledge to the committee. In instances deemed appropriate by the graduate program committee, graduate faculty scholars may also serve as co-chairs or vice chairs of thesis and dissertation committees, but may not serve as chairs of these committees. Graduate faculty scholars serving on thesis and dissertation committees, either as members or co-chairs, must have documented evidence of exceptional relevant experience and/or scholarly or creative productivity, as determined by the graduate program committee.

It is expected that graduate faculty scholars will attend the various committee meetings associated with serving as a member of a thesis or dissertation committee.

### ***D.1: Graduate Faculty Reappointments***

Individual qualifications for reappointment as a graduate faculty member will be re-evaluated by the Program Review Committee of the Graduate Council. Reappointment evaluations will be conducted at the time of the periodic university program review, or sooner, as deemed appropriate by the graduate program committee or at the

request of the Dean of the College of Graduate Studies. At that time, individuals must re-submit their current credentials to the Program Review Committee of the Graduate Council if they wish to have their appointment renewed. Qualifications will be based upon accomplishments since the last program review and the criteria established by the nominating graduate program.

#### ***D.2: Guidelines for a Thesis or Dissertation Committee Member Who Leaves UCF***

A thesis or dissertation committee member who leaves UCF may be eligible to continue serving on the committee as a graduate faculty scholar with the approval of the graduate program committee.

#### ***D.3: Guidelines for a Thesis or Dissertation Committee Chair Who Leaves UCF***

In the event that a chair of a thesis or dissertation committee leaves the employ of the university:

1. With the approval of the graduate program committee, a chair of a thesis or dissertation committee who leaves UCF may continue to serve as chair and supervise the thesis or dissertation for one calendar year after leaving.
2. If one calendar year has passed since the faculty member left UCF and the advisee has not yet completed the degree requirements, the departed faculty member may continue to serve as co-chair of the thesis or dissertation committee as a graduate faculty scholar, with approval of the graduate program committee; however, a new chair from the student's department (or college, if a college-wide program) shall be designated.

#### ***D.4.1: Faculty Emeriti***

Emeritus graduate faculty members may continue to participate in graduate education as a graduate faculty scholar, without the necessity of nomination. With the approval of the graduate program committee, they may continue to serve for a specified period of time as faculty advisors and chairs of thesis and dissertation committees established prior to emeritus status. Emeriti faculty may not chair additional thesis and dissertation committees, but may continue to serve on thesis and dissertation committees as a member or co-chair for as long as they remain active with the institution.

#### ***D.4.2: Retired Faculty***

Graduate faculty who retire may continue to play roles in graduate education at UCF if they are nominated by a graduate program committee for appointment as a graduate faculty scholar. In this capacity they may continue service on thesis or dissertation committees as a member or co-chair for a designated period of time, as approved by the graduate program committee.

#### ***E.1: Responsibilities of Members of Dissertation Committees***

1. To meet at regular intervals at least once per year to: (i) discuss and approve the proposed dissertation research and the plans for carrying out the research; and (ii) to assess progress towards the dissertation and give the student a yearly letter of evaluation in addition to S/U grades awarded for 7980 courses.
2. To review Turn-It-In.com results from dissertation submittals.
3. To participate in the candidacy and/or dissertation prospectus examination.
4. To participate in the dissertation defense to assure: (i) that the dissertation is acceptable as original research and a contribution to the discipline; and (ii) that it meets the standards of the University.

#### ***E.2: Responsibilities of the Chair (and co-Chair) of Dissertation Committees***

1. In cooperation with the program director, to review the program of study, the research, and all other degree requirements by meeting with the student early in the program and immediately after appointment as chair/co-chair.
2. To suggest to the student possible committee members who could serve on the dissertation committee.
3. To establish timelines for the research, set expectations, and evaluate the student progress based upon these.
4. To meet at regular intervals with the student to discuss the proposed dissertation research and the plans for carrying out research.
5. To review in a timely manner all written materials submitted by the student and offer suggested revisions.

6. To meet at least once per year with the student and the dissertation committee to assess progress toward the dissertation and give the student an annual review in addition to the S/U grades awarded for 7980 courses. The chair shall send the annual review to the program director after consultation with the dissertation committee.
7. To coordinate the ongoing efforts of the committee as its chair, and to participate fully in the responsibilities of the committee members as a member of the dissertation committee.
8. To chair the candidacy and/or dissertation prospectus examinations.
9. To be physically present and chair the dissertation defense, ensure its proper conduct as described above, and submit to the program director for the student's records all necessary grades, forms and other materials.
10. In disciplines where funding is essential to the success of the thesis or dissertation work, to acquire funds (and appropriate facilities) sufficient to support the research of the student.

### ***E.3: Responsibilities of the External Committee Member of a Dissertation Committee***

1. External committee membership will entail the full responsibilities of other committee membership as specified in section E.1 above, including being present at the final defense.
2. External committee members should bring specific disciplinary knowledge or research expertise to the committee.
3. External committee members may be appointed from outside of the university or outside of the college (if the committee is for a college-wide program). The external committee member may not be affiliated in any way with the department of the committee, such as through joint or secondary joint appointments.
4. Graduate faculty scholars are external members.

### ***E.4: Dissertation Committee Procedures***

1. The majority of the committee must be physically present for the oral part of the dissertation prospectus examination, which must be conducted on campus, unless: (a) it is for a joint degree program with another

university that has an official university approval that specifies a different arrangement; or (b) there is an accepted arrangement that has been approved by the graduate program director.

2. No fewer than four faculty members, including all members of the dissertation committee, shall be in attendance with the student during the dissertation defense, and at least half of the committee must be physically present.
3. Only members of the dissertation committee may sign the dissertation, and a majority must approve of the dissertation.
4. The dissertation defense must be conducted on campus, unless: (a) it is for a joint degree program with another university that has an official university approval that specifies a different arrangement; or (b) there is an accepted arrangement that has been approved by the graduate program director.

### ***F.1: Exceptions***

Exceptions may be made at the discretion of the Vice Provost and Dean of the College of Graduate Studies.

## **SPECIAL STUDY— GRADUATE COMPLETION PROJECT**

As part of our university-wide effort at continuous improvement, the university was a partner with 80 other universities in the U.S. to study the completion rate of doctoral students enrolled in our doctoral programs. The university has collected data on attrition and completion rates by program, has conducted surveys with graduate students about their perceptions of graduate education at UCF and has conducted focus groups of doctoral students in the various graduate programs. We have also obtained data on retention and graduation rates for all of our master's programs. All of this information, including some surveys of graduate faculty, has been collected and analyzed and was shared with the graduate programs. As part of the study each program identifies strategies that may improve retention of graduate students and the Graduate College continues with data collection and surveys to see if the strategies are effective in improving retention.



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# Research

## OVERVIEW

Research includes work in and across multiple disciplines such as optics and lasers, modeling and simulation, materials science, energy, biomedical sciences, nanoscience, computer science, forensic science, education/distributed learning, and business operations including entrepreneurship.

The university has focused its research efforts on key areas of excellence that overlap regional and state efforts to accelerate Florida's innovation economy. Some of the institutes and centers working toward that goal include the Institute for Simulation and Training, the Center for Research and Education in Optics and Lasers/Florida Photonics Center of Excellence, the Florida Solar Energy Center, the Advanced Materials Processing and Analysis and NanoScience Technology Center, and the Burnett School of Biomedical Sciences.

UCF is delivering on its promise of becoming America's leading partnership university through relationships on local, national and international levels. A significant amount of the sponsored research UCF generates annually is provided by industry along Florida's High-Tech corridor from Tampa/St. Petersburg through Orlando to Daytona/Melbourne. The scholarly work of UCF's faculty and students often results in disruptive technology which in turn can result in new products for existing companies and the creation of new companies.

For more information, visit [www.research.ucf.edu](http://www.research.ucf.edu).

## RESEARCH STRENGTHS

UCF has built research strengths in a variety of areas including optics and photonics, engineering, modeling and 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.

The UCF Office of Research and Commercialization strives to excel as an organization that takes ideas from innovation to realization.

## RESEARCH AND EMPLOYMENT OPPORTUNITIES

Students can find research and employment opportunities through UCF or many of the 21,000 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 BS through PhD scientists and engineers. Sponsored research activities result in millions of new dollars for the local economy (\$113.06 million in extramural research funding in 2013) and helps attract, retain and grow high-tech companies in the region. Through the highly successful UCF Business Incubation Program, graduate students can work with start-up companies or bring their own innovations to market. The Central Florida Research Park, located adjacent to the UCF Orlando campus, is a hotbed for sponsored research, industrial partnerships, internships and employment opportunities for UCF students and graduates. The university's Office of Research & Commercialization fosters the creation of intellectual capital that can solve today's pressing problems, improve quality of life, and provide an engine for economic growth.

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, alternative energy, materials science and engineering, modeling and simulation and training, biomedical sciences, 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.

The University of Central Florida has several nationally and internationally recognized research centers and 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. For more information regarding the

university's centers, institutes, and other organized programs of research, visit [www.research.ucf.edu](http://www.research.ucf.edu).

## CREOL

**Funding in 2013 | \$9.01 million**

CREOL, the College of Optics and Photonics provides high 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. CREOL is home to a laser technology center of excellence, the Townes Laser Institute, was named after Nobel laureate Charles Hard Townes, who made fundamental inventions that led to the laser, the institute's mission is to make UCF the premier institution in advanced laser technology in the United States. Research activities in CREOL include:

- Diffractive and holographic optics
- Fiber Optics Fabrication
- Fiber Optics Communications
- 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
- Quantum Optics
- Remote sensing, laser radar and atmospheric propagation
- Theory of light matter interaction
- Virtual reality and medical imaging
- Biophotonics
- X-Ray sources and technology

**Dean and Director:** Bahaa Saleh  
[www.creol.ucf.edu](http://www.creol.ucf.edu)  
 407-823-6800

## IST

**Funding in 2013 | \$9.2 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](http://www.ist.ucf.edu)  
 407-882-1300

## FSEC

**Funding in 2013 | \$7.7 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

**Director:** James Fenton

[www.fsec.ucf.edu](http://www.fsec.ucf.edu)

321-638-1000

## BURNETT SCHOOL OF BIOMEDICAL SCIENCES (COLLEGE OF MEDICINE)

**Funding in 2013 | \$8.4 million**

At the University of Central Florida, biomedical researchers are advancing our understanding of human disease and developing innovative methods of treatment. Many are engaged in research on the world's most prevalent and serious health problems, including cancer and cardiovascular, infectious and neurodegenerative diseases. The Burnett School of Biomedical Sciences, part of UCF's College of Medicine, is building nationally recognized research programs and undergraduate and graduate programs in biomedical sciences. 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

**Interim Director:** Richard Pepler

[www.biomed.ucf.edu/](http://www.biomed.ucf.edu/)

407-266-1101

## AMPAC

**Funding in 2013 | \$2.3 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), for processing of Micro Electromechanical systems, miniaturized systems, devices and thin films. 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:** Sudipta Seal  
[www.ampac.ucf.edu](http://www.ampac.ucf.edu)  
 407-882-1455

## NANOSCIENCE TECHNOLOGY CENTER

**Funding in 2013 | \$4.9 million**

UCF's NanoScience Technology Center (NSTC) applies multidisciplinary expertise in nanoscale science and technology to problems of regional, state, and national significance in order to acquire new knowledge, educate students, create new technology and promote industrial development. Research activities include:

- Microfluids
- Controlled cell attachment/growth via surface chemistry
- In vitro modeling of spinal reflex arc
- Neuronal networks to model physiology
- Patterned neuronal networks for robotics
- Engineered cardiac myocyte hybrid systems
- MEMS and NEMS
- Materials synthesis and characterization
- Neuronal cell patterning
- Cell-based biosensors for drug discovery/toxin detection
- High throughput drug screening

**Director:** Sudipta Seal  
[www.nanoscience.ucf.edu](http://www.nanoscience.ucf.edu)  
 407-882-1578

## CENTRAL FLORIDA RESEARCH PARK

**The thousand-acre Central Florida Research Park, affiliated with UCF, is 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 of research parks, 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, the 1,027 acre campus-like office park is home to about 106 companies, 9,500 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, the Advanced Materials Processing and Analysis Center (AMPAC), the Nano Science Technology Center, 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. UCF's Incubation Program is also in the Research Park, providing private industries resources to help them transition university research into products and service.

## OFFICE OF RESEARCH & COMMERCIALIZATION

### Research

UCF's research enterprise plays an important role in Florida's emergence as a technological and economic leader in the twenty-first century.



Since its inception as Florida Technological University, UCF has attracted scholars whose curiosity about the world around them has resulted in new inventions that have benefited the citizens of central Florida, the state and beyond in countless ways.

**Building a Leading Research Institution**

UCF researchers received \$103.6 million in external funding in 2013, leading UCF into the ranks of major research institutions. In 2010, UCF was elevated to the top tier of the nation’s research universities by the Carnegie Foundation for the Advancement of Teaching. UCF’s dedicated faculty, students and staff continue to expand the quality, depth and breadth of research programs conducted at the university.

**Research & Commercialization**

The new economy encourages the rapid progression of discoveries from the laboratory to the marketplace, and UCF is a national leader in this area. The success of the UCF Business Incubation Program, the National Entrepreneur Center (supported by UCF), the UCF Venture Lab, and the new UCF Center for Innovation and Entrepreneurship all illustrate UCF’s commitment to innovation-based economic development in the region.

**Student Research**

Graduate education and research go hand-in-hand. The great discoveries of the twenty-first century will come from the creative efforts of university faculty working closely with bright and motivated graduate students. Graduate students, particular those pursuing doctoral degrees, broaden the knowledge base of their disciplines. UCF undergraduates, through the Undergraduate Research Initiative, work one-on-one with Florida faculty on selected research projects.

The university’s graduate programs have produced generations of professionals in a wide variety of disciplines, many of whom have risen to positions of prominence in our state, the nation and the world.

**Vice President for Research & Commercialization:**

M. J. Soileau  
www.research.ucf.edu  
407-823-5538

# UCF Colleges and Special Programs

Since its inception in 1963, the university’s diverse colleges and schools have helped ensure UCF’s prominent role as an outstanding graduate and research institution. With new programs, tracks and certificates constantly being created, the opportunities for a high-quality graduate education are endless.

## COLLEGE OF ARTS AND HUMANITIES

Web Address:	<a href="http://www.cah.ucf.edu">http://www.cah.ucf.edu</a>
Graduate Web Addresses:	<a href="http://graduate.cah.ucf.edu">http://graduate.cah.ucf.edu</a>
E-mail:	

The College of Arts and Humanities consists of seven academic departments which offer graduate degree programs in English, History, Interactive Entertainment, Modern Languages and Literatures, School of Performing Arts, School of Visual Arts and Design, and Writing and Rhetoric. In addition to these departments, the college offers graduate certificates in Cognitive Sciences, ESOL Endorsement K-12, Gender Studies, Professional Writing, Teaching English as a Foreign Language (TEFL), and Theoretical and Applied Ethics.

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 College 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 Humanities programs should be directed to the Office of Academic Support in the College of Arts and Humanities Dean’s Office, CAH 190.

**College Administration**

- José Fernández, Dean
- Lynn Hepner, Associate Dean, Academic Programs
- Rudy McDaniel, Assistant Dean
- Nancy Stanlick, Assistant Dean
- Cathy Radzai, Assistant to the Dean

**19 Programs**

**Certificate**

- Cognitive Sciences Certificate
- ESOL Endorsement K-12 Certificate
- Ethics Certificate, Theoretical and Applied
- Gender Studies Certificate
- Professional Writing Certificate
- Teaching English as a Foreign Language Certificate

**Doctoral**

- Texts and Technology PhD

**Master**

- Digital Media MA
  - Visual Language and Interactive Media
- Emerging Media MFA
  - Entrepreneurial Digital Cinema
  - Studio Art and the Computer
  - Digital Media
- English MA
  - Literary, Cultural, and Textual Studies
  - Technical Communication

- English MA, Rhetoric and Composition
- History MA
  - Accelerated Graduate Program in History
  - Public History
- Interactive Entertainment MS
- Music MA
- Spanish MA
- Teaching English to Speakers of Other Languages MA
- Theatre MA

**MFA**

- Creative Writing MFA
- Theatre MFA
  - Acting MFA
  - Theatre for Young Audiences MFA

**COLLEGE OF BUSINESS ADMINISTRATION**

Web Address:	<a href="http://web.bus.ucf.edu/">http://web.bus.ucf.edu/</a>
Graduate Web Addresses:	<a href="http://www.bus.ucf.edu/students/graduate/">http://www.bus.ucf.edu/students/graduate/</a>
E-mail:	<a href="mailto:cbagrad@bus.ucf.edu">cbagrad@bus.ucf.edu</a>

The College of Business Administration offers two certificate programs, five master’s programs and a doctoral program. All graduate programs in business administration are accredited by the Association to Advance Collegiate Schools of Business (AACSB). The professional programs leading to the master’s degree are: Master of Business Administration, Master of Sport Business Management, Master of Science in Accounting, Master’s in Management, and a Master’s in Real Estate. Also offered on the main campus is a full-time Doctor of Philosophy (PhD) in Business Administration. Two certificate programs are offered in Entrepreneurship and Technology Ventures.

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 excellence in 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**

- Paul Jarley, Dean
- Taylor Ellis, Associate Dean of Undergraduate Programs, Associate Dean of Graduate Programs, and Technology
- Foard Jones, Associate Dean, Administration, Human Resources and Facilities

**9 Programs**

**Doctoral**

- Business Administration PhD
  - Accounting
  - Finance
  - Management
  - Marketing

**Master**

- Accounting MSA
- Business Administration MBA
  - Lockstep Evening
  - Executive
  - Professional (Regional Campuses)
- Management MS
  - Human Resources/Change Management
- Real Estate MS
- Sport Business Management MSBM
- Taxation MST

**Certificate**

- Entrepreneurship Certificate
- Technology Ventures Certificate

**COLLEGE OF EDUCATION AND HUMAN PERFORMANCE**

Web Address:	<a href="http://education.ucf.edu/">http://education.ucf.edu/</a>
Graduate Web Addresses:	<a href="http://education.ucf.edu/academics_programs.cfm#graduate">http://education.ucf.edu/academics_programs.cfm#graduate</a>
E-mail:	<a href="mailto:edgrad@ucf.edu">edgrad@ucf.edu</a>

Graduate programs in the College of Education and Human Performance are offered for students who have completed at least a baccalaureate degree. 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, Master of Science, and Master of Arts degrees are awarded in many dynamic fields. Education Specialist degrees are offered in School Psychology, Education with a track in School Counseling or a track in 'Master's plus 30', and Educational Leadership. Doctor of Education degrees are available in both Educational Leadership and Education with several specialization options. The Doctor of Philosophy in Education is available with fourteen tracks: Communication Sciences and Disorders, Counselor Education, Early Childhood Education, Elementary Education, Exceptional Education, Exercise Physiology, Higher Education, Instructional Technology, Mathematics Education, Methodology/Measurement and Analysis, Reading Education, Science Education, Social Science Education, and TESOL. The College of Education is accredited by NCATE (National Council for the Accreditation of Teacher Education). In addition, the School Psychology program is accredited by the National Association of School Psychologists (NASP), and the Counselor Education program is accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP). The Counselor Education program includes Mental Health Counseling (MA), School of Counseling (MA, MEd), and Counselor Education and Supervision (PhD).

**Doctoral Programs**

The College of Education and Human Performance offers the PhD in Education with tracks in

Communication Sciences and Disorders, Counselor Education, Early Childhood Education, Elementary Education, Exceptional Education, Exercise Physiology, Higher Education, Instructional Technology, Mathematics Education, Methodology/Measurement and Analysis, Reading Education, Science Education, Social Science Education, and TESOL. The PhD 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 with faculty in research clusters and learning communities on education-related research. Programs of study can be designed for those educators who seek teaching positions in a research university or a research-oriented position in business and industry.

Doctor of Education (EdD) programs are offered in two areas: Educational Leadership and Education. Educational Leadership is 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. We also offer an EdD in Education with several options for specialization areas, 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.

## Education Specialist Programs

Education Specialist (EdS) degree programs are offered in three areas: Education, 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 EdS degree may differ from those of the EdD, credit earned in an EdS degree program may not be automatically transferable to a doctoral degree program. When a recipient of an EdS degree is accepted for a doctoral program, the respective doctoral advisory committee will determine the amount of applicable credit earned in the EdS for the doctoral program.

In any case, 15 semester hours is the maximum amount of credit transferable to a doctoral program of study with adviser approval.

## Master's Programs

Programs are offered in a wide variety of areas within the general field of education. Master of Education programs, generally, 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 practicing educators who wish to update and extend knowledge of their present teaching field. Master of Science programs are offered in fields not requiring state certification.

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 who are seeking initial certification in a teaching area will be required by the program area to complete an internship to graduate from a state-approved program. Master's candidates must also 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 cause not to 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 and Human Performance do not guarantee that any non-stamped program transcript will lead to certification by the Florida Department of Education.

## College Administration

- Sandra L. Robinson, Dean
- Grant Hayes, Executive Associate Dean for Academic Affairs
- Andrew P. Daire, Associate Dean for Research and Strategic Initiatives

## 45 Programs

### Nondegree

- Education Undecided or Certification

### Doctoral

- Education EdD
- Education PhD
  - Communication Sciences and Disorders
  - Counselor Education
  - Elementary Education
  - Early Childhood
  - Exceptional Education
  - Exercise Physiology
  - Higher Education
  - Instructional Technology
  - Mathematics Education
  - Methodology, Measurement and Analysis
  - Reading Education
  - Science Education
  - Social Science Education
  - Teaching English to Speakers of Other Languages
- Educational Leadership EdD
  - Executive
  - Higher Education

### Specialist

- Education EdS
  - Master's +30
  - School Counseling
- Educational Leadership EdS
- School Psychology EdS

### Master

- Applied Learning and Instruction MA

- Career and Technical Education MA
- Counselor Education MA
  - Mental Health Counseling
  - School Counseling
- Counselor Education MED
  - School Counseling
- Educational Leadership MA
  - Higher Education/Community College Education
  - Higher Education/Student Personnel
  - Student Athlete Support Services
- Educational Leadership MED
- Elementary Education MA
- Elementary Education MED
- Exceptional Student Education K-12 MA
- Exceptional Student Education MED
- Instructional Design and Technology MA
  - e-Learning
  - Instructional Systems
  - Educational Technology
- K-8 Mathematics and Science Education MED
- Marriage, Couple, and Family Therapy MA
- Reading Education MED
- Sport and Exercise Science MS
  - Applied Exercise Physiology
  - Coaching
  - Sport Nutrition
- Teacher Education MAT
  - Art Education
  - English Language Arts Education with ESOL Endorsement
  - Mathematics Education
  - Middle School Mathematics Education
  - Science Education-Biology
  - Science Education-Chemistry
  - Middle School Science Education
  - Science Education-Physics
  - Social Science Education
- Teacher Leadership MED



- Art Education
- Curriculum Leadership
- Educational Technology
- English Language Arts Education
- Global, International and Comparative Education
- Gifted Education
- Intervention Specialist
- Mathematics Education
- Science Education
- Social Science Education

### Certificate

- Autism Spectrum Disorders Certificate
- Career Counseling Certificate
- Community College Education Certificate
- e-Learning Professional Development Certificate
- Gifted Education Certificate
- Global, International and Comparative Education Certificate
- Initial Teacher Professional Preparation Certificate
- Instructional Design for Simulations Certificate
- Instructional/Educational Technology Certificate
- Intervention Specialist Certificate
- K-8 Mathematics and Science Education Certificate
- Marriage, Couple, and Family Therapy Certificate
- Play Therapy Certificate
- Prekindergarten Disabilities Certificate
- Reading Education Certificate
- Severe or Profound Disabilities Certificate
- Social Science Education Certificate
- Special Education Certificate
- Student Athlete Support Services Certificate
- World Languages Education - English for Speakers of Other Languages (ESOL) Certificate

- World Languages Education - Languages Other Than English (LOTE) Certificate

## COLLEGE OF ENGINEERING AND COMPUTER SCIENCE

Web Address:	<a href="http://www.cecs.ucf.edu">http://www.cecs.ucf.edu</a>
Graduate Web Addresses:	<a href="http://www.cecs.ucf.edu/graduate.php">http://www.cecs.ucf.edu/graduate.php</a>
E-mail:	<a href="mailto:gradengr@ucf.edu">gradengr@ucf.edu</a>

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 a specialized education.

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

- Civil, Environmental, and Construction Engineering
- Electrical Engineering and Computer Science
  - Computer Science Division
  - Electrical and Computer Engineering Division
- Industrial Engineering and Management Systems
- Materials Science and Engineering
- Mechanical and Aerospace Engineering

### College Administration

- Michael Geogiopoulos, Dean
- Charles Reilly, Associate Dean for Academic Affairs
- Ranganathan Kumar, Associate Dean for Research and Administration

## 33 Programs

### Master

- Aerospace Engineering MSAE
  - Accelerated BS to MSAE
  - Space Systems Design and Engineering



- Thermofluid Aerodynamic Systems Design and Engineering
- Civil Engineering MS
  - Structural and Geotechnical Engineering
  - Transportation Systems Engineering
  - Water Resources Engineering
- Civil Engineering MSCE
- Computer Engineering MSCpE
  - Accelerated BS to MSCpE
- Computer Science MS
- Digital Forensics MS
- Electrical Engineering MSEE
  - Accelerated BS to MSEE
- Engineering Management MSEM
  - Professional Engineering Management (PEM), Professional Science Master’s
- Environmental Engineering MS
  - Environmental Engineering Sciences
- Environmental Engineering MSEnvE
- Industrial Engineering MS
  - Accelerated BS to MS
- Industrial Engineering MSIE
- Materials Science and Engineering MSMSE
  - Accelerated BS to MSMSE
- Mechanical Engineering MSME
  - Accelerated BS to MSME
  - Mechanical Systems
  - Thermofluids

**Doctoral**

- Civil Engineering PhD
- Computer Engineering PhD
- Computer Science PhD
- Electrical Engineering PhD
- Environmental Engineering PhD
- Industrial Engineering PhD
- Materials Science and Engineering PhD
- Mechanical Engineering PhD

**Certificate**

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

**COLLEGE OF HEALTH AND PUBLIC AFFAIRS**

Web Address:	<a href="http://www.cohpa.ucf.edu/">http://www.cohpa.ucf.edu/</a>
Graduate Web Addresses:	<a href="http://www.cohpa.ucf.edu/graduate">http://www.cohpa.ucf.edu/graduate</a>
E-mail:	<a href="mailto:cohpagraduate@ucf.edu">cohpagraduate@ucf.edu</a>

Drawing strength from its diversity, the College of Health and Public Affairs fosters excellence in graduate education, research and community service in health and public affairs, social and justice services, and basic and applied life sciences. The college offers two doctoral programs, nine master’s programs and 13 certificate programs all of which are designed to be responsive to both community and global needs. Seven of the college’s graduate programs were listed in the U.S. News and World Report “Top 100 Rankings” as part of their annual “Best Graduate Schools” report for 2013.

COHPA's mission is to educate leaders for a global and diverse society by conducting transformational research, creating partnerships, and advocating policy changes that improve the health and welfare of the community.

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 of Health and Public Affairs Office of Graduate Services is dedicated exclusively to supporting graduate education in the college. Its mission is to assist departments and graduate program coordinators in providing high quality education to graduate students by facilitating leadership, curriculum development and graduate academic support services in the college. It serves as a liaison between the programs in the college and the university's College of Graduate Studies and serves the needs of graduate students by providing a centralized source for support and advisement, record keeping, registration and graduation.

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

- Michael Frumkin, Dean
- Dawn Oetjen, Associate Dean
- Melvin Rogers, Associate Dean
- Thomas Wan, Associate Dean
- Ross Wolf, Associate Dean

### 30 Programs

#### Doctoral

- Criminal Justice PhD
- Physical Therapy DPT
- Public Affairs PhD
  - Criminal Justice

- Governance and Policy Research
- Health Services Management and Research
- Public Administration MPA Dual Degree
- Public Administration
- Social Work

#### Certificate

- Aging Studies Certificate
- Child Language Disorders Certificate
- Children's Services Certificate
- Corrections Leadership Certificate
- Crime Analysis Certificate
- Criminal Justice Executive Certificate
- Emergency Management and Homeland Security Certificate
- Fundraising Certificate
- Health Care Informatics Certificate
- Juvenile Justice Leadership Certificate
- Medical Speech-Language Pathology Certificate
- Military Social Work Certificate
- Nonprofit Management Certificate
  - Out of State Cohort
- Police Leadership Certificate
- Public Administration Certificate
- Research Administration Certificate
- Social Work Administration Certificate
- Urban and Regional Planning Certificate

#### Master

- Communication Sciences and Disorders MA
  - Accelerated BA/BS to MA
  - Communication Sciences and Disorders Consortium
- Criminal Justice MS
  - Professional
  - Research
- Health Care Informatics MS, Professional Science Master's
- Health Sciences MS
  - Executive Health Services Administration

- Health Services Administration
- Nonprofit Management MNM
  - Out of State Cohort
  - Public Administration MPA Dual Degree
- Public Administration MPA
  - Nonprofit Management MNM Dual Degree
- Research Administration MRA
- Social Work MSW
  - Online Part-Time
  - Orlando Full-Time Advanced Standing
  - Orlando Full-Time
  - Orlando Part-Time
  - Osceola Regional Campus
- Urban and Regional Planning MS

## COLLEGE OF MEDICINE

Web Address:	<a href="http://med.ucf.edu">http://med.ucf.edu</a>
Graduate Web Addresses:	<a href="http://med.ucf.edu/academics/">http://med.ucf.edu/academics/</a>
E-mail:	<a href="mailto:mdadmissions@ucf.edu">mdadmissions@ucf.edu</a>

The University of Central Florida College of Medicine educates and inspires individuals to be exemplary physicians and scientists, leaders in medicine, scholars in discovery, and adopters of innovative technology to improve the health and well-being of all. Our patient-centered mission is achieved by outstanding medical care and services, groundbreaking research, and leading edge medical and biomedical education in an environment enriched by diversity.

The College of Medicine will be the nation’s premier 21st century college of medicine—a national leader in education, research, and patient care, recognized for supporting and empowering its students and faculty to realize their passion for discovery, healing, health, and life, and for its ability to create partnerships to transform medical education and healthcare.

Faculty, staff, and administrators in the College of Medicine are working vigorously to prepare for the first offering of the MD program in fall 2009. The UCF MD program allows students to prepare for careers in every discipline of medicine and to

focus on an individualized area of study or research. Your passion will become our passion. The MD program learning experience at the University of Central Florida is a unique and exciting blend of state-of-the-art technology, virtual patients, clinical and laboratory experiences, research, facilitator-directed small group sessions, and interactive didactic lectures.

The Burnett School of Biomedical Sciences within the College of Medicine is helping the College to be a research-intensive medical school where cutting-edge medical research spans the entire spectrum from bench to bedside, combining clinical practice with advanced research programs to drive the future of healthcare in Central Florida. The Burnett School offers masters, and doctoral programs in Biomedical Sciences, Biotechnology, Medical Laboratory Sciences, and Molecular Biology and Microbiology.

### College Administration

- Deborah German, Dean
- Richard Pepler, Interim Director, Burnett School of Biomedical Sciences

### 2 Programs

#### Master

- Biomedical Sciences MS
- Biotechnology MS
  - Professional Science Master’s

## COLLEGE OF NURSING

Web Address:	<a href="http://www.nursing.ucf.edu/">http://www.nursing.ucf.edu/</a>
Graduate Web Addresses:	
E-mail:	<a href="mailto:gradnurse@ucf.edu">gradnurse@ucf.edu</a>

The College of Nursing is the twelfth college to be established at the university. Educating nurses since 1979 first as a department then as a school and now as a college and offering a bachelor’s, master’s and two doctorate degree programs. The college has recently moved adjacent to UCF’s main campus to a university-owned building in Central Florida Research Park. Occupying three floors of University Towers, the new facility features modern offices and classrooms, a student learning center, computer

labs, and several teaching labs for simulation and skill-building.

The college has achieved prominence as an innovator in nursing education, responding to a changing population with complex health care needs. The faculty of the college values access to education and embrace opportunities to utilize advanced technology, innovation and creativity to provide graduates with the highest quality education at the baccalaureate, master's and doctoral levels.

Today's challenging health care environment provides unique opportunities for nursing. Nurses are needed more than ever to provide evidence-based patient care, serve in leadership roles, teach, engage in research, and in influence policy.

## Our Mission

The mission of the College of Nursing at the University of Central Florida is to offer high-quality undergraduate and graduate academic programs designed to prepare nurses to practice in a continuously changing health care environment; to foster quality care and patient safety; to provide innovative access to education and research; to develop nurse clinicians, leaders and scholars who promote the health of diverse populations in local, national and global communities; and to touch lives, lead by example and make a difference through clinical excellence, research and community service.

## Our Values

Integrity, scholarship, community, creativity, and excellence are the core values that guide our conduct, performance, and decisions. These values have been incorporated into a UCF Creed that describes behavior for members of the UCF community, including faculty, staff and students of the College of Nursing.

- Integrity: We practice and defend academic and personal honesty.
- Scholarship: We cherish and honor learning as a fundamental purpose of our membership in the UCF community.
- Community: We promote an open and supportive college environment by respecting the rights and contributions of every individual.
- Creativity: We use our talents to enrich the human experience.

- Excellence: We strive toward the highest standards of performance in any endeavor we undertake.

## Our Vision for our Future

As a thriving member of Orlando's medical city and Central Florida's health care community, the College of Nursing will be one of the nation's preeminent leaders in nursing education, practice and research. The college will establish partnerships with some of the nation's most innovative leaders to model new best practices that harness evolving technology and ensure quality patient outcomes.

- We will create a state-of-the-art educational facility that cultivates a learning environment that promotes and develops the health and well-being of our students and faculty to produce a sustainable workforce in our communities.
- Our proximity to and partnership with leaders in the biomedical and health care industries will provide countless opportunities for collaborative research and clinical practice.
- We will offer the benefits of a large, metropolitan research university while providing individual attention and maintaining a sense of community for our students and faculty.
- Students and faculty will continue to thrive in a trusting environment where diversity is celebrated and individual ideas and talents are mutually respected and supported.
- Students, graduates and faculty will continue to shape the future of health care locally, nationally and globally by delivering health care services to individuals and communities, influencing health care policy, and contributing to science through their own nursing research.
- We will achieve our vision through commitment to sustainability, community partnerships, innovative teaching methods, and service learning; and by fostering excellence in teaching, research, service and practice.

## College Administration

- Mary Lou Sole, Interim Dean
- Susan Chase, Associate Dean

## 9 Programs

### Certificate

- Adult-Gerontology Nurse Practitioner Certificate
- Clinical Nurse Leader Certificate
- Clinical Nurse Specialist Adult-Gerontology Certificate
- Family Nurse Practitioner Certificate
- Nursing Education Certificate

### Master

- Nursing MSN
  - Family Nurse Practitioner
  - Leadership and Management
  - Adult/Gerontology Nurse Practitioner Track
  - Nurse Educator

### Nondegree

- Nursing Nondegree

### Doctoral

- Nursing PhD
- Nursing Practice DNP
  - Adult/Gerontology Clinical Nurse Specialist
  - Adult/Gerontology Nurse Practitioner
  - Executive
  - Family Nurse Practitioner

## COLLEGE OF OPTICS AND PHOTONICS

Web Address:	<a href="http://www.creol.ucf.edu/">http://www.creol.ucf.edu/</a>
Graduate Web Addresses:	
E-mail:	<a href="mailto:gradprog@creol.ucf.edu">gradprog@creol.ucf.edu</a>

UCF's College of Optics and Photonics (COP) is one of the world's leading graduate institutions in optics and photonics education and research. The college 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 college has thirty full faculty members and fourteen faculty with joint appointments, and more than one hundred graduate students.

The COP faculty collaborate closely with other UCF research units, including the Center for Nanoscience and Technology, the Burnett School of Biomedical Sciences, the Advanced Materials Processing and Analysis Center (AMPAC), the Institute for Simulation and Training (IST), and the Florida Solar Energy Center. Several COP faculty hold joint appointments in these and other UCF departments, which facilitates access to the outstanding facilities in these units and encourages interdisciplinary research.

### Programs

The College of Optics and Photonics offers master's (MS) and doctoral (PhD) degree programs in optics for qualified applicants holding undergraduate degrees in optics, engineering, physics, or closely related fields. The college also offers a BS in Photonic Science and Engineering, in collaboration with College of Engineering and Computer Science.

The college offers more than forty 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. Research activities cover all aspects of optics, photonics, and lasers, and the Center for Research and Education in Optics and Lasers (CREOL), the Florida Photonics Center of Excellence (FPCE), and the Townes Laser Institute (TLI) are integral parts of the College of Optics and Photonics. Current research areas include: linear and nonlinear guided-wave optics and devices, high speed photonic telecommunications, fiber optic fabrication, fiber optic communications, solid state laser development, nonlinear optics, laser-induced damage, quantum-well optoelectronics, quantum optics, 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

College of Optics and Photonics/CREOL Fellowships, Northrop Grumman Fellowships, and graduate research assistantships, as well as other university awards, are available to qualified students. Typical stipends range from \$22,000 to \$28,000 per calendar year. Full tuition (both resident and nonresident portions), estimated at \$28,602 per year, is provided for students receiving graduate fellowships and research assistantships. Applications received after January 2, may not be considered.

### College Administration

- Bahaa Saleh, Dean
- David J. Hagan, Associate Dean for Academic Programs

## 2 Programs

### Master

- Optics and Photonics MS
  - International
  - Optics
  - Photonics

### Doctoral

- Optics and Photonics PhD

## COLLEGE OF SCIENCES

Web Address:	<a href="http://www.cos.ucf.edu/">http://www.cos.ucf.edu/</a>
Graduate Web Addresses:	<a href="http://www.cos.ucf.edu/graduate/">http://www.cos.ucf.edu/graduate/</a>
E-mail:	<a href="mailto:cosgrad@ucf.edu">cosgrad@ucf.edu</a>

The College of Sciences consists of nine academic departments and one school, which offer graduate degree programs in Anthropology, Biology, Chemistry, Nicholson School of Communication, Forensic Sciences, Mathematics, Physics, Political Science, Psychology, Sociology and Statistics. The College of Sciences also supports interdisciplinary programs in Biomedical Science and Modeling and Simulation.

The mission of the College of Sciences' Office of Graduate Services is to provide students, staff, and faculty with quality service and support to promote graduate education. This office is available as a resource to students and administrators from recruitment to degree completion; enhancing intellectual development and encouraging excellence in every student and graduate program.

The office:

- Advises graduate students in cooperation with programs;
- Provides advisement that is responsible, appropriate, and offered with confidence and integrity;
- Serves as a liaison between the university College of Graduate Studies and programs;
- Helps staff and faculty administer and develop graduate programs; and
- Oversees graduate education in the college to maintain academic standards and uphold UCF's graduate policies and regulations.

Student performance and progress in graduate programs is monitored by the Graduate Program, College's Graduate Services Office, and the College of Graduate Studies.

Questions concerning university and college graduate policies affecting Sciences graduate students should be directed to the Office of Graduate Services in the College of Sciences:  
CSB 250  
(407) 823-6131  
[cosgrad@ucf.edu](mailto:cosgrad@ucf.edu)

### College Administration

- Michael Johnson, Dean
- Jack McGuire, Associate Dean
- Cynthia Young, Associate Dean
- Teresa Dorman, Associate Dean
- Arlen Chase, Associate Dean

## 28 Programs

### Certificate

- Computer Forensics Certificate
  - Out of State Cohort
- Conservation Biology Certificate



- Corporate Communication Certificate
- Mathematics Certificate
- Maya Studies Certificate
- SAS Data Mining Certificate

### Doctoral

- Applied Experimental and Human Factors Psychology PhD
- Chemistry PhD
- Clinical Psychology PhD
- Conservation Biology PhD
  - Applied Conservation Biology
  - Ecology and Organismal Biology
- Industrial and Organizational Psychology PhD
- Mathematics PhD
- Physics PhD
  - Planetary Sciences
- Security Studies PhD
- Sociology PhD

### Master

- Anthropology MA
- Biology MS
- Chemistry MS
- Clinical Psychology MA
- Communication MA
  - Interpersonal Communication
  - Mass Communication
- Conservation Biology - Professional Science Master's
- Forensic Science MS
- Industrial and Organizational Psychology MS
- Mathematical Science MS
  - Industrial Mathematics
- Physics MS
  - Planetary Sciences
- Political Science MA
- Sociology MA, Applied
  - Domestic Violence
- Statistical Computing MS
  - Data Mining

## ROSEN COLLEGE OF HOSPITALITY MANAGEMENT

Web Address:	<a href="http://www.hospitality.ucf.edu/">http://www.hospitality.ucf.edu/</a>
Graduate Web Addresses:	<a href="http://hospitality.ucf.edu/academics/graduate-programs/">http://hospitality.ucf.edu/academics/graduate-programs/</a>
E-mail:	<a href="mailto:hospitality@ucf.edu">hospitality@ucf.edu</a>

Since 1983, the UCF Rosen College of Hospitality Management has established a high standard of professionalism, leadership, and service excellence that is recognized around the world. The educational mission of the college is to develop future generations of global hospitality and tourism leaders serving all industry segments through innovative academic programs, cutting-edge research, and strong industry and community partnerships.

The hospitality industry has changed dramatically over the past 20 years as has hospitality education. The Rosen College has positioned itself to be the preferred educational institution for individuals who wish to learn advanced technical and managerial skills in hospitality and tourism management. Whether traditional or more 'mature', industry novice or executive, and domestic or international, the Rosen College has developed general and niche programs to meet the specific needs of several diverse 'student' segments. The Orlando area itself enhances each degree's value proposition by providing a living laboratory to study and experience a broad spectrum of products and services.

The Master's in Hospitality and Tourism Management is not intended as a first entry point to the industry. The master's program enables individuals to build upon their strengths and interests, broaden their knowledge of the industry, sharpen management skills, and incorporate their professional and extracurricular experiences in an interactive learning environment. The program schedule is flexible to enable participation on a full-time or part-time basis.

The college houses the Dick Pope Sr. Institute for Tourism Studies, which was created and initially funded by the travel and tourism industry in central Florida. The institute conducts proprietary and public domain research for local, domestic, and international clients. The institute is also involved in

a variety of activities to educate the public at large about the economic and social welfare contributions of the tourism industry, and further serves as an advocate for the industry.

The Center for Multi-Unit Restaurant Management and the Darden Eminent Scholar Chair in Restaurant Management provides a unique focus 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 College of Hospitality Management.

### Distinctive Benefits

- The opportunity to engage with our world-class faculty who represent 17 countries, and whose combined expertise spans all facets of hospitality and tourism management.
- The ability to satisfy industry sector-specific and discipline-specific curiosities through a variety of core and elective courses.
- Participate in research to investigate the unknown and develop industry applications through the Dick Pope Sr. Institute for Tourism Studies and the World Tourism Organization depository library.
- Gain an international immersion and advantage through our study abroad opportunities.
- Network and collaborate with top industry partners and academic leaders, just around the corner and around the world.

### College Administration

- Abraham Pizam, Dean
- Tadayuki Hara,, Associate Dean
- Youcheng Wang, Associate Dean

## 2 Programs

### Master

- Hospitality and Tourism Management MS
  - MD

### Doctoral

- Hospitality Management PhD

## BURNETT SCHOOL OF BIOMEDICAL SCIENCES, COLLEGE OF MEDICINE

Web Address:	<a href="http://www.biomed.ucf.edu/">http://www.biomed.ucf.edu/</a>
Graduate Web Addresses:	<a href="http://www.biomed.ucf.edu/index.php?option=com_content&amp;task=section&amp;id=7&amp;Itemid=169">http://www.biomed.ucf.edu/index.php?option=com_content&amp;task=section&amp;id=7&amp;Itemid=169</a>
E-mail:	<a href="mailto:biomoldoc@ucf.edu">biomoldoc@ucf.edu</a>

The mission of the Burnett School of Biomedical Sciences in the College of Medicine is to build nationally recognized biomedical education and research enterprise.

The major discoveries of the second half of the twentieth century are sure to revolutionize the practices in medicine, agriculture and industry in general in the first half of the twenty-first century. This truly may become the “Century of Biology.” To fully participate in these unprecedented advances, UCF’s School of Biomedical Sciences will hire 34 new faculty members over the next five years.

Construction of a new 103,000-square-foot Burnett Biomedical Science building is expected to start shortly to provide a contiguous space for the biomedical sciences researchers to optimize synergistic interactions and the use of shared core equipment and facilities.

In addition, the school is forming active partnerships with other units such as the College of Optics and Photonics and the Nanoscience Technology Center to build interdisciplinary research and education programs in the innovative applications of photonics and nanoscience to biomedical problems. Faculty members in the school are engaged in research at the cutting edge to find solutions to major biomedical problems.

The school recently updated its undergraduate curriculum to better prepare students for health professions and graduate studies in biomedical sciences. The school also provides pre-health advisement for UCF students to prepare them for entry into health professional schools.

The school has revised the MS program in Molecular Biology and Microbiology. The Medical

Laboratory Science Program prepares tomorrow's medical laboratory technologists. The school has initiated an accelerated BS/MS program in biotechnology to help provide a skilled workforce for the emerging biotechnology industry. The interdisciplinary PhD program in Biomedical Sciences prepares tomorrow's biomedical scientists.

The school is committed to excellence in undergraduate and graduate education and to building innovative interdisciplinary research programs to discover solutions for important biomedical problems and to provide a highly creative environment to foster its educational programs.

### School Administration

- Richard Pepler, Interim Director

### 1 Program

#### Doctoral

- Biomedical Sciences PhD

## INTERDISCIPLINARY STUDIES

Web Address:	<a href="http://www.is.ucf.edu/">http://www.is.ucf.edu/</a>
Graduate Web Addresses:	<a href="http://www.is.ucf.edu/graduate/index.php">http://www.is.ucf.edu/graduate/index.php</a>
E-mail:	<a href="mailto:mis@ucf.edu">mis@ucf.edu</a>

The Interdisciplinary Studies Program offers students the opportunity to pursue individually planned programs utilizing the rich resources delivered through UCF courses and faculty.

Graduate students a minimum of 33 credit hours beyond the bachelor's degree including 6 credit hours of core courses, 21 credit hours within the chosen concentration of study that includes at least 9 hours of courses in each of two disciplines for a total of 18 hours with an additional 3 hours of course work taken from any discipline of the student's choosing, and a capstone experience that consists of 6 hours of thesis credits and the presentation/defense of a thesis.

So what draws all of Interdisciplinary Studies together? Students in the program share a commitment to intellectual exploration, an

interest in interdisciplinary work, belief in high-quality individualized education, and the motivation to learn for a variety of personal and professional reasons.

### Program Administration

- Michael Hampton, Director

### 2 Programs

#### Master

- Interdisciplinary Studies MA
- Interdisciplinary Studies MS

## MODELING AND SIMULATION PROGRAM

Web Address:	<a href="http://www.ist.ucf.edu/grad/index.html">http://www.ist.ucf.edu/grad/index.html</a>
Graduate Web Addresses:	<a href="http://www.ist.ucf.edu/grad/index.html">http://www.ist.ucf.edu/grad/index.html</a>
E-mail:	<a href="mailto:modsim@ucf.edu">modsim@ucf.edu</a>

UCF offers interdisciplinary graduate studies in modeling and simulation leading to master's and PhD degrees. The program provides students with a core body of knowledge in the fundamentals of modeling and simulation including discrete and continuous simulation, interactive simulation, quantitative aspects of modeling and simulation, human computer interaction, human systems and human factors, computer visualization, simulation in healthcare, and simulation management.

### Program Administration

- Christopher D. Geiger, PhD, Graduate Program Director
- J. Peter Kincaid, PhD, Associate Graduate Program Director

### 3 programs

#### Master

- Modeling and Simulation MS
  - Professional Science Master's

#### Doctoral

- Modeling and Simulation PhD

**Certificate**

- Modeling and Simulation of Technical Systems Certificate
  - In State
  - Out of State

**SPECIAL ACADEMIC PROGRAMS****Center for Economic Education**

Director: Robert L. Pennington, PhD

BA-325, (407) 823-3266, E-Mail: rpennington@bus.ucf.edu

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.

**Center for Multilingual Multicultural Studies**

Director: Myrna Creasman

Bldg 81, RM 102 (407) 823-5515, E-Mail: cmms@ucf.edu

Web Address: <http://www.cmms.ucf.edu/>

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, ranging 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.

The Center for Multilingual Multicultural Studies at UCF is accredited by the Commission on English Language Program Accreditation (CEA) and agrees to uphold the standards for English Language Programs.

**Continuing Education**

Assistant Division Director: Maria Cherjovsky

UCF Continuing Education, 3280 Progress Drive, Suite 700, (407) 882-0260, E-Mail: [ce@ucf.edu](mailto:ce@ucf.edu)

Web Address: <http://www.ce.ucf.edu/>

The Division of Continuing Education at UCF is the unit within Academic Affairs that coordinates, in collaboration with the colleges, all UCF continuing education activity. Programs include non-credit courses and 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 Credit Programs**

(407) 882-0260

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 for 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/gradonlineapp/](http://www.graduate.ucf.edu/gradonlineapp/).

## Dick Pope Sr. Institute for Tourism Studies

Director: Abraham Pizam, PhD

Rosen College of Hospitality Management, 9907  
Universal Blvd. Orlando, FL 32819, (407) 903-8000

Web Address: <http://hospitality.ucf.edu/research/dick-pope-sr-institute-for-tourism-studies/>

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. The Institute is involved in a variety of research and public awareness 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 the industry's contribution to the social and economic welfare of the general public.

## Executive Development Center

Director: Robert Porter, (407) 235-3901

36 West Pine St., Orlando, FL 32801, (407) 235-3901

Web Address: <http://www.bus.ucf.edu/edc>

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
- Professional MBA Program
- Public enrollment programs
- International seminars and exchange 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 Space Institute (FSI)

Director: Ray Lugo III

Partnership 1 Building, 12354 Research Parkway,  
Suite 214, Orlando FL 32826-0650, (407) 823-6187, [fsi@ucf.edu](mailto:fsi@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 institute merges industry, education, and research in a real-world environment. Created by a formal agreement among 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 Kennedy Space Center are used as needed. 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**

Director: David Nickerson, (407) 823-5528

TC2 206, 407-823-5528, David.Nickerson@ucf.edu

Web Address: <http://statistics.cos.ucf.edu/content/consulting/index.html>

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. Visit the website for a brief description of consulting activities of the Institute and research expertise of faculty members. 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.

## **The John Scott Dailey Florida Institute of Government at the University of Central Florida**

Director: Marilyn Crotty

12443 Research Pkwy, Suite 402, (407) 882-3960,  
E-Mail: [iog@ucf.edu](mailto:iog@ucf.edu)

Web Address: <http://www.iog.ucf.edu/>

The John Scott Dailey Institute of Government, is one of five university locations of the statewide institute providing 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.

## **Oak Ridge Associated Universities (ORAU)**

President and ORAU Councilor for University of Central Florida: Debra R. Reinhart, PhD

ORAU Corporate Secretary: Monnie E. Champion,  
(865) 576-3306

(407) 823-5338, E-Mail: [michaelg@ucf.edu](mailto:michaelg@ucf.edu)

Web Address: <http://www.orau.org/>

Since 1989, students and faculty of the University of Central Florida have benefited from its membership in Oak Ridge Associated Universities (ORAU). ORAU is a consortium of 91 colleges and universities and a contractor for the U.S. Department of Energy (DOE) located in Oak Ridge, Tennessee. ORAU works with its member institutions to help their students and faculty gain access to federal research facilities throughout the country; to keep its members informed about opportunities for fellowship, scholarship, and research appointments; and to organize research alliances among its members.

Throughout the Oak Ridge Institute for Science and Education (ORISE), the DOE facility that ORAU operates, undergraduates, graduates, postgraduates, as well as faculty enjoy access to a multitude of opportunities for study and research. Students can participate in programs covering a wide variety



of disciplines including business, earth sciences, epidemiology, engineering, physics, geological sciences, pharmacology, ocean sciences, biomedical sciences, nuclear chemistry, and mathematics. Appointment and program length range from one month to four years. Many of these programs are especially designed to increase the numbers of underrepresented minority students pursuing degrees in science- and engineering-related disciplines. A comprehensive listing of these programs and other opportunities, their disciplines, and details on locations and benefits can be found in the ORISE Catalog of Education and Training Programs, which is available at <http://www.orau.gov/orise/educ.htm>.

ORAU's Office of Partnership Development seeks opportunities for partnerships and alliances among ORAU's members, private industry, and major federal facilities. Activities include faculty development programs, such as the Ralph E. Powe Junior Faculty Enhancement Awards, the Visiting Industrial Scholars Program, consortium research funding initiatives, faculty research and support programs as well as services to chief research officers.

## Office of International Studies

Interim Director: Consuelo Stebbins

MH 107, (407) 882-2300, E-Mail: [OIS@ucf.edu](mailto:OIS@ucf.edu)

Web Address: <http://www.international.ucf.edu/internationalstudies>

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.

Central to the global mission at UCF is an ongoing program of international grants and development projects. The OIS secures, through external funding agencies, the resources necessary for faculty and

curriculum development, joint research projects, and partnership programs.

## Small Business Development Center (SBDC)

Regional Director, CBA: Eunice Choi

3201 E. Colonial Drive, Suite A-20, Orlando, FL 32803, (407) 420-4850, Email: [echoi@ucf.edu](mailto:echoi@ucf.edu)

Web Address: <http://www.bus.ucf.edu/sbdc/>

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 at UCF serves an eight-county area that includes Brevard, Flagler, Lake, Orange, Osceola, Seminole, Sumter and Volusia counties, and maintains six sub-center offices in addition to the main office in Orlando. The SBDC at UCF is a member of the Florida SBDC Network, a statewide service funded in part through a cooperative agreement with the U.S. Small Business Administration. Assistance is provided through workshops and individual counseling in the following areas:

- Business Plans
- Marketing Plans
- Feasibility Studies
- Market Research
- Loan Proposals
- Accounting Systems
- Personal Plans
- Employee Manuals
- Strategic Plans

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## Student Services and Resources

### Academic Services

Interim Associate Dean and Director: Heath Martin

Millican Hall 210, (407) 823-2691; Email:  
acadserv@ucf.edu

Web Address: <http://www.academicsservices.ucf.edu/>

This office is responsible for administering state of Florida and university academic policies pertaining to academic record changes, curriculum file management, the degree audit program, and university-wide undergraduate academic policies and graduation requirements. The primary goals of the office are 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 records for advisement and graduation certification.

### Campus Faiths and Ministries

Director: Brad Crawford

Ferrell Commons 7G 152-154, (407) 823-5336

Web Address: <http://cfm.sdes.ucf.edu/>

The Campus Faiths and Ministries is a network of faith-based organizations dedicated to meeting the personal, religious and social needs of university students, faculty and staff. Each organization seeks to enrich lives by providing opportunities for growth through fellowship, educational programs, worship services, recreation, entertainment and the development of one's faith. Each adheres to the principles of its own tradition, but all accept and support the work of other members of the campus network.

### Career Services

Executive Director: Lynn Hansen

Bldg 140 on Memory Mall; (407) 823-2361

Web Address: <http://www.career.ucf.edu/>

UCF Career Services contributes to the university's goal of offering high quality undergraduate and graduate education and student development by providing centralized, comprehensive and coordinated career development, experiential learning and employer relations programs.

These integrated programs help students effectively plan careers; integrate their academic studies to work and to the community; develop personal, academic and work competencies, make effective career and related academic decisions; acquire career-related experience; gain professional employment; and plan for graduate or professional school.

These programs and services are available through walk-in assistance, scheduled appointments, workshops, and major events.

### Computer Services and Telecommunications

Chief Technology Officer: Robert Yancello

CSB 305, (407) 823-2711

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

Computer Services and Telecommunications (CS&T) is an operating unit within the division of Information Technologies and Resources (IT&R). CS&T's mission is to develop and maintain enterprise computing and communications services for the UCF community and to support the academic, research, and business activities of the University.

As the main provider of information technology resources and services, CS&T's responsibilities include providing all telecommunications services, enterprise academic and administrative systems, and data center support including:

- Course Management Systems
- PeopleSoft ERP (SA/HR, Portal, CRM) development

- Document imaging services
- Shared Services Server Hosting
- Enterprise Email
- Research computing
- Enterprise Data center operations and system administration
- Technology Product Center
- Student Computer labs
- Enterprise Identity management and domain services
- Campus telephone system
- Campus local area network
- Campus wide area network
- Campus wireless network
- Cable TV

## Counseling Center

Director: Karen Hofmann, PhD

Counseling Center 101, (407) 823-2811; Email [councntr@ucf.edu](mailto:councntr@ucf.edu)

Web Address: <http://counseling.sdes.ucf.edu/>

The University of Central Florida Counseling Center is the only free of charge campus agency designated to provide comprehensive psychological services to university enrolled students. The center seeks to strengthen student learning by minimizing interruption of the learning caused by mental health concerns, assisting with the academic skills needed to successfully matriculate through the university. In addition, the center offers crisis intervention, career assessment and counseling, presentation services, professional consultation, and graduate training. The staff is comprised of licensed (or licensed eligible) psychologists and mental health counselors, and graduate interns who provide both a confidential atmosphere and a safe environment in which students may explore and resolve issues of concern. The center offers services in an atmosphere that is welcoming and comfortable for all students regardless of race, gender, ethnic background, age, sexual orientation, citizenship, or physical status. The center maintains and assures confidentiality as provided by law. The center is open Monday through Friday and operates on an appointment basis. For additional information, visit the website at [counseling.sdes.ucf.edu](http://counseling.sdes.ucf.edu).

## Creative School for Children

Director: Amy Hesse

CSC 102, (407) 823-2726

Web Address: <http://csc.sdes.ucf.edu/>

The Creative School for Children (Educational Research Center for Child Development) provides an educational program, including kindergarten-first grade, for children two through five years old. The daily program is planned and conducted by degreed teachers offering 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. The school enrolls children of university students, faculty, and staff. Accredited by the NAEYC Academy for Early Childhood program Accreditation.

## Experiential Learning

Interim Director: Ulla Isaac

CSEL, Room 300, (407) 823-2667;  
Email: [oel@ucf.edu](mailto:oel@ucf.edu)

Web Address: <http://www.explearning.ucf.edu/>

The Office of Experiential Learning, in Undergraduate Studies, instructs and promotes applied learning, facilitates the development of quality experiential learning courses through coordination with and training for faculty campus-wide, and collaborates with employers and community partners locally, nationally and internationally to help them access talented students and assist in the educational process.

## Graduate Student Center

Assistant Director: Carreen Krapf

CNH, Room 146, (407) 823-4689,  
Email: [gradcenter@ucf.edu](mailto:gradcenter@ucf.edu)

Web Address: <http://www.graduate.ucf.edu/gradcenter>

The Graduate Student Center provides a space for graduate students to gather for professional development, workshops, rehearsal of presentations, final defenses of their thesis or dissertation research, guest lectures and colloquia series, study, and collaborate.

Located in Suite 146 Colbourn Hall, the Graduate Student Center is just minutes from the Student Union, Bookstore, Library, and Millican Hall services, and down the hall from the University Writing Center. The Graduate Student Center contains four main areas: multipurpose study and collaboration area, presentation room, conference room, and study and data analysis rooms.

## Housing and Residence Life

Executive Director: Christi Hartzler

HAB 73, (407) 823-4663

Web Address: <http://www.housing.ucf.edu/>

Regularly enrolled single students paying registration fees for a minimum of nine semester hours may apply for on-campus University-owned residence, consisting of residence halls and apartment-style units. Priority in the residence halls is given to incoming freshmen who occupy approximately 72 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 students or family housing.

## Integrity and Ethical Development

Director: Jennifer Wright

Ferrell Commons 7C 142, (407) 823-3477;  
Email: [ied@ucf.edu](mailto:ied@ucf.edu)

Web Address: <http://ied.sdes.ucf.edu/>

The Office of Integrity and Ethical Development specializes in the promotion of individual responsibility and personal development. Programs are designed to develop awareness toward integrity, ethical decision-making, conflict resolution, and supportive communication. Services include mediation, coaching sessions, and outreach workshops. These services are designed to provide students (undergraduate and graduate) with the college life skills necessary for academic and personal success at UCF.

## International Services Center

Executive Director: Nataly Chandia

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

Web Address: <http://www.intl.ucf.edu/>

The mission of the International Services Center is to serve as a source of information, advocacy, and support to prospective, new, and current international students and scholars at the University of Central Florida. ISC provides students and scholars with immigration advising and assistance in adjusting to new academic and cultural environments.

The International Admissions Team (IAT) assists international applicants who are coming from abroad or transferring from other U.S. institutions:

- Process and collect immigration related documents
- Issue form I-20 or DS-2019 for admitted students
- Guidance on F-1 or J-1 visa application process
- Facilitate new student immigration orientation sessions

Immigration Advisers provide immigration guidance to current international students, researchers, and scholars at UCF:

- Ensure maintenance of immigration status
- Travel authorization and re-entry advice
- Employment guidance (on campus, CPT, OPT)
- Program extension and reduced course loads
- Assist departments in bringing visiting scholars to UCF

The Employment and Taxation unit handles employment and tax related issues for foreign national employees:

- Process payroll sign-in for new employees
- Employment Eligibility Expiration (I-9) updates
- Ensure tax and immigration compliance when sponsoring a foreign vendor
- Visa Verification for Student Financial Aid
- Assist with processing of H1B petitions

Cultural Programming strives to ensure that every international student has a positive, memorable experience at UCF:

- Ease transition to life in the U.S.
- Welcome Week for new students
- Celebration of International Education Week
- Educational workshops (Resume Building, Interviewing Techniques, Immigration, etc.)
- Culture nights (food, music, and traditions of specific cultures)

The Recruitment unit works to increase and diversify the international student population at UCF:

- Attend Education Fairs abroad
- Maintain International Alumni Network
- Work with faculty and staff on joint recruitment efforts
- Visit Community Colleges

## Intramural Sports

Assistant Director: Shane Land

Recreation and Wellness Center, (407) 823-2408

Web Address: <http://www.rec.ucf.edu/im/>

Intramural Sports offers all Activity and Service Fee paying UCF Students (and UCF Faculty and

Staff who purchase Recreation and Wellness Center Memberships) the opportunity to participate in a variety of team, dual, and individual sports. Participating is a great chance to get involved. Several divisions of play are offered for most activities to accommodate various skill levels for both recreational and competitive participation.

A unique aspect of the UCF program is referee development in which you will be trained to officiate at sports events, earn money on campus, and get an opportunity to work in the Orlando community. Get involved and remember to take a little time each day to play.

## Multicultural Academic and Support Services (MASS)

Director: Wayne Jackson

SU 154, (407) 823-2716

Web Address: <http://mass.sdes.ucf.edu/>

The mission of Multicultural Academic and Support Services (MASS) is to maximize student success by assisting Multicultural and First-Generation College Students in their transition to UCF and by connecting with the University community and our partners to promote and facilitate academic support services and programs. It is comprised of many services and programs, including:

- Seizing Opportunities through Achievement and Retention Program (SOAR) - A six week summer bridge program designed to help students make the transition from High school to College. Participants in this intensive program are evaluated solely by UCF's Undergraduate Admissions Office and participation is by invitation only.
- First Generation Program - This program assist first generation students by providing guidance and resources to promote their self-esteem, confidence and academic achievement at the University.
- Brother to Brother Program - B2B is intended to increase the retention and graduation rates of multicultural and first generation males at UCF. Workshops, rap-sessions and social events are planned in order to help this population become academically successful.



## Off-Campus Student Services

Assistant Vice President: A.J. Range

Ferrell Commons 7C 152, (407) 823-6505

Web Address: <http://ucf.offcampuspartners.com/>

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

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

## Office of Instructional Resources

Director: Don Merritt

Classroom Building I (CB1), Room 203,  
(407) 823-2571

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

The mission of the Office of Instructional Resources (OIR) is to further the academic, research, and administrative goals of the University of Central Florida and its faculty through the design, application, and support of multimedia resources and services.

The Faculty Multimedia Center (FMC) is OIR's media production facility dedicated to faculty and electronic thesis and dissertation (ETD) support. Located in Classroom Building 1 (CB1) Room 202, the FMC hosts the equipment and staff that faculty can call upon to help create multimedia materials for teaching and research needs. The FMC also partners with the College of Graduate Studies to provide computer and media expertise for students who are completing their ETDs.

OIR also maintains videoconferencing and other online collaboration facilities for university use, including thesis and dissertation committee support. OIR can provide consultation to help determine the most appropriate method of collaboration to meet your needs. For consultation services or to reserve a videoconference space, please contact OIR at 407-823-2571 and ask to speak with a collaboration specialist.

Although OIR installs and repairs classroom equipment, we do not schedule classroom spaces. If you need to reserve a room, please contact Classroom Reservations in the Registrar's office. Faculty should speak with their College's Scheduler to reserve a classroom or to change the meeting space for a class.

## Office of Student Conduct

Director: Dana Juntunen

FC 7G 227, (407) 823-4638

Web Address: <http://osc.sdes.ucf.edu/>

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 FC 154, or may be viewed on the web at: [goldenrule.sdes.ucf.edu](http://goldenrule.sdes.ucf.edu).

## Office of Student Rights and Responsibilities

Director: Dana Juntunen

FC 7G 227, (407) 823-4638

Web Address: <http://osrr.sdes.ucf.edu/>

The Office of Student Rights and Responsibilities (OSRR) promotes a campus climate of integrity, civility, accountability and student well-being by providing a wide array of resources, education, and support services for the university community. OSRR is dedicated to fostering a campus environment of student success that balances



student rights and responsibilities. We focus on students who are experiencing difficulties in their academic journey by providing a hub of resources and referrals. Furthermore, we purposefully challenge students during their development as productive citizens of the UCF community, to consider ethical practices and the importance of making critical decisions. Our office also oversees the Golden Rule Student Handbook, a compilation of various university policies and procedures and upholds and supports the values of the UCF Creed: integrity, scholarship, community, creativity and excellence.

## Office of Student Financial Assistance

Director: Alicia Keaton

MH 120, (407) 823-2827. For appointments, call (407) 823-5285, Email: [finaid@ucf.edu](mailto:finaid@ucf.edu)

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

The mission of the Office of Student Financial Assistance is to provide UCF students and the University Community comprehensive quality service by offering options for financial assistance and efficient delivery of aid. Financial aid counseling is available by appointment. Due to confidentiality, counseling by phone and email is limited. Student Financial Assistance, a unit of Student, Development and Enrollment Services, is dedicated to the attainment of UCF's mission and goals. For more detailed information, visit the website at: <http://finaid.ucf.edu/>.

## Office of Student Involvement

Director: Michael Preston, PhD

SU 208, (407) 823-6471

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

The mission of the Office of Student Involvement (OSI) is to provide quality programs, services, and leadership opportunities that enrich students' academic endeavors and enhance the campus environment. Students and staff collaborate to develop programs and services which encourage student's personal growth, to promote civic responsibility, to embrace differences, and to connect students to the campus and the community. The office oversees registration and management

of more than 350 student organizations (academic/preprofessional and honorary, sports clubs, military, religious, special interests, minority/international, and service groups) and advises the Campus Activities Board (CAB), Fraternity and Sorority Life, Homecoming, Knights of the RoundTable (KoRT), Late Knights, Multicultural Student Center (MSC), Student Government Association (SGA), and Volunteer UCF (VUCF).

## Pathways To Success

Assistant Director: Tara Johnson

MH 230, (407) 823-2766

Web Address: <http://www.students.graduate.ucf.edu/pathways/>

University of Central Florida offers free development opportunities beyond the classroom specifically for graduate students and post-doctoral fellows. Coordinated by the College of Graduate Studies, the Pathways to Success program includes workshops and trainings in the following three areas of development: Academic Integrity, Personal and Professional Development and Graduate Teaching. Whether you are looking to develop a certain skill, learn more information on responsible conduct of research, prepare for your career or simply learn how to manage common stressors that graduate students may face, there is a workshop opportunity for you. Every semester a new schedule of Pathways to Success workshops are released so please visit our website to see the current offerings in these areas and check back often for the up-to-date schedule of all seminars, workshops and discussions.

## Public Safety and Police Department

Chief: Richard Beary

Police Department Bldg. 150 (407) 823-5242; Non-Emergencies and Police Administration: (407)823-5555

Web Address: <http://www.police.ucf.edu>

The UCF Police Department is a full-service law enforcement agency which prides itself on providing professional services to the university community through prevention, education and enforcement. The University Police officers provide

police services twenty-four hours a day, seven days a week to the university community.

The Communications Center (407-823-5555) provides a mechanism for persons to receive assistance in the event of an immediate threat, danger, injury, fire, or criminal occurrence by calling 9-1-1. University Police are part of the county-wide “Enhanced 9-1-1” system and automatically receive calls related to campus. The system ensures that the correct emergency responder - police, medical or fire - is directed to the right place in the shortest amount of time. Since telephone numbers appear on the police computer screen, callers who are either too young or too incapacitated to give their number or location can still receive emergency assistance. Communications Operators are on duty 24 hours a day. Blue light emergency phones are located at various locations on campus to allow persons in need of assistance to contact the Police Department. All Blue Light Emergency phones dial into the Communications Center to ensure a swift response if needed.

The Patrol Division (407-823-5555) provides proactive police services to the campus community by means of foot patrols, and marked vehicle patrols. The Patrol Division additionally contains specialized patrol units such as K-9, marked motorcycle units, bicycle patrol units and all-terrain vehicles to meet the unique needs of an expanding urban university.

The Investigations Division (407-823-5555) consists of five detectives, a forensic technician and a criminal analyst who conduct latent investigations for all criminal cases. The Community Relations Division (407-823-3224) offers crime prevention seminars regarding the protection of personal property and safety. The Community Relations Division manages the Safe Escort Patrol Service (SEPS) 407-823-2424, providing a safe escort for all individuals on campus.

The Victim Services Unit, located at University Towers, Suite. 450, 12201 Research Parkway, Orlando 32826 (office 407-823-2425; 24/7 HOTLINE 407-823-1200) provides services for persons impacted by crime, violence or abuse on or off the UCF campus. Services include 1) advocacy, support, and practical assistance; 2) options, information, and referrals; and 3) prevention awareness educational programming. Additional information can be viewed at [www.victimservices.ucf.edu](http://www.victimservices.ucf.edu).

The University Police Department publishes an annual brochure entitled “Annual Security and Fire Safety Guide.” The Annual Security and Fire Safety Guide presents an overview of all police services and offers crime prevention and fire safety tips and campus crime and residential fire statistics in compliance with the Federal Crime Awareness and Security Act of 1990. A copy of the Annual Security and Fire Guide is available at the Graduate Admissions Office, Human Resources Office, John T. Washington Center, Welcome Center, Housing Office and the University Police Department. For further information visit the University Police website at [www.police.ucf.edu](http://www.police.ucf.edu).

## Recreation and Wellness Center

Director: Jim Wilkening

RWC, (407) 823-2408

Web Address: <http://rwc.sdes.ucf.edu/>

The UCF Recreation and Wellness Center (RWC) comprises many programs, such as Intramural Sports, Sport Clubs, Outdoor Adventure, Fitness, and Aquatics. The RWC is open to all students with a valid UCF ID; paid memberships are available for non-students. The RWC offers a vast array of state-of-the-art facilities, includes a custom climbing wall, tennis courts, sand volleyball courts, a disc golf course, numerous intramural sports fields, a leisure pool, and an outdoor lap pool. The UCF Campus Wellness Center, also housed with RWC, sponsors a wide variety of health-related classes, lessons, and programs throughout the year. The RWC Fitness Program is comprised of six areas: Adaptive and Inclusive Recreation & Assisted Workout, Fitness Assessment, Fitness Orientations, Group Exercise, Personal Training, and Fitness Programs. Playing fields and tennis courts adjacent to the center are available to students when not in use for scheduled events. 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.

## Registrar's Office

University Registrar: Brian Boyd

MH 161, (407) 823-3100; Email: registrar@ucf.edu

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

The Registrar's Office, with a commitment to quality service and leading edge technology, provides timely and accurate enrollment information and access for students, colleges and departments, effectively meets student administrative needs, ensures complete records management from registration through graduation and archived data stores. The office maintains the integrity of student permanent academic records and coordinates and enforces University policies and procedures campus-wide through cooperation, communication, and leadership. In addition, the Registrar's Office is responsible for management and publication of course offerings, the Undergraduate Catalog, online Web Enrollment Guide, the efficient utilization of classroom resources, registration, readmissions, transient student admissions, residency reclassifications, student veteran services, and Commencements.

## Rosen College Student Life

Coordinator: Sarah Mohabir

S.O.S. Rosen, room 202B, (407) 903-8238

Web Address: <http://hospitality.ucf.edu/rosen-life/>

The Rosen College Student Life office provides student services at the area campuses including undergraduate and graduate advising, student financial assistance, co-op planning and placement, career services, student club and organization support, student counseling, student disability services, off-campus student housing information, student activities programming guidance and support, and UCF Golden Rule interpretation.

## Student Disability Services

Assistant Director: Pamela Rea

FC 185, (407) 823-2371

Web Address: <http://sds.sdes.ucf.edu/>

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. Call (407) 823-2116, for TDD/TTY phone calls only.

## Student Government Association

OSI/SGA Advisers: Michael Preston, Director

SU 214, (407) 823-2191

Web Address: <http://www.ucfsga.com/>

The Student Government Association is a representative body modeled after the United States government. Through its Executive, Legislative, and Judicial branches, the Student Government Association aims to represent student issues and concerns at all levels of university decision making. Through a \$19 million dollar budget acquired from

student fees, SGA maintains hundreds of student jobs, oversees two facilities (the Student Union and Rec & Wellness Center), and is constantly creating new services and initiatives aiming to make campus life better for all UCF Knights.

In addition to implementing new services, perhaps SGA's most vital role is the protection of student interests in both the UCF administration's decisions as well as decisions made at the state level. Through governmental affairs divisions, committees, and professional lobbying firms, SGA ensures that the student voice is not only heard but taken seriously.

## Student Legal Services

Director: Patricia Dullaghan

FC 142, (407) 823-2538

Web Address: <http://www.sls.sdes.ucf.edu/>

The office of Student Legal Services provides enrolled students at UCF with legal counseling and court representation in various areas of the law. The staff attorneys interview each client individually to advise in the areas of law that concern the student. Cases which are not covered by the program guidelines are referred to appropriate agencies or private attorneys through a lawyer referral service. The operation of the program is subject at all times to the rules and regulations promulgated by the Supreme Court of Florida and the Board of Governors of the Florida Bar. The program is approved by the Florida Bar and is staffed by licensed attorneys.

## Student Union

Director: Rick Falco

SU 312, (407) 823-3677

Web Address: <http://ucfsu.com/>

Known as the "Heart of Campus," the Student Union sits at the center of the University of Central Florida's Orlando Campus. Here at the Union we provide space for students, and members of the UCF community to study, socialize, eat, host events, attend meetings, and engage in campus life. Our facility provides a home to many vibrant university departments, access to key student services, and collaborative spaces for students to connect on campus. In addition, the Union offers over 26,000

square feet of meeting and event space, with the ability to host various campus events, seminars, conferences, banquets, and various other functions.

## Parking and Transportation

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

The Parking and Transportation mission is to facilitate and promote alternative transportation options and provide safe, well-maintained parking facilities while ensuring equitable parking for the UCF community.

### We manage safe and well maintained parking facilities by:

- Providing parking garages and parking lots to serve the UCF community
- Frequently inspecting facilities to ensure the safety of our constituents
- Maintaining the cleanliness of each structure
- Being proactive by scheduling routine maintenance of parking facilities

### We ensure equitable parking and related services by:

- Performing an annual assessment of space designation
- Providing accurate information with precise directions to all UCF visitors
- Enforcing university parking regulations
- Coordinating special events parking
- Offering convenient online services which include permit registration, citation payment and appeals.

### We provide alternative transportation, including:

- Shuttle service to nearby apartment complexes, including service to the Health Sciences and Rosen Campuses
- Shuttle service to strategic and convenient intra-campus stops
- Zipcar - a membership based car sharing company
- Zimride - a UCF community ridesharing program



## UCF Alumni Association

Director: Thomas Messina

Fairwinds Alumni Center, (407) UCF-ALUM

Web Address: <http://www.ucfalumni.com/>

The University of Central Florida Alumni Association is a community. It's a group of people that have a UCF experience, who care about the university and who want to stay connected to it. The 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. For more information, visit the website.

## UCF Bookstore

General Manager: Steven Way

John T. Washington Center (407) 823-2665

Web Address: <http://ucf.bncollege.com>

The UCF Bookstore is operated under a contractual agreement with Barnes and Noble. The 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, as well as a full service Starbucks cafe. For more information visit the website.

## UCF Health Services

Director: Michael Deichen, MD, MPH

SHC, (407) 823-2701

Web Address: <http://www.hs.sdes.ucf.edu/>

The mission of UCF Health Services is to provide excellent healthcare that delivers value and promotes lifelong well-being to the UCF community. Our staff includes two sports medicine physicians, three psychiatrists, two gynecologists, five primary care physicians, four physician assistants, six advanced registered nurse practitioners, a dietician, pharmacy staff, nursing staff, laboratory staff, and radiography staff. We provide low-cost health services to the UCF community and are funded, in part, by the student health fee. We are committed to providing the UCF community with quality healthcare, and as

such maintain accreditation by the Accreditation Association for Ambulatory Health Care.

## University Libraries

Director of Libraries: Barry B. Baker

Building 2, (407) 823-2562

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

University Libraries offers a variety of information resources and services. An extensive resource collection includes 2.5 million volumes, 43,000 journal subscriptions, 3.2 million microforms and 56,000 media titles. The Libraries' electronic resources include 366 databases and 710,000 e-books.

The John C. Hitt Library on the main campus is open 105 hours per week. Operating hours are available at <http://library.ucf.edu> or by calling (407) 823-2756.

- Over 370 computer workstations are available for public use on all five floors
- Laptop PCs can be checked out for use anywhere in the library
- 100 iPads are available for a one week checkout
- Wireless technology enables patrons who have portable devices to connect to the Libraries' electronic resources and to the Internet; wireless printing is also available
- Twenty-eight group study rooms, five graduate study rooms and one practice presentation room are available for students, and can be reserved in advance through <http://library.ucf.edu/StudyRooms/>
- The John C. Hitt Library is a partial depository for United States and Florida government publications, U.S. Patents and Trademarks

Infusion, the Libraries' cyber-cafe learning space, offers food and beverage items, 34 desktop PCs, comfortable seating areas, closed-captioned television, and a browsing collection for leisure reading.

The Knowledge Commons area offers seating for 479 students, access to 196 desktop PCs, collaborative group study areas, and rolling white boards.

- For help and advice in the use of resources and materials, the Research and Information Desk <http://library.ucf.edu/Reference/>, located on the main floor, is open most library hours. Individual appointments can also be made for in-depth research consultations. These appointments provide student one-on-one time with a librarian <http://library.ucf.edu/Reference/ResearchConsultations/Default.php>.
- Ask A Librarian service answers questions submitted through chat, text, instant message, email or telephone at (407) 823-2562 or toll-free at (866) 271-7589. <http://library.ucf.edu/ask/>
- The Libraries supports the development of information literacy skills through the provision of Information Literacy Modules, <http://infolit.ucf.edu/>. The modules provide just-in-time instruction for students on topics such as citing resources, evaluating websites, and plagiarism.
- Librarians have also created subject-specific research guides to help students identify resources within their discipline. Students can also access instructional videos from the libraries' YouTube channel: [www.youtube.com/user/UCFLibraries](http://www.youtube.com/user/UCFLibraries).
- Citation Management Programs are also available for FREE from the UCF Libraries. Workshops are offered each semester on how to use EndNote and RefWorks. <http://library.ucf.edu/ScholarlyCommunication/CitationTools.php>
- Another key service for Graduate Students is Interlibrary Loan and Document Delivery. The UCF Libraries will pull books and scan articles that are owned by the library, as well as borrow materials from other libraries. For more information, call (407) 823-2383 or visit the ILL website. <http://library.ucf.edu/ILL>

In collaboration with the University's Office of Student Disability Services, students may request assistance with retrieval of materials by contacting the Circulation Desk. The John C. Hitt Library has several reading aid devices, including a workstation equipped with ZoomText and JAWS software, and a Sorenson Videophone. More information is available at <http://library.ucf.edu/Services/DisabilityServices.asp>.

Primary source material from Special Collections and the University Archives supports the research,

teaching, and service activities of the UCF community. These special materials include books, manuscripts, historic public records, ephemera, photographs, art, and more. <http://library.ucf.edu/SpecialCollections>

UCF Libraries partners with other libraries and local institutions through Central Florida Memory, Florida Heritage, Digital Library of the Caribbean, and similar web-based projects to provide digital access to special and historic images and documents. <http://library.ucf.edu/Systems/DigitalInitiatives/DigitalCollections/>

## Branch Libraries

The Curriculum Materials Center (CMC) is located in the College of Education Building. The CMC provides representative PK-12 curriculum materials for preview, review, analysis and circulation, as well as 26 desktop PCs. Although the CMC primarily serves education students and faculty, it is open to all campus faculty, staff, and students. For more information see the CMC web page at <http://library.ucf.edu/cmc> or call (407) 823-2791.

The Universal Orlando Foundation Library is located at the Rosen College of Hospitality Management in the heart of the tourist corridor on Universal Boulevard. The library is open to the entire UCF community as well as to hospitality industry professionals. Its unique collection covers all facets of the hospitality and tourism industries. The library provides a wide array of services and resources, including desktop PCs, wireless devices for checkout, group study rooms, research assistance, library instruction, and interlibrary loan. For more information, including visit <http://library.ucf.edu/Rosen> or call 407-903-8100.

## Regional Campus Libraries

Regional Campus libraries collections and services are available through partner libraries in Cocoa, Palm Bay, Ocala, Daytona Beach, South Lake, Sanford-Lake Mary, Leesburg, Osceola and West Orlando. The university partners with state colleges to provide complete information services. Two examples of websites customized for Regional Campus needs are:

- Services for Distance Learners  
<http://library.ucf.edu/Services/DistanceServices.asp>



- Regional Campus Libraries page  
<http://library.ucf.edu/Regionals>

UCF librarians provide one-on-one, in-person, and virtual assistance by appointment. All locations provide electronic access to library and university resources on the web. Courier and intercampus loan services make the John C. Hitt Library's collections available to UCF students at all regional and branch campus sites.

## University Ombuds Office

University Ombuds Officer: Shreya Trivedi

Millican Hall 247, (407) 823-6440

Web Address: <http://www.ombuds.ucf.edu>

The Ombuds Office is an informal, impartial, independent and confidential resource for all members of the university community. It is not an office of notice of wrongdoing and cannot participate in any formal grievance or appeal process. The Office provides 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, as a neutral facilitator, will listen to concerns and assist visitors by developing a range of options in an informal attempt to achieve resolution. 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. The University Ombuds Office is located in Millican Hall, Suite 243, room 247. Appointments may be made by calling 407-823-6440.

## University Writing Center

UWC Director: R. Mark Hall, PhD

Colburn Hall 105; (407) 823-2197

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

The University Writing Center (UWC) offers support for graduate students seeking assistance with writing. Peer consultants in the UWC take a semester-long course to learn to tutor writing, then participate in weekly ongoing training and professional development in order to assist students with writing from a variety of disciplines and genres, including term papers, conference proposals, annotated bibliographies, literature reviews, grant proposals, resumes, and application essays. Consultants provide feedback and assistance at every stage of the writing process, including gathering and interpreting sources, drafting, revising, integrating and citing sources, and learning to proofread and edit.

Through a series of regularly-scheduled appointments, graduate writers can work with the same consultant throughout a semester on longer projects such as theses and dissertations.

- To work with a writing consultant, students can make an appointment either by clicking the TutorTrac logo on the UWC website (above) or calling (407) 823-2197.
- For help with both writing and research, the main library's Knowledge Commons has consultation space for a UWC session (walk-in or by appointment) or a research consultation with a librarian. For more information about scheduling a consultation with a research librarian, please call (407) 823-3379 or click on the "How Do I?" tab from the library's homepage.
- For synchronous online tutoring appointments via Adobe Connect, the UWC recommends a headset with a microphone.
- For all sessions, whether online or face-to-face, writers should have a copy of the assignment (if any), a working draft with a list of sources, and access to any relevant sources.

Within the UWC, handbooks, dictionaries, writing guides, and stylebooks are available for students' use. Online, the Resource Pages on the UWC website offer useful graduate writing resources, information, and links. Under the "Handouts"

section, graduate students can find helpful advice on documentation styles, grammar, and writing personal statements. Suggestions about writing theses, dissertations, and grant proposals are also available under the “Graduate Writing” link.

UWC consultations are free to all UCF students. For more information about consultations or to inquire about working as a graduate writing consultant, visit the UWC website at <http://uwc.ucf.edu>.

## Veterans Academic Resource Center (VARC)

Director: Paul Viau

Veterans Academic Resource Center, ARNA;  
(407) 823-2707; Email: [varc@ucf.edu](mailto:varc@ucf.edu)

Web Address: <http://varc.sdes.ucf.edu>

The Veterans Academic Resource Center (VARC) recognizes and supports student veterans as they the transition from military to student life. The VARC, a unit of the Registrar’s Office, is a collaboration among the offices of Career Services, the Counseling Center, Student Academic Resource Center, Student Disabilities Services, and Transfer and Transition Services, and provides the home for Veteran Services. VARC has been designated as a Center for Excellence for Veteran Student Success and is partially funded by a grant from the U.S. Department of Education Fund for the Improvement of Postsecondary Education (FIPSE).

Located at UCF Knights Plaza/Arena, across from Barnes & Noble@UCF, VARC is open 9:00 a.m. to 5:00 p.m. Mondays, Thursdays, and Fridays; 8:30 a.m. to 5:00 p.m. Tuesdays and Wednesdays, and provides study, tutor and lounge areas for student veterans and programs and events designed specifically for student veteran needs.

## Veterans Services

Associate University Registrar/Director, Veterans Academic Resource Center: Paul Viau

Assistant University Registrar: Bethany Glassbrener

Veterans Academic Resource Center (VARC),  
(407) 823-2707

Web Address: <http://www.va.ucf.edu/>

Veteran Services, located in the VARC (UCF Knights Plaza/Arena, across from Barnes & Noble@UCF) serves all veteran students and eligible dependents who are using VA educational benefits to further their education. The office provides information concerning entitlements, filing claims to the Department of Veterans Affairs (DVA), certifying enrollment at the University, and deferring tuition and fee payments. The office also provides related counseling for personal and academic concerns and referral to various community agencies. Veterans and eligible dependents must be certified through Veteran Services each term to receive VA educational benefits. The office monitors the academic progress of all those receiving VA educational benefits. All veterans and eligible dependents are urged to consult Veteran Services early in the UCF admissions process.

Students eligible for VA educational benefits must certify each term with Veteran Services after they enroll for classes. To maintain eligibility for VA education benefits, students must adhere to the policies and procedures VA educational benefits. A copy of the Student Veteran Handbook can be obtained on the GI Bill website.

UCF, being a member of SOC (Service Members Opportunity College) provides credit for military training and education. Credit is awarded for regionally accredited schools and courses only. Transfer credit is not awarded for experience, military skills level and/or special certifications. Transfer credit is awarded per the recommendations of the American Council on Education (ACE) Guide, based upon courses and/or training listed on the DD Form 214, SMARTS, ARTS, or other official military record. U.S. Air Force veterans must coordinate with the Community College of the Air Force to provide official CCAF transcripts to the Undergraduate Admissions Office.

Students eligible for VA educational benefits may also be eligible for a VA deferral of tuition and fees. The VA Deferment due date is contained in the Academic Calendar. Students are eligible for the deferment if certified during the first week of classes or earlier.

To continue to be able to receive VA educational benefits, students must maintain satisfactory academic progress and conduct. Accordingly benefits will be terminated for individuals who are disqualified, excluded, suspended, or expelled

from the University. If reinstated by the University following disqualification, exclusion, suspension, or expulsion, the veteran or eligible dependent must contact Veterans Services to have their VA educational benefits reactivated.

Individuals placed on academic probation will continue to receive benefits as long as he or she earns a 2.0 or higher GPA each term.

To continue to be able to receive VA educational benefits, students must maintain satisfactory academic progress and conduct. Individuals placed on academic probation must raise their grades to a UCF GPA of 2.0 or above and be removed from probation within the next two semesters to continue to receive benefits.

Accordingly, benefits will be terminated for individuals who are disqualified, excluded, suspended, or expelled from the University. If reinstated by the University following disqualification, exclusion, suspension, or expulsion, the veteran or eligible dependent must contact Veterans Services to have their VA educational benefits re-activated.

Effective August 1, 2011, the Post-9/11 GI Bill pays only for public school in-state tuition and fees. Out-of-state tuition is no longer paid for by the VA. The University of Central Florida is designated as a VA “Yellow Ribbon” institution to help defray the out-of-state tuition. Out-of-state student veterans and dependents may apply for “Yellow Ribbon” program eligibility when certifying their GI Bill education benefits. Please go to: [varc.sdes.ucf.edu/docs/ucfyellowribbonprogram\\_rules.pdf](http://varc.sdes.ucf.edu/docs/ucfyellowribbonprogram_rules.pdf) for more information.

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# Policies

## OVERVIEW

The policies in this section of the Graduate Catalog are minimum university-wide standards for graduate programs. The Graduate Programs section in this catalog describes additional requirements for each graduate program, and the individual college and program descriptions in the Colleges and Special Programs section may discuss specific college requirements. Also, student handbooks for each of the graduate programs provide additional policies and procedures that are specific to each graduate program.

## GENERAL UNIVERSITY POLICIES

### 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. Behavioral breaches of state law, UCF requirements, or program expectations are grounds for dismissal from the program of study and the university. Detailed conduct regulations and procedures are presented in The Golden Rule ([www.goldenrule.sdes.ucf.edu](http://www.goldenrule.sdes.ucf.edu)).

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) will have circumstances of the case reviewed by the Office of Student Conduct (SRC 155) to consider eligibility for admission.

## Credit Hour Policy

**Credit hour:** A credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency that reasonably approximates not less than

- (1) One hour of classroom or direct faculty instruction and a minimum of two hours of out of class student work each week for approximately fifteen weeks for one semester or the equivalent amount of work over a different amount of time; or
- (2) At least an equivalent amount of work as required in paragraph (1) of this definition for academic activities as established by the institution including laboratory work, internships, practica, studio work, and other academic work leading to the award of credit hours.

## 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 under the Student Grievance Procedure, located 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.

## Non-Discrimination 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, veteran's status, sexual orientation, or genetic information 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://www.eeo.ucf.edu>.

## 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, veteran's status, sexual orientation, or genetic information 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://www.eeo.ucf.edu>.

## 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/](http://www.goldenrule.sdes.ucf.edu/). Section 11, "Student Academic Behavior," addresses appeals of graduate program actions or decisions.

## University Notices

This catalog contains a description of the various policies, academic programs, degree requirements, course offerings, and related matters intended to be in effect at the University of Central Florida during the 2014 - 2015 academic year. However, any matter described in this catalog is subject to change. As a result, statements in this Graduate Catalog may not be regarded in the nature of binding obligations on the institution or the State of Florida, or as an irrevocable commitment from the University to the reader.

## 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.
- Unauthorized assistance: communication to another through written, visual, or oral means. The presentation of material which has not been studied or learned, but rather was obtained solely through someone else's efforts and used as part of an examination, course assignment or project. The unauthorized possession or use of examination or course related material may also constitute cheating.
- Commercial Use of Academic Material: Selling notes, handouts, etc. without authorization or using them for any commercial purpose without

the express written permission of the university and the Instructor is a violation of this rule.

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](http://www.cstore.ucf.edu)

### **Student Responsibility for University Communication**

UCF uses e-mail as the official means of notifying students of important university business and academic information concerning registration, deadlines, financial assistance, scholarships, student accounts (including tuition and fees), academic progress and problems, and many other critical items for satisfactory completion of a UCF degree program. The university sends all business-related and academic messages to a student's Knights E-mail address to ensure that there is one repository

for that information. Every student must register for, and maintain a Knights E-mail account at <http://www.knightsemail.ucf.edu> and check it regularly to avoid missing important and critical information from the university. Any difficulty with establishing an account or with accessing an established account must be resolved through the UCF Computer Services Service Desk so that a student receives all important messages.

Additionally, each student must have an up-to-date emergency e-mail address and cell phone number by which to be reached in case of a crisis on campus. This emergency contact information will be used only for emergency purposes. Also, both permanent and local mailing addresses must be on record, so that any physical documents that must be mailed can be delivered.

It is critical that students maintain and regularly check their Knights E-mail account for official announcements and notifications. Communications sent to the Knights E-Mail address on record will be deemed adequate notice for all university communication, include issues related to academics, finances, registration, parking, and all other matters. The University does not accept responsibility if official communication fails to reach a student who has not registered for, or maintained and checked on a regular basis, their Knights E-Mail account. Please ensure that this information is current and that any changes in contact information are made online through the myUCF portal at <https://my.ucf.edu/>.

### **Complaint Policy**

The University of Central Florida supports the right of students to file grievances, lodge complaints, and make appeals in a safe environment free of fear, retaliation, or other adverse consequence. The university has a number of offices and committees that are responsible for implementing the institution's established procedures for addressing written academic and nonacademic student complaints.

In most cases, the recommended strategy for complaints of any nature is to ask the concerned individual to first contact the person or office most directly connected to the issue, unless there are compelling reasons not to do so. If the concerned individual does not want to contact a faculty or staff member directly, he or she begins with the next highest level of authority, which typically is the department chair or director. If the problem or



complaint is unresolved or the individual is not satisfied with the resolution, he or she may file a written grievance or appeal. Specific procedures are included in specific sections of this catalog and the Golden Rule.

## Records

Student records submitted to the university become the property of the university and cannot be returned to or copied for the student or released to a third party. Student records are digitally scanned.

## 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:

5. 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;
6. The rights 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;
7. 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
8. 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,
- 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. Students can do this online at <https://my.ucf.edu>; Student Self Service; Student Center; Personal Information; FERPA/Directory Restriction or complete the Directory Disclosure/Release Authorization form available at the Registrar's Office (Millican Hall 161) or at <http://www.registrar.sdes.ucf.edu>, requesting that this information be withheld. The Golden Rule outlines the University procedures for confidentiality. For additional information describing FERPA policy, go to the Department of Education Family Policy Compliance Office website.

### 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 (Millican Hall 161) or from the Registrar's website (Higher Education Act).

## GENERAL GRADUATE POLICIES

### Student Responsibility to Keep Informed

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.

### Student Responsibility for University Communication

Please refer to the General University Policy regarding student responsibility for communication.

## University Admission Standards

The university seeks to enroll students of the highest quality. In addition, the university encourages applications from a diverse population and values diversity in our graduate programs. Admissions recommendations are made by the academic programs on the basis of a wide variety of information submitted as part of the student's application package. Admissions committees consider factors such as students' academic qualifications, research and work experiences, professional goals and skills, match with program objectives and professional qualifications, the number of openings available in the program, and the resources available to support the student. An applicant's character, integrity and general fitness to practice a particular profession may also be considered in the admission process. Admission is limited and, in most programs, not all qualified students can be admitted. While UCF supports students obtaining multiple UCF degrees at different levels or in different programs, students who have received a degree in a UCF graduate program are not eligible for admission to the same program, even if it has tracks that have substantively different curricula.

In general, graduate admission to the university requires that students must have obtained (prior to the start of the term for which the student is admitted) the equivalent of a baccalaureate degree from a regionally accredited institution or from a recognized foreign institution. Students without the equivalent of a baccalaureate degree from a regionally accredited institution or a recognized foreign institution are not admitted to graduate degree programs, graduate certificate programs, or graduate nondegree status. All applicants for graduate admission must submit official transcripts for all academic work. In addition to the above, all admitted students must submit evidence to document their attainment of the following minimum requirements.

### Minimum UCF Requirement

- (1) This regulation applies to all students admitted to graduate programs.
- (2) Each admitted student to a graduate degree program or to a postbaccalaureate professional program must meet the following minimum requirements:

- (a) Earned a bachelor's degree or equivalent from a regionally accredited U.S. institution or its equivalent from a foreign institution AND
- (b) Earned a 3.0 GPA (or equivalent) or better in all work attempted while registered as an undergraduate student working for a baccalaureate degree, OR
- (c) Earned a 3.0 GPA (or equivalent) or better in all work attempted while registered as an upper division student working for a baccalaureate degree. OR
- (d) Earned a previous graduate degree or professional degree or equivalent from a regionally accredited U.S. institution or its equivalent from a foreign institution in a field related to the discipline of the program to which the applicant is applying.
- (3) Additionally, all applicants to doctoral programs must meet the following specific requirements:
- (a) Each applicant to a doctoral degree program shall present scores that are acceptable for the program to which the student is applying on the Graduate Record Examination (verbal, quantitative, and writing), or an equivalent measure on the GMAT, whichever is deemed most appropriate to the program. Students, including international students, who already have a graduate degree obtained from a regionally accredited institution in the same or in a related area are not required to take the Graduate Record Examination or GMAT unless it is required by the program.
- (b) In addition, doctoral applicants must submit three letters of recommendation, a resume or a curriculum vita, and a written essay.
- (c) The submitted materials must be used in the context of a holistic credential review process.
- (d) Each doctoral program may determine other requirements for admission, consistent with their mission and purpose. Any additional admissions requirements so imposed by doctoral programs must be published annually in the Graduate Catalog and on the website of the doctoral program; further, such requirements shall be reviewed and updated annually.
- (e) These requirements shall not include preferences in the admissions process for applicants on the basis of any category protected by law.
- (4) Additionally, all applicants to master's programs must meet the following specific requirements:
- (a) A score on standardized exams such as the GRE or GMAT is not required by the university for admission to a master's degree program, although individual programs may still require the exams for admissions purposes.
- (b) Each master's program may determine other requirements for admission, consistent with their mission and purpose. Any additional admissions requirements so imposed by master's programs must be published annually in the Graduate Catalog and on the website of the master's program; further, such requirements shall be reviewed and updated annually.
- (c) These requirements shall not include preferences in the admissions process for applicants on the basis of any category protected by law.
- (d) For international students in master's programs that do not require a GRE or GMAT, a course-by-course evaluation of the student's official transcript must be submitted by a credential evaluation service recommended by UCF that shows a GPA equivalent from an earned degree equivalent to a U.S. bachelor's degree.
- (5) In addition to the above requirements, international students must show proficiency in written and spoken English by
- (a) proving they are from a country where English is the only official language; or
- (b) establishing that a prior bachelor's, master's or doctoral degree was earned from a regionally accredited college or university in the United States; or
- (c) establishing that a prior bachelor's, master's or doctoral degree was earned from a country where English is the only official language, or a university at which English is the only official language of instruction; or
- (d) submitting a qualifying score on the Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS). Qualifying scores are: a TOEFL computer-based score of 220; a TOEFL internet-based score of 80 (or equivalent score on the paper-based test); or an IELTS score of 6.5. Specific programs may establish higher scores for qualification, and such

information must be included in the Graduate Catalog and program website information for that specific program.

Students who are non-native speakers of English (and do not have a degree from a U.S. institution) must pass the SPEAK exam administered by the UCF Center for Multilingual Multicultural Studies before they will be permitted to teach as a Graduate Teaching Associate or Graduate Teaching Assistant.

(6) Exceptions to the above requirements:

(a) In any academic term, up to 20 percent of the graduate students may be admitted in a given degree program as exceptions to the minimum requirements for graduate admissions as defined in (2).

(b) Students who do not meet the admissions criteria and who wish to enroll in courses but not degree programs at the postbaccalaureate level may enroll under the classification of nondegree seeking students. Graduate programs wishing to admit these students to graduate degree programs after the students have satisfactorily completed up to nine hours of graduate course work may do so provided that the number so admitted is included as part of the 20 percent exception, as defined in paragraph 6(a) above.

(7) Applicants may appeal an admissions decision by following the university admissions appeal procedure. Information regarding this procedure is available in the Admissions section in the Graduate Catalog.

## Student Admissions Classifications

Students may be admitted into graduate status in the categories defined below. Classifications within a graduate status may be viewed in the Admissions section of the catalog.

### Degree-seeking Students

A degree-seeking student is a student who has been formally admitted into a master's, specialist, or doctoral program.

### Graduate Certificate Students

Students who have applied to and been accepted into a graduate certificate program are classified as graduate certificate students. Graduate certificate students who subsequently apply to and are

accepted into a graduate degree program may, at the discretion of the program adviser, transfer the credit hours from one earned graduate certificate program into a graduate degree program.

### Nondegree Students

Students are classified in nondegree status if they have not applied to and been accepted into a graduate degree or certificate program. Some students in this status are completing application requirements for a graduate program. Courses taken prior to acceptance to a degree program may be used to fulfill degree program requirements as transfer credits only with the approval of the program director. There are strict transfer credit limits – please see the transfer credit policy (link) and consult with the specific program director.

## Program of Study

A Program of Study is a listing of course work agreed to by the student and the degree program specifying course degree requirements. A specific Program of Study, which may vary from student to student, must be formulated jointly by the student and the appropriate committee or adviser in the program area and approved by the college. A Program of Study form can be obtained from the graduate program director. This form should be prepared and signed by the adviser and student, then given to the graduate program director for review and filing in the student's permanent file. It must comply with the student's relevant catalog.

Programs of Study for students seeking a master's or specialist degree should be on file with the College of Graduate Studies by the end of the student's second major term (based on full-time enrollment) and must be on file by the end of the term prior to the term of expected graduation. Programs of Study for students seeking a doctoral degree should be on file with the College of Graduate Studies by the end of the third major term of enrollment (based on full-time enrollment), and must be on file prior to the change to candidacy status.

All graduate programs of study must include independent learning as part of course and other assignments. This may be accomplished by research papers and reports, evidence of reflective learning in individual portfolios, creation of original works, and/or demonstration of integration of knowledge as



part of course work in a capstone course and other requirements for the degree.

The student and his/her advisory committee may make changes in the program of study at any time with approval of the graduate program director. However, once established, the program of study cannot be altered solely due to poor academic performance of the student.

## Course Category Definitions

(Please see specific policies under Master's degree and Doctoral degree program requirements for the proper use of hours that can be applied to degrees.)

In an effort to establish a balance among the essential components of graduate degrees, the 2008-2009 Policy Committee of the Graduate Council categorized the wide variety of graduate courses offered at UCF into the three essential components of graduate education: (1) formal course work; (2) research and independent scholarly work; and (3) disciplinary training. While many courses offer a combination of these elements of graduate education, most can be classified as predominantly addressing one of these components. The following definitions were established to help establish a common vocabulary for this categorization.

- **“Courses”** – All enrollment hours with an official class number.
- **Core/Required courses** – Courses that cover a certain body of knowledge that is central to a program of study. These courses must be taken to fulfill degree requirements, and may only be substituted by equivalent course work.
- **Elective courses** – Courses that cover a certain body of knowledge that is important, but optional for a program of study.

### Formal Course Work

- **Formal courses** – Existing UCF courses that involve standard class instruction of a defined body of disciplinary knowledge. These courses involve interactions between a formal course instructor and the students that make up the class, and can be traditional, face-to-face courses, web courses, and media-enhanced courses. Such classes include both core/required courses as well as elective courses, seminar courses and independent study courses (XXX 6908), but are distinguished from the

various categories of individualized research and scholarly courses.

- **Independent Study (XXX 6908)** – A course of study created outside of the standard-format formal courses offered by the university. Independent Study must have a formally defined core of knowledge to be learned by the student(s). The core of knowledge to be learned by the student(s) must be specified in written form and approved by the student(s), the instructor, and the program coordinator prior to enrollment in Independent Study.

### Research and Scholarly Work

- **Directed Research (XXX 6918, XXX 5917)** – Graduate-level research/scholarly work. Research hours taken at the graduate level. These can include laboratory rotations in addition to standard research and scholarly endeavors directed toward completion of a project.
- **Doctoral Research (XXX 7919)** – Doctoral-level research/scholarly work. Research hours at the doctoral level taken prior to passing candidacy. These can include laboratory rotations, preparation for candidacy exams, or standard research and scholarly endeavors directed toward completion of a project or a dissertation.
- **Doctoral Dissertation (XXX 7980)** – Research or scholarly hours taken after advancement to candidacy and directed toward completion of a dissertation.
- **Thesis (XXX 6971, XXX 6973)** – Research hours directed toward completion of a thesis.
- **Research Report (XXX 6909)**

Satisfactory (S) or unsatisfactory (U) grades are used to reflect student progress in these research and scholarly work courses. Other grades may not be assigned 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. Students who do not maintain satisfactory progress in their research, as determined by their thesis or dissertation advisory committee, may be placed on probation or dismissed should unsatisfactory progress continue.

### Disciplinary Training

- **Internships (XXX 6946)** – Courses that provide training experiences for students in



their discipline. It is not a “formal course,” but may be a required element of some programs.

- **Practica and Clinical Practice (XXX 5944 or XXX 6946)**

Graduate programs must select the grading scale for these disciplinary training courses to be either on an A–F or Satisfactory (S)/Unsatisfactory (U) scale, but not both in any one section.

## 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*

\* Available only in CHM 1032, CHM 2045C, CHS 1440, ENC 1101, ENC 1102, MAC 1105H, MAC 1105, MAC 1114, MAC 1140, MAC 2147, MAC 2233, MAC 2241, MAC 2253, MAC 2281, MAC 2281H, MAC 2311, MAC 2311H, and STA 2014C. In these classes NC replaces the use of D+, D and D-.

### 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. If an academic action such as dismissal or probation has been taken by the university before a grade change, the action will remain in effect regardless of the grade change. A grade will not be changed after a degree has been conferred.

## Course Requirements

### Course Levels of Graduate Work

**7000-Level Courses**—courses for doctoral students. Master’s and nondegree students may enroll in 7000-level courses with permission from the program.

**6000-Level Courses**—courses for graduate students. Nondegree 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 the catalog section on Senior Scholars.

**5000-Level Courses**—courses for graduate students. Nondegree students and seniors may enroll in 5000-level courses with permission from the program.

### Split-Level Classes

Although generally discouraged, UCF allows departments to offer split-level undergraduate and/or graduate classes. In such cases, two courses approved for different levels of instruction (e.g., a 4000- and 5000-level course) are offered together in the same room, at the same time, and with the same instructor, but under two different course numbers. In limited cases, classes taught in split-level format may comprise undergraduate and graduate level courses. In general, split-level classes are restricted to situations where the enrollment in one of the courses would be insufficient to allow the course to be offered on a stand-alone basis. When such split-level classes are scheduled, the following conditions must be maintained:

- Both the graduate and the undergraduate courses must have been approved previously through the established university process for approving courses so that there are two separate and complete syllabi for each course, and the syllabi clearly demonstrate more advanced subject matter and expectations for the graduate course than the undergraduate course. The graduate course documents submitted for approval must indicate that the course will be offered in a split-level format.
- Graduate split-level classes must only be assigned to faculty members who meet the university-wide minimum qualifications for teaching graduate-level courses.
- Courses may not be combined into a split-level class if the course numbers of the two courses are more than one level apart. For example, 4000- and 5000-level courses may be combined into a split-level class; 4000-level courses may not be combined with 6000-level courses.

- Students may not take both the undergraduate and graduate levels of a split-level course for credit, except in the case of performance and seminar classes, which can be taken for credit multiple times. Graduate students must take the graduate level of a split-level course for it to count toward fulfilling graduate program requirements.
- The graduate and undergraduate courses must have distinct requirements and performance expectations. Graduate students must have course requirements or assignments that require more in-depth analysis and understanding of the topics, provide broader coverage of the content area, demonstrate higher knowledge and skills, and/or show greater independence of thought and application of concepts than what is typically required of undergraduate students. The level and amount of learning by graduate students must be equivalent to what is typically expected in 5000-level or higher courses. The different requirements and expectations must be spelled out clearly in the course syllabi for the respective courses.
- Documentation of split-level class offerings must be maintained in the dean's office of the academic college, in expectation of future audits. Copies of both syllabi must be provided to the Undergraduate and Graduate Deans for all classes offered in split-level format.

### Language Requirements

Foreign language requirements shall be at the option of the individual departments or appropriate units consistent with their college regulations.

### Credit by Examination or Waiver

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. Examination credit may be used to satisfy program course requirements, but not credit hour requirements.

Correspondence courses are not acceptable toward a graduate program of study; however, credit-bearing 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.

## Full-time Enrollment Requirements

A full-time degree-seeking graduate student must take at least 9 credit hours in the fall and spring semesters. 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 master's students pursuing a thesis option, full-time enrollment is defined as 3 hours per semester [including summers, of thesis course work (XXX 6971)], after completion of all course work and until successful completion and defense of thesis.
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, including summers, until successful completion and defense of dissertation.

## Special Considerations

All international students on F or J visas must maintain full-time, degree-seeking status, regardless of financial support received from the university. F and J visa holders 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 submit to ISC a Reduced Course Load Form that explains the nature of the reduced hours and must obtain approval from ISC (see [www.intl.ucf.edu](http://www.intl.ucf.edu) for Reduced Course Load Form). This requirement also applies to

international students who are enrolled in less than 9 hours per term in thesis or dissertation hours.

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.

Students who do not satisfy these full-time enrollment requirements may have to start repaying student loans and will not qualify for graduate assistantships, fellowships or tuition support. Students receiving financial aid should refer to the Program Eligibility Charts on the Office of Student Financial Assistance website (<http://finaid.ucf.edu>) under "Receiving Aid" to determine their specific enrollment requirements.

Students receiving veterans benefits should contact Veteran's Affairs ([www.va.sdes.ucf.edu](http://www.va.sdes.ucf.edu)) for additional information about course loads.

Nondegree-seeking students must be enrolled in 12 credit hours or more to be considered in full-time status.

## Dual Degree Shared Credit Policy

The following policies apply to course credits that are counted toward fulfilling the requirements in two degree programs (dual degree shared credit). These policies do not extend to certificate programs. Policies governing credits shared between two certificate programs or between degree programs and certificate programs can be found under either the Graduate Certificate Program Policies or the Master's or the Doctoral Transfer Credit Policies.

The following policies serve to supplement and extend the shared credit policies that can be found in the existing Master's and Doctoral Transfer Credit Policies.

## General Limit to Use of Credits for More Than One Degree

No credit hours may be counted for more than two degree programs.

### Accelerated Bachelor's/Master's Programs

- Accelerated Bachelor's/Master's programs have a limit of 9 SCH shared credit for graduate degrees requiring up to 36 credit hours. For graduate degrees requiring more than 36 credit hours, accelerated Bachelor's/Master's programs have a limit of 12 SCH shared credit. Proposals for accelerated Bachelor's/Master's programs must include a strong curricular rationale that can support the streamlining of credit requirements in the two degrees.
- Shared credit is limited to formal course work, exclusive of independent study. Grades below a B- are not acceptable to fulfill Master's degree requirements if taken while in undergraduate status.
- Only outstanding students may enter accelerated Bachelor's/Master's programs (explicit requirements may be specified by the graduate program). All students in these programs must have met the undergraduate general education requirements. Students must apply and be formally admitted to the master's program following receipt of the bachelor's degree.
- Accelerated Bachelor's/Master's programs must be approved by the Graduate Council Curriculum Committee. Such programs must not unduly delay the completion of the bachelor's degree nor limit the breadth of the student's undergraduate experience.

### Dual Degree Programs

#### *Definition*

Dual degree programs lead to two different degree citations on the transcript and two separate diplomas. These may combine master's programs, doctoral programs, and professional degree programs. The purpose of a dual degree program is to allow students to undertake complementary programs of graduate study simultaneously through streamlined curricular arrangements that allow dual credit for a specified set of courses.

#### *Approval*

Dual degree programs must be approved by the Graduate Council Curriculum Committee; individualized dual degree programs for specific students are not allowed. Proposals for all dual

degree programs must include a strong curricular rationale that can support the streamlining of credit requirements in the two degrees. Dual degree programs that include a new degree program as one of the component degrees must instead be approved by the Graduate Council Program Review Committee.

#### *Shared Credit Limit*

A minimum of 50% of required credit hours must be unique to each degree and cannot be used for dual credit. Departments and programs may impose more stringent shared credit limits, but may not exceed the university limit.

#### *Student Admission*

Students may be admitted directly to a dual degree program. Upon admission, the Graduate School will place an indicator on the student's record to activate the second program of the dual degree option prior to the completion of 18 SCH in the first program. No admissions requirements established by the Graduate School or by either individual program may be waived. For example, if one dual degree program requires acceptable scores for the GRE and the other does not require it, the applicant must take the standardized exam to be considered for admission to both degrees. International students must contact the International Services Center prior to applying to a dual degree program. Students that apply to the regular program without the dual degree option and later become interested in the dual degree option must contact the dual degree program director prior to completing 18 SCH in the regular program.

#### *Academic Requirements*

Formal proposals for dual degree programs must include -

- a clear rationale for specifying whether joint or distinct documents can satisfy the thesis/dissertation or capstone requirements for each of the component programs;
- a clear rationale for specifying whether joint or distinct examinations can satisfy the requirements for each of the component programs; and
- specifications concerning the composition of the advisory committee, with representation from both programs.

All students must have two co-advisors, with one from each program.

Should a student fail to make satisfactory academic progress and be placed on probation, the student should consult with both advisors about the future course of action. Please refer to the section on Academic Progress and Performance for options for students who are dismissed as a result of unsatisfactory academic performance. Please note that students dismissed from a dual degree program may only pursue retention and readmission options with one of the degree programs and may not be retained in or readmitted into the dual-degree program.

### ***Student Financial Support***

Formal proposals for dual degree programs must include a clear structure for the financial arrangements for supported students.

### ***Other Policies***

- All standard policies apply.
- The graduate status GPA minimum must be met for both programs.
- Students enrolled in dual degree programs must have both degrees conferred simultaneously. No dual degrees will be awarded retroactively.
- Dual degree proposals must include statements concerning the handling of grievances, intellectual property issues, and the assigning of teaching “credit” and fees.

## **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, pay the application fee, provide transcripts from previous institutions, and complete residency forms.

The UCF College of Graduate Studies will make available the nondegree graduate application form to those faculty who are meeting classes for the first time at an off-campus site or regional campus; those faculty should collect the appropriate information and forms. These materials should be returned directly to the UCF College of 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.

## **Academic Progress and Performance**

### **Review of Academic Performance**

The primary responsibility for monitoring academic performance standards rests with the degree or certificate program. However, the academic college and the UCF College of Graduate Studies will monitor a student’s progress and may dismiss any student if performance standards or academic progress as specified by the program, college or university are not maintained. Satisfactory academic performance in a program includes maintaining at least a 3.0 graduate status GPA (defined below) in all graduate work taken since admission into the program. 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 dismissal of the student from the program.

### **Graduate Status GPA**

A graduate status GPA will be calculated based on the graduate courses taken at UCF since admission into each degree or certificate program. The graduate status GPA is used to monitor the student’s progress in the program. The university requires that students must maintain a graduate status GPA of at least 3.0 or higher in order to maintain regular graduate student status, receive financial assistance, and qualify for graduation. This GPA requirement cannot be waived.

In addition, a graduate status GPA will be calculated for nondegree students based on graduate courses taken at UCF while in nondegree status.

Please note that the graduate status GPA does not carry forward from one program to another or from nondegree status into a degree or certificate program.



### **Probationary Status, Dismissal and Readmission - Students in Nondegree Status**

Nondegree students whose graduate status GPA or cumulative GPA falls below 2.0 will be immediately dismissed from the university. (A graduate student's cumulative GPA is the GPA for all courses taken at UCF as a graduate student. The graduate status GPA is defined above.) Dismissed students are not allowed to enroll in courses unless they are readmitted either to a graduate program or as a nondegree student.

Nondegree students whose graduate status GPA drops below 3.0 but remains above 2.0 will be automatically changed to academic probationary status by the College of Graduate Studies. Students will receive a notice of probation at the beginning of the probation period, and the notice of probation will be imprinted on the student's advising transcript. Students have up to nine credit hours of letter-graded course work (graded A-F) to attain a graduate status GPA of 3.0 or higher, at which point they will be removed from probationary status. If the student has not attained a graduate status GPA of 3.0 by the end of the probationary nine credit hours, he/she will be dismissed from the university.

Students dismissed from nondegree status may seek admission from a graduate program at any time, but must wait one full year from the term of their dismissal to seek readmission to nondegree status. For earlier readmission to nondegree status, students may submit a letter of petition to the College of Graduate Studies that includes a cogent explanation of the changes that will allow them to be academically successful. Dismissed students seeking readmission must submit a complete new application. A readmission decision will be made and the decision is final with no additional opportunity for appeal. If a dismissed student is readmitted, they will be admitted in a restricted status for 9 hours. If at the end of the 9 hours a 3.0 graduate status GPA and a 2.0 CUM GAP is not achieved the student will be dismissed with no opportunity to return as a non-degree seeking student.

### **Probationary Status and Dismissal - Students in a Degree or Certificate Program**

Students whose graduate status GPA falls below 2.0 will be immediately dismissed from the university. Dismissed students are not allowed to enroll in courses unless they are readmitted either to a graduate program or as a nondegree student.

Students whose graduate status GPA drops below 3.0 but remains above 2.0 will be automatically changed to academic probationary status by the College of Graduate Studies. Unsatisfactory performance may also be indicated by a "U" grade in graduate course work. Under such circumstances the program may elect to place the student on academic probation.

Students will receive a notice of probation at the beginning of the probation period, and the notice of probation will be imprinted on the student's advising transcript. Students have up to nine credit hours of letter-graded course work (graded A-F) to attain a graduate status GPA of 3.0 or higher, at which point they will be removed from probationary status. If the student has not attained a graduate status GPA of 3.0 at the end of the probationary nine credit hours, he/she will be dismissed from the graduate program unless an approved Conditional Retention Plan is in place as described below. Students who have not remedied the unsatisfactory "U" performance, as defined by the program, may also be dismissed from the program.

The graduate program will also be notified at the time of probation and given an opportunity during the 9-hour probationary period to formally prepare a "Conditional Retention Plan". The Conditional Retention Plan should show how the student can realistically regain his/her regular graduate status (GPA 3.0) within a reasonable time (usually one semester). It should also define the courses to be taken and the timing of the courses to regain his/her graduate status. In addition, the plan could include other conditions as necessary for the continued enrollment of the student in the program such as retaking courses requiring better performance, taking remedial course work in specified areas, or completing special projects to better prepare the student for success in the program. The plan is developed by the graduate program director so that ideally the student and the faculty will know exactly what conditions

are required for the continued enrollment of the student. Failure to meet the conditions will result in dismissal without any further appeal of retention. An approved Conditional Retention Plan will usually include an extension of the probationary period, if needed, thus allowing the student to continue without interruption in his/her program even should the student fail to succeed in his/her initial probationary period. The plans are signed by the student and the graduate program director and submitted to the College of Graduate Studies for review and approval. The primary responsibility for monitoring the progress of the student in meeting the Conditional Retention Plan rests with the degree or certificate program, although the appropriate academic college and the College of Graduate Studies may also monitor the plans for compliance.

International students placed on probationary status will be sent to the International Services Center for advisement regarding the immigration status implications of this action.

After dismissal, the following options are available:

**OPTION A. The Program Requests Retention of the Student Within One Year After Dismissal.**

The dismissed student may not take program-related course work during this process, which must occur within the next semester following dismissal. The request for retention should include reasons for readmitting the dismissed student, as well as provide a “Conditional Retention Plan” as described above. If the request is approved by the College of Graduate Studies, the student will be readmitted into the program under the Conditional Retention Plan in restricted status; failure to meet the conditions will result in dismissal without any further appeal of retention. Requests for retention that are submitted to the College of Graduate Studies early enough for adequate review and approval prior to the late registration period will enable students to re-enroll in the next semester and not have a “dismissal” on his/her transcript.

**OPTION B. The Dismissed Student Applies for Entry into the Program from Which He/She Was Dismissed After One Year of Nonenrollment in that Program.**

In this case, the student must submit a complete new application (application fee, letters of reference if applicable, AND a statement describing why the student thinks he/she is more capable now to

successfully complete the program). The program must submit a “Conditional Retention Plan” (as described above) if they choose to support the former student. The Conditional Retention Plan must be submitted to the College of Graduate Studies for approval before an admissions decision is made.

A student that is admitted back into a program from which he/she was dismissed will continue to have the original dismissal denoted on the transcript and will continue with the same graduate status GPA that the student held prior to dismissal. Also, the student is admitted as a restricted student and must meet the conditions prescribed by the Conditional Retention Plan to enter regular graduate status.

**OPTION C: Apply to Another Program.**

This option is always available and requires a complete new application. Previously dismissed students accepted into new programs will be admitted under restricted status and have a new graduate status GPA (see Graduate Status GPA section above).

Students with a graduate status GPA of less than 3.0 seeking admission to a different graduate program will be admitted under restricted status with conditions as prescribed by the new program.

Dismissed students will not be allowed to enroll in graduate courses unless they have been admitted to another graduate program or admitted as nondegree students taking classes with permission from the department.

**NOTE:** Individual graduate programs may have more stringent grade requirements than described above. Students must abide by the academic performance standards of their graduate program.

**Maximum Hours of Unsatisfactory Grades**

“C” grades (C, C+, C-), as well as D, D+, D-, F, and U grades, are all considered unsatisfactory grades.

A student may apply a maximum total of six semester credit hours of “C” grades, or the “C” grade credits associated with at most two classes, whichever is greater, to satisfy degree program requirements.

Exceeding six semester credit hours of unsatisfactory grades is grounds for dismissal for all

degree-seeking and nondegree students. A course in which a student has received an unsatisfactory grade may be repeated, however, both grades will be used in computing the GPA. There is no forgiveness policy for any course taken while in graduate status.

### 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 period of 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 Graduate College for further follow-up. For those students on financial assistance such as loans, the incomplete (I) 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. 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. UCF fellowship students cannot receive fellowship funds while holding Incomplete grades and have thirty days from the issuance of the Incomplete to remedy it in order to continue to receive fellowship funds.

### Enrollment

Students must be enrolled in order to take exams, to conduct research or to use any university resources and to graduate. Students who have completed all degree requirements may enroll in IDS 6999 during their semester of graduation.

### Continuous Enrollment and Active Student Status

Students must be enrolled for at least one semester of every three consecutive semesters in order to maintain active student status. Students who do not meet this enrollment requirement breach continuous enrollment and will be removed from active student status. These students must reapply for admission. Readmission is not guaranteed.

Students with extenuating circumstances that will compel them to be unenrolled for three consecutive semesters or more may complete a Leave of Absence Form to petition to remain in active student status. This form must be submitted no later than the end of the add/drop period of the third semester of non-enrollment. See the section below for details.

1. Because of current U.S. government regulations, international students must be enrolled every fall and spring semester. For students in this category, a Leave of Absence is only available for documented medical reasons.
2. A student who is discontinued for breach of continuous enrollment will lose the option of fulfilling the degree requirements originally listed in his/her official program of study already on file and will instead be subject to the degree requirements listed in the graduate catalog in effect at the time the student is readmitted to the program.

### Continuous Enrollment

**Students engaged in thesis or dissertation work must be continuously enrolled every term.** Doctoral students who have begun taking dissertation hours, and Master’s students who have completed their required course work and are completing their thesis requirement are required to be continuously enrolled (including summer) until the thesis or dissertation is completed. For details, see the Master’s and Doctoral enrollment policies under Thesis and Dissertation Requirements. Students with extenuating circumstances which will prevent them from enrolling continuously may submit a Leave of Absence Form. See the section below for details.

## Enrollment in Multiple Graduate Programs

- Students are allowed to enroll in multiple master's and doctoral degree programs.
- Approval of the program(s) where the student is currently enrolled is not required for application to or enrollment in additional program(s).
- The College of Graduate Studies shall inform the program(s) of current enrollment when a student is accepted for enrollment in a new program.
- Students will be held responsible for showing academic progress in each program in which they are enrolled.

## Special Leave of Absence

A Leave of Absence may be granted to a student to temporarily waive the continuous enrollment requirement. A leave may be requested in cases where the student can demonstrate good cause (e.g., illness, family issues, financial difficulties, personal circumstances, recent maternity/paternity, employment issues). The specific reason for the Leave of Absence request must be indicated by the student on the Leave of Absence Form. A Leave of Absence will be granted only after approval from the Graduate Program Director for the student's program of study and the College of Graduate Studies (and the International Services Center for international students, when applicable). Students may request up to 6 consecutive semesters of non-enrollment. For students seeking a temporary waiver of the continuous enrollment policy, the Leave of Absence Form must be submitted no later than the end of the add/drop period of the third semester of non-enrollment. For thesis and dissertation students, the Leave of Absence Form must be submitted when a student will not be enrolled for any number of terms. For those students, the Leave of Absence Form must be submitted no later than the end of the add/drop period of the term of non-enrollment. Time spent in a 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 Leave of Absence, the student will have failed to maintain continuous

enrollment and must apply for readmission to the university.

## Readmission

To file for readmission, 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 three consecutive semesters. For more information on readmission, please visit the Graduate Students website.

## Academic Grievance Procedure

The UCF College of 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 and Commercialization.

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 at The Golden Rule [www.goldenrule.sdes.ucf.edu/](http://www.goldenrule.sdes.ucf.edu/) (see section 11).

## 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 for following the policies that govern the academic program. However, when unusual instances arise, making it appropriate for students to request exceptions of existing graduate academic policies for graduate students, graduate students may petition the appropriate unit for an exception to



this requirement. The university is always looking for the compelling reason that an exception is warranted, so this needs to be carefully described in any petition. The procedures are:

- The graduate student completes a Graduate Petition Form and submits it to the graduate program director, specifying the requirement (either a program or university requirement) and the exception desired. The graduate student needs to provide a compelling reason for an exception to be made.
- The graduate program director may ask the program graduate committee to examine and provide advice about the petition to the graduate program director. The graduate program director will then make a recommendation about the exception to the unit head. The unit head will then make a final recommendation.
- The petition will then be sent to the College of Graduate Studies for a final decision. The Vice Provost and Dean of the College of Graduate Studies may ask the Appeals Committee of the Graduate Council of the Faculty Senate to examine the information provided in the petition at their next scheduled meeting and make a recommendation concerning the petition to the Vice Provost and Dean.
- The Vice Provost and Dean of the College of Graduate Studies may consider the input of the Appeals Committee of the Graduate Council and will make a final decision about the petition for the university.

## Degree or Certificate Completion

### Application and Certification for Graduate Degrees

Students planning to graduate in the next term must complete the Application for Graduation (Intent to Graduate available at <https://my.ucf.edu>). Students who have not applied for graduation by the last day of classes in the term preceding the graduation semester may not be listed in the Commencement Program. If the student does not graduate in that term, a new application for graduation must be filed at the beginning of registration for the term of anticipated graduation. Graduating students must be enrolled at UCF during the term of graduation. Graduates may contact the Registrar's

Office for Commencement ceremony and guest ticket information.

Assuming that the student is in good standing at the university, degrees will be awarded only after successful completion of the degree requirements stated in the Graduate Catalog under which the student plans to graduate and final recommendation from the faculty and dean of the respective college.

The college of the degree program must certify through the college dean that all program and college requirements have been met. Degree certification forms (Degree Audit forms or program of study with approval signatures) are forwarded to the UCF College of Graduate Studies for final determination that all program, college, and university requirements have been met.

### Application and Certification for Graduate Certificates

In order to be processed for completion of a graduate certificate program, students must file an application for completion (Graduate Certificate Completion form) with the office that offers the certificate program. The Graduate Certificate Completion form should be filed by the time that the student is registering for the final course in the certificate program, and such forms must be filed no later than the end of the semester in which the student enrolls in the last course required for the certificate program. Forms can be found on the UCF Graduate Students website ([www.graduate.ucf.edu](http://www.graduate.ucf.edu)).

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 Completion forms (available at [www.graduate.ucf.edu](http://www.graduate.ucf.edu)) are forwarded to the UCF College of 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. The certificate is mailed to the student unless the student or the graduate program requests other arrangements. Certificate recipients are not recognized at commencement.

### Thesis and Dissertation Requirements

An oral defense of an original thesis or dissertation is required with the approved thesis or dissertation



being prepared in accordance with program, college, and university requirements.

The College of 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 thesis or dissertation electronically. Graduate students can obtain the manual and formatting instructions from Thesis and Dissertation (ETD) on the Graduate Students website. Additionally, the Thesis/Dissertation Office offers workshops to inform graduate students about procedures, deadlines, and requirements associated with preparing a thesis and dissertation.

Academic dishonesty in thesis, research report and dissertation work may result in reversion to postbaccalaureate status or termination from the degree program. Our emphasis on academic honesty requires quotations or ideas of others to be accompanied by appropriate citations.

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 and Commercialization ([www.research.ucf.edu](http://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 submit the final electronic copy of their thesis or dissertation by the dates shown in the Academic Calendar. All students are required to submit their thesis or dissertation electronically.

## Traveling Scholars

The Traveling Scholar status enables a UCF graduate student to take advantage of special resources available on another campus that are not available at UCF (for example, special course offerings, research opportunities, unique laboratories, and library collections). Provided the appropriate approval described below is obtained, Traveling Scholar credits are guaranteed to be accepted as earned UCF credits, as long as the grades obtained are B- or higher.

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 deny 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 must be completed by the student and approved by the UCF College of 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.

To obtain credit for approved Traveling Scholar courses, the student must request an official transcript be sent from the host institution to the UCF College of 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 Transfer Request Form so that the credits can be entered into the student database. Credits earned at another institution while in Traveling Scholar status will be considered internal transfer credits and do not count toward the student's graduate status GPA. 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 the UCF College of Graduate Studies.

An international graduate student who is registered at another educational institution besides UCF as a Traveling Scholar or as a transient student is 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.

### Assistantship Opportunities

As part of a program’s professional development plan for students, full-time graduate students may be offered the opportunity to gain experience as a Graduate Teaching Assistant (or Associate or Grader; GTA), Graduate Research Assistant (or Associate; GRA), or Graduate Assistant. Please visit the Financial Information section in the catalog for more information.

Assignments to these professional development activities are intended to supplement the student’s academic program of study in order to give the student professional experiences that will enhance the student’s development and prepare him/her for postgraduation employment. While these activities provide the opportunity for students to be graduate assistants, their overriding purpose is to help develop the skills, abilities, and professionalism of the student.

All graduate assistants (GTAs and GRAs) must be assigned to at least a half-time appointment (0.25 FTE assignment, approximately equivalent to 10 hours per week). However, the standard assignment for graduate assistants is a full-time appointment (0.5 FTE assignment approximately equivalent to 20 hours per week). Students who desire more than a full-time appointment during fall and spring semesters must complete a Supplemental Assignment Form. The UCF College of Graduate Studies will only grant exceptions to this policy in rare circumstances and for compelling reasons related to the student’s professional development. Exceptions are granted only rarely during the first year of a student’s program of study. Decisions are based on the student’s academic record, the appointment FTE, the relationship of the assignments to the student’s program of study, support from the graduate program director, and related factors.

**Student FICA exemption.** Graduate assistants who are enrolled at least part-time (5 hours in fall, 5 hours in spring, or 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 on a graduate assistant appointment but not enrolled will result in withholding FICA/Medicare taxes.

### Academic Common Market Scholars

The University of Central Florida is a participating institution in the Academic Common Market (ACM) program with other southern universities sharing unique academic programs on the undergraduate and graduate level. However, the University of Central Florida only participates at the graduate level.

The Academic Common Market offers students the opportunity to enter degree programs that are not available in their home state, while still being eligible to pay in-state tuition rates. Students taking part in this program must be admitted by a participating university (notifying that university of their planned attendance as an ACM Scholar), and will need to obtain a letter of certification from their respective ACM state coordinator.

The first step is to contact your respective state coordinator for information on how to apply for the Academic Common Market. Contact information for state coordinators can be found on the following website: <http://home.sreb.org/acm/states.aspx>.

After making contact with your state coordinator, if you are eligible for the ACM, you can apply to the University of Central Florida online through the website at [www.graduate.ucf.edu/gradonlineapp/](http://www.graduate.ucf.edu/gradonlineapp/). When filling out the Florida Residency Classification section, select the option that states “I am a Florida Resident for tuition purposes” and fill out the entire section. Before saving the page, you will need to add an explanation for your Florida residency. Please select the letter “N,” which states “I am a Southern Regional Education Board’s Academic Common Market graduate student.”

Upon submission of your application, and your program’s required admissions criteria, you will receive a decision from the program in which you have applied. If accepted, you can present that information to your state coordinator, who will then be able to provide UCF with a certification letter. With that letter, UCF will then be able to offer you Florida residency for tuition purposes.

The participating universities are located in the following states:

Alabama	Louisiana	Tennessee
Arkansas	Maryland	Texas*

Delaware	Mississippi	Virginia
Florida*	North Carolina	West Virginia
Georgia	Oklahoma	
Kentucky	South Carolina	

\*Only Florida, North Carolina, and Texas participate at the graduate level.

For more information, please contact the UCF College of Graduate Studies at 407-823-2766 (Millican Hall 230, P.O. Box 160112, Orlando, FL 32816-0112). Additional information on the Academic Common Market, including contact information for state coordinators and all available academic programs, can be found on the Southern Regional Education Board (SREB) website, [www.sreb.org](http://www.sreb.org).

## Proprietary and Confidential Information

It is the intent of the University to foster the professional development of its faculty and students. In particular, the proprietary and patent policies serve to protect the interests of UCF graduate students so that they can engage in research that will ultimately be published. In no circumstances should the University knowingly enter into agreement with outside agencies that would prevent the ultimate publication of the graduate student's work, as a thesis or dissertation or other means. These policies also help to clarify protections for intellectual property contained in theses/dissertations for students who engage in employment outside the University.

If thesis or dissertation work is supported by a contractual agreement with an outside 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 below for explanations of rights associated with patents and copyrights.)

- Only for those theses and dissertations where a prior written agreement was made between UCF and an outside agency or where the University wishes to pursue a copyright/patent may publication of the thesis/dissertation be delayed, or in exceptional circumstances as determined by the University on a case by case

basis. Review and delay of disclosure of the thesis/dissertation may take up to 6 months.

- The review by the outside 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 but the thesis or dissertation will not be released for up to 6 months.
- No graduate degree will be awarded when the thesis or dissertation, after a reasonable interval, is not available to the public. If material is sensitive, classified, or will be patented, the thesis or dissertation will not be released for up to 6 months.
- Contractual agreements that contain provisions for review and delay of disclosure shall be reviewed by the Office of Research and Commercialization. Exceptional cases may include a delay of disclosure for more than six months and/or review prior to the oral defense.
- The student and the student's Adviser shall be informed of the possibility of the delay of disclosure at the time of appointment of the Adviser.

## 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 (3) disseminate the intellectual property to the general public. In most cases, 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.

- University Authority and Responsibilities:** Florida Statute Section 1004.23 authorizes the University to take any action necessary to secure letters of patents, copyrights, and trademarks on any work products and to enforce its rights therein. This policy applies

to graduate students who are considered University personnel.

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, mask works, 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 improvement 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 the 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 Office of Research and Commercialization 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 Office of Research and Commercialization shall gather information to assess the relative equities of the graduate student and the university in the **work**.
3. Within 120 days after such disclosure, the Office of Research and Commercialization 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 as inventor or co-inventor shall fully and completely disclose to the Office of Research and Commercialization all **inventions** which the inventor(s) 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 as inventor or co-inventor 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. The Office of Research and Commercialization shall inform the graduate student as inventor as well as all other inventors within 120 days of disclosure as to whether the University wishes to assert an ownership interest in the intellectual property.
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 of Central Florida Research Foundation.
4. The graduate student as inventor(s) and the University shall not commit any act which would tend to defeat the University's or inventors' 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 Office of Research and Commercialization, 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 inventor(s), in which case the **invention** shall be the inventor(s) property, and none of the costs incurred by the University or on its behalf shall be assessed against the inventor in whole or in part.

**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, University Regulations, 6C7-2.029 Copyrights and Patents). The University also has a policy addressing the division of proceeds between UCF inventor(s) and the University (see University Regulations, 6C7-2.029). It is also contained in the Patents and Copyrights Policy of the UCF Research Foundation. This same division of royalties will apply in the disbursement of royalty income to graduate students as inventor(s), unless this has been negotiated in a separate contractual agreement.
- b. All sponsored **research** done by graduate students enrolled at the University for and with companies must have a contractual agreement with UCF negotiated at the start of that research. Graduate students must be informed at the start of the research about any contractual agreements that would concern future publication of their research work.
- c. Dissertation or thesis dissemination can be delayed because of patent or proprietary information concerns of a sponsor. This can occur when a prior contractual agreement has been entered into that includes provisions for a research sponsor's review between the sponsor and University. (See Proprietary and Confidential Information above in the Graduate Catalog.)



## INTERNATIONAL GRADUATE STUDENT POLICIES

### Full-time Enrollment Requirements

A full-time degree-seeking graduate student must take at least 9 credit hours in the fall and spring semesters. 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 master's students pursuing a thesis option, full-time enrollment is defined as 3 hours per semester (including summers, without skipping a semester) of thesis course work (XXX 6971), after completion of all course work and until graduation. Students who wish to enroll in part-time hours should consult their adviser.
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. Such students must continue to enroll in at least three dissertation hours each semester (including summers, without skipping a semester) until they successfully complete the dissertation and graduate. Students who wish to enroll in part-time hours should consult their adviser.

Graduate students receiving assistantships, tuition support, and fellowships must be enrolled full-time as degree-seeking students who maintain good academic progress.

### *Special Considerations*

All international students on F or J visas must maintain full-time, degree-seeking status, regardless of financial support received from the university. F and J visa holders 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 submit to ISC a Reduced Course Load Form that explains the nature of the reduced hours and must obtain approval from

ISC (see [www.intl.ucf.edu](http://www.intl.ucf.edu) for Reduced Course Load Form). This requirement also applies to international students who are enrolled in less than 9 hours per term in thesis or dissertation hours.

Students who do not satisfy these full-time enrollment requirements will not qualify for graduate assistantships, fellowships or tuition support.

### 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.

Graduate students who desire to engage in off-campus employment must be approved by the International Services Center (ISC) for Curricular Practical Training (CPT) prior to beginning the employment. CPT is defined as employment that is an integral part of the established curriculum and can be in the form of an internship or cooperative educational experience. In order to qualify for CPT, there are several requirements that must be met. Please speak with an adviser at the ISC for more information on these requirements and prior to engaging in 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, on-campus employment may be up to 40 hours per week. (Please note that all graduate assistants during the summer must enroll in a full-time course load.) Employment may also be up to 40 hours per week during vacation or other break periods. Please speak with an adviser at the ISC for clarification of these policies.

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 in the next regular academic term or session.

Students who received a bachelor's degree at one school and will start a master's degree or PhD at UCF are eligible to work during the summer at UCF as long as a Form I-20A-B was issued for the new master's or PhD program.

International students on an F-1 visa are eligible to apply for one year of optional practical training (OPT) after completion of their program.

For more information about the employment of international students, contact the International Services Center at 407-823-2337 or visit the office to speak with an adviser.

## English-speaking Ability for Graduate Teaching Associates and Assistants

Students who plan to serve as graduate teaching associates or assistants (GTAs) and for whom English is a second language are required to pass the SPEAK test. The SPEAK test evaluates an individual's English-speaking skills. 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 a regionally accredited U.S. college or university, from a country where English is the only official language, or from a university at which English is the only official language of instruction, or they have received a score of 26 or higher on the Speak portion of the ibt TOEFL. Only exempted students and those who have attended the UCF GTA Training and satisfactorily passed the evaluation of their English-speaking skills may be assigned as GTAs.

For more information about this requirement and the free English-speaking training that the university provides, see "English-speaking Ability for Graduate Teaching" in the Assistantships section of this graduate catalog. See Graduate Teaching in the UCF Graduate Student Handbook for Information on registering for GTA Training and SPEAK testing.

## International Visiting Scholars

The following policy and procedures allow departments to invite international visitors to study, teach, or participate in research activities at UCF. The policy is directed to those who do not wish to earn a degree, but who may audit courses in the postbaccalaureate, nondegree-seeking status for professional development and who normally have complete financial support provided by some outside agency. These visiting scholars will have J-1 visa status and use the Professor, Research Scholar, or Specialist category as permitted by

immigration regulations. Visitors seeking degrees will use regular UCF admission procedures and must enter the United States using the F-1 or J-1 visa student category.

Visiting scholars 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 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 to a prospective scholar is as follows:

1. 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.
2. 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
3. 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 the UCF College of Graduate Studies so that the invitation and application may be placed in the visiting scholar's official university file.
4. The UCF College of Graduate Studies will then forward copies of the information to the International Services Center. Upon receipt and verification of the required documents, a Form DS-2019 for the purpose of the J-1 visa application J-1 Visa will be issued.
  5. 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.
  6. **All visiting scholars should report to the International Services Center directly upon arrival at UCF to ensure that their immigration documents are in order.**

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 postbaccalaureate 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.

## 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 supports 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.

### Florida-Brazil Institute

Center for Latin American Studies  
University of Florida  
319 Grinter Hall  
P.O. Box 115530  
Gainesville, FL 32611-5530  
Tel: (352) 392-0375 ext. 800  
Fax: (352) 392-7682  
Web Address: <http://www.floridabrazil.org/>

### Florida-Canada Institute

**Lisa Lomitola**  
Office of International Studies  
University of Central Florida  
3000 Central Florida Blvd, MH 150  
Orlando, FL 32826-3105  
Phone: (407) 823-3647 Fax: (407) 882-0240  
E-mail: [fcli@ucf.edu](mailto:fcli@ucf.edu)  
Web Address: [www.international.ucf.edu/fcli](http://www.international.ucf.edu/fcli)

### Florida-Caribbean Institute

**Christine Jarchow**  
Latin American & Caribbean Center  
Florida International University  
DM-353 University Park, Miami, FL 33199  
Phone: (305) 348-1913 Fax: (305) 348-3593  
E-mail: [jarchowc@fiu.edu](mailto:jarchowc@fiu.edu)  
Web Address: [casgroup.fiu.edu/lacc/pages.php?id=1027](http://casgroup.fiu.edu/lacc/pages.php?id=1027)

### Florida-China Institute

**Dr. Miriam Stamps**  
Chair of Marketing Department  
College of Business  
University of South Florida  
4202 E. Fowler Ave., BSN 30403, Tampa, FL 33620  
Phone: (813) 974-6205 Fax: (813) 974-6175  
E-mail: [mstamps@coba.usf.edu](mailto:mstamps@coba.usf.edu)

\*Tuition Exemption Office

**Dr. Henry Chen**

University of West Florida  
11000 University Parkway  
International House Bldg. 71, Room 117,  
Pensacola, FL 32514-5750  
Phone: (850) 474-2665 Fax: (850) 474-2915  
E-mail: hchen@uwf.edu

**Francine Arrington**

Director of International Services  
Brevard Community College, 1519 Clearlake Road,  
Cocoa, FL 32922  
Phone: (321) 433-7342  
E-mail: arringtonf@brevard.cc.fl.us  
Web Address: www.uwf.edu/fcli/

**Florida-Costa Rica Institute**

\*Tuition Exemption Office

**Joan Cassels**

International Programs Office  
Florida State University  
A5529 UCA, Tallahassee, FL 32306-2420  
Phone: (850) 644-7823 Fax: (850) 644-8817  
E-mail: jcassels@admin.fsu.edu  
Web Address: international.fsu.edu/Types/Linkage/  
Florica%20Costa%20Rica.aspx

**Florida-Eastern Europe Institute**

Tuition Exemption Office

**Mr. Angel Cardec**

Office of International Studies  
University of Central Florida  
12424 Research Parkway, Suite 395  
Orlando, FL 32826-3208  
Phone: (407) 882-2300 Fax: (407) 275-4386  
E-mail: acardec@mail.ucf.edu

**Dr. Charles Mojock**

Lake-Sumter Community College  
9501 U.S. HWY 441, Leesburg, FL 34788-8751  
Phone: (352) 365-3523 Fax: (352) 365-3548  
E-mail: mojockc@lscf.cc.fl.us  
Web Address: www.international.ucf.edu/eeli

**Florida-France Institute**

\*Tuition Exemption Office

**Dr. Christine Probes, Co-director (c/o Violetta Urba)**

Florida France Institute  
University of South Florida  
4202 E. Fowler Ave., CPR107,

Tampa, FL 33620-5550

Phone: (813) 974-8081 Fax: (813) 974-8271

E-mail: global.usf.edu/florida\_france/

**Joan Cassels**

International Programs  
Florida State University  
A5529 UCA, Tallahassee, FL 32306-2420  
Phone: (850) 644-7823 Fax: (850) 644-8817  
E-mail: jcassels@admin.fsu.edu  
Web Address: global.usf.edu/florida\_france/index.  
htm

**Florida-Israel Institute**

**Dr. Zvi Roth, Co-Director**

Florida-Israel Institute  
Florida Atlantic University, SE-470  
777 Glades Road, Boca Raton, FL 33431  
Phone: (561) 297-3471 Fax: (561)-297-4094  
E-mail: rothz@fau.edu

**Dr. Catherine Meschievitz, Director**

Office of International Programs SU-106  
Florida Atlantic University  
777 Glades Rd., Boca Raton, FL 33431  
Phone: (561) 297-1039 Fax: (561) 297-2850  
E-mail: cmeschie@fau.edu

**Dr. Daniel Rieger, Co-Director**

Florida-Israel Institute  
Broward Community College  
Bldg. 57, Room 215 (North Campus)  
1000 Coconut Creek Blvd.,  
Coconut Creek, FL 33066  
Phone: (954) 201-2451  
E-mail: drierger@broward.edu

**Dr. David D. Moore**

Associate Vice President for International Education  
Broward Community College  
225 East Las Olas Boulevard,  
Fort Lauderdale, FL 33301  
Phone: (954) 201-7707 Fax: (954) 201-7708  
E-mail: dmoore@broward.edu  
Web Address: www.floridaisrael.org

**Florida-Japan Institute**

Tuition Exemption Office

**Dr. Mark Orr**

(c/o Violetta Urba)  
University of South Florida  
4202 E. Fowler Ave., CPR 107, Tampa, FL 33620  
Phone: (813) 974-8081 Fax: (813) 974-8271  
E-mail: florida-japan@iac.usf.edu



**Ms. Shigeko Honda**

University of West Florida  
 11000 University Parkway  
 Pensacola, FL 32514-5750  
 Phone: (850) 474-3108 Fax: (850) 857-6024,  
 shonda@uwf.edu  
 Web Address: www.uwf.edu/intered/fjli/

**Florida-Mexico Institute****Christine Jarchow**

Latin American & Caribbean Center  
 Florida International University  
 DM-353 University Park, Miami, FL 33199  
 Phone: (305) 348-1913 Fax: (305) 348-3593  
 E-mail: jarchowc@fiu.edu  
 Web Address: casgroup.fiu.edu/lacc/pages.  
 php?id=1013

**Florida-West Africa Institute****Dennis Gayle****Ms. Betty Flinchum**

University of North Florida  
 Building 838  
 c/o International Center  
 4567 St. Johns Bluff Road, South Jacksonville,  
 Florida 32224-2676  
 Phone: (904) 620-1950 Fax: (904) 620-3925  
 E-mail: dgayle@unf.edu, bfinchu@unf.edu

**Dr. Brenda Simmons**

Florida Community College at Jacksonville  
 101 W. State St. #A 1185,  
 Jacksonville, FL 32202-2056  
 Phone: (904) 633-5895 Fax: (904) 633-8172  
 E-mail: bsimmons@fccj.org

**Ms. Anges Coppin**

Florida A&M University  
 304 Perry Page North, Tallahassee, FL 32307  
 Phone: (850) 599-3562 Fax: (850) 561-2587  
 E-mail: agnes.coppin@famu.edu  
 Web Address: www.unf.edu/intlctr/FLAWI\_Waiver.  
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## GRADUATE CERTIFICATE PROGRAM POLICIES

Graduate certificate programs are a way for universities to provide the latest disciplinary knowledge in the most flexible and convenient formats for the professional development of its alums and others who desire further education.

Graduate certificate programs are very popular options at UCF for graduate study without having to commit to an existing master's or doctoral program. One of the benefits of enrolling in a graduate certificate program is that later, should students decide to do so, they can usually apply all of the credits earned in the graduate certificate to a graduate program. The graduate certificate program is meant to be flexible and offer a short-term of study that provides specialized knowledge that supplements an existing degree. Graduate certificate programs are particularly helpful to those professions where licensure and continuing professional development are required. Many of our graduate certificate programs are offered online for convenience. One of the most important benefits of our graduate certificate programs is that they are taught by our graduate faculty using regular graduate courses at the university.

UCF has 68 graduate certificate programs available to supplement existing graduate programs 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 groups of courses. Frequently, a package of specialized courses that forms a certificate will increase employment credentials, lead to career enhancement, and produce more income.

It is the intent of these programs to be current and to provide specialized, 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 that supplements a graduate degree. Frequently, a certificate program can provide an interdisciplinary focus that provides more depth and understanding to an existing 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.

## Certificate Program Admission Requirements

Students currently admitted to a graduate degree program or to nondegree status can apply and are eligible to enroll in graduate certificate programs. In addition, individuals who have previously completed bachelor's, master's, or doctoral degrees are eligible to enroll in certificate programs. In order to apply to a graduate certificate program, a student must submit an online admissions application, pay a \$30 application fee, and submit an official transcript showing an earned bachelor's or higher degree from a regionally accredited or recognized foreign institution. On the online application, the student must designate the certificate program that he/she wishes to enter. Students are required to submit the application and obtain formal admission to the graduate certificate program. Students are advised to apply for the graduate certificate program well in advance of completion of all required courses. Students must complete the certificate requirements that are listed in the Graduate Catalog that is in effect at the time of their formal admission to the certificate program.

Admission to a certificate program does not guarantee admission to a graduate program. However, once a person is accepted into a master's, specialist and doctoral graduate program, credits from a completed UCF certificate program may be applied toward an existing graduate program with the consent of the program.

Nondegree students who are enrolled in a certificate program are not eligible for tuition support, assistantships, or fellowships, and are not generally eligible for federal financial aid.

## Course Requirements and Loads

A certificate program must include a minimum of nine semester hours. The course work must consist of an integrated and organized sequence of study; course substitutions are not permitted.

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 graduate status GPA 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. If requested prior to the completion of the certificate program requirements, graduate credit hours taken at UCF from a prior baccalaureate, master's, specialist, or doctoral degree may be applied toward a certificate, with the consent of the program, provided they are no more than three years old. The request for using credits from prior years must be submitted no later than the end of the add/drop period in the semester in which the student takes the final course in the certificate program.

### Recency of Credit

The student has three years from the date of admission to the certificate program to complete the certificate. In addition, no course older than three years at the time of completion may be used.

### Completion of Graduate Certificate

In order to be processed for completion of a graduate certificate program, students must have obtained formal admission into the graduate certificate program (see Certificate Program Admission Requirements above). Students nearing completion of a graduate certificate program must complete the online Intent to Graduate Form by logging into myUCF and navigating to the Student

Center Academics ; Undergraduate and Graduate Careers ; Intent to Graduate: Apply. Intents to graduate should be filed online no later than the last day of registration for the semester of graduate certificate completion.

Students will only be processed for completion of a graduate certificate if they have previously submitted a certificate application form, have been formally admitted to the program, and have filed an intent to graduate. Students must be enrolled in the semester in which the graduate certificate is being completed.

## MASTER'S PROGRAM POLICIES

### Master's Admission Requirements

Admission to a master's degree program requires a bachelor's degree from a regionally accredited institution, or recognized foreign institution, and a minimum of a 3.0 GPA in the overall bachelor's degree program or in the last 60 attempted semester hours of undergraduate studies. Some master's programs do not require a GRE or GMAT score for the admissions process while others do. Please see the Graduate Programs section of the catalog for information about specific program requirements.

Programs often require additional or higher criteria. 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.

### Course Requirements

The program requirements for a master's degree may include core and elective courses, seminars, independent study, clinical courses, directed research, and thesis research.

- A minimum of 30 semester hours of postbaccalaureate, graduate work (5000-level or higher) is required and must be taken as part of an approved graduate program of study. Some programs require more than the minimum of 30 hours because of the nature of the discipline and the standards of the associated profession.

- At least half of the credit hours used to meet program requirements must be at the 6000 level.
- Only graduate-level work with a grade of "C-" or higher may be used to satisfy degree requirements.
- For the master's degree, at least 24 semester hours of core and elective courses must be earned exclusive of thesis and research.
- In no case will the number of thesis hours in excess of the amount required by a program be counted toward degree completion.
- At least 50 percent of the credits offered for the degree must be in a single field of concentration.
- A research report, capstone course, comprehensive exam, or other culminating experience that demonstrates that graduate students have engaged in independent learning is required in a nonthesis option master's program. An explanation of how the culminating experience promotes independent learning is required in each program's curricular description.
- A thesis hour requirement may only be satisfied by enrollment in thesis hours.
- In the case where a student changes from a thesis to a non-thesis option, up to 6 thesis hours may be used to substitute for other research hours.

### Independent Study Hours

Independent study (XXX 6908) may be taken for a total of no more than six semester hours.

### Residence Credit

The master's degree program must include at least 21 semester credit hours taken at UCF. 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 may also include UCF courses offered through the web or courses taken as a Traveling Scholar if prior approval is obtained.

## Transfer of Credit

Any credits taken prior to the term of admission to your program and used to satisfy specific program requirements are considered graduate transfer credits.

The acceptance of transfer credits in a program of study must be approved by the program. Graduate programs may stipulate additional constraints beyond those included in the university transfer policy.

All transfer credits toward a master's or specialist degree should be finalized by the end of the second term of program enrollment (based on full-time enrollment), and must be finalized by the end of the term prior to the term of expected graduation.

The thesis credit requirement of a program may not be satisfied by transfer credits.

Students with international transfer credits from recognized international institutions may be required to obtain a Joseph Silny evaluation.

No more than 9 credit hours from a previously earned degree may be used to satisfy the requirements of a master's degree, except as part of a formally approved accelerated bachelor's/master's program.

The total number of transfer credits may not exceed 50% of program requirements, except under two circumstances.

1. UCF graduate certificate credits: up to all of the hours taken to fulfill an earned UCF graduate certificate can be used toward a graduate degree within the same or closely related discipline. If the number of transfer credits for an earned UCF graduate certificate is equal to or exceeds 50% of program requirements, additional transfer credits are not allowed.
2. Transfer of credits from a UCF doctoral program to a master's program (other than master's degrees obtained along the way to a doctoral degree): transfer of credits that exceed 50% of program requirements is at the discretion of the program and requires approval of the Appeals Committee.

Two different types of transfer credit can be brought into a master's program of study.

1. External transfer credits: graduate-level course credits completed at a regionally accredited

institution (excluding UCF) or recognized international institution.

External credits are eligible for transfer only if they meet the following criteria:

- Only graduate-level or higher courses may be accepted as transfer credits.
- Only courses with a grade of "B-" or higher are allowed to be transferred into a program of study; transfer of courses with a grade lower than a "B-" is not petitionable.
- Only hours that are no more than seven years old at the time the degree is conferred may be transferred, unless part of an earned graduate or professional degree.
- Only formal course work hours, but not thesis or research hours, may be used as transfer credits.

External transfer credits are limited to up to 9 credit hours.

2. **Internal transfer credits:** graduate-level course credits completed
  - a. at UCF prior to enrolling in the program for which the degree is sought, including those taken in undergraduate status at UCF as part of a Senior Scholar or accelerated program; or
  - b. as a Traveling Scholar (see Traveling Scholars in the General Graduate Policies for more information).

Internal credits are eligible for transfer only if they meet the following criteria:

- Only graduate-level courses may be accepted as transfer credits.
- Only courses with a grade of "B-" or higher are allowed to be transferred into a program of study; transfer of courses with a grade lower than a "B-" is not petitionable.
- Only hours that are no more than seven years old at the time the degree is conferred may be transferred, unless part of an earned graduate degree.

Graduate degree programs are permitted to accept up to nine hours of graduate-level course work taken by a student while in undergraduate status at UCF. More than nine hours may be accepted if part of a formally approved accelerated program.

The sum of transfer credits from an earned graduate or professional degree, external transfer credits, and transfer credits from graduate-level course work taken by a student while in undergraduate status at UCF may not exceed nine credit hours.

**Summary Table of Transfer Credit Limits**

Student Situation	Specific Requirements	General Requirements
Transfer credits from an earned graduate degree	≤ 9 SCH	Sum may not exceed 9 SCH
External credits	≤ 9 SCH	
Graduate-level credits while in UCF undergraduate status	≤ 9 SCH	
Other internal transfer credits		Total transfer credits may not exceed 50% of program requirements*

\*Exceptions:

- May exceed 50% only if all transfer credits are from a single earned UCF graduate certificate; no additional credits may be transferred.
- Transfer of credits from a UCF doctoral program to a master’s program within the same discipline.

**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 (4+1) programs usually will allow students to complete a bachelor’s and master’s degree within about five years and are intended for only the most highly qualified undergraduate students.

While students are classified as undergraduate students, they are subject to undergraduate policies. Similarly, when classified as graduate students, they

are subject to graduate policies and may qualify for graduate financial support.

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 departmental 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 (more may apply for some accelerated programs) toward a UCF graduate degree or certificate, 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 (<http://finaid.ucf.edu/>) regarding adjustments that might 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. In addition, 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 three consecutive semesters) must file for readmission to the university, although seven years is measured from when the student was first admitted to the program.



## Readmission

Master's students should maintain continuous enrollment in their degree program. Students who anticipate that they may not be able to enroll continuously due to external circumstances should apply for a Special Leave of Absence (see Special Leave of Absence in the General Graduate Policies).

If master's students do not maintain continuous enrollment and have not filed for a special leave of absence (see Continuous Attendance in the General Graduate Policies), they must file for readmission to the university. To file for readmission, the student must complete a new online Application. For more information about readmission, refer to the Admissions section of this catalog.

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. Readmission is not guaranteed.

## Other Academic Requirements

### Comprehensive Culminating Experience

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 that demonstrates that graduate students have engaged in independent learning. An explanation of how the culminating experience promotes independent learning is required in each program's curricular description.

## Advisement

### Appointment of Committee or Adviser

An academic adviser and advisory committee is required when the student is enrolled in a thesis option and can be useful when there is substantial flexibility in course work. It is the responsibility of the department to appoint an adviser and advisory committee.

## Thesis Requirements

The thesis is the culminating or comprehensive experience for those who conduct an original research study as part of a thesis-option program. The thesis consists of a common theme with an introduction and literature review, 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 termination from the degree program.

An oral defense of the thesis is required. The approved thesis must be written and prepared in accordance with program, college, and university requirements. Thesis and Dissertation (ETD) describes university requirements and formatting instructions for theses and outlines the steps that graduate students must follow in order to submit their theses electronically to the UCF College of Graduate Studies.

Additionally, the Thesis and Dissertation Office offers workshops to inform graduate students about procedures, deadlines, and requirements associated with preparing a thesis.

Thesis students are required to submit their thesis electronically. Electronic thesis/dissertation (ETD) submissions are archived by the UCF library in digital format that is widely accessible. The electronic thesis may include video and audio clips as well as other formats that are appropriate for the 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) 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 and Commercialization ([www.research.ucf.edu](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 submit their final electronic copy to the UCF College of Graduate Studies by the dates shown in the Academic Calendar.

### **Thesis Advisory Committee Membership**

A student writing a thesis must have a Thesis Advisory Committee consisting of at least three members who are approved members of the Graduate Faculty or Graduate Faculty Scholars ([www.graduatecatalog.ucf.edu/gradfaculty/](http://www.graduatecatalog.ucf.edu/gradfaculty/)). This committee will recommend to the Dean of the college regarding 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 of the Thesis Advisory Committee must be Graduate Faculty, one of whom must serve as the chair of the committee. Graduate Faculty Scholars may serve as a member or co-chair of a thesis advisory committee but may not serve as the chair.

Program areas may specify additional committee membership beyond the minimum of three. These committee members must also be approved members of the Graduate Faculty or Graduate Faculty Scholars. Graduate Faculty members must form the majority of any given committee. Additional information regarding the criteria for serving as a member, co-chair, or chair of a Thesis Advisory Committee is provided in the updated Graduate Faculty policy.

Committee membership must be approved by the program director and submitted to the College of Graduate Studies. All members must be in fields related to the thesis topic. The UCF College of 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 with the approval of the program director and re-submission to the College of Graduate Studies.

All committee members vote on acceptance or rejection of the final thesis. The thesis proposal

and final thesis must be approved by a majority of the committee.

### **Thesis Enrollment Requirement**

After completion of other course requirements, master's level students may be considered full-time if they enroll in at least three credit hours of thesis (XXX 6971). They subsequently must enroll in three thesis hours each semester continuously (including summers) until successful completion and defense. Students who need to interrupt their thesis work for extenuating circumstances must submit a Leave of Absence Form to the College of Graduate Studies. Submission and approval of the form must be obtained prior to the first day of classes for the term of non-enrollment.

### **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 not to sign the thesis approval sheet. Further approval is required from the Dean or Dean designee and the UCF College of Graduate Studies before final acceptance of the thesis in fulfilling degree requirements.

### **Review for Original Work**

Effective Fall 2008, the university requires all students submitting a thesis or dissertation as part of their graduate degree requirements to first submit their electronic documents through Turnitin.com for advisement purposes and for review of originality. The thesis or dissertation chair is responsible for scheduling this submission to Turnitin.com and for reviewing the results from Turnitin.com with the student's advisory committee. The advisory committee uses the results appropriately to assist the student in the preparation of their thesis or dissertation.

Before the student may be approved for final submission to the university, the thesis or dissertation chair must indicate completion of the Turnitin.com requirement by signing the Thesis Approval Form.

### **Thesis Dissemination**

While UCF respects the wishes of students who would like to publish their work and/or apply for patents, it is essential for scholarly research

conducted at a university to be available for dissemination. While several options are available for the release of an ETD, it is the goal of the university that all theses be available through the UCF Libraries catalog. Upon uploading the final ETD to the UCF Libraries ETD website, students, in some cases with their advisers, must choose one of the options for the availability of their ETD through UCF. Students with potential patent concerns are required to discuss the following options with their thesis adviser and indicate the availability choice on the Thesis and Dissertation Release Option electronic form, which the student submits in the myUCF Student Center.

- For those with no patent or copyright concerns:
  - Immediate worldwide dissemination with no restrictions.
- For those who have patent issues, dissemination options must be discussed and agreed to with your adviser. Choices are:
  - Pending dissemination of the entire work for six months for patent or other proprietary issues, with an additional six months extension available. Once the patent and proprietary issues are resolved, then immediate worldwide dissemination with no restrictions.
  - Pending dissemination of the entire work for six months for patent or other proprietary issues, with an additional six months extension available. Once the patent and proprietary issues are resolved, choosing this option allows the student to make the thesis available to the university community for the period chosen below, and then for it to be distributed via the Web beyond that time.
    - one year
    - three years\*
    - five years\*
- For those who have copyright concerns, dissemination options are a student decision within the guidelines of individual departments that may have requirements for dissemination. If a department has no guidelines for dissemination, then students are free to choose one of the options below. In general, those in the sciences and engineering will choose one year while students in the arts and humanities may choose longer. Choosing this option allows the student to make the thesis available to the university community for the period chosen

below, and then for it to be distributed via the Web beyond that time.

- one year
- three years\*
- five years\*

\*Does not require thesis adviser signature and approval.

### 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. At the discretion of the Chair of the Thesis Advisory 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.

### Conferral of Master's Degrees for Students in Doctoral Degree Programs

A student making satisfactory progress in a doctoral program may be eligible to be awarded a master's degree in the same discipline. The master's degree program and the College of Graduate Studies have the authority to determine whether the doctoral program credits satisfactorily fulfill the master's degree requirements. All requirements for the master's degree must be fulfilled, including passing all examinations and submitting a thesis, if so required. Up to a maximum of 9 SCH of substitutions are allowable, provided that the substitutions are higher level courses for their precise lower level counterparts, exclusive of substitutions for thesis hours.

In such cases:

1. The program requirements for the master's degree are governed by the requirement term used for the doctoral degree program.

2. The two degrees are not considered to be part of a formal “dual degree” program and, therefore, are not subject to the policies governing dual degree programs.
3. Courses credited towards the Master’s degree are not implemented as transfer credits to another program, and therefore fall outside of the transfer credit policy.

The general restriction that no credit hours may be counted for more than two degree programs applies to these master’s degrees as well. Credits from a previously earned master’s degree may not be used to fulfill the requirements of a master’s degree for a student in a doctoral degree program (a “master’s along-the-way”).

## EDUCATION SPECIALIST PROGRAMS

Education Specialist (EdS) degrees are awarded in Educational Leadership, Curriculum and Instruction, and School Psychology (which offers a track in School Counseling). The EdS 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 EdS degree is teaching or acquiring professional proficiency in a specialized education-related area. Because the purpose of the EdS degree may differ from that of the EdD, credit earned in an EdS program is not automatically transferable to a doctoral program. Instead, if a holder of an EdS degree enters a doctoral program at a later date, the doctoral advisory committee will decide how much of the credit earned in the EdS 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.

### Specialist Admission Requirements

Admission to the Education Specialist program requires (1) a master’s degree in an approved program from a regionally accredited institution or recognized foreign 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 competitive score on the GRE, (3) other criteria as required by the individual departments, and (4) a recommendation for admission by the appropriate College of Education Graduate Admissions Committee.

## Examinations

Educational Leadership majors must successfully complete one 5-hour examination in their major area and one 3-hour examination in an area of specialization. Curriculum and Instruction majors must successfully complete one 3-hour examination in their teaching specialty and one 3-hour examination in the Educational Foundations area. School Psychology (School Psychology Track) students must successfully complete one 3-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 EdS degree consist of 36 hours beyond the master’s degree, 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 EdS degrees. An approved program of study must be on file with the College of Graduate Studies by the end of the student’s second major term. A graduate status GPA of 3.0 must be maintained in all graduate course work taken at UCF since admission into the specialist program. All academic standards which apply to master’s students will also apply to specialist students.

## Transfer of Credit

Any credits taken prior to the term of admission to your program and used to satisfy specific program requirements are considered graduate transfer credits.

The acceptance of transfer credits in a program of study must be approved by the program. Graduate programs may stipulate additional constraints beyond those included in the university transfer policy.

All transfer credits toward a master’s or specialist degree should be finalized by the end of the second

term of program enrollment (based on full-time enrollment), and must be finalized by the end of the term prior to the term of expected graduation.

The thesis credit requirement of a program may not be satisfied by transfer credits.

Students with international transfer credits from recognized international institutions may be required to obtain a Joseph Silny evaluation.

No more than 9 credit hours from a previously earned degree may be used to satisfy the requirements of a specialist's degree, except as part of a formally approved accelerated bachelor's/master's program.

The total number of transfer credits may not exceed 50% of program requirements, except under two circumstances.

1. UCF graduate certificate credits: up to all of the hours taken to fulfill an earned UCF graduate certificate can be used toward a graduate degree within the same or closely related discipline. If the number of transfer credits for an earned UCF graduate certificate is equal to or exceeds 50% of program requirements, additional transfer credits are not allowed.
2. Transfer of credits from a UCF doctoral program to a master's program (other than master's degrees obtained along the way to a doctoral degree): transfer of credits that exceed 50% of program requirements is at the discretion of the program and requires approval of the Appeals Committee.

Two different types of transfer credit can be brought into a specialist's program of study.

1. **External transfer credits:** graduate-level course credits completed at a regionally accredited institution (excluding UCF) or recognized international institution.

External credits are eligible for transfer only if they meet the following criteria:

- Only graduate-level or higher courses may be accepted as transfer credits.
- Only courses with a grade of "B-" or higher are allowed to be transferred into a program of study; transfer of courses with a grade lower than a "B-" is not petitionable.
- Only hours that are no more than seven years old at the time the degree is conferred may be

transferred, unless part of an earned graduate or professional degree.

- Only formal course work hours, but not thesis or research hours, may be used as transfer credits.

External transfer credits are limited to up to 9 credit hours.

2. **Internal transfer credits:** graduate-level course credits completed
  - a. at UCF prior to enrolling in the program for which the degree is sought, including those taken in undergraduate status at UCF as part of a Senior Scholar or accelerated program; or
  - b. as a Traveling Scholar (see Traveling Scholars in the General Graduate Policies for more information).

Internal credits are eligible for transfer only if they meet the following criteria:

- Only graduate-level courses may be accepted as transfer credits.
- Only courses with a grade of "B-" or higher are allowed to be transferred into a program of study; transfer of courses with a grade lower than a "B-" is not petitionable.
- Only hours that are no more than seven years old at the time the degree is conferred may be transferred, unless part of an earned graduate degree.

Graduate degree programs are permitted to accept up to nine hours of graduate-level course work taken by a student while in undergraduate status at UCF. More than nine hours may be accepted if part of a formally approved accelerated program.

The sum of transfer credits from an earned graduate or professional degree, external transfer credits, and transfer credits from graduate-level course work taken by a student while in undergraduate status at UCF may not exceed nine credit hours.

**Summary Table of Transfer Credit Limits**

Student Situation	Specific Requirements	General Requirements
Transfer credits from an earned graduate degree	≤ 9 SCH	Sum may not exceed 9 SCH
External credits	≤ 9 SCH	
Graduate-level credits while in UCF undergraduate status	≤ 9 SCH	
Other internal transfer credits		Total transfer credits may not exceed 50% of program requirements*

\*Exceptions:

- May exceed 50% only if all transfer credits are from a single earned UCF graduate certificate; no additional credits may be transferred.
- Transfer of credits from a UCF doctoral program to a master's program within the same discipline.

**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 three consecutive semesters) must file for readmission to the university, although seven years is measured from when the student was first admitted to the program.

**Readmission**

Specialist students should maintain continuous enrollment in their degree program. Students who anticipate that they may not be able to enroll continuously due to external circumstances should apply for a Special Leave of Absence (see

Special Leave of Absence in the General Graduate Policies section).

If specialist students do not apply for a Special Leave of Absence and do not maintain continuous enrollment (see Continuous Attendance in the General Graduate Policies section), they must file for readmission to the university. To file for readmission, the student must complete a new online Application. For more information about readmission, refer to the Admissions section of this catalog.

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. Readmission is not guaranteed.

**DOCTORAL PROGRAM POLICIES****Doctoral Admission Requirements**

Eligibility for admission to a doctoral program is 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 can be found in the Admissions section of the catalog. Meeting minimum university admission standards may not satisfy doctoral program admission requirements. Programs often require additional or higher criteria. See the Graduate Programs section of the catalog for specific program requirements.

**Course Requirements**

The primary objective of doctoral study is to educate students to a point of excellence in conducting, disseminating, and applying scholarly research, with the explicit goal of making original, substantive contributions to their degree discipline. The advanced nature of doctoral education requires student participation, debate, evaluation, and discussion of diverse ideas and approaches. Careful analysis, independent research, and greater understanding and application of ideas are also expected.

The doctoral degree program requirements will consist of core and elective courses, seminars,



directed and doctoral research, independent study, and dissertation research.

- Each doctoral program of study will include a minimum of 72 semester hours of graduate credit beyond the baccalaureate degree or a minimum of 42 semester hours of graduate credit beyond the master's degree; these graduate credits must be taken as part of an approved graduate program of study. Some programs require considerably more than the minimum of 72 hours because of the nature of the discipline and the standards of the associated profession.
- All graduate credit in a doctoral program must be at 5000 level or higher.
- At least one-half of the credit hours used to meet program requirements must be in 6000-level or 7000-level courses, including the allowed number of research and dissertation hours.
- Only graduate-level credit with a grade of "C-" or higher may be used to satisfy degree requirements.
- A university-wide minimum of at least 27 hours of formal course work exclusive of Independent Study (XXX 6908), dissertation and research is required for all doctoral programs; some programs require a greater number of formal course work hours.
- A university-wide minimum of at least 15 hours of dissertation credits is required for all doctoral programs, although some programs require a greater number of dissertation hours.
- The dissertation hour requirements may only be satisfied by enrollment in dissertation hours.

## Course Levels

**6000- and 7000-Level Courses**—A minimum of 36 credit hours (including courses taken in a master's program) must be in 6000-level and 7000-level courses, which are designed, respectively, for graduate students and doctoral students only. For students with waived hours from an earned master's, this amount is at least one-half of the program hours remaining after the waived hours are applied.

## Transfer Credits

### *Types of Transfer Credit*

Three different types of credit may be brought into a program of study for course work taken outside of UCF or prior to enrolling in the program for which the degree is sought.

1. **External transfer credits:** course credits completed at a regionally accredited institution (excluding UCF) or recognized international institution.

External transfer credits are eligible for transfer only if they meet the following criteria:

- Only graduate-level courses may be accepted as transfer credits.
- Only courses with a grade of "B-" or higher are allowed to be transferred into a program of study; transfer of courses with a grade lower than a "B-" is not petitionable.
- Only hours that are no more than seven years old at the time the degree is conferred may be transferred, unless part of an earned graduate degree.
- Only formal course work hours, but not thesis or research hours, may be used as transfer credits.

External transfer credits are limited to up to 9 credit hours for students who do not have a completed graduate degree or for students in doctoral programs that require a master's degree for admission.

2. **Internal transfer credits:** graduate-level course credits completed

- a. at UCF prior to enrolling in the program for which the degree is sought, including those taken in undergraduate status at UCF as part of a Senior Scholar or accelerated program; or
- b. as a Traveling Scholar (see Traveling Scholars in the General Graduate Policies for more information).

Internal credits are eligible for transfer only if they meet the following criteria:

- Only graduate-level or higher courses may be accepted as transfer credits.

- Only courses with a grade of “B-” or higher are allowed to be transferred into a program of study; transfer of courses with a grade lower than a “B-” is not petitionable.
- Only hours that are no more than seven years old at the time the degree is conferred may be transferred, unless part of an earned graduate degree.

**(Note: Internal thesis or research hours may be used as transfer credits, but may not be used to satisfy formal course work requirements.)**

Graduate degree programs are permitted to accept as internal transfer credits up to nine hours of graduate-level course work taken by a student while in undergraduate status at UCF. More than nine hours may be accepted if part of a formally approved accelerated program.

3. **Waived credits:** 30 credit hours in a program of study that are waived on the basis of an earned master’s degree, not based on individual courses.

For students in doctoral programs that do not require a master’s degree for admission, students with an earned master’s degree may have 30 credit hours waived if the following criteria are met:

- the earned degree is from a regionally accredited institution or recognized foreign institution;
- the master’s degree was earned in the same or a closely related area of study

### ***Transfer Credit Limits***

In no case may the sum of all transfer and waived credits exceed 50% of the total degree requirements of any doctoral degree.

The acceptance of transfer or waived credits in a program of study must be approved by the program; graduate programs may stipulate additional constraints beyond those included in the university transfer policy.

All transfer and waived credits to be used toward a doctoral degree should be finalized by the end of the third major (fall/spring) term of program enrollment

(based on full-time enrollment), and must be finalized prior to the change to candidacy status.

The thesis or dissertation credit requirements of a program may not be satisfied by waived or transfer credits.

Students may be required to obtain a Joseph Silny evaluation to obtain transfer or waived credits from recognized international institutions.

For students who do not have a completed graduate degree, the total number of transfer credits are limited to up to 15 credit hours, or up to all of the hours taken to fulfill an earned UCF graduate certificate.

For students in doctoral programs that require a master’s degree for admission, the total number of transfer credits are limited to up to 15 credit hours, or up to all of the hours taken to fulfill an earned UCF graduate certificate. Credits from the required, earned master’s degree may not be used to satisfy doctoral program requirements.

For students in doctoral programs that do not require a master’s degree for admission, students with an earned master’s degree from a regionally accredited institution or recognized foreign institution may:

- waive 30 credit hours of requirements and credits in a program of study; or
- transfer up to 30 credit hours from any earned master’s degree in the same or a closely related area of study, provided a course-by-course review is performed.

Students who transfer up to 30 credit hours from any earned master’s degree or who have 30 credit hours waived from an earned master’s degree may also transfer up to 9 additional graduate credits, provided the sum of all transfer and waived credits does not exceed 50% of the total degree requirements.

**Summary Table of Transfer Credit Limits**

Student Situation	Specific Requirements	General Requirements
Students without an earned master’s degree; students in doctoral programs that require a master’s degree for admission		
External credits	≤ 9 SCH	Sum may not exceed 15 SCH*
Graduate-level credits while in UCF undergraduate status	≤ 9 SCH	
Other internal credits	≤ 15 SCH	

Students with an earned master’s degree in doctoral programs that do not require a master’s degree for admission		
Waived credits from earned degree in the same or related discipline (internal or external)	30 SCH	Sum may not exceed 50% of program requirements
Transfer credits from earned degree in the same or related discipline (internal or external)	≤ 30 SCH	
Other external credits	≤ 9 SCH	
Graduate-level credits while in UCF undergraduate status	≤ 9 SCH	
Other internal transfer credits	≤ 15 SCH	

\*Exceptions:

- Up to all of the hours taken to fulfill an earned UCF graduate certificate.

**Academic Integrity Training**

All students newly admitted to doctoral programs must complete training designed to inculcate an awareness and understanding of the fundamental issues of academic integrity and the responsible conduct of research (RCR) in a manner that is consistent with federal regulations. This required training includes: (1) the online Collaborative Institutional Training Initiative (CITI) “Responsible Conduct of Research” training module in the appropriate disciplinary area; and (2) four face-to-face ethics/RCR workshops coordinated by the College of Graduate Studies and the Office of Research and Commercialization, or an approved alternative training offered as a program requirement for all students in the program. Students in a program that has approved alternative ethics/RCR training must still complete the online CITI Responsible Conduct of Research training in the appropriate disciplinary area.

The workshops and CITI training modules are open to all UCF graduate students and postdoctoral fellows and associates. For the ethics/RCR workshops, priority is given to doctoral students who are required to complete these workshops prior to advancement to candidacy.

Deadlines:

1. All academic integrity/RCR training requirements must be completed prior to a student’s advancement to candidacy.
2. The CITI module should be completed by the end of a student’s second major (Fall/Spring) term of enrollment.
3. All academic integrity and RCR training requirements must be completed in a manner that is consistent with federal regulations.

A doctoral student who has not completed the required training in academic integrity and the responsible conduct of research will not be advanced to candidacy.

Workshops:

The College of Graduate Studies and the Office of Research and Commercialization offer a series of workshops to enable students to fulfill the four workshop requirement. Students must take at least two workshops from a set of core workshops which focus on: personal integrity in the classroom; plagiarism; data management (including fabrication,

falsification, and confidentiality); authorship and peer review; mentor and trainee responsibilities; collaborative research; and conflicts of interest. Students must complete two additional workshops from among the set of core workshops or a series of additional workshops, which will provide more specialized training such as human subjects, animal welfare; and other areas of ethical concern unique to a discipline or research area.

Programs may develop alternatives for the training workshops that focus on issues of particular relevance to their specific disciplines and fields, or that better accommodate the schedules of their students. Alternative training must be offered as a program requirement for all students in the program. The training content must be specified in the syllabus/syllabi of required formal courses and include the core topics listed above as well as other topics appropriate to the specific discipline. Alternative training content must be submitted for review and approval by the College of Graduate Studies and the Office of Research and Commercialization prior to student attendance.

Further information concerning workshop sessions and registration and how to complete the CITI training module may be found at Academic Integrity Training.

## Time Limitation and Continuous Enrollment

A student has seven years from the date of admission to the doctoral program to complete the dissertation and the doctoral degree. No courses used in a program of study can be older than seven years at the time of graduation. Credits that are part of an earned master's degree are exempt from this 7-year expiration, including those earned "along-the-way" in a doctoral program.

Students who anticipate being out for an extended period of three consecutive semesters or longer should apply for a Special Leave of Absence no later than the end of the add/drop period of the third semester of absence. Students who do not maintain continuous enrollment without a Special Leave of Absence (see Continuous Attendance and Special Leave of Absence in the General Graduate Policies) must file for readmission to the university, although seven years is measured from when the student was first admitted to the program.

## Readmission

If doctoral students do not maintain continuous enrollment (see Continuous Attendance in the General Graduate Policies), they must file for readmission to the university. To file for readmission, the student must complete a new online Application. For more information about readmission, refer to the Admissions in this catalog.

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. Readmission is not guaranteed.

## Conferral of Master's Degrees for Students in Doctoral Degree Programs

A student making satisfactory progress in a doctoral program may be eligible to be awarded a master's degree in the same discipline. Policies concerning these degrees can be found under Master's Program Policies.

To avoid confusion of terminology for examinations, all programs should use the following terms:

**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 on the basis of the qualifying examination (optional by programs) and/or other criteria as specified by the individual program area. This exam 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. Programs have their own requirements as to how many times this exam can be repeated.

**Candidacy Examination.** This exam takes place 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. Programs

have their own requirements, which are explained in their graduate student handbooks, as to how many times this exam can be repeated.

**Dissertation Proposal Examination.** After passing the general Candidacy Examination, the student will write and defend a Dissertation Proposal in an oral examination. Programs have their own requirements as to how many times this exam can be repeated. All materials including the approved proposal and other agreements will be kept in the student's file in the program.

**Dissertation Defense.** This is an oral examination (or defense) of the dissertation.

### 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

A student must demonstrate his or her readiness for the PhD program by successfully completing the candidacy examination before admission to full doctoral status and enrollment into dissertation hours. The Candidacy Examination should be taken when the student is nearing the end of course work. The exam is administered by the members of the student's dissertation advisory committee or another appropriate committee appointed by the program. External committee members of the dissertation advisory committee are not appointed until after the student has passed the Candidacy exam. Admission to candidacy will be approved by the program director and the college coordinator and forwarded to the UCF College of Graduate Studies for status change. Only after admission to candidacy may a student register for doctoral dissertation hours (XXX 7980). Effective beginning in the fall 2010 term, students must have passed candidacy and have the candidacy and dissertation advisory committee documentation received and processed by the College of Graduate Studies prior to the first day of classes for the term in order to enroll in dissertation

hours for that term. Students enrolling in dissertation hours for the first time during the summer must have their paperwork submitted prior to the first day of classes for Summer C, regardless of which summer session they will enroll in.

Doctoral students admitted to candidacy are expected to enroll in dissertation hours and to devote full-time effort to conducting their dissertation research and writing the required dissertation document. Students in doctoral candidacy must continuously enroll in at least three hours of dissertation course work (XXX 7980) each semester (including summer) until the dissertation is completed. Students wishing to enroll in part-time hours should consult with their adviser.

### Candidacy Examination

The purpose of the Candidacy Examination is for the student to demonstrate a strong foundation of knowledge within the specific discipline, and the ability and preparation to conduct independent scholarly research. The committee may examine a broad range of appropriate capabilities, including theory, bibliography, research methodology, and the evaluation of preliminary research, when appropriate. The examination must have a written component; it also may include an oral defense of a written report or dissertation proposal. All written examination materials will be kept in the student's file in the program.

## Dissertation Requirements

Dissertations are required in all PhD and EdD programs. The dissertation consists of an original and substantial research study designed, conducted, and reported by the student with the guidance of the Dissertation Committee. The written dissertation must include a common theme with an introduction and literature review, details of the study, and results and conclusions prepared in accordance with program and university requirements. The dissertation is expected to represent a significant contribution to the discipline. Since this work must be 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 university requires all doctoral students to take a minimum of 15 credit hours of doctoral dissertation hours; however, specific programs may require more than this minimum. Dissertation research is considered to be a full-time effort, and post-candidacy enrollment in at least three doctoral dissertation (XXX 7980) credit hours constitutes full-time graduate status. Doctoral students who have passed candidacy and have begun taking doctoral dissertation hours (XXX 7980) must enroll in at least three dissertation hours each semester (including summers, without skipping a semester) and continue doing so until they complete and successfully defend the dissertation. Students who need to interrupt their dissertation work for extenuating circumstances must submit a Leave of Absence Form to the College of Graduate Studies. Submission and approval of the form must be obtained prior to the first day of classes for the term of non-enrollment.

### **Dissertation Advisory Committee Membership**

Doctoral students must have a Dissertation Advisory Committee prior to advancement to candidacy status. The Committee will consist of a minimum of four members who are approved members of the Graduate Faculty or Graduate Faculty Scholars (see Graduate Faculty). At least three members must be Graduate Faculty, 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. The Graduate Program Committee may specify additional advisory committee membership beyond the minimum of four. These additional advisory committee members must also be approved members of the Graduate Faculty or Graduate Faculty Scholars. Graduate Faculty members must form the majority of any given committee.

Committee membership must be approved by the program director and submitted to the College of Graduate Studies. All members must be in fields related to the dissertation topic. The UCF College of 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 with the approval of the

program director and re-submission to the College of Graduate Studies.

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.

### **Responsibilities of Members of Doctoral Advisory Committees**

(See Graduate Faculty policy for the source of this text.)

#### ***Responsibilities of All Members of Doctoral Advisory Committees***

1. To meet at regular intervals at least once per year to: (i) discuss and approve the proposed dissertation research and the plans for carrying out research; and (ii) to assess progress toward the dissertation and give the student a yearly letter of evaluation in addition to S/U grades awarded for 7980 courses.
2. To review Turnitin.com results from dissertation submittals.
3. To participate in the candidacy and/or dissertation prospectus examination. The entire committee shall be present for the oral part of the examination and it shall be conducted on campus, unless there is an accepted arrangement that has been approved by the graduate program committee.
4. To participate in the dissertation defense to assure: (i) that the dissertation is acceptable as original research and a contribution to the discipline; and (ii) that it meets the standards of the university. No fewer than four faculty members, including all members of the advisory committee, shall be present with the student during the examination. Only members of the advisory committee may sign the dissertation, and a majority must approve of the dissertation. The dissertation defense must be conducted on campus, unless there is an accepted joint degree program with another university that specifies a different arrangement that has been approved by the university.

#### ***Responsibilities of the Chair (and Co-Chair) of Doctoral Advisory Committees***

1. In cooperation with the program director, to review the program of study, the research, and all other degree requirements by meeting

with the student early in the program and immediately after appointment as chair/co-chair.

2. To suggest to the student possible committee members who could serve on the advisory committee. To establish timelines for the research, set expectations, and evaluate the student progress based upon these.
3. To meet at regular intervals with the student to discuss the proposed dissertation research and the plans for carrying out research.
4. To review in a timely manner all written materials submitted by students and offer suggested revisions.
5. To meet once per year with the student and the dissertation advisory committee to assess progress towards the dissertation and give the student a yearly letter of evaluation in addition to S/U grades awarded for 7980 courses. The chair shall write this letter and send it to the program director and the College of Graduate Studies after consultation with the advisory committee.
6. To coordinate the ongoing efforts of the committee as its chair, and to participate fully in the responsibilities of the committee members as a member of the advisory committee.
7. To chair the candidacy and/or dissertation prospectus examinations. The entire committee shall be present for the oral portion of the examination and it shall be conducted on campus, unless there is an accepted arrangement that has been approved by the graduate program committee.
8. To chair the dissertation defense, ensure its proper conduct as described above, and submit to the program director for the student's records all necessary grades, forms and other materials.

***Responsibilities of the External Committee Member of a Dissertation Advisory Committee***

1. External committee membership will entail the full responsibilities of other committee membership
2. External committee members should bring specific disciplinary knowledge or research expertise to the committee.
3. External committee members may be appointed from outside of the university or outside of the

college (if the committee is for a college-wide program). The external committee member may not be affiliated in any way with the department of the committee, such as through joint or secondary joint appointments.

4. Graduate faculty scholars are external members.

### **Dissertation Preparation**

Thesis and Dissertation (ETD) describes university requirements and formatting instructions for dissertations and outlines the steps graduate students must follow in order to submit their dissertations electronically to the UCF College of Graduate Studies. The Thesis and Dissertation Office offers online and face-to-face workshops to inform graduate students about procedures, deadlines, and requirements associated with preparing a dissertation. Students who have just passed Candidacy are strongly encouraged to visit the online workshop.

Dissertation students will submit their dissertations electronically. Electronic thesis/dissertation (ETD) submissions will be archived by the UCF library in digital format and will be more widely accessible. In addition, students may 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 and Commercialization ([www.research.ucf.edu](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 submit their dissertation to the

UCF College of Graduate Studies by the dates shown in the Academic Calendar.

### Dissertation Defense

The dissertation defense is an oral presentation and defense of the written dissertation describing the student's research. The advisory committee will evaluate and judge the dissertation defense. Successful students must demonstrate that they are able to conduct and report original independent research that contributes substantially to the discipline in which they study. The defense is a formal academic requirement and should be accorded respect and dignity, and thus, no refreshments or other distractions should be served during the 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 dissertation advisory committee. Further approval is required from the Dean or Dean designee and the UCF College of Graduate Studies before final acceptance of the dissertation in fulfilling degree requirements.

### Review for Original Work

Effective Fall 2008, the university requires all students submitting a thesis or dissertation as part of their graduate degree requirements to first submit their electronic documents through Turnitin.com for advisement purposes and for review of originality. The thesis or dissertation chair is responsible for scheduling this submission to Turnitin.com and for reviewing the results from Turnitin.com with the students advisory committee. The advisory committee uses the results appropriately to assist the student in the preparation of their thesis or dissertation.

Before the student may be approved for final submission to the university, the thesis or dissertation chair must indicate completion of the Turnitin.com requirement by signing the Dissertation Approval Form.

### Dissertation Dissemination

While UCF respects the wishes of students who would like to publish their work and/or apply for patents, it is essential for scholarly research conducted at a university to be available for dissemination. While several options are available

for the release of an ETD, it is the goal of the university that all dissertations be available through the UCF Libraries catalog. Upon uploading the final ETD to the UCF Libraries ETD website, students, in some cases with their advisers, must choose one of the options for the availability of their ETD through UCF. Students with potential patent concerns are required to discuss the following options with their dissertation adviser and indicate the availability choice on the Thesis and Dissertation Release Option electronic form, which the student submits in the myUCF Student Center.

- For those with no patent or copyright concerns:
  - Immediate worldwide dissemination with no restrictions.
- For those who have patent issues, dissemination options must be discussed and agreed to with your adviser. Choices are:
  - Pending dissemination of the entire work for six months for patent or other proprietary issues, with an additional six months extension available. Once the patent and proprietary issues are resolved, then immediate worldwide dissemination with no restrictions.
  - Pending dissemination of the entire work for six months for patent or other proprietary issues, with an additional six months extension available. Once the patent and proprietary issues are resolved, choosing this option allows the student to make the dissertation available to the university community for the period chosen below, and then for it to be distributed via the Web beyond that time.
    - one year
    - three years\*
    - five years\*
- For those who have copyright concerns, dissemination options are a student decision within the guidelines of individual departments that may have requirements for dissemination. If a department has no guidelines for dissemination, then students are free to choose one of the options below. In general, those in the sciences and engineering will choose one year while students in the arts and humanities may choose longer. Choosing this option allows the student to make the dissertation available to the university community for the period chosen below, and then for it to be distributed via the Web beyond that time.

- one year
- three years\*
- five years\*

\*Does not require dissertation adviser signature and approval.

### 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.

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# Admissions

## OVERVIEW

The UCF College of Graduate Studies coordinates the admission process with each of the graduate program directors to admit prospective students to graduate study. The College of 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 U.S. institution or from a recognized foreign institution. Students without a baccalaureate or higher degree from a regionally accredited U.S. institution or a recognized foreign institution 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 a regionally accredited U.S institution or a recognized foreign institution.

## Admission to the University

The admission process begins with the receipt of the Graduate Online Application for Admission along with all application requirements. In order to be considered for admission to a graduate program, the following information must be submitted and on file in the UCF College of Graduate Studies by the stated application deadline: application, residency, and any application requirements specified by the program. These documents become part of UCF's files and will not be returned to or copied for the applicant. All application requirements, aside from transcripts and test scores, must be submitted together with the online application. Transcripts and test scores must be official.

For specific graduate program information, refer to the appropriate program descriptions in the Graduate Programs section of this catalog. Program application deadlines are listed for each graduate program. Some programs require a pre-application and may require additional documents as part of this process.

**NOTE:** All graduate programs require that all application requirements (application form, residency form, recommendations, essay/



personal statement, resume) be submitted online simultaneously by the stated application deadline. Official test scores (if required) must be sent directly from ETS/Pearson Vue to the UCF College of Graduate Studies (institution code 5233 for GRE and TOEFL; institution code RZT-HT-58 for GMAT). Official transcripts should be sealed in an envelope by the registrar of the former institution and sent directly to the UCF College of Graduate Studies, P.O. Box 160112, Millican Hall 230, Orlando, FL 32816-0112.

Once the online application and all application requirements are received, the UCF College of 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 application requirements are received in the UCF College of Graduate Studies. The College of Engineering and Computer Science encourages prospective students to pre-apply to their graduate programs prior to beginning the university application process. The College of Optics and Photonics require a pre-application prior to beginning the university application process. Please refer to the graduate program's admissions information in order to become familiar with the procedures specific to each program.

When all application requirements are received by the stated deadline and processed by our office, the appropriate graduate program reviews it in order to make an admission recommendation. Acceptance into a graduate program will be granted by the UCF College of Graduate Studies.

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

### Readmission to the University

A regularly admitted student who has not been registered for three consecutive semesters must apply for readmission to the same graduate program through the UCF College of Graduate Studies. Readmission is also required if a student has been previously dismissed from a graduate program and wishes to gain entrance back into that same program. Students seeking readmission must complete the online application along with all application requirements. An application processing

fee is required. Please refer to the Graduate Programs section to ensure that you have not missed the deadline for your program. Readmissions are not guaranteed.

## U.S. CITIZENS AND RESIDENT ALIENS

The application for admission to a graduate program is submitted electronically through the online application. The College of Optics and Photonics require that you fill out their preapplication form before completing the online application for graduate admission. The College of Engineering and Computer Science encourages prospective students to pre-apply before completing the online application for graduate admission.

- College of Engineering and Computer Science pre-application: [www.graduate.cccs.ucf.edu](http://www.graduate.cccs.ucf.edu)
- College of Optics and Photonics pre-application: <http://www.creol.ucf.edu/Academics/Prospective/PreApplication.aspx>

### U.S. citizens and resident aliens in the United States must submit the following application requirements directly to the UCF College of Graduate Studies:

- Graduate Online Application for Admission (electronically signed and submitted by the applicant).
- Residency Classification form (submit with online application).
- A \$30 nonrefundable application fee is required of all applicants for each application submitted.
- 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. The UCF College of Graduate Studies will request those transcripts internally.
- Graduate Record Examination scores (GRE) or General Management Admission Test (GMAT) scores for doctoral applicants and for those applying to master's programs that require an admissions test. These scores must be sent directly to UCF by the appropriate testing agency.
- Test of English as a Foreign Language (TOEFL) scores sent directly to UCF, if an applicant is from a country where English



is not the only official language, or when an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will also accept International English Language Testing System (IELTS) scores.

- Recommendations, if required by the graduate program (complete this section of the online application).
- Resume, essay, or other materials if required by the graduate program (must be submitted as part of the online application).
- Immunization Form\*.

**Some graduate programs may require interviews, portfolios, or other material. Official application requirements (or duplicate copies) should not be submitted directly to the graduate programs as it will delay the processing of the application. All official application requirements, with the exception of test scores and transcripts must be submitted online. The UCF College of Graduate Studies must receive the application and all application requirements 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. Please visit the UCF Health Services website for additional information regarding this required 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. An online application must be submitted.

**Nondegree-seeking students must submit the following application requirements directly to the UCF College of Graduate Studies:**

- Graduate Online Application for Admission (electronically signed and submitted by the applicant).

- Residency Classification form (submit with online application).
- A \$30 non-refundable application fee is required of all applicants for each application submitted.
- One official transcript (in a sealed envelope) showing an earned bachelor's degree from a regionally accredited institution. **For UCF students applying as nondegree-seeking:** You do not need to request transcripts of your UCF course work. The UCF College of Graduate Studies will request those transcripts internally.
- Immunization Form\*

The UCF College of Graduate Studies must receive the online application and all application requirements electronically (with the exception of transcripts) 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. International students taking online courses from their home country are eligible to be nondegree-seeking since they do not require a visa.

**Not all graduate degree programs accept nondegree-seeking students. Please contact the program director for the graduate program you wish to take classes in before beginning the online application process to verify if the program accepts nondegree-seeking students and if specific enrollment instructions apply for graduate-level courses.**

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-seeking students must be enrolled in 12 credit hours or more to be considered in full-time status.

\*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. Please visit the UCF Health Services website for additional information regarding this required form.

## Transient Students

Students attending UCF for a term from another institution where they are receiving their graduate degree are classified as transient students. Transient students can apply online as a Nondegree-seeking student. An online application must be submitted.

### Application requirements for transient students are:

- Graduate Online Application for Admission (electronically signed and submitted by the applicant; select “Nondegree (General)”).
- A \$30 non-refundable application fee is required of all applicants for each application submitted.
- Residency Classification form (submit with online application).
- An official transcript (in a sealed envelope) showing an earned bachelor’s degree from a regionally accredited institution OR 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.
- Immunization Form\*

The UCF College of Graduate Studies must receive the online application and all application requirements electronically (with the exception of transcripts) 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. Please visit the UCF Health Services website for additional information regarding this required form.

## 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, complete the online application.

### Application requirements for certificate students are:

- Graduate Online Application for Admission (electronically signed and submitted by the applicant).
- A \$30 non-refundable application fee is required of all applicants for each application submitted.
- Residency Classification form (submit with online application).
- One official transcript (in a sealed envelope) showing an earned bachelor’s degree from a regionally accredited institution. **For UCF students applying for a certificate:** You do not need to request transcripts of your UCF course work. The UCF College of Graduate Studies will request those transcripts internally.
- Immunization Form\*

The UCF College of Graduate Studies must receive the online application and all application requirements (with the exception of transcripts) electronically by the stated application deadline.

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 graduate certificate program you are interested in. **In order to complete a graduate certificate program, a student must apply and be admitted to a specific graduate certificate program.** International students on an F-1 visa may not be accepted solely into a certificate program unless they are concurrently enrolled in a graduate degree program, in the Intensive English Language Program at UCF or are attending UCF as a transient student and hold an I-20 from an approved institution.

Students who choose to pursue both a degree and a professional graduate certificate must sustain normal academic progress toward the 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. Please visit the UCF Health Services website for additional information regarding this required form.

## INTERNATIONAL STUDENTS

The application for admission to a graduate program is submitted electronically through the online application. The College of Optics and Photonics require that you fill out their preapplication form before completing the online application for graduate admission. The College of Engineering and Computer Science encourages prospective students to pre-apply before completing the online application for graduate admission.

- College of Engineering and Computer Science pre-application: [www.graduate.cecs.ucf.edu](http://www.graduate.cecs.ucf.edu)
- College of Optics and Photonics pre-application: [www.creol.ucf.edu/Academics/Prospective/PreApplication.aspx](http://www.creol.ucf.edu/Academics/Prospective/PreApplication.aspx)

**If you are not a U.S. citizen or resident alien, you must submit the following application requirements directly to the UCF College of Graduate Studies:**

- Graduate Online Application for Admission (electronically signed and submitted by the applicant by the stated application deadline).
- A \$30 non-refundable application fee, paid as a check or money order in U.S. currency drawn on a U.S. bank and made payable to the University of Central Florida, is required of all applicants for each application submitted.
- One official transcript (in a sealed envelope) showing a bachelor's degree earned at a regionally accredited U.S. institution or from a recognized foreign institution, accompanied by an official certification of degree, with date awarded. If a student has attended more than one college or university, separate transcripts must be submitted.
- Residency Classification form (submit with online application)
- The university conducts a complete assessment of all required credential documents (official transcript(s) and official certification of degree) submitted by the student, including the record of all academic course work. Excluding the Physical Therapy DPT program, all master's programs not requiring a standardized admissions test (i.e. GRE, GMAT), and those master's programs in the College of Business Administration and the Rosen College of Hospitality Management, the university

will evaluate all credentials for international students who have received their degree at a college or university outside of the United States. Additional information is available in the Transcripts Evaluation section on this webpage.

- Graduate Record Examination scores (GRE) or General Management Admission Test (GMAT) scores for doctoral applicants and for those applying to master's programs that require an admissions test. These scores must be sent directly to UCF by the testing agency.
- Test of English as a Foreign Language (TOEFL) scores sent directly to UCF, if an applicant is from a country where English is not the only official language, or when an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will also accept International English Language Testing System (IELTS) scores.
- Financial Statement with a letter indicating commitment (from your parents, government, or others) to financially support your education.
- Recommendations, if required by the graduate program (complete this section of the online application).
- Resume, essay, or other material, if required by the graduate program (must be submitted as part of the online application).
- Immunization Form\*

**Some graduate programs may require interviews, portfolios, or other materials. Official application requirements (or duplicate copies) should not be submitted directly to the graduate programs as it will delay the processing of the application. All official application requirements, with the exception of test scores and transcripts, must be submitted online. The UCF College of Graduate Studies must receive the application and all application requirements 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. Please visit the UCF Health Services website for additional information regarding this required form.

## International Student Admissions 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.

**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, the UCF College of 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/certificate status unless they hold an eligible visa. Additional information regarding immigration processes and transition to the UCF community is available from the International Services Center.

International applicants are encouraged to begin the application process early. Also, international applicants should ensure that all application requirements, including those required to issue an I-20, 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.

## Official Transcripts

All applicants for graduate admission must provide one official transcript (in a sealed envelope) showing a bachelor's degree earned at a regionally accredited U.S. institution or an internationally recognized institution and an

official diploma/degree certificate, with date awarded. If a student has attended more than one college or university, separate transcripts must be submitted for each institution. To be official, transcripts and diploma/degree certificate 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, accompanied by diploma/degree certificate, at the time of application and by the stated application deadline.

## Transcript Evaluation

### Evaluation Policy

The university conducts a complete assessment of all required credential documents (official transcripts and official certification of degrees) submitted by the student, including the record of all academic course work. Excluding the Physical Therapy DPT program, all master's programs not requiring a standardized admissions test (i.e. GRE, GMAT), and those master's programs in the College of Business Administration and the Rosen College of Hospitality Management, the university will evaluate all credentials for international students who have received their degree at a college or university outside of the United States. Additional information regarding specific application requirements and credentials processing for the Physical Therapy DPT program, those master's programs not requiring a standardized admissions test, and for all master's programs in the College of Business Administration and the Rosen College of Hospitality Management is given below.

The university does not consider documents certified by a notary public or commissioner of oaths to be official. Photocopies of certified documents are not acceptable. Course work completed at one institution but listed on the record of a second institution is not acceptable. A separate copy of the record from the first institution is required.

If these documents are written in a language other than English, a certified translation in English must be provided together with the original language records. Any translated record should be a literal and not an interpretive translation. Acceptable English translations may be provided by sworn court-approved translators, qualified translators working within university foreign language



departments, and from reputable translation agencies. We recommend the services of University Language Services (ULS) and Josef Silny and Associates, Inc. for certified translations.

If a student is missing any documentation, or other required information, an evaluator will contact the student by e-mail to request the additional documentation/information. In the case that a student is missing documentation/information, the evaluation process will be placed on hold until the university has received all necessary documentation. All students are advised to submit all required documentation as early as possible so as to not to delay the evaluation process.

In the event that the university receives documentation that is questionable, or suspicious in any way, the university will verify authenticity with the issuing foreign institution. If an institution must be contacted for verification, the evaluation process will be placed on hold until the university has received all necessary information.

### Equivalency Information

All international applicants for graduate study at the University of Central Florida must hold a U.S. Bachelor's degree, or its equivalent, from a regionally accredited or governmentally recognized institution of higher learning. This is a minimum requirement for admission to a graduate program at UCF. For a list of some country-specific information on foreign degree equivalents and required documentation, please visit the Sample Country Requirements website.

**The following requirements apply to applicants to the Physical Therapy DPT program, master's programs not requiring a standardized admissions test, and master's programs in the College of Business Administration and Rosen College of Hospitality Management:**

In addition to official transcripts and certification of degrees, a course-by-course credential evaluation with GPA calculation is required of all students who have attended a college/university outside the United States. Credential evaluations are accepted from Josef Silny and Associates, Inc. or World Education Services (WES) only. All documents required by World Education Services (WES) or Josef Silny and Associates, Inc., must be submitted directly by the applicants. The university is not responsible for forwarding any documents received

by our office to Josef Silny and Associates, Inc. or World Education Services (WES).

### Resources for International Transcript Evaluations

UCF accepts transcript evaluations from the following two agencies only:

- Josef Silny and Associates, Inc.
- World Education Services, Inc.

## 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. 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, you may contact the UCF International Services Center by e-mail ([isc@ucf.edu](mailto:isc@ucf.edu)) or by telephone (407) 823-2337.

## International Application Deadlines

Complete applications (including all application requirements) for all graduate programs must be received electronically by the date listed below to be considered for admission for that term. Failure to meet these deadlines may prevent admission as a regular graduate student for the term. **Please refer to the Graduate Programs section in this catalog for programs that have earlier deadlines for international applicants.**

The following dates are university application deadlines for international students (students from abroad):

**Fall admission:** January 15

**Spring admission:** July 1

**Summer admission:** November 1

The following dates are university application deadlines for international transfer students (transfers from U.S. schools):

**Fall admission:** March 1

**Spring admission:** September 1

**Summer admission:** December 15

In addition, students who wish to be considered for fellowships or assistantships must have a



complete application package by January 15 (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, those who have earned a degree from a regionally accredited US college or university, or those who have earned a degree from a country where English is the only official language or a university at which English is the only official language of instruction, are required to submit a score on the Test of English as a Foreign Language (TOEFL) before they can be admitted to the university. Although we prefer the TOEFL, we will also accept International English Language Testing System (IELTS) scores. Students who are non-native speakers of English (and do not have a degree from a U.S. institution) must pass the SPEAK exam administered by the UCF Center for Multilingual Multicultural Studies before they will be permitted to teach as a Graduate Teaching Associate or Graduate Teaching Assistant.

A TOEFL computer-based score of 220 or 80 on the internet-based TOEFL (or equivalent score on the paper-based test) or 6.5 on the IELTS is required unless otherwise specified by the program. The list below includes programs that have determined a minimum required TOEFL or IELTS score higher than the university requirement.

Program	TOEFL	TOEFL	TOEFL	IELTS
	(Paper)	(Computer)	(iBT)	
<b>College of Arts and Humanities</b>				
English	577	233	91	7
History	577	233	91	7
<b>College of Sciences</b>				
Biology	573	230	89	7
Security Studies PhD	575	232	90	7
<b>College of Business Administration</b>				
	577	233	91	7

## 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. There are no exceptions made for submitting this proof. Written proof of insurance must be provided to the Student Health Services Center 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.

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.

For additional information regarding student health insurance, contact the UCF Health Services.

## 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. Deferments 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 through the online application. A nonrefundable application fee is required of each applicant for each application submitted.

## Official Transcripts

To be granted admission to UCF in graduate or nondegree status, all applicants must request official transcripts (in a sealed envelope) from their previous institution showing a baccalaureate degree and their grades in all work attempted while registered as an undergraduate student OR while registered as an upper-division undergraduate student (normally based on the last sixty attempted semester hours). Transcripts must be mailed directly from the previous institution to the UCF College of Graduate Studies.

**For UCF students applying to UCF graduate programs:** You do not need to request transcripts of your UCF course work. The UCF College of Graduate Studies will produce 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 submitted. 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 are on file so that they can be evaluated for admission.

## Graduate Examinations

All students who wish to be admitted in regular degree-seeking status to a doctoral program or wish to be considered for university-wide fellowships must submit an official GRE General Test score (or an official GMAT score as required). Some master's level programs may also require the GRE or GMAT for admission. Some graduate programs may also require the GRE subject test before admission into graduate student status.

International students, except those who are from countries where English is the only official language, those who have earned a degree from a regionally accredited US college or university, or those who have earned a degree from a country where English is the only official language or a university at which English is the only official language of instruction, are required to submit a score on the Test of English as a Foreign Language (TOEFL). Although we prefer the TOEFL, we will also accept International English Language Testing System (IELTS) scores.

Official test scores must be electronically forwarded to the UCF College of Graduate Studies directly from the appropriate testing agency. Test scores must 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. Test scores are usually available in four to six weeks.

#### Registration Information and Resources:

- **GMAT Services** -- 1-800-GMAT-NOW | [www.mba.com/us](http://www.mba.com/us) | UCF Institution Code: RZT-HT-58
- **GRE Services** -- 1-800-GRE-CALL | [www.ets.org](http://www.ets.org) | UCF Institution Code: 5233
- **TOEFL Services** -- 1-800-GO-TOEFL | [www.ets.org](http://www.ets.org) | UCF Institution Code: 5233
- **IELTS Services** -- 1-626-564-2954 | [www.ielts.org](http://www.ielts.org)
- Preparatory courses are offered through UCF's Division of Continuing Education -- (407) 882-0260 | [www.ce.ucf.edu](http://www.ce.ucf.edu)

Pearson Vue and the Educational Testing Service's policy are 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/Pearson Vue cannot provide an official copy, students will need to repeat the GRE or GMAT and have an official score reported to the UCF College of Graduate Studies. Test of English as a Foreign Language (TOEFL) scores are only valid from ETS for two years.

### Medical History Report

All new students must furnish medical history reports on the approved university Immunization Form before registration will be allowed. The Immunization Form is available from the UCF Health Services. 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 Application Requirements

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), denied further enrollment, and invalidated on credit and any degree based on such credit. International students may face deportation. Actions for this type of offense are handled administratively by the Division of Student Development and Enrollment Services after notification to the alleged violator and hearing by that office.

### Deadline for Application Requirements

If the graduate program has a specific deadline, the application and all application requirements must be received electronically by that deadline (see the Graduate Programs section in this catalog). For all other programs and nondegree applicants, the application and all application requirements should be received by the UCF College of Graduate Studies no later than July 15 for fall admission, December 1 for spring admission, or April 15 for summer admission. For international applicants, all application requirements should be received by the UCF College of Graduate Studies and all documents required to issue an I-20 be received by the International Service Center no later than January 15 for fall admission, July 1 for spring admission, and November 1 for summer admission. In some cases, applicants may be allowed to register on a temporary basis (without all application requirements), 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 the UCF College of Graduate Studies.

## Change of Major

When students wish to change their major or college, after having applied and/or been admitted to a graduate program, they must file a new online application and submit all application requirements for their intended new program at the UCF College of Graduate Studies. A new application processing fee is required. The program director of the new graduate program will then review the student's application file and make an admission recommendation.

## Second Master's Degree

Individuals seeking a second master's degree must file a separate online application and application fee for that graduate program and complete the normal UCF master's degree application 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 graduate program director will make an admission recommendation.

Admission to graduate status can be in any one of the following categories: regular, conditional, provisional, provisional/restricted, provisional/conditional, restricted, or restricted/conditional status.

Final admission to a graduate program is granted by the UCF College of Graduate Studies. Admission is only valid for the term in which the student is admitted. If the student does not enroll in their first term of admission, their admission will be revoked and they will need to reapply to a future term.

## Admission Classifications

### Graduate Status—Regular

All students who wish to be admitted in regular degree-seeking status or nondegree-seeking status must submit a final, official transcript from a regionally accredited US institution or its equivalent from a foreign institution. All students who wish to be admitted in regular degree-seeking status to a doctoral program or wish to be considered for university-wide fellowships must also submit an official GRE General Test score or an official GMAT score as required. The minimum university application requirements for admission to regular graduate status are listed below. Individual graduate programs may specify additional application requirements.

- A bachelor's degree from a regionally accredited U.S. institution or its equivalent from a foreign institution and a GPA of 3.0 or more (on a 4.0 maximum) in all work attempted while registered as an undergraduate student OR while registered as an upper-division undergraduate student (normally based on the last sixty attempted semester hours); OR, a graduate degree or professional degree or equivalent from a regionally accredited U.S. institution or its equivalent from a foreign institution in a field related to the discipline of the program to which the student is applying.
- Students applying to doctoral programs must submit a competitive score on the General Test of the Graduate Record Examination or a competitive score on the Graduate Management Admission Test (as required) or an equivalent score on an equivalent measure approved by the graduate program and the university.
- Students applying to doctoral programs must also submit three letters of recommendation, a resume or curriculum vita, and a written essay.
- A student must be accepted by the program director offering the particular degree program sought and the UCF College of Graduate Studies. Graduate programs are encouraged to have more restrictive application requirements than the minimum university application requirements. Graduate 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, those who have earned a degree from a regionally accredited US college or university, or those who have earned a degree from a country where English is the only official language or a university at which English is the only official language of instruction, are required to submit a score on the Test of English as a Foreign Language (TOEFL) and achieve a score on the computer-based test of 220 or 80 on the internet-based TOEFL (or equivalent score on the paper-based test) or IELTS before they can be admitted to the university. Although we prefer the TOEFL, we will accept IELTS scores of 6.5 or higher unless otherwise specified by the program.
- International students applying to master's programs that do not require a GRE or GMAT, must submit a course-by-course evaluation with GPA calculation of their official transcripts from a credential evaluation service recommended by UCF. This course-by-course evaluation must show a GPA that is equivalent to a 3.0 from an earned degree that is equivalent to a U.S. bachelor's degree.

### **Graduate Status—Conditional**

A student who meets the minimum university application requirements for regular admission (as listed above) but has not submitted all required documents may be admitted conditionally upon recommendation of the program director to which admission is sought and the UCF College of Graduate Studies. Conditions must be met by mid-term of the first semester. Registration will only be available for the term the student has been admitted. Future term enrollment will be open once the conditions are met. At that time, the student will be changed to regular graduate status.

### **Graduate Status—Restricted**

Even though minimum university application requirements are met, a graduate program may attach restrictions to the admission of an applicant, such as higher GPA requirements, completing a standardized test, completing certain prerequisite courses, 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 restrictions are not met.

Students who have a graduate GPA less than 3.0 while in graduate status or that have been placed on probation or dismissed from a program at UCF and are admitted into a new program will be admitted into the new program in restricted graduate status.

### **Graduate Status—Provisional**

A student who does not fulfill the minimum university application requirements for regular admission (as listed above) may be admitted provisionally upon recommendation of the program director to which admission is sought and the UCF College of Graduate Studies.

Provisional students may be admitted to regular status following satisfactory completion of nine semester hours, in the graduate program and upon recommendation by the program director and Vice Provost and Dean of the UCF College of Graduate Studies.

### **Graduate Status—Restricted/Conditional**

Even though minimum university application requirements are met, a program may attach restrictions to the admission of an applicant, such as higher GPA requirements, completing a standardized test, completing certain prerequisite courses, 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 restrictions are not met. The student also has not submitted all application requirements for admission. All application requirements for admission must be submitted by mid-term of the first semester. Registration will only be available for the term the student has been admitted. Future term enrollment will be open once the conditions are met.

### **Graduate Status—Provisional/Restricted**

A student who does not fulfill the minimum university application requirements for regular admission (as listed above) and has not met the graduate program's specific requirements may be admitted in provisional/restricted status upon recommendation of the program director to which admission is sought and the UCF College of Graduate Studies. A graduate program may attach restrictions to the admission of an applicant,



such as higher GPA requirements, completing a standardized test, completing certain prerequisite courses, maintaining a certain GPA in the first few hours of a graduate program, etc.

Provisional/restricted students may be admitted to regular status following satisfactory completion of nine semester hours, in the graduate program and upon recommendation by the program director and Vice Provost and Dean of the UCF College of Graduate Studies AND satisfactory completion of the graduate program's restrictions. Students may be denied admission to regular graduate status if the graduate program's restrictions are not met.

### **Graduate Status—Provisional/Conditional**

A student who does not fulfill the minimum university application requirements for regular admission (as listed above) and has not submitted all required documents for admission may be admitted in provisional/conditional status upon the recommendation of the program director to which admission is sought and the UCF College of Graduate Studies.

Provisional/conditional students may be admitted to regular status following satisfactory completion of nine semester hours, in the graduate program and upon recommendation by the program director and Vice Provost and Dean of the College of Graduate Studies AND the submission of all application requirements for admission. All application requirements for admission must be submitted by mid-term of the first semester. Registration will only be available for the term the student has been admitted. Future term enrollment will be open once the conditions are met.

### **Nondegree-seeking 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-seeking 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 submitting an application and attempting to register.**

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.

### **Graduate Certificate Status**

Nondegree-seeking students or regular graduate students in a graduate degree program may enroll in one of UCF's graduate certificate programs. In all cases, certificate students must have earned a baccalaureate or higher degree, or equivalent, from a regionally accredited university. Unless they are also enrolled in a regular degree program, graduate certificate students are treated as nondegree seeking students. Students who pursue both a degree and a professional certificate must sustain normal academic progress toward the degree program. International students on an F-1 visa are not accepted solely into a certificate program unless they are concurrently enrolled in a graduate degree program, in the Intensive English Language Program at UCF or are attending UCF as a transient student and hold an I-20 from an approved institution.

### **Nondegree to Regular Graduate Status**

Nondegree students wishing to apply to a graduate degree program must file a new online application and application fee for that degree program. The new online application and all application requirements must be submitted by the stated application deadline for the graduate degree program. Students who have been admitted in provisional status in a graduate degree program must file a new application if they wish to be accepted by a graduate degree program different from the program to which they were provisionally admitted.

## Appeals

According to state and university regulations, students who are not accepted by a program but who meet the University minimum standards for admission to graduate status are permitted 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 director indicating the desire to appeal and the reasons for the appeal. The program director may ask the department or program graduate committee to examine the necessary information and recommend a response to the appeal. The program director 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 graduate college by writing a letter to the Vice Provost and Dean of the UCF College of Graduate Studies indicating the desire to appeal further and the reasons why an appeal is sought. The Vice Provost and Dean of the UCF Graduate College may ask the Graduate Council to examine the necessary information and recommend a response to the appeal. The decision of the Vice Provost and Dean of the UCF College of Graduate Studies is final.

## RESIDENCY

For information about Florida Residency for Tuition Purposes and Residency Reclassification, see the Residency for Tuition section of the Graduate Admissions Website.

# Current Students/ Registration

## OVERVIEW

UCF's registration system allows students to enroll for the entire upcoming academic year (3 semesters). This improves a student's ability to plan for upcoming terms and allows students more opportunity to make any necessary adjustments to registration. It is important for students to register for courses they plan to complete and fulfill requirements within their degree plan. Students are not required to register for all three terms during their initial appointment but the upcoming academic year will be available. For additional information regarding Multiple Term Registration (MTR), please visit the Registrar's Office webpage.

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).

Multiple term registration begins following mid-term of the spring semester for the following summer, fall, and spring terms. Class listings are available only online through the Class Schedule Search at [my.ucf.edu](http://my.ucf.edu). The dates and times for each registration period are included in the Academic Calendar.

**Note: Newly admitted students (degree or nondegree) must register for classes in their first term in order to become and remain active. New students that do not enroll in classes in their first term will have their file inactivated and all future registration dropped. Once their file is inactivated, they will need to re-apply by completing a new online application and submitting a new application processing fee.**

**Please note that the last day to Drop classes is now one day before the last day to Add classes. Please visit the Registration page on the Graduate Students website for more information on registration and related topics.**

## ONLINE REGISTRATION

Registration is available over the web using the myUCF system at my.ucf.edu and in the college advising offices.

### UCF NID (Network Identification Number)

Students obtain the UCF NID Number on their first login to myUCF at my.ucf.edu. The initial login will use a default password. Following instructions, students choose a new password and reminder clue.

### Web Enrollment Guide

The Web Enrollment Guide is published online once a year by the Registrar's Office. The Web Enrollment Guide provides the official "Academic Calendar" and describes the policies and procedures governing registration each term. The Web Enrollment Guide is available on the Registrar's Office website.

## IMMUNIZATION FORM

All new first-term graduate students must have an Immunization Form completed before they are allowed to register at UCF. Holds placed on registration will be removed by the UCF Health Services once the Immunization Form is received. Forms may be obtained on the UCF Health Services website.

## CONTINUING GRADUATE STUDENTS

Continuing graduate students register through myUCF after their assigned appointment day and time, which can be found in myUCF. All continuing students should register early. 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.

## ENROLLMENT OF INTERNATIONAL STUDENTS

International students are required to seek advisement from the International Services Center (ISC) to ensure that their enrollment status meets full-time status in compliance with USCIS 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 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. 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 Humanities, College of Health and Public Affairs, College of Optics and Photonics, College of Sciences or Rosen College of Hospitality Management courses should check with the individual graduate 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.

## 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 myUCF system at my.ucf.edu. To obtain an immediate release for Student Accounts financial holds, you may make your credit card or e-check payment online from your student account. After making a successful payment, contact Student Account Services with the remit ID to confirm your payment and have your hold released.

To release UCF College of Graduate Studies holds, the students must provide the outstanding application requirement(s) to complete their records.

## 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 Office 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 Office website. It is necessary to complete the required forms during the last hours of registration as noted in the Academic Calendar. 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. 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. For waiver eligibility and application information, see the “Tuition Support” section.

## 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. Please visit the Student Accounts Information website for details on fee invoice and payment procedures.

## RESIDENCY

For information about Florida Residency for Tuition Purposes and Residency Reclassification, visit the Costs and Residency page on the Graduate Student website.

## 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. Newly admitted students should review their Fee Invoice carefully. If a “non-resident” rate is added to your bill and you believe this is in error, please contact the UCF College of Graduate Studies as soon as possible. For information on Florida Residency for Tuition Purposes please visit the “Financial Information” section of this catalog. 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 myUCF at [my.ucf.edu](http://my.ucf.edu) under the Student Accounts 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, UCF Health Services (phone: 407-823-3707; fax: 407-823-3135). Office hours for the UCF Health Services vary. Please visit the UCF Health Services website 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 (Millican Hall 161). Graduate students must submit the form to the UCF College of Graduate Studies (Millican Hall 230). Current UCF employees and 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 website or in Millican Hall 161.

## 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 myUCF at [my.ucf.edu](http://my.ucf.edu) or at any of the kiosks located on campus. Address and e-mail changes also can be made by submitting a Change of Address form 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 UCF College of Graduate Studies, University of Central Florida, P.O. Box 160112, Millican Hall 230, 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. The UCF College of Graduate Studies will request those transcripts internally.



Requests for official UCF 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. 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 \$10 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 the Registrar's Office website 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 \$10 per reordered transcript fee must be submitted with the reorder request. Grades are available from myUCF.

## ENROLLMENT CERTIFICATIONS

Students may obtain their enrollment online through myUCF. Enrollment certification is free to currently enrolled students. Parents, employers, background checking firms, and other third party agencies may request enrollment and degree verifications online at <http://www.degreechk.com/>. A fee will be assessed for all such requests. UCF has contracted

with Credentials, Inc. to provide current enrollment, degree and past attendance verifications online 24 hours a day, seven days a week. Credentials, Inc. Customer Service is available at 1-847-446-1027, ext. 104 between 7:00 a.m. and 7:00 p.m. CST/CDT Monday through Friday.

### Enrollment Status for Fall and Spring Terms

Nondegree-seeking		Degree-seeking	
Status	Credit Hours	Status	Credit Hours
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 4.5

### Enrollment Status for Summer Term

Nondegree-seeking		Degree-seeking	
Status	Credit Hours	Status	Credit Hours
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,** see Full-time Enrollment Requirements in the General Graduate Policies section of this catalog.

**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. Nondegree-seeking students have different requirements and should contact the Office of Student Financial Assistance for specific information.

**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.

**VA Educational Benefits**—For degree and nondegree-seeking students, the VA benefits pay levels for credit hour enrollment are:

Full			
Fall and Spring terms	9	Summer term	6
3/4			
Fall and Spring terms	7 or 8	Summer term	4 or 5
1/2			
Fall and Spring terms	6* (4.5 **)	Summer term	3*

\* Tuition and Fee payments apply below these credit hours.

\*\* Applies to College of Business Administration credit hours.

## WITHDRAWAL POLICY AND ACADEMIC RECORD CHANGE REQUESTS

Withdrawal from 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 Web Enrollment Guide. A student may withdraw from courses using myUCF at <https://my.ucf.edu>, or by visiting the Registrar’s Office (Millican Hall 161), certain college advising offices, or a 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 seek 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.

Withdrawals are not 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. Graduate students seeking to petition for a late withdrawal should consult the College of Graduate Studies (MH 230). At the time of the request, the College of Graduate Studies 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 are generally for all courses taken in the semester.

Graduate students who seek late withdrawal because they are ill must apply for the withdrawal within one year of the end of the term from which the withdrawal is sought (submission within six months refunds tuition). 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 College of Graduate Studies. 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. Graduate 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. Graduate 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. Graduate students must submit a petition and all supporting documentation for a late Drop of courses to the College of Graduate Studies (Millican Hall 230; 407-823-2766) within six months of the end of the semester for which the late Drop is sought.

If a graduate 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 the UCF College of 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 the UCF College of 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 the Parking Services Office's website.

## **VISITOR INFORMATION CENTER**

To park on campus without a decal, purchase a daily permit at the Visitor Information Center across from the Progress Energy University Welcome Center or from the pay-and-display machines on campus. Daily permits are valid only in student lots. Meters are also available in selected locations.

# Financial Information

## OVERVIEW

Graduate education provides personal enrichment and a deeper understanding of some aspect of the world around us, but also is an important investment in the future of a community. It is an investment on the part of the student that opens the door to new careers, wider choices of work assignments, and greater opportunities for advancement to higher paying jobs. It is also an investment on the part of the university and the community as a whole in the training of the next generation of workers, leaders, educators, innovators, and contributing citizens. Besides the time investment, a graduate student has financial expenses that include tuition and education-related fees, instructional supplies, and living expenses. UCF helps to offer the opportunities provided by graduate education at a very reasonable cost.

For a significant portion of the graduate student population at UCF, the process of learning and being trained for disciplines that require graduate-level education includes participating in the research, teaching, and community-building missions of the University. This partnership between graduate students and the University is recognized by both the University and the State of Florida by means of financial support in the form of fellowships, tuition remission, and research and teaching assistantships. Many of the assistantship appointments represent professional opportunities as well as a means of financial support.

In order to qualify for fellowships, tuition remission, or assistantships, graduate students are expected to be enrolled full-time in a degree program. Assistantship appointments require the student to be engaged in paid appointments that promote the missions of the University. The details of these requirements are described in Financial Support Requirements, as well as in the fellowships, assistantships, tuition support, and health insurance pages in the Financial Information section of this catalog.

## FINANCIAL SUPPORT REQUIREMENTS

Graduate students must meet all of the following requirements each term that they receive fellowships, assistantships, or tuition remission:

- Students must be accepted as a graduate student in a degree program and enrolled full-time. See Full-time Enrollment Requirements. Nondegree-seeking students and students who are only admitted to a graduate certificate program are ineligible for UCF financial support.
- Students must maintain good academic standing. See Academic Progress and Performance.
- In order to receive tuition remission, students must be either graduate assistants (position codes 9181-9184, 9186, or 9187), University Fellows, or be admitted as part of a formal, written University-approved agreement. The graduate assistant category includes the following types of appointments: Graduate Assistant (GA, Position Code 9186); Graduate Teaching Assistant (GTA, Position Code 9184); Graduate Teaching Associate (GTA, Position Code 9183); Graduate Teaching Assistant-Grader (GTA, Position Code 9187); Graduate Research Assistant (GRA, Position Code 9182); and Graduate Research Associate (GRA, Position Code 9181). Full tuition support requires a qualifying university fellowship or a 0.5 FTE appointment (20 hours per week) and stipend level of at least \$6,600 for the academic year. Half tuition support requires a 0.25 FTE appointment (10 hours per week) and stipend level of at least \$3,300 for the academic year.
- Tuition remission 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.
- Graduate fellowships have additional requirements. See Graduate Fellowships.

## GRADUATE FELLOWSHIPS

The UCF College of Graduate Studies awards more than \$2 million in university fellowships to provide financial support for the graduate education of over 300 graduate students each year. These

fellowships are funded by university appropriations, endowments, and other outside sources.

Fellowships are awarded on the basis of academic merit to the most highly qualified applicants. Some fellowships are available only to applicants who are underrepresented in higher education in the State of Florida. For eligibility, students must be accepted as a graduate student in a degree program and enrolled full-time. See Full-time Enrollment Requirements. Students who are interested in being considered for a fellowship are strongly encouraged to apply for admission by the priority date and to communicate their interest in receiving a fellowship to their intended graduate program. GRE scores are required to be considered for most fellowships even if not required for admission to a specific program. Most fellowships require Graduate Program Directors to nominate students to the College of Graduate Studies 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 Fellowships.

International students receiving fellowships are subject to up to 14 percent withholding on their fellowship payments. International students must obtain a Social Security Number (SSN) prior to receiving payment of a fellowship. More information on this issue can be obtained from the International Services Center ([www.intl.ucf.edu](http://www.intl.ucf.edu)).

### General Fellowship Requirements

- Students usually receive only one UCF fellowship per term, and students are eligible to receive a given fellowship only once.
- Fellowships are only awarded to highly qualified individuals who are admitted, degree-seeking graduate students (regular or conditional admission) by the time the fellowship is awarded. Students on conditional admission status may be offered a fellowship, but must submit documentation required for regular admission status prior to fellowship disbursement. Students on provisional and restricted admission status, nondegree-seeking (postbaccalaureate) students, and graduate certificate students are not eligible to receive fellowships.

- All fellowships require full-time graduate 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. See Academic Progress for Fellowship Recipients below.
- Fellowship students must participate in events scheduled for the university fellowship community and in selected service activities for the UCF community. Additional information about this requirement is found at For UCF Fellows.
- Some fellowships have additional requirements, which are described in the fellowship details found at Fellowships.

### Students Working Full Time

Students who are employed 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. Graduate assistants and fellows are not eligible to receive UCF Employee Tuition or State Employee Tuition Vouchers.

### Academic Progress for Fellowship Recipients

Fellowship recipients are required to be in good standing and to 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.

- Fully accepted into a graduate degree program at UCF.
- Enrolled as full-time graduate students. See Full-time Enrollment Requirements.
- Maintain a graduate status GPA of 3.0 each term of the award.



- Receive satisfactory grades in all classes, and no grade of incomplete (“I”). (Unsatisfactory grades are C, C+, C-, D, F, and U.)

Failure to meet any one of these standards will result in the cancellation of the fellowship. The College of Graduate Studies may grant rare exceptions to this policy after review of evidence of mitigating circumstances presented by the student and the graduate program.

## Graduate Fellowships

The following list identifies the fellowships offered by the university and the funding programs in which the university participates. Those for which the College of Graduate Studies provides a graduate tuition waiver are marked (TW). For the most current information regarding fellowships, students are encouraged to consult Fellowships, as well as Funding.

- UCF Trustees Doctoral Fellowship (TW)
- UCF Presidential Doctoral Fellowship (TW)
- UCF MFA Provost’s Graduate Fellowship (TW)
- UCF Graduate Research Excellence Fellowship (TW)
- UCF Graduate Dean’s Fellowship
- McKnight Doctoral Fellowship (TW)
- UCF Graduate RAMP Fellowship (TW)
- UCF Graduate McNair Fellowship (TW)
- Summer Mentoring Fellowship (TW)
- GEM Fellowship (TW)
- Delores A. Auzenne Fellowship
- Florida A&M University Feeder Program (TW)
- UCF Graduate Presentation Fellowship

## Fellowship Disbursement

Most graduate fellowships are disbursed through the Office of Student Financial Assistance, based on instructions provided by the UCF College of Graduate Studies. Student Financial Assistance begins disbursing fellowship funds and other aid after the registration and Drop/Add period has ended (usually the second week into the term). For the portion of tuition charges covered by the fellowship, the tuition payment deadline will be deferred until fellowship disbursement. If students

are not enrolled in full-time hours by the end of the Drop/Add 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. 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 account, if the student has provided the bank information in myUCF.

Students can check to see if fellowship payment has been applied to their account through myUCF. In myUCF, select “Student Accounts” to see awards that have been set up to pay against your account.

## GRADUATE ASSISTANTSHIPS

Graduate students often receive assistantships in their departments or other university offices while pursuing graduate studies. Graduate assistants may teach, conduct research, or perform other tasks that contribute to the student’s professional development.

Graduate students may become Graduate Teaching Associates, Assistants, or Graders (GTAs), Graduate Research Associates or Assistants (GRAs), or Graduate Assistants (GAs). For eligibility, students must be accepted as a graduate student in a degree program and be enrolled full-time. See Full-time Enrollment Requirements.

Both half- and full-stipend assistantships are available. Half-stipend assistantships require students to perform assistantship assignments for a minimum of 10 hours per week during the period of the assignment. Full-stipend assistantships require students to perform assistantship assignments for a minimum of 20 hours per week during the period of the assignment. University policy requires that graduate assistants (position codes 9181-9184, 9186, and 9187) with half-stipend assistantships receive a minimum stipend of \$3,300 per academic year (fall and spring semesters); graduate assistants with full-stipend assistantships receive a minimum stipend of \$6,600 per academic year (fall and spring semesters). In rare circumstances, students may be appointed to assistantships with total hourly commitments that extend beyond 20 hours per week. During the Fall and Spring terms, approval for appointments above 20 hours per week must

be requested using the Supplemental Assignment Form; during the Summer term, prior approval is not required. Departments vary widely in their normal stipend rates.

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. (For your Graduate Program Director's e-mail address and telephone number, see the "Contact Info" in the Graduate Programs section of this graduate catalog.)

Part-time students (those registered for less than 9 hours in fall and spring terms, or less than 6 hours in summer term) and nondegree students are not eligible to receive assistantships.

## Background Investigations

UCF requires a criminal history background investigation for all new hire graduate assistantship students (job codes 9181, 9182, 9183, 9184, 9186, 9187), as well as for those students who are being rehired as graduate assistants after being off the university payroll for one year or more. UCF requires authorization from the graduate assistantship student to conduct this background check, using the Fair Credit Reporting Act Disclosure and Authorization to Release Information Form at <http://hr.ucf.edu>.

## Assistantship Payment

Graduate students who have assistantships receive biweekly payments following the schedule set by Human Resources. Assistantship payments do not show as credit on the student's term bill; thus, they do not defer tuition and fee charges. 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 withholding taxes. For more information, please see "Federal Tax Guidelines" on the UCF Human Resources website.

## Graduate Research Associates and Assistants

Graduate research associates and assistants (GRAs, job codes 9181 and 9182) may assist

faculty 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 assigned to nonacademic university offices such as Academic Affairs, University Analysis and Planning Support, and Operational Excellence and Assessment Support.

GRAs are typically supported by grants and contracts, but may also be supported by departmental funds. GRAs will have the cost of resident tuition paid by university funds (i.e., through grants, contracts, college or division funds, foundation funds or through a formal, written university-approved agreement).

## Graduate Assistants

Graduate assistants (GAs, job code 9186) may assist in general office tasks and services not involved in teaching or research assignments for colleges, departments, or nonacademic university offices. GAs will have the cost of resident tuition paid by university funds (i.e., through grants, contracts, college or division funds, foundation funds or through a formal, written university-approved agreement).

## Graduate Teaching Associates, Assistants and Graders

Graduate teaching associates, assistants, and graders (GTAs) support the teaching mission of the university and can be hired under three job codes: Graduate Teaching Associate (9183, Instructor of Record); Graduate Teaching Assistant (9184); and Graduate Teaching Assistant - Grader (9187). GTAs may be assigned as instructors of record for undergraduate courses, as assistants to the faculty in their teaching responsibilities or in other roles directly related to credit-earning formal course instruction, or as tutors for students on specific course-related material or general skills. GTAs assisting members of the faculty may have responsibilities that include assisting in laboratory courses, grading, preparation of course materials, or performing clerical tasks associated with course instruction.

GTAs will receive graduate tuition waivers that cover the cost of resident tuition or will have the cost of resident tuition paid by the employing unit.

**Graduate Teaching Requirements**

- Students must have completed at least 18 hours of graduate courses in the discipline prior to being assigned as an instructor of record or teaching independently at the university. Graduate Teaching Associates may not teach graduate courses.
- New graduate teaching associates, assistants, and graders are required to satisfy the UCF GTA Training requirements before beginning their assistantship assignment. Graduate teaching associates must complete the online GTA Grader Training and GTA Assistant Training and attend an all day, face-to-face workshop presented by the Faculty Center for Teaching and Learning. Graduate teaching assistants must complete the online GTA Grader Training and GTA Assistant Training. Graduate teaching graders must complete the online GTA Grader Training.
- 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 facility with spoken English. See “English-speaking Ability for Graduate Teaching Assistants” below for more information.

For more information regarding GTAs at UCF and registration for GTA Training and SPEAK testing, see Graduate Teaching.

**English-speaking Ability for Graduate Teaching**

The English-speaking skills of graduate students with English as a second language who plan to serve as graduate teaching associates or assistants (job codes 9183 or 9184) will be evaluated as part of the GTA Training that is offered each semester. 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 a regionally accredited U.S. college or university, from a country where English is the only official language, or from a university at which English is the only official language of instruction, or they have received a score of 26 or higher on the Speak portion of the

ibt TOEFL. Only exempted students and those who have attended the UCF GTA Training and satisfactorily passed the evaluation of their English-speaking skills may be assigned as GTAs.

English-speaking ability will be evaluated at UCF using the SPEAK test provided by the Educational Testing Service at the beginning of the Fall and Spring semesters. Should you need to take a SPEAK exam in the summer, please contact the Center for Multilingual Multicultural Studies directly.

The university provides you with free English-speaking training if your scores are between 45 and 55 on the initial SPEAK test.

Initial SPEAK Score	English-speaking Training
55 or more	No training needed; you may be a GTA Associate or Assistant provided you meet other SACS-related qualifications.
50	One semester of free training (Oral Communication for Internationals) will be provided by the university with an additional SPEAK exam required at the end of the semester’s training. Failure to attend 15 or more sessions or to complete the required SPEAK exam in that semester will result in you being charged for the training and final SPEAK exam. You may be employed as a GTA Assistant to help with laboratory or other duties under the supervision of a faculty member, provided you meet other SACS-related qualifications.
45	One semester of free training (Oral Communication for Internationals) will be provided by the university with an additional SPEAK exam required at the end of the semester’s training. Failure to attend 15 or more sessions or to complete the required SPEAK exam in that semester will result in you being charged for the training and final SPEAK exam.

Less than 45	Please consult the Center for Multilingual Multicultural Studies for an intensive English language program that will meet your needs. These programs charge a fee, depending upon your needs, that must be paid by you.
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If students achieve a satisfactory post-evaluation at the end of the semester, they may be assigned as GTAs. Otherwise, students must apply for further training at their or their department's expense.

**Assessment of Graduate Teaching Associates, Assistants, and Graders**

All GTAs will be evaluated on their teaching each semester using the GTA Performance Assessment Form provided by the College of Graduate Studies. Completion of the form constitutes a summary assessment based on prior classroom visits, informal observations, input from students, discussions with the GTA, and other evidence of performance. The faculty member who is supervising the GTA must complete the assessment and meet with the assistant to discuss the assessment. The form is sent to the College of Graduate Studies by the end of the semester.

Assistantship agreements will not be approved for GTAs who are missing Performance Assessment Forms.

Use of the assessment is at the discretion of the department in reassigning or continuing the student in their GTA position.

**Employment of International Students**

For information regarding the employment of international students, see International Students in the Admissions section of this catalog.

**GRADUATE TUITION SUPPORT**

Graduate assistants or graduate students who receive certain university-wide fellowships will receive tuition support (formally referred to as "tuition remission") as part of their financial package. Tuition remission is in the form of either tuition waivers or tuition payments from university funds. Certain university-wide fellows and GTA

appointments qualify for tuition waivers; all other graduate assistants will receive tuition remission as tuition payments from university accounts.

Tuition support pays the resident tuition ("in-state" tuition); it does not include payment of local fees (health fee, athletic fee, etc.). However, certain programs will pay local fees for their supported students. For nonresident students, see below. Tuition support is generally described in the student's financial offer letter. Students should contact their program or department if they have questions about the tuition support that will be provided.

For students receiving tuition support based on their graduate assistantship(s), the level of tuition support is dependent on the level of assistantship support. To receive half tuition support, students are required to have a single assistantship assignment for a minimum of 10 hours per week during the period of the assignment. To receive full tuition support, students are required to have a single assistantship assignment for a minimum of 20 hours per week, or two assistantship assignments, each for a minimum of 10 hours per week during the period of the assignment.

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. Specific questions concerning the amount of tuition included with a given fellowship may be directed to the UCF College of Graduate Studies at [gradfellowship@ucf.edu](mailto:gradfellowship@ucf.edu).

**Tuition support for nonresident students:**

For nonresident students, all university fellows who receive tuition support and qualifying graduate assistants will not be charged the nonresident fee ("out-of-state" tuition) or the nonresident financial aid fee. Peace Corps Fellows will not be charged the nonresident fee or nonresident financial aid fee for the duration of their graduate studies at UCF. Qualifying assistantships include a single appointment of at least 0.5 FTE (20 hours per week) or two appointments of at least 0.25 FTE (10 hours per week). It is important to note that this will only be in effect for the terms of the fellowship or the qualifying assistantship appointment(s).

**Note:** 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.

## Student Obligations

**Student drops or withdraws from a course but remains full-time.** If a student drops or withdraws from a course for which tuition remission has been received but remains full-time enrolled, the tuition remission will be removed and the student must pay the tuition for that course. Holds will prevent the student from registering for classes, receiving transcripts, or receiving grade reports until the payment is received. However, if the student enrolls in a replacement course that is acceptable in the Program of Study, the tuition remission will cover the replacement course.

**Student drops or withdraws from a course and becomes part-time.** If a student drops or withdraws from a course for which tuition remission has been received and becomes part-time as a result, the tuition remission will be removed and the student must pay for tuition. Holds on student records will prevent students from registering for classes, receiving transcripts, or receiving grade reports until the payment is received. (In extreme cases, a student may request an exception to this policy.)

**Student is dismissed or resigns from assistantship.** Students with tuition remission who are dismissed from the university or resign from their graduate assistantship (GA, GTA, or GRA) at any point during the term will have their tuition remission removed and must pay for tuition.

## Requesting Tuition Remission

Upon the recommendation of program and college offices, the UCF College of Graduate Studies assigns tuition waivers and facilitates tuition payments to qualifying graduate assistants. Students should discuss their tuition support needs with their Graduate Program Director.

## Students with Positions in Nonacademic Units

Students may also be hired as a graduate assistant (GA or GRA) in a nonacademic office. Tuition remission for these appointments is in the form of tuition payments. Students should discuss their tuition support needs with their nonacademic office supervisor.

Contact the UCF College of Graduate Studies if you are unsure if the office is considered nonacademic.

## Tuition Remission Posting

All tuition support will be posted to your student account through the Office of Student Accounts, based on instructions provided by the UCF College of Graduate Studies for graduate tuition waivers, or by the program, college or office for tuition payments. 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.

## PAID HEALTH INSURANCE COVERAGE

The College of Graduate Studies provides health insurance coverage as part of the complete financial packages offered to all qualifying university fellows and graduate assistants with appointments totaling 20 hours per week.

## Qualifying Fellowships and Assistantships

- Students with university fellowships that are accompanied by tuition waivers are eligible for paid health insurance coverage.
- Graduate assistants are eligible for paid health insurance coverage if they have a single appointment of at least 0.5 FTE (20 hours per week) or two appointments of at least 0.25 FTE (10 hours per week). Graduate assistantships must be accompanied by resident tuition remission in the form of either GTA tuition waivers or tuition payments paid by university funds.

Full annual coverage will be provided in two separate time periods. Students with qualifying assistantships and fellowships in the fall term will receive fall coverage, running from August 15 through December 31. Students with qualifying assistantships and fellowships in the spring term will receive coverage for the remainder of the policy year, running from January 1 through August 14. Students with a qualifying assistantship or fellowship only in summer term will receive



summer coverage, running from May 1 through August 14.

All students qualifying for paid health insurance coverage will be required to accept or decline the health insurance coverage in their myUCF Student Center by submitting the Graduate Health Insurance electronic form. See Health Insurance for more information about this health insurance coverage.

Communications from the College of Graduate Studies and the health insurance company will be sent to the student’s Knights e-mail address and the local mailing address in the university records. Students who anticipate receiving health insurance coverage due to their assistantship or fellowship are advised to keep their contact information current at myUCF (my.ucf.edu).

## STUDENT FINANCIAL ASSISTANCE

### OFFICE OF STUDENT FINANCIAL ASSISTANCE

Director: Alicia Keaton  
 Millican Hall, Room 120  
 Switchboard: (407) 823-2827  
 Appointment: (407) 823-5285  
 Fax: (407) 823-5241  
 Email: [finaid@ucf.edu](mailto:finaid@ucf.edu)  
 Website: <http://finaid.ucf.edu>

Office Hours:	
Monday:	9:00 a.m. - 5:30 p.m.
Tuesday/Wednesday/ Friday:	9:00 a.m. - 5:00 p.m.
Thursday:	1:00 p.m. - 5:30 p.m.

(Hours subject to change during holidays and semester breaks.)

The mission of the Office of Student Financial Assistance is to provide UCF students and the University Community comprehensive quality service by offering options for financial assistance and efficient delivery of aid. Financial aid counseling is available by appointment and/or walk-in service. Due to confidentiality, counseling by phone and email is limited. Student Financial Assistance, a unit of Student Development and Enrollment Services, is dedicated to the attainment of UCF’s mission and goals.

## Student Eligibility

To receive aid from most federal and state financial aid programs, students must meet certain requirements. All students are encouraged to complete the Free Application for Federal Student Aid (FAFSA) annually, before March 1, to determine eligibility for aid. The FAFSA results are required for many programs. The federal processor, using a standardized formula, calculates financial need. Those results are then forwarded to the schools that were identified on the application. UCF must be listed on the FAFSA in order to receive the data. UCF’s Federal School Title IV Code is 003954. Regulations are subject to change at any time.

## Application Priority Date

All students must apply or reapply annually for financial aid.

To be considered for the full range of financial aid available, students should complete the Free Application for Federal Student Aid (FAFSA)/ Renewal FAFSA by mid-February. The processed results of the FAFSA must be received by **March 1** to meet the university’s application priority date.

- If the priority date is missed, students should apply as soon as possible after that date.
- Students should not wait to be admitted to UCF before applying for financial aid.
- Students should have a complete financial aid file at least 60 days prior to the beginning of the semester. Students who apply late for aid should be prepared to cover their own living expenses, out-of-pocket, well into the term.

## Application Procedures

- The FAFSA can be filed electronically at [www.fafsa.ed.gov](http://www.fafsa.ed.gov).
- Using the IRS Data Retrieval Tool in the online FAFSA is the fastest, easiest, and most secure method of providing the required tax information. Applicants who use the unchanged data generated by the IRS Data Retrieval Tool will not be required to provide verification of tax information. Students who are selected for Verification who did not use the IRS Data Retrieval Tool, or changed data after using the tool, will be required to submit IRS tax return transcripts to verify tax information. Per

federal regulation, copies of tax returns (Form 1040, 1040EZ, etc.) are no longer acceptable. The only exceptions to this rule include those who file tax returns in Puerto Rico or foreign countries.

- Messages on the Student Aid Report (SAR) should be reviewed thoroughly.
- Review all correspondence, follow instructions on the SAR, and follow through within 5-10 business days. Delays can be costly as well as frustrating.
- Federal regulations require that some students be selected for Verification. If selected, students will be asked to provide documents supporting the information submitted on the FAFSA. Subsequent requests for data may be necessary after initial submissions are reviewed. Prompt response to requests will expedite completion of this process.
- Offered federal funds and other need based financial aid are considered estimates until Verification is complete and all necessary corrections have been made.
- Students must not be in default on any federal educational loan or owe repayment on a federal grant at this or any other institution.
- Students must provide all information requested for the completion of their file. If selected, Verification must be completed within specified deadlines and prior to the receipt of all federal and most state and institutional funds.
- Students must notify the Office of Student Financial Assistance of any changes in their housing status, household size, or family members in college from that listed on their FAFSA.
- Students must reapply annually for financial aid.
- Students must accept, reduce or decline offered loans/s on the myUCF View Financial Aid screen. First time borrowers at UCF must complete an online Entrance Counseling session and Master Promissory Note (MPN) for Federal Direct Stafford Loans.
- Students must be U.S. citizens or eligible non-citizens, (e.g. resident aliens). Eligible non-citizens include a permanent U.S. resident with a Permanent Resident Card (I-551); a conditional permanent resident with a Conditional Green Card (I-5551C); as well as some I-94 classifications.
- For need-based programs, students must show a financial need as determined by the FAFSA.
- A male applicant must be registered with Selective Service, if applicable.

## Specific Eligibility Requirements and Conditions for Receiving Financial Aid

- Students must be accepted and classified as degree seeking at UCF in an eligible program of study.
- For purposes of financial aid, enrollment is based on classes that count toward degree completion. To ensure enrollment in sufficient hours for the various financial aid programs, please refer to the Program Eligibility Charts on the Financial Aid website.
- Students must maintain UCF's Standards for Satisfactory Academic Progress.
- Students are required to inform the Office of Student Financial Assistance of any additional sources of aid they expect to receive beyond those listed on the award notification. Any subsequent awards or income may necessitate a revision of the financial aid package. This includes, but is not limited to, any private scholarships, third party tuition payments, departmental payments or waivers.
- Students may not receive aid in excess of their Cost of Attendance.

## Helpful Hints

- Apply early to be considered for the full range of financial aid available each year by completing the Free Application for Federal Student Aid (FAFSA)/Renewal FAFSA. The processed results of the FAFSA must be received by UCF from the federal processor by **March 1** to meet the university's application priority date.
- Use the IRS Data Retrieval Tool in the online FAFSA application. Applicants who use the unchanged data generated by the IRS Data Retrieval Tool will not be required to provide verification of tax information. Students who are selected for Verification who did not use the IRS Data Retrieval Tool, or changed data after using the tool, will be required to submit IRS

tax return transcripts to verify tax information. Per federal regulation, copies of tax returns (Form 1040, 1040EZ, etc.) are no longer acceptable. The only exceptions to this rule include those who file tax returns in Puerto Rico or foreign countries.

- Start a folder to save financial aid information and photocopies of all documents filed and received. Include student's name and PID on all documents submitted. (Do not submit originals; documents will be shredded after scanning.)
- Activate Knights Email account. Check it regularly to avoid missing important and critical information from Student Financial Assistance and the university.
- Complete all items on your myUCF, Student Center, "To Do List." Respond promptly to all information requests.
- If there are extenuating circumstances or problems at any time, you may visit the office during normal business hours or call the appointment line (407-823-5285) to schedule a meeting with a counselor.
- Comprehensive information can be found on the Office of Student Financial Assistance website at <http://finaid.ucf.edu>.

## School Costs

Estimated student budgets have been developed as a guide to help students anticipate their costs at UCF.

<b>Estimated Cost of Attendance for 2014-2015</b>				
Graduate Students				
fall/spring based on 10 hours per term				
	<b>Florida Residents</b>		<b>Non-Florida Residents</b>	
<b>Living Arrangement</b>	<b>On/Off Campus</b>	<b>Parent/Relative</b>	<b>On/Off Campus</b>	<b>Parent/Relative</b>
Tuition/Fees	\$7,368	\$7,368	\$24,508	\$24,508
Books	1,146	1,146	1,146	1,146
Room & Board	9,758	5,406	9,758	5,406
Transportation	1,856	1,856	1,856	1,856
Personal	2,772	2,772	2,772	2,772
<b>Total Costs</b>	<b>\$22,900</b>	<b>\$18,548</b>	<b>\$40,040</b>	<b>\$35,688</b>

## Financial Aid Programs Available at UCF

The Program Eligibility Charts on the Student Financial Assistance website under "Receiving Aid" list the various programs and their specific enrollment requirements. Detailed information for each program can also be found on the website under its particular title.

**Loans** are borrowed funds that must be repaid. Graduate students must be enrolled at least half-time in UCF classes that count toward degree completion to receive federal loans. Master's, Specialist and Doctoral students must have a minimum of 4.5 hours per term for fall or spring, and/or 3 hours in the summer. Master's thesis and Doctoral dissertation students must have a minimum of 3 hours in all terms. Graduate and professional students will be offered Federal Direct Unsubsidized Loans up to their maximum loan eligibility.

**Federal Work Study** is a need-based program that provides part-time employment to student with financial need, allowing them to earn money to help with educational expenses. The program encourages community service work and/or work related to the student's course of study. Individual departments hire students while the Office of Student Financial Assistance determines the eligibility, award amount, and pay rate.

**Scholarships and Fellowships** are awarded based on various criteria, including financial need, campus/community activities, leadership positions, academic success, and work experience. Scholarships are designed to reward, encourage, and assist students in pursuing academic excellence and leadership roles.

## Award Notification

Award notifications are mailed to first time UCF students after March 15, while email award notifications are sent to continuing students. Initial awards may be amended due to factors such as contingent admission status, less than half-time enrollment, lack of academic progress, changes required due to Verification, incomplete files, over awards, receipt of additional resources, etc.

Financial aid awards will be based upon the student's financial need. The amounts listed on the award notifications are estimates based on full-

time enrollment. For purposes of financial aid, enrollment is based solely on classes that count toward degree completion. If a class is not required to earn a degree, then the hours of that class are not used to calculate a student's eligibility.

Admission to UCF must be finalized with no contingencies. Students must be classified as degree seeking.

Verification, if required must be completed. Students must meet the Standards for Satisfactory Academic Progress. If all eligibility is met, financial aid funds may be disbursed.

It is the student's responsibility to be aware of minimal requirements for each program, which can be found on the Program Eligibility Charts on the Student Financial Assistance website. When requirements are no longer met, awards will be adjusted as necessary. Some awards may be cancelled. All changes can be viewed on the myUCF portal, Student Center, "View Financial Aid." All awards are subject to change.

## Deferrals of Tuition and Fees

Deferments allow for the delay that occurs between the date that tuition and fees are due and the date on which financial aid disbursements are made, which is generally two weeks after the term begins. The amount available for deferment can be found on the fee invoice as estimated aid or on the student's account on myUCF as anticipated aid. If the amount of the "Estimated Financial Aid" on the fee invoice is equal to or greater than the "Amount Due," tuition and fees are automatically deferred. If the estimated aid and/or other resources are less than the amount due, students are responsible to pay the balance owed to the university by the fee payment deadline.

The deferment process occurs automatically if the student is meeting all general eligibility requirements and has enrolled in sufficient hours for the financial aid program/s. Please refer to the Program Eligibility Charts on the Office of Student Financial Assistance website for more information. Students should use myUCF to obtain up-to-date information.

Since awards are subject to change, deferments are also subject to change. In order for loans to defer tuition and fees, students must accept the offered loan on myUCF View Financial Aid screen. In

order, to have access to accept loans, all required items on the To Do List must be submitted. Students must drop classes prior to the end of Drop/Swap and Add to prevent fee liability for those classes. If students do not drop their classes, a financial aid deferment may keep the classes active even if they are never attended.

## Disbursements

Timing of disbursements is contingent upon students meeting all conditions for receiving aid. Disbursement of financial aid begins the second week of the semester and continues each week thereafter. At the end of the Drop/Swap and Add period, awards are adjusted based on the student's enrollment. The week following, the disbursement process is initiated by moving students' awards to their student account. Once funds are disbursed to the Office of Student Account Services, the disbursement record is posted on myUCF under "View My Account" on the Student Center. Charges appearing on the student's account will be deducted at that time. Any remaining financial aid will be processed as a refund. If charges remain on the account after disbursements, or if subsequent charges are made to the student's account, it is the student's responsibility to ensure they are paid. Students signed up for direct deposit should allow up to four business days for funds to show in their bank account. For refund checks that are being mailed, students should allow at least a week to receive their check at their current mailing address on myUCF.

Students should be aware of the disbursement process so that they are prepared to use their personal savings for anticipated expenses such as books and supplies at the beginning of the term. The Short Term Advance (STA) for Books or the Textbook Purchase Program is available for students to help with these expenses. The STA application is available for download prior to each term, so that funds may be available as early as two weeks before the first day of classes. For additional information regarding these two programs, visit: [http://finaid.ucf.edu/receiving/funds\\_for\\_books.html](http://finaid.ucf.edu/receiving/funds_for_books.html).

## Satisfactory Academic Progress (SAP)

Federal regulations require the university to establish Standards of Satisfactory Academic Progress as a general eligibility requirement for



financial aid. A student must maintain Satisfactory Academic Progress in a course of study regardless of whether the student previously received financial aid or transferred in from another institution.

To meet the standards adopted by the University of Central Florida, a student must:

- Complete a minimum of 70 percent of all credit hours attempted including accepted transfer hours. Compliance with this requirement is checked at the end of each term. Students who do not earn 70% of all credit hours attempted will be placed on financial aid warning for the next term/semester. At the end of the following semester, students must meet the 70% standard or aid will be canceled for future terms until student either meets the standards or the student has an appeal approved placing them on financial aid probation with an academic plan on file demonstrating the requirements for the student to get back on track toward graduation.
- Graduate within the number of hours allowed by the Satisfactory Academic Progress policy. Students are allowed a specific number of attempted hours, based on their classification. This includes transfer hours accepted toward the degree plus all UCF hours. *(see chart below)*

Classification	Time Limit Allowed For Completion Degree
Master's	70 Attempted Hours
Specialist	100 Attempted Hours (including all Graduate Level Hours)
Doctoral	120 Attempted Hours (including all Graduate Level Hours)

### Graduate Certificate Programs

There are very few Certificate Programs that are eligible for financial aid. Only course work required for the program will be considered in calculating aid eligibility. Disbursements will take place after the Drop/Swap and Add period and courses have been verified. Students must meet all eligibility requirements prior to disbursement.

Students enrolled in approved programs, must adhere to the following:

- Successfully complete at least 70% of the attempted hours each semester in course work pertaining to the certificate program.
- Attempted hours cannot exceed 150% of the certificate program requirements.
- Must meet the minimum GPA requirements for the Graduate Certificate Program.
- Failure to attend or successfully complete any hours towards the certificate program in a given semester will result in SAP cancellation status, effective next term enrolled.
- The appeal process is the same as indicated below. In cases of unsuccessful completions or reaching the maximum hours limit, the Academic Plan for Financial Aid is required. Satisfactory Academic progress (SAP) will be reviewed at the end of each semester.

### Re-establishing Eligibility after Cancellation

Any student with extenuating circumstances, (i.e., death of a relative, an illness or injury of the student, etc.), who is placed on cancellation status may appeal to the Financial Aid Review Committee for reinstatement based on his/her special case.

If the student was canceled for the failure to complete 70 percent of the attempted hours and since cancellation, he/she has brought up the percentage to a minimum of 70 percent, the student will be reinstated during the end of the semester review process. If a student was canceled for not meeting the GPA requirement, they will be placed back on a reinstated status once their GPA has been brought up to the required level during the end of semester review process.

To appeal, the student must:

- Complete the Satisfactory Academic Progress Appeal Form; (available on the Office of Student Financial Assistance website at: <http://finaid.ucf.edu>, under Forms.
- Attach documentation supporting specific circumstance(s) to the appeal form.
- Meet with the Academic Advisor and complete an Academic Plan for Financial Aid.
- Submit the appeal and the supporting documentation to the Office of Student Financial Assistance.



After a thorough evaluation of the written request and all supporting documentation, the Financial Aid Review Committee will notify the student of the decision by email communication or the student may view their updated status on myUCF, Student Center, under “View Financial Aid Status.” Students reinstated on financial aid probation will be required to have an academic plan that will be monitored by the Office of Student Financial Assistance.

For detailed SAP policy information, please refer to the Office of Student Financial Assistance website at <http://finaid.ucf.edu/receiving/sap.html>.

### **Satisfactory Academic Progress Probation**

Students who submit a SAP Appeal that is approved will be placed on Financial Aid Probation, and will be continued on probation as long as they successfully comply with the prescribed academic plan that is submitted as part of the SAP Appeal. Progression will be monitored during the probationary period at the beginning and end of each semester to ensure the student is following the prescribed academic plan and successfully matriculating through their program of study. All probation students must successfully complete a minimum of 70% of the credit hours that they attempt each semester. In addition, student on probation for GPA and/or completion ratio must make positive progression in the appropriate area(s). Disbursements will not be made for a semester unless it is verified that the prior review (if applicable) was acceptable and student is in the proper classes for the term in question.

### **Over Awards**

An over award occurs when a student’s award package has exceeded either the unmet need or Cost of Attendance. To prevent over awards, students are required to notify the Office of Student Financial Assistance of any potential awards not already listed on the student’s financial aid award summary on myUCF, Student Center. This includes waivers that are awarded to students at the beginning of the semester. If the Office of Student Financial Assistance is not aware of additional resources prior to disbursing aid, then that aid (including loans), may have to be reduced and sometimes paid back by the student if the resource creates an over award.

### **Refunds and Return of Title IV Funds**

Students should be aware that if they withdraw from the university after having received financial assistance, they may be required to repay a portion of that assistance. Students who received Federal Direct Stafford Loans should also know that the Registrar’s Office is required to notify the National Student Loan Data System (NSLDS) of student withdrawals.

### **Professional Judgment**

The formula used to determine eligibility for federal student aid is basically the same for all applicants. However, in some cases, special circumstances may be taken into consideration. Students with extenuating circumstances should schedule an appointment to review the situation with a counselor. If a student presents extenuating circumstances, an appeal can be submitted to include support documentation for review. There must be a very good reason to make any adjustments and proof must be provided to support any adjustments. The appeal will be reviewed and a decision will be made through the Professional Judgment process.

### **Student Rights and Responsibilities**

Students have the right to full information about the financial aid programs available at UCF, application procedures, aid deadlines and the criteria used to determine a financial aid package. Students have the right to appeal decisions made by the Office of Student Financial Assistance. Students also 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 disability. 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 federal regulations.

## 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 Exemption Guidelines

The Internal Revenue Service (IRS) excludes certain types of student wages from the IRS definition of "employment" for purposes of FICA tax withholding. Please consult Federal Tax Guidelines on the UCF Human Resources website for details about this exemption.

## TUITION AND FEES

### STUDENT ACCOUNT SERVICES

Sr. Associate Controller: Dan Mayo  
Millican Hall, Room 109  
Phone (407) 823-2433  
E-mail: [stuacct@ucf.edu](mailto:stuacct@ucf.edu)  
Web Address: [www.studentaccounts.ucf.edu](http://www.studentaccounts.ucf.edu)

### General Information

Student Account Services is here to serve the students who attend the University of Central Florida by maintaining accurate financial records and communicating with students concerning their accounts.

The Student Account Services is responsible for:

- Tuition and Fee Assessment/Refunds (Student Account Services)
- Processing Payments
- Overdue payment and institutional loans collection (Loans and Collections)

#### Schedule of Fees

**Note: 2014-2015 tuition and fees have not been established at the time of this publication. Rates for the 2014-2015 academic year will be available in July 2014 at [www.iroffice.ucf.edu/character/](http://www.iroffice.ucf.edu/character/)**

**current\_tuition.html). Fees are subject to change without notice.**

**Tuition and Fees:** Tuition and fees are established by the State Legislature and the University Board of Trustees and are subject to change without notice. Fees are affected by residency status. Tuition and fees are charged per semester or term for main campus, regional campus, and continuing education courses. Tuition is assessed on a per credit hour basis. Students classified as 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.

**Tuition Fee Invoice:** A student's Fee Invoice will show all tuition and fee charges, payments and deferrals associated with the term, and courses in which the student is currently enrolled. The Fee Invoice will not show fees such as housing, library, parking, etc. Tuition Fee invoices are available 24/7 on the web <https://my.ucf.edu>, and from the student's college advising offices. Students should review their current Tuition Fee Invoice prior to making a payment. **Tuition Fee invoices are not mailed.** The Tuition Fee Invoice should be reviewed once after initial registration of courses and also after making any changes to the initial registration to ensure that the fees are adjusted accordingly.

**Fee Payment Deadlines:** All university tuition and fees must be paid by the published dates. Tuition and fees not paid or deferred by the payment deadline date for each term will result in late fees and may result in the cancellation of all classes. Refer to the Academic Calendar each term for the fee payment deadlines.

**Limited Non-Degree Enrollment Classes:** 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 to avoid additional financial obligations.

## Student Financial Responsibility Statement

Registration at UCF requires students to acknowledge the following financial responsibility statement:

"I understand that I will be responsible for tuition and fees for all courses that remain on my record

after the drop deadline and that the courses will be graded. 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 deadline, I will be charged a \$100 Late Payment Fee, my records will be placed on hold, my account will be referred to a collection agency, and I agree to reimburse the fees of any collection agency, which may be based on a percentage of the debt collected, and all costs and expenses, including reasonable attorneys' fees incurred in such collection efforts.

The deadline to DROP classes without incurring a W Grade and Fee Liability will be one day earlier than the deadline to ADD classes. Please consult the Academic Calendar or the Enrollment Bulletin Board in Student Self Service for these deadlines.”

**Note: The Fall 2014 Financial Responsibility Statement had not been established at the time of this publication.**

## Payment Procedures

Payment must be received or postmarked no later than the fee payment deadlines as specified on the Academic Calendar. The primary form of payment of most account holders is online through the E-pay system via the myUCF portal. Currently students can pay using a check or a credit card in this system. **Payments cannot be transacted by telephone.**

### Acceptable Forms of Payment:

- Personal Checks
- Credit Cards (Acceptable credit card types are subject to change). Please review the Student Account Services website: [www.studentaccounts.ucf.edu](http://www.studentaccounts.ucf.edu) for current payment information.

E-Pay (<https://my.ucf.edu>)—E-Check (Personal Check) or Credit Card

- A nonrefundable convenience fee or processing fee will apply per credit card transaction.
- Payments made at anytime on the date of the published fee payment deadline will be considered on time. See the Academic Calendar.

E-Pay process:

Sign in the myUCF portal then click on the link for **Student Self Service**; this will open your Student Center page. Use the right scroll bar to scroll to the Finance section. You will find a section for **Student Accounts**.

- Click on the link for the **Tuition Fee Invoice**. Select the current term (i.e. Summer 2012, Fall 2012 or Spring 2013). The Fee Invoice will provide you your schedule, the charges, the Amount Due and deferrals.
- Annotate the Amount Due as you will need that amount once you are on the E-pay system.
- Scroll down to the bottom of the page and click the link to Due Charges/E-Pay link to make a payment.

Mailed payments: (Please do not send cash)

- Include student's name and PID# on checks or money orders (make check payable to the University of Central Florida).
- Address payments to:

University of Central Florida  
Student Account Services  
Attn: Payment Processing  
P.O. Box 160115  
Orlando, FL 32816-0115

**Main Campus** - Provides a 24-Hour Depository - Millican Hall (main campus) at Reflection Pond Entrance. (No Cash)

**Regional Campuses:** the University of Central Florida now requires all tuition and fees to be paid electronically. While there are no longer direct cashiering services available on the Regional Campuses, student can pay all tuition and fees electronically, either by credit card or personal check. Additionally, payments may be mailed to: UCF Student Account Services, Attn: Payment Processing, PO Box 160115, Orlando, FL 32816-0115.

## Other Forms of Payment

Tuition and Fees may be partially or completely paid by financial aid, Florida Prepaid, tuition waivers, or departmental grants. The student is responsible to pay any amount that is not covered by these types of payments by the payment

deadline on the fee invoice as described under Payment Procedures.

**Financial Aid—see Student Financial Assistance for rules and procedures.** All fees not deferred by financial aid are due by the fee payment deadline.

**For information regarding Florida Prepaid College Plan or Tuition Waivers please refer to the Student Account Services website.**

#### **Tuition and 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.registrar.sdes.ucf.edu/calendar/academic/](http://www.registrar.sdes.ucf.edu/calendar/academic/) for registration dates and times. The tuition fee waiver cannot be used for courses that require increased costs (such as thesis, dissertation, and directed individual study). A "Florida Residency" Affidavit is required to establish Florida residency. A completed "Student Health History" form must be filed prior to registration. Inquiries should be directed to the Registrar's Office (MH 161; Telephone: 407-823-3100).

### **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 conditions allow a full refund: 1) A class is dropped before the end of the Drop period; 2) Cancellation of a course by the university.

#### **Partial Refund (25%)**

Twenty-five percent of tuition and associated fees assessed and paid, adjusted for waivers is refundable 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.

A written appeal for a refund or other appeal action must be submitted to the University within six (6) months of the close of the semester to which the refund or other appeal action is applicable.

#### **Exceptional Circumstances**

Refunds for exceptional circumstances are available upon an administrative drop 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. If approved, a Late Withdrawal does not result in a refund of tuition and fees.

A written appeal for a refund or other appeal action must be submitted to the university with six (6) months of the close of the semester to which the refund or other appeal action is applicable.

### **Direct Deposit**

Students are strongly encouraged to establish direct deposit with the university. Direct Deposit prevents delays due to lost checks or change of address. All refunds from students' accounts can be direct deposited into the student's checking account to any U.S. bank of their choice. Funds are usually available within 24-48 hours after disbursement, and enrollment only takes a few minutes. To enroll, sign in at <https://my.ucf.edu> and click on Student Self Service. Go to the Student Accounts Services link, and then click on Direct Deposit and follow the instructions.

### **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, diploma, transcripts 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.

Do not assume your registration will be canceled if you fail to pay fees or attend classes. Tuition deferrals, for example, will prevent class cancellation for non-payment. Payment guidelines for off-campus registration are contained on the off-campus registration form.

## Late Fees

Late Payment Fees apply to students who do not pay their fees or who do not pay their fees (or obtain a full fee deferment) by the payment deadline. The Late Payment Fee is \$100 per term.

Late Registration Fees are charged to students who enroll following the close of the regular registration period for the term, who re-register, or who enroll for the first time that term during Late Registration and Drop/Swap and Add period. The Late Registration Fee is \$100 per term.

## Administrative Procedures Act

The University of Central Florida, under applicable rules of the Administrative Procedures Act, may change any of the announcements, information, policies, and rules, regulations or procedures set forth on the Registrar's Office website. Statements in the Registrar's Office website may not be regarded in the nature of binding obligations on UCF 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 term or in day and evening sessions. Students should refer to the current Undergraduate Catalog or the Graduate Catalog for the complete Policy Statement.

## COSTS AND RESIDENCY

This section provides useful information about residency in the state of Florida. For more information about residency, go to [www.admissions.graduate.ucf.edu/residency/](http://www.admissions.graduate.ucf.edu/residency/).

### Fall 2014 Florida Residency Deadline Information

Friday, August 22, 2014, will be the last day to submit documentation for Initial Residency Classification or to apply and submit documentation for Florida Residency Reclassification for tuition purposes for the fall semester. If the documentation is not received by Friday, August 22, 2014, you will remain a non-Florida resident for tuition purposes and will be responsible for the out-of-state tuition charges associated with that classification.

For questions regarding initial residency classification associated with your Fall 2014 application, please e-mail [gradresidency@ucf.edu](mailto:gradresidency@ucf.edu).

For questions regarding your residency reclassification, please e-mail [gradreclass@ucf.edu](mailto:gradreclass@ucf.edu).

Below are deadline dates for the 2014 academic year.

Term	Deadline
Fall 2014	August 22, 2014
Spring 2015	January 16, 2015
Summer 2015	May 22, 2015



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## Graduate Programs

- ◇ Doctoral Programs
- ◇ Specialist Programs
- ◇ Master's in Fine Arts Programs
- ◇ Master's Programs
- ◇ Certificates Programs
- ◇ Nondegree Programs

### DOCTORAL PROGRAMS

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## Biomedical Sciences PhD

### PROGRAM DESCRIPTION

The Biomedical Sciences PhD program is an interdisciplinary program that combines biological and physical science. This program is intended to educate students in independent research and team collaboration within the field.

### CURRICULUM

The Biomedical Sciences PhD program requires a minimum of 72 credit hours beyond the bachelor's degree, including a minimum total of 27 hours of formal course work exclusive of independent study that are required.

The program requires 23 credit hours of core courses, 12 credit hours of electives, and a minimum of 15 credit hours of dissertation research. The remaining 22 credit hours may consist of additional electives, doctoral research and/or dissertation research. Students with an earned master's degree may request that up to 30 credit hours of previous course work be waived.

New students will take a two-semester introductory course, participate in laboratory rotations to identify a research area of interest, and take a sequence of required seminars.

#### **Total Hours Required:**

**72 Credit Hours Minimum beyond the Bachelor's Degree**

Programmatic deficiencies expected of applicants from diverse settings will be addressed early in the program by completion of appropriate course work. Students entering with a master's degree may request that up to 30 semester credit hours of previous course work be waived as degree requirements with approval from the dissertation committee. Students may register for doctoral research until they have been admitted to candidacy, after which they must register for dissertation research.

New students will take a two-semester course that provides an introduction to the interdisciplinary area

of biomedical sciences. In addition, a laboratory rotation will allow students to have a brief but intensive experience working with faculty in at least three different research laboratories to find a research area of interest for their dissertation. Finally, a sequence of required seminars will familiarize students with field-related literature and introduce them to the conceptual and technical frameworks in which they will work. All students receiving assistantships must enroll full time.

### Required Courses—23 Credit Hours

- BSC 6432 Structure-Function-Relationships of Biomedical Sciences I (5 credit hours)
- BSC 6433 Structure-Function-Relationships of Biomedical Sciences II (5 credit hours)
- IDS 7692L Experiments in Biomedical Sciences (lab rotation) (3 credit hours)
- IDS 7692L Experiments in Biomedical Sciences (lab rotation) (1 credit hour)
- IDS 7690 Frontiers in Biomedical Sciences (four semesters, 1 credit hour each semester)
- BSC 6431 Practice of Biomedical Science (3 credit hours)
- IDS 6694 Experimental Design and Analysis in Biomedical Sciences (2 credit hours)

### Elective Courses—12 Credit Hours

At least 12 hours of electives must be taken from the following list. Any electives not on this list must be approved by the Graduate Committee before being counted toward degree credit requirements. Directed research, doctoral research and dissertation research may be used to satisfy requirements beyond the first 12 hours, with approval from the program director.

- BSC 5418 Tissue Engineering (3 credit hours)
- BSC 5436 Biomedical Informatics: Structure Analysis (3 credit hours)
- BSC 6407C Laboratory Methods in Molecular Biology (3 credit hours)
- CAP 5510 Bioinformatics (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)
- CHS 6251 Applied Organic Synthesis (2 credit hours)
- CHS 6535 Forensic Molecular Biology (3 credit hours)
- CHS 6535L Forensic Analysis of Biological Materials (3 credit hours)
- CHS 6536 Forensic Analysis of DNA Data (2 credit hours)
- GEB 5516 Technology Commercialization (3 credit hours)
- IDS 5127 Foundations of Bio-Imaging Science (3 credit hours)
- MCB 5205 Infectious Processes (3 credit hours)
- MCB 5208 Cellular Microbiology: Host-Pathogen Interactions (3 credit hours)
- MCB 5209 Microbial Stress Response (3 credit hours)
- MCB 5225 Molecular Biology of Disease (3 credit hours)
- MCB 5505 Molecular Virology (3 credit hours)
- MCB 5654 Applied Microbiology (3 credit hours)
- MCB 5722C Methods in Biotechnology (4 credit hours)
- MCB 5932 Current Topics in Molecular Biology (3 credit hours)
- MCB 5415 Cellular Metabolism (3 credit hours)
- MCB 6226 Molecular Diagnostics (3 credit hours)
- MCB 6417C Microbial Metabolism (3 credit hours)
- PCB 5025 Molecular and Cellular Pharmacology (3 credit hours)
- PCB 5235 Molecular Immunology (3 credit hours)
- PCB 5236 Cancer Biology (3 credit hours)
- PCB 5238 Immunobiology (3 credit hours)
- PCB 5265 Stem Cell Biology (3 credit hours)
- PCB 5275 Signal Transduction Mechanics (3 credit hours)

- PCB 5527 Genetic Engineering and Biotechnology (3 credit hours)
- PCB 5596 Biomedical Informatics: Sequence Analysis (3 credit hours)
- PCB 5665C Human Genetics (4 credit hours)
- PCB 5815 Molecular Aspects of Obesity, Diabetes, and Metabolism (3 credit hours)
- PCB 5838 Cellular and Molecular Basis of Brain Functions (3 credit hours)
- PCB 6528 Plant Molecular Biology (3 credit hours)
- PCB 6585C Advanced Genetics (4 credit hours)
- PCB 6595 Regulation of Gene Expression (3 credit hours)
- PCB 6677 Molecular Evolution and Phylogenetics (3 credit hours)
- ZOO 5748C Clinical Neuroanatomy (3 credit hours)

### Unrestricted Electives—22 Credit Hours Minimum

Students should take 22 credit hours of electives, directed research, doctoral research or dissertation research, in consultation with their adviser.

### Dissertation—15 Credit Hours Minimum

- IDS 7980 Dissertation Research (15 credit hours)

### Cumulative/Qualifying Examinations

Cumulative examinations taken during the second year will determine if students should continue with their doctoral studies. Exams will be overseen by a cumulative exam committee. Each exam will consist of questions set by different faculty members. Questions will deal with data interpretation from the current literature or will require design of experiments to test a hypothesis. A student must satisfactorily answer cumulative examination questions, displaying a knowledge base consistent with continuation in the PhD program.

### Candidacy Examination

Candidacy will consist of writing and orally defending a proposal on a research idea based on and/or related to the topical area of the dissertation work to the committee and program faculty. This format of the written and oral exam will be an 8-10 page written proposal in NIH-style grant format. After passing the candidacy examination and meeting other requirements as specified, the student can register for dissertation hours.

### Admission to Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completed a minimum of 48 credit hours
- Completion of all course work, except for dissertation hours.
- Successful completion of all examinations (cumulative/qualifying and candidacy).
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.

### Dissertation Defense

The dissertation should be of significant scope and depth such that the work has made significant advances in the area of biomedical science. *The PhD dissertation research must generate sufficient quantity and quality data to support a minimum of two manuscripts (first authored by the student) in a mainstream journal in the field. At a minimum, one first author paper must be published, and a second manuscript should have been submitted and subjected to peer review.*

Upon completion and approval of the doctoral dissertation by all designated 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. The candidate will answer questions and defend conclusions about the subject matter.

For more information, see the General Guidelines for Alternative Organization in the Thesis and

Dissertation Manual of the College of Graduate Studies Thesis and Dissertation office.

## Independent Learning

The dissertation serves as the independent learning experience.

## APPLICATION REQUIREMENTS

Applicants entering the program with regular status are expected to have completed course work required for a bachelor's degree in chemistry, cell biology, biochemistry, biophysics, genetics, molecular biology or microbiology.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation.
- Statement of research interest and purpose, including a summary of relevant work or research experience.
- Résumé.
- A personal or telephone interview.

Admission is based on an overall assessment of the qualifications submitted and the interview. All admissions to graduate status are competitive and based on availability of faculty for sponsoring research.

## Application Deadlines

Biomedical Sciences PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Nov 15	Nov 15		
International Applicants	Nov 15	Nov 15		
International Transfer Applicants	Nov 15	Nov 15		

## CONTACT INFO

### Alexander Cole PhD

Professor  
 acole@ucf.edu  
 Telephone: 407-823-3633  
 BMS 236

### Annette Khaled PhD

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 BBS 358

# Business Administration PhD

## PROGRAM DESCRIPTION

The Business Administration PhD program prepares students for careers in higher education and management. Students may choose from four tracks: Accounting, Finance, Management and Marketing.

The objective of the doctoral program in Business Administration is to prepare students for academic careers in higher education and management careers within 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.

## CURRICULUM

84 Credit Hours Minimum beyond the Bachelor's Degree

Upon admission to the Business Administration doctoral program, the student will be assigned an adviser. With the approval of the adviser, the student will complete a program of study including the following requirements.

### General Preparation and Course Work

- MBA degree or equivalent - 30 credit hours: Each track may specify different requirements for this category.
- Major - 12-21 hours.
- Minor/Support Area - 6-9 credit hours.
- Research Tools - 12-15 credit hours: All doctoral students are required to take two applied statistics courses. Other research tool courses will be specified by the track.
- Teaching - Each track will require some

education related to teaching. It may take the form of classes, noncredit seminars, mentoring or a teaching requirement.

- 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 - 15 credit 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.

## APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline. Applicants must choose a track in this program. Track(s) may have different requirements. The next admission cycle for this program is Fall 2016.

## CONTACT INFORMATION

**Graduate Program  
Taylor Ellis PhD**  
Associate Dean  
tellis@bus.ucf.edu  
Telephone: 407-823-3922  
BA2 101B



# Accounting Track

## TRACK DESCRIPTION

The Accounting track in the Business Administration PhD program prepares students for careers in higher education and management.

The objective of the Accounting track in the Business Administration PhD program is to prepare students for academic careers in higher education and management careers within 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.

## CURRICULUM

84 Credit Hours Minimum beyond the Bachelor's Degree

### Prerequisites - Foundation Body of Knowledge - 30 Credit Hours

In the Accounting track of the Business Administration PhD program, 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 PhD director. Alternatively, this requirement may be satisfied by courses approved by the School of Accounting's doctoral advisory committee.

### Required Courses - 30 Credit Hours

#### Accounting Core - 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)

### Research Methods/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 ACG 7837, GEB 7910, STA 5205, PSY 6216C, PSY 6308C, PSY 7218C, ECO 6424, and ISM 7029. Elective Courses - 9 Credit Hours

### Restricted - 3 Credit Hours

Choose one of the following accounting courses:

- 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

### Unrestricted - 6 Credit Hours

Students must take 6 credit hours in a minor/support area. Students must select a minimum of six credit hours in a unified

area approved by the student's doctoral study advisory committee. Each student's program of study is individually tailored to accommodate interests whenever possible. This course work may be developed from offerings in the following areas with the advice and consent of the respective departments and the advisory committee:

- Marketing
- Economics
- Political Science
- Psychology
- Gender Studies
- Management
- Sociology
- Environmental Studies
- Communication
- Philosophy
- Public Affairs

### **Dissertation - 15 Credit Hours**

- ACG 7980 Dissertation (15 credit hours minimum)

### **Admission to Candidacy**

Students must complete a comprehensive candidacy examination that includes written and oral portions. Students must defend a written dissertation proposal in an oral examination conducted by the student's advisory/dissertation committee. The final defense of the dissertation will also require an oral examination.

Students officially enter candidacy when the following has been accomplished: Completion of all course work, except for dissertation hours.

- Successful completion of the comprehensive candidacy examination.

- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.

### **Teaching Requirement**

The requirements for the teaching component of the degree will be developed with the doctoral program director based on the student's experience. Normally, this requirement will be satisfied through teaching 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.

### **Independent Learning**

The dissertation serves as the independent learning experience.

## **APPLICATION REQUIREMENTS**

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE or GMAT score taken within the last five years.
- Three letters of recommendation.

- Goal statement.
- Résumé.
- Other: Previous publications and/or other relevant supporting documentation.
- A computer - based score of 233 (or 91 internet - based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

The next admissions cycle for this program will be in Fall 2016.  
 \*Applicants who plan to enroll full time in a degree program and who wish to be considered for university fellowships or assistantships should apply by the Fall Priority date.

## CONTACT INFO

### Graduate Program

**Vicky Arnold PhD**

Professor

vicky.arnold@ucf.edu

Telephone: 407-823-3192

Business Administration 1-448

Admission decisions are made based on faculty recommendations from the appropriate department or school. Admission 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 Deadlines

Accounting	*Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Apr 15	-	-
The next admissions cycle for this program will be in Fall 2016.				
International Applicants	Jan 15	Jan 15	-	-
The next admissions cycle for this program will be in Fall 2016.				
International Transfer Applicants	Jan 15	Mar 1	-	-

# Finance Track

## TRACK DESCRIPTION

Applications are currently not being accepted for this program. The next available admissions cycle is to be determined. Please contact the Business program directly for more information.

The Finance track in the Business Administration PhD program prepares students for careers in higher education and management.

The objective of the Finance track in the Business Administration PhD program is to prepare students for academic careers in higher education and management careers within 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.

## CURRICULUM

84 Credit Hours Minimum beyond the Bachelor's Degree

Required courses for all students are indicated with an asterisk in the lists below. Specific courses from the foundation body of knowledge category are determined based on a student's background in consultation with the doctoral program coordinator. Required course work prior to beginning study includes successful completion of at least a two - course sequence of 6 credit hours of calculus and previous course work in economics, finance and statistics. The program requires 27 hours of formal course work, exclusive of independent study, as well as 15 credit hours of dissertation research.

### Prerequisites - Foundation Body of Knowledge - 30 Credit Hours

In the Finance track of the Business Administration PhD program, the foundation body of knowledge includes (a) the finance, accounting, statistics and economics common body of knowledge in a MBA degree or its equivalent and (b) graduate courses in financial management, investments, financial institutions and international finance.

### Required Courses - 39 Credit Hours

#### Finance Core - 18 Credit Hours

- FIN 7935 Finance Research Forum\* (up to 6 credit hours)
- FIN 7808 Introduction to the Theory of Finance\* (3 credit hours)
- FIN 7807 Corporate Finance Theory\* (3 credit hours)
- FIN 7816 Investment Theory\* (3 credit hours)
- FIN 7930 Seminar in Market Microstructure\* (3 credit hours)

- FIN 7811 Seminar in Financial Markets and Institutions\* (3 credit hours)

### Minor/Support Area - 6 Credit Hours

- ECO 6118 Microeconomic Theory I\* (3 credit hours)
- ECO 7116 Microeconomic Theory II\* (3 credit hours)

### Research Methods/Tools - 12 Credit Hours

- ECO 6403 Mathematical Economics\* (3 credit hours)
- ECO 6424 Econometrics I\* (3 credit hours)
- ECO 7426 Econometrics II\* (3 credit hours)
- ECO 6404 Games and Economic Behavior (3 credit hours)
- ECO 6453 Experimental Economics (3 credit hours)
- ECO 7117 Advanced Topics in Economic Theory (3 credit hours)
- ECO 7428 Time Series (3 credit hours)
- ACG 7157 Seminar in Archival Research in Accounting (3 credit hours)
- Other courses as deemed acceptable by the faculty adviser.

\* Required courses for all students.

### Elective - 3 Credit Hours

- Elective course approved by the faculty adviser (3 credit hours)

### Dissertation - 15 Credit Hours

- FIN 7980 Dissertation (15 credit hours minimum)

### Admissions to Candidacy

Students must complete a comprehensive candidacy examination that includes written and oral portions.

Students must defend a written dissertation

proposal in an oral examination conducted by the student's advisory/dissertation committee. Students officially enter candidacy when the following have been accomplished:

- Completion of all course work, except for dissertation hours.
- Successful completion of the comprehensive candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.

The final defense of the dissertation will also require an oral examination.

### Teaching Requirement

The requirements for the teaching component of the degree will be developed with the doctoral graduate program director based on the student's experience. Normally, this requirement will be satisfied through teaching 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.

### Independent Learning

The dissertation serves as the independent learning experience.

## APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Cata-



log. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE or GMAT score taken within the last five years.
- Three letters of recommendation.
- Goal statement.
- Résumé.
- Other: Previous publications and/or other relevant supporting documentation.
- A computer - based score of 233 (or 91 internet - based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

Admission decisions are made based on faculty recommendations from the appropriate department or school. Admissions will generally be made only for fall semester, every other year. 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 Deadlines

Finance	*Fall Priority	Fall	Spring	Summer
<b>Domestic Applicants</b>	Jan 15	Apr 15	-	-
Applications are currently not being accepted for this program, the next available admissions cycle is to be determined. Please contact the Business program directly for more information.				
<b>International Applicants</b>	Jan 15	Jan 15	-	-
Applications are currently not being accepted for this program, the next available admissions cycle is to be determined. Please contact the Business program directly for more information.				
<b>International Transfer Applicants</b>	Jan 15	Mar 1	-	-
Applications are currently not being accepted for this program, the next available admissions cycle is to be determined. Please contact the Business program directly for more information.				
*Applicants who plan to enroll full time in a degree program and who wish to be considered for university fellowships or assistantships should apply by the Fall Priority date.				

### CONTACT INFO

**Graduate Program**  
**Honghui Chen PhD**  
 Associate Professor  
 cbagrad@bus.ucf.edu  
 Telephone: 407-823-1127  
 Business Administration 426

# Management Track

## TRACK DESCRIPTION

The objective of the Management track in the Business Administration PhD program is to prepare students for academic careers at major research universities. Management Department faculty members help students understand current approaches to explaining and investigating management processes, and facilitate research projects aimed at contributing new insights to the field. Our students immerse themselves in the timely and timeless lessons offered by management scholars, as well as the methods used to discover and evaluate new ideas. This training also provides our students with the knowledge and critical perspective necessary to be master educators. The Management program is designed to produce well-rounded members of our profession who are well prepared to contribute to the research, education, and service missions of the Management discipline. The program requires a full-time commitment on the part of the students, allowing no time for secondary outside employment. Stipends, tuition waivers, health insurance options, described in the Graduate Student Handbook and on the College of Graduate Studies website, provide the financial resources that support this full-time status.

## CURRICULUM

84 Credit Hours Minimum beyond the Bachelor's Degree

The general expectation for the Management program follows. The program is tailored to the needs of the individual student and may require work that is not included in the following descriptions. The program requires 36 hours of formal course work exclusive of independent study as well as

15 credit hours of dissertation research (MAN 7980).

### Prerequisites - Foundation Body of Knowledge - 30 Credit Hours

The foundation body of knowledge includes the common body of knowledge in an MBA degree or its equivalent from an AACSB - accredited or comparable school. Alternatively, this requirement may be satisfied by courses deemed essential by the Management track program coordinator.

### Required Courses - 39 Credit Hours

#### Management Core - 18 Credit Hours

- MAN 7275 Organizational Behavior (3 credit hours)
- MAN 7207 Organization Theory (3 credit hours)
- MAN 7777 Corporate - level Strategic Management (3 credit hours)
- MAN 7900 Directed Readings in Management (up to 6 credit hours, repeatable by topic)
- MAN 7916 Seminar(s) in Management Research (up to 6 credit hours, repeatable by topic)

#### Minor/Support Area - 6 Credit Hours

Students may select a minimum of six credit hours, typically within a unified area, approved by the student's adviser and the program coordinator. Each student's program of study is individually tailored to accommodate student interests, and often emphasizes additional training in research methodology necessary to produce high quality scholarly research.

### Research Methods/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. The student's advisory committee and the program coordinator will recommend and/or approve specific courses for each student. Representative courses include, but are not limited to the following:

- PSY 6216C Research Methodology I (3 credit hours)
- PSY 7217C Advanced Research Methodology I (3 credit hours)
- PSY 7218C Advanced Research Methodology II (3 credit hours)
- PSY 7219C Advanced Research Methodology III (3 credit hours)
- GEB 7911 Structural Equation Modeling (3 credit hours)
- MAR 7626 Multivariate Analysis for Business (3 credit hours)
- EDF 7427 Psychometrics (3 credit hours)
- PAF 7804 Advanced Quantitative Methods (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)

### Elective - 3 Credit Hours

- Elective course approved by the faculty adviser (3 credit hours)

### Dissertation - 15 Credit Hours

- MAN 7980 Dissertation Research (15 credit hours minimum)

### Admission to Candidacy

Students must complete a comprehensive candidacy examination that includes written and oral portions. This usually takes place near the end of coursework, in the late second year or early third year of the program.

Students must defend a written dissertation proposal in an oral examination conducted by the student's advisory/dissertation committee.

Students officially enter candidacy when the following have been accomplished:

- Completion of all course work, except for dissertation hours.
- Successful completion of the comprehensive candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.

The final defense of the dissertation will also require an oral examination.

### Teaching Requirement

The requirements for the teaching component of the degree will be developed with the doctoral graduate program director based on the student's experience. Normally, this requirement will be satisfied through teaching 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.

## Independent Learning

The dissertation satisfies the independent learning requirement.

## APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE or GMAT score taken within the last five years.
- Three letters of recommendation.
- Goal statement.
- Résumé.
- Other: Previous publications and/or other relevant supporting documentation.
- A computer - based score of 233 (or 91 internet - based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

Admission decisions are made based on faculty recommendations from the appropriate department or school. Admissions will generally be made only for the fall semester of even years (e.g. Fall 2014, Fall 2016). In evaluating applicants, the committee considers all materials submitted. This committee, made up of our most research active faculty, the program director, and program coordinator, considers favorably: past academic writing/projects, collaborative work with distinguished faculty, prior career success, standardized scores on the GMAT or GRE, and letter of intent. Given that our program is designed as an "immersion" into academic inquiry, we look for applicants who demonstrate a level or intellectual curiosity that will drive their research efforts. GMAT/GRE scores should be competitive for full consideration. Generally, successful applicants score at or higher than the 50% ranking on both verbal and quantitative portions of the tests. Admissions is competitive, and standardized scores are often considerably higher than this. Consideration of candidates generally begins in mid - January and continues until we have the number of accepted offers we intend to accept. Generally, a cohort consists of 4-6 students. Please feel free to contact the program coordinator, Dean Cleavenger ([dcleavenger@ucf.edu](mailto:dcleavenger@ucf.edu)) for more information about our program. Our program supports students with interest in the primary areas of Strategic Management, Organizational Behavior and Entrepreneurship. Letters of intent should reflect the particular area of interest is pursuing. 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 Deadlines

Management	*Fall Priority	Fall	Spring	Summer
<b>Domestic Applicants</b>	Jan 15	Apr 15	-	-
The next admissions cycle for this program will be in Fall 2016.				
<b>International Applicants</b>	Jan 15	Jan 15	-	-
The next admissions cycle for this program will be in Fall 2016.				
<b>International Transfer Applicants</b>	Jan 15	Mar 1	-	-
The next admissions cycle for this program will be in Fall 2016.				
*Applicants who plan to enroll full time in a degree program and who wish to be considered for university fellowships or assistantships should apply by the Fall Priority date.				

## CONTACT INFO

**Graduate Program**  
**Dean Cleavenger PhD**  
dcleavenger@bus.ucf.edu  
Telephone: 407-823-3624  
BA 333

# Marketing Track

## TRACK DESCRIPTION

The Marketing track in the Business Administration PhD program prepares students for careers in higher education. The objective of the Marketing track in the Business Administration PhD program is to prepare students for academic careers in higher education and management careers within 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.

## CURRICULUM

84 Credit Hours Minimum beyond the Bachelor's Degree

### Prerequisites - Foundation Body of Knowledge - 30 Credit Hours

In the Marketing track of the Business Administration PhD program, this requirement may be satisfied with a master's degree in marketing, business administration or an equivalent degree from an AACSB - accredited school. Alternatively, this requirement may be satisfied by courses deemed essential by the department's PhD coordinator in consultation with the PhD committee.

### Required Courses - 39 Credit Hours

#### Marketing Core - 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 I (1.5 credit hours)



- MAR 7667 Seminar in Marketing Models II (1.5 credit hours)
- MAR 7807 Seminar in Marketing Strategy I (1.5 credit hours)
- MAR 7808 Seminar in Marketing Strategy II (1.5 credit hours)
- MAR 7919 Special Topics: Doctoral Research Projects in Summer I and Spring II (6 credit hours)

### Minor/Support Area - 9 Credit Hours

A minimum of nine hours of course work is required in a minor/support area. The course work should be from a unified area and will be planned with the advice and consent of the department's PhD coordinator in consultation with the PhD committee.

### Research Methods/Tools - 12 Credit Hours

The department's doctoral advisory committee and the PhD Coordinator will determine the additional research tools courses.

- MAR 7626 Multivariate Analysis for Business Research (3 credit hours)
- **Additional courses approved by the PhD coordinator in consultation with the PhD committee (9 credit hours)**

### Dissertation - 15 Credit Hours

- MAR 7980 Dissertation (15 credit hours minimum)

### Admission to Candidacy

Students must successfully pass a readiness exam in the first summer. In the second summer of the program after course work has been completed students must pass a comprehensive candidacy examination that includes written and oral portions.

Students must defend a written dissertation proposal in an oral examination conducted by the student's advisory/dissertation com-

mittee.

Students officially enter candidacy when the following have been achieved:

- Successful completion of all course work (excluding dissertation hours).
- Successful completion of the readiness exam administered in the first summer.
- Successful completion of the comprehensive candidacy exam administered in the second summer.
- Successful defense of the written dissertation proposal.
- Formation of the dissertation advisory committee, consisting of approved graduate faculty and graduate faculty scholars.
- Submission of an approved program of study.

The final defense of the dissertation will require an oral examination.

### Teaching Requirement

**The requirements for the teaching component of the doctoral degree will be developed by the Department Chair in consultation with the PhD coordinator. Normally, this requirement will be satisfied through teaching a minimum of three credit hours of class instruction under the direct supervision of the Department Chair or his/her designee. As appropriate, students will also be required to attend teaching development seminars and workshops.**

### Independent Learning

The dissertation satisfies the independent learning experience.

## APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to

all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE or GMAT score taken within the last five years.
- Three letters of recommendation.
- Research Statement.
- Résumé.
- Other: Previous publications and/or other relevant supporting documentation.
- A computer - based score of 233 (or 91 internet - based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

Admission decisions are made based on faculty recommendations from the appropriate department or school. Admissions will generally be made only for fall semester, every other year. 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 Deadlines

Marketing	*Fall Priority	Fall	Spring	Summer
<b>Domestic Applicants</b>	Jan 15	Apr 15	-	-
The next admissions cycle for this program will be in Fall 2016.				
<b>International Applicants</b>	Jan 15	Jan 15	-	-
The next admissions cycle for this program will be in Fall 2016.				
<b>International Transfer Applicants</b>	Jan 15	Mar 1	-	-
The next admissions cycle for this program will be in Fall 2016.				
*Applicants who plan to enroll full time in a degree program and who wish to be considered for university fellowships or assistantships should apply by the Fall Priority date.				

### CONTACT INFO

**Graduate Program**  
**Pradeep Bhardwaj PhD**  
 Associate Professor  
 Pradeep.Bhardwaj@ucf.edu  
 Telephone: 407-823-5053  
 BA2 308G

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# Chemistry PhD

## PROGRAM DESCRIPTION

The PhD program in Chemistry provides a doctoral education in three technical focal areas: Materials Chemistry, Environmental Chemistry, Forensic Science and Biochemistry, drawing upon the strengths of the Department of Chemistry and other units, such as the College of Optics and Photonics and Advanced Materials Processing and Analysis Center. These 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 formulated in collaboration with industrial scientists and represents a response to current and projected competencies needed by the industry. The purpose of the program is to develop scientists and educators capable of conducting research to solve important problems in contemporary fields of the chemical sciences while preparing a highly skilled work force to ensure the technological/economic health and competitiveness in central Florida.

## CURRICULUM

The Chemistry PhD program requires 72 credit hours beyond the bachelor's degree with a minimum 18 credit hours of electives in the chosen sub-discipline, an original research project and dissertation presentation. A maximum of 24 credit hours may be transferred for students that have completed an approved MS degree program. At least 27 hours of formal course work, exclusive of independent study, are required in order to fulfill degree requirements. This includes four core courses and four electives, three of which must be taken from Chemistry. Six credit hours of directed research are also required; additional courses may be specified by the student's research adviser.

### Total Hours Required:

72 Credit Hours Minimum beyond the Bachelor's Degree

One of the primary means of education and training in the PhD program is achieved through successful completion of an original research project, close mentorship by their research adviser and the presentation and defense of the PhD 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.

By the second semester, students will choose a dissertation adviser and establish a program of study. Students will take a two-semester seminar, presenting a seminar to the department during the second semester. A third seminar credit hour will be taken in preparation for the dissertation defense. During this semester, the student will present a seminar to the department on their dissertation research. The research adviser and graduate program director will establish an advisory committee for each student. Students must maintain a 3.0 GPA or higher.

## Required Courses—15 Credit Hours

### Core—12 Credit Hours

Students must take four of the following courses.

- CHM 6710 Applied 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)
- BCH 6740 Applied Biochemistry (3 credit hours)

If a student successfully completes all five core courses, one course will count toward fulfilling the electives requirement.

### Seminar—3 Credit Hours

- CHM 6936 Seminar (1 credit hour, to be taken three times)

## Elective Courses—18-42 Credit Hours in Chosen Concentration

Students who enter the program with a master's degree need to take four elective courses (12 credit hours) and 6 credit hours of directed research. They may choose four courses from the departmental offerings or three courses from the departmental offerings and one from outside of the department.

Directed research will always be within the department. Students who enter the program without a master's degree will be required to take 24 additional hours for a total of 42 credit hours of a combination of elective and research courses.

A program of study requires 27 hours of total formal course work exclusive of independent study. Students and advisers need to be careful about how elective courses are selected so that at least 12 credit hours of electives must be formal course work, exclusive of independent study. Doctoral research, dissertation research, independent study and directed research may also be used to satisfy additional hours in the concentration.

### Materials Chemistry Concentration

Choose from the following courses (one may be from outside the department) in addition to 6 hours of 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 (3 credit hours)
- CHM 6711 Chemistry of Materials (3 credit hours)
- CHM 6620 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 Optical Materials Processing and Characterization Techniques (3 credit hours)
- CHM 6449 Photochemistry (3 credit hours)
- CHM 5305 Applied Biological Chemistry (3 credit hours)
- CHM 6938 Special Topics (3 credit hours)
- CHM 5235 Applied Molecular Spectroscopy (3 credit hours)
- CHM 6134 Advanced Instrumental Analysis (3 credit hours)
- CHM 7938 Frontiers in Chemistry (three semesters, 1 credit hour each semester)
- CHM 7919 Directed Research in Materials Chemistry (6 credit hours)

Courses from outside the Chemistry Department.

- OSE 5203 Fundamentals of Applied Optics (3 credit hours)
- OSE 5313 Materials for Optical Systems (3 credit hours)
- OSE 5414 Fundamentals of Optoelectronic Devices (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 (5 credit hours)
- PHY 5933 Selected Topics in Biophysics of Macromolecules (3 credit hours)
- PCB 5527 Genetic Engineering and Biotechnology (3 credit hours)
- BSC 5408L Advanced Biology Laboratory Techniques (3 credit hours)

### Environmental Chemistry Concentration

Choose from the following courses (one may be from outside the department) in addition to 6 hours of directed research.

- CHS 6260 Chemical Unit Operations and Separations (3 credit hours)
- CHS 6613 Current Topics in Environmental Chemistry (3 credit hours)
- CHS 6508 Advanced Mass Spectrometry for Forensic Science (3 credit hours)
- CHM 5235 Applied Molecular Spectroscopy (3 credit hours)
- CHM 5580 Advanced Physical Chemistry (3 credit hours)
- CHM 6134 Advanced Instrumental Analysis (3 credit hours)

- CHM 6449 Photochemistry (3 credit hours)
- CHM 6938 Special Topics (3 credit hours)
- CHM 7938 Frontiers in Chemistry (three semesters, 1 credit hour each semester)
- CHM 7919 Directed Research in Environmental Chemistry (6 credit hours)

Courses from outside the Chemistry Department.

- 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 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 from the following courses in addition to 6 hours of directed research.

- CHS 6548 Explosives and Accelerants Analysis (3 credit hours)
- CHS 6508 Advanced Mass Spectrometry for Forensic Science (3 credit hours)
- CHM 6134 Advanced Instrumental Analysis (3 credit hours)
- CHM 5451C Techniques in Polymer Science (3 credit hours)
- CHM 6938 Special Topics (3 credit hours)
- CHS 6535 Forensic Molecular Biology (2 credit hours)
- CHS 6535L Forensic Analysis of Biological Materials (3 credit hours)
- CHS 6536 Population Genetics and Genetic Data Analysis (3 credit hours)
- CHM 7938 Frontiers in Chemistry (three semesters, 1 credit hour each semester)

- CHM 7919 Directed Research in Forensic Science (6 credit hours)

### Biochemistry Concentration

Choose from the following courses (one may be from outside the department) in addition to 6 hours of directed research.

- CHM 5305 Applied Biological Chemistry (3 credit hours)
- CHM 5235 Applied Molecular Spectroscopy (3 credit hours)
- CHM 5225 Advanced Organic Chemistry (3 credit hours)
- CHM 6278 The Organic Chemistry of Drug Design (3 credit hours)
- CHM 5580 Advanced Physical Chemistry (3 credit hours)
- CHM 6449 Photochemistry (3 credit hours)
- CHS 6535 Forensic Analysis of Biological Materials (3 credit hours)
- CHS 6535L Forensic Analysis of Biological Materials Lab (3 credit hours)
- CHS 6536 Forensic Analysis of DNA Data (3 credit hours)
- CHM 7938 Frontiers in Chemistry (three semesters, 1 credit hour each semester)
- CHM 7919 Directed Research in Biochemistry (3 credit hours)

Courses from outside the Chemistry Department.

- IDS 7691 Structure-Function-Relationships of Biomolecules I (5 credit hours)
- PHY 5933 Selected Topics in Biophysics of Macromolecules (3 credit hours)
- MCB 5654 Applied Microbiology (3 credit hours)
- MCB 6417C Microbial Metabolism (3 credit hours)
- BSC 6407C Laboratory methods in Molecular Biology (3 credit hours)
- IDS 5127 Foundation of Bio-Imaging Science (3 credit hours)
- PCB 5236 Cancer Biology (3 credit hours)
- PCB 5527 Genetic Engineering and Biotechnology (3 credit hours)



- EMA 6516 X-Ray Diffraction and Crystallography (3 credit hours)
- EMA 6518 Transmission Electron Microscopy (3 credit hours)

## Dissertation—15 Credit Hours

### Minimum

- CHM 7980 Doctoral Dissertation (15 credit hours)

Within three months before defending the dissertation, the student will present a dissertation research seminar to the Department of Chemistry, registering for one credit hour of seminar.

### Qualifying Examinations

Students will be expected to satisfy qualifying (proficiency) requirements (analytical chemistry, biochemistry, inorganic chemistry, organic chemistry and physical chemistry) during the first year by taking exams in four of these five areas. Additional course work may be required if one or more of the qualifying exams is not satisfied. These exams may be waived if the entering student possesses an MS degree in the Chemical Sciences. Satisfaction of this requirement will help ensure that all students are adequately prepared for the core courses. If a student does not satisfy the proficiency exam requirements within the first year, the student may be subject to dismissal from the program.

### Candidacy Examination

By the end of the fifth semester (excluding summers), students must pass the PhD candidacy oral examination. The candidacy examination consists of writing and orally defending an original research proposal to the student's program faculty advisory committee as well as a presentation of their preliminary dissertation research accomplishments and plans. The research proposal will focus on a topic not directly related to the student's dissertation research and must be approved by the adviser and advisory committee. Failure to pass the PhD candidacy exam will result in dismissal from the program.

### Admission to Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all required and formal elective course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.

### Dissertation Defense

The final requirement for the PhD degree is completion of a satisfactory written dissertation of the student's research, along with successful presentation and defense of the dissertation to the advisory committee, including one doctorate-holding non-program faculty member.

### Equipment Fee

Full-time students in the Chemistry PhD program pay a \$90 equipment fee each semester that they are enrolled. Part-time students pay \$45 per semester.

### Independent Learning

The grounding in scientific research methodology provided by the dissertation 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 Chemistry Department graduate faculty will act as research adviser and approve the research topic. This research culminates in the writing and presentation of the dissertation. The student will present his/her dissertation for examination by a committee consisting of a minimum of five members including the research adviser. One of the committee members will be from outside the Chemistry department. A majority of the program committee members will hold tenure-earning faculty appointments in the Chemistry Department. The committee has to be approved by the Graduate Coordinator of the Chemistry program and the department Chair. The dissertation must be judged worthy of publication by the dissertation committee and may not be submitted for examination until so deemed. For students performing their dissertation research off campus, the dissertation adviser 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.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A Bachelor of Science degree in the Chemical Sciences or a closely related field.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendations.
- A statement of purpose.
- Résumé.
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

### Application Deadlines

Chemistry PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

## CONTACT INFO

**Andres Campiglia PhD**

Associate Professor

acampigl@ucf.edu

Telephone: 407-823-5728

Chemistry 117

# Civil Engineering PhD

## PROGRAM DESCRIPTION

The PhD 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 “superpave” mix design, intelligent transportation systems, traffic safety, structural dynamics, nonlinear structural analysis and software development, reinforced concrete, construction engineering, hydraulic modeling, coastal ocean modeling, stormwater management and watershed management.

## CURRICULUM

The Civil Engineering PhD program includes courses and research in structural analysis and design, geotechnical engineering and foundations, transportation planning and operations, traffic engineering, water resources engineering and construction engineering and management. This will prepare students for roles in consulting firms, construction and construction-related industries and academic institutions as well as in city, county, state and federal government agencies.

**Total Hours Required:  
42 Credit Hours Minimum beyond the  
Master’s Degree**

72 Credit Hours Minimum beyond the  
Bachelor’s Degree

The PhD in Civil Engineering is a research-oriented degree that requires course work combined with intensive research. The program requires a minimum of 72 credit hours beyond the bachelor’s degree. Thirty of the 72 credit hours can be met with either a nonthesis or thesis MS in Civil Engineering. This leaves 42 credit hours of which 18 credit hours must be Dissertation Research and a

minimum of 15 credit hours must be formal course work. A maximum of 9 credit hours of Doctoral Research hours can be used in the doctoral program, which could be replaced by additional formal course work.

For students not having an MS degree who directly enter the PhD program (BS to PhD), there will be a minimum of 45 hours formal course work (i.e., 30 credit hours identical to the coursework for a nonthesis MS in any of the Civil Engineering focus areas plus a minimum of 15 credit hours course work past the MS). In addition, these students can enroll for Doctoral Research credit hours during or after their first semester in the program. The 27 credit hours required in addition to the 45 credit hours course work will be 18 credit hours in Dissertation Research, and a maximum of 9 credit hours in Doctoral Research. Up to 9 credit hours of Doctoral Research can be replaced by additional formal course work subject to the approval of the PhD advisor and the advisory committee.

For both MS to PhD and BS to PhD students, the program of study must be developed with an advisory committee and meet with departmental approval at the beginning of the PhD program, at which time transfer credit will be evaluated on a course-by-course basis.

## Elective Courses—54 Credit Hours Minimum

- To be approved by a faculty adviser and the graduate coordinator.
- At least 27 credit hours of formal course work is required, exclusive of research and independent study. For students entering the program with a completed master’s degree, at least 15 of the 27 credit hours (exclusive of independent study and research) must be taken at UCF after the master’s program from approved formal courses. For students entering the program without a master’s degree in Civil Engineering or a closely related discipline, at least 45 credit hours of formal course work are required.
- Doctoral Research (XXX 7919) - 9 credit hours maximum (more than 9 research credit hours can be taken, but only a maximum of 9 credit hours will be counted toward the program of study).

- Independent Study (XXX 6908) - 3 credit hours maximum
- No more than a total of 12 credit hours of doctoral research plus independent study will be included in a program of study.
- Directed Research (XXX 6918) is not permitted in a PhD program of study.

Students can choose among the following courses with the consent of the academic adviser. Students that have no MS degree should complete the core courses for the MS degree in the respective focus area. These focus areas are: Structural Engineering, Geotechnical Engineering, Transportation Systems Engineering, Water Resources Engineering and Construction Engineering. For each one of these areas there is a suggested list of core courses.

Suggested elective courses include:

### ***Geotechnical Engineering***

- 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)

### ***Structural Engineering***

- CES 5144 Matrix Methods for Structural Analysis (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 5821 Masonry and Timber Design (3 credit hours)
- CES 6010 Structural Reliability (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 6527 Nonlinear Structural Analysis (3 credit hours)
- CES 6715 Prestressed Concrete Structures (3 credit hours)
- CES 6840 Composite Steel Concrete Structures (3 credit hours)

### ***Transportation Systems Engineering***

- TTE 5204 Traffic Engineering (3 credit hours)
- TTE 6205 Highway Capacity (3 credit hours)
- TTE 5805 Geometric Design of Transportation Systems (3 credit hours)
- TTE 5835 Pavement Design (3 credit hours)
- TTE 6256 Traffic Operations (3 credit hours)
- TTE 6270 Intelligent Transportation Systems (3 credit hours)
- TTE 6315 Traffic Safety Analysis (3 credit hours)
- TTE 6526 Planning and Design of Airports (3 credit hours)
- CGN 6655 Regional Planning, Design and Development (3 credit hours)
- STA 5206 Statistical Analysis or ESI 5219 Engineering Statistics (3 credit hours)

### ***Water Resources Engineering***

- CWR 5125 Groundwater Hydrology (3 credit hours)
- CWR 5205 Hydraulic Engineering (3 credit hours)
- CWR 5515 Numerical Methods in Civil and Environmental Engineering (3 credit hours)
- CWR 5545 Water Resources Engineering (3 credit hours)
- CWR 5634 Water Resources in a Changing Environment (3 credit hours)
- CWR 6102 Advanced Hydrology (3 credit hours)
- CWR 6126 Groundwater Modeling (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 6539 Finite Elements in Surface Water Modeling (3 credit hours)

### ***Construction Engineering and Management***

- CCE 5205 Decision Support for Infrastructure Projects (3 credit hours)
- CCE 5006 Infrastructure Systems Management (3 credit hours)
- CCE 5220 Green Design and Construction (3 credit hours)
- CCE 5937 Construction Contracts (3 credit hours)
- CCE 6036 Advanced Construction Planning and Control (3 credit hours)\*
- CCE 6211 Design and Monitoring of Construction Processes (3 credit hours)\*
- CCE 6045 Cost Analysis of Sustainable Infrastructure Systems (3 credit hours)

Students are also allowed to take courses from other specialization areas. Students can take courses from Civil Engineering or Environmental Engineering and other departments, including but not limited to Statistics, Mathematics, and Industrial, Mechanical, and/or Electrical Engineering, and Computer Science, with the consent of the academic adviser.

### **Dissertation—18 Credit Hours**

- XXX 7980 (where XXX can be CGN, CEG, CES, CWR, or TTE; 18 credit hours)

### **Examinations**

The student must pass three examinations.

#### **Qualifying Examination**

The first is the PhD Qualifying Examination in one of the departmental disciplines. This written examination must be taken within the first year of admission into the PhD program. It may be attempted no more than twice.

#### **Candidacy Examination**

The student must pass a Candidacy Examination, normally taken near the end of the course work. It

consists of a written and oral presentation of a research proposal, and may include additional written or oral questioning by the committee. A copy of the written examination will be kept as part of the student's official record.

#### **Admission to Candidacy**

The following are required to be admitted to candidacy and enroll in dissertation hours. Evidence that items have been completed must be received by the College of Graduate Studies on the Friday before the first day of classes for those who wish to enroll in dissertation hours in that semester:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.

#### **Dissertation Defense Examination**

The Dissertation Defense Examination is an oral examination taken as defense of the written dissertation.

The College of Engineering and Computer Science requires that all dissertation defense announcements be approved by the student's adviser and posted on the college's website and on the College of Graduate Studies Events Calendar at least two weeks before the defense date.

#### **Equipment Fee**

Students in the Civil Engineering PhD program pay a \$16 equipment fee each semester that they are enrolled. Part-time students pay \$8 per semester.

#### **Independent Learning**

The Independent Learning Requirement is met by successful completion of the student's candidacy and dissertation defense examinations.



## APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to submit a free pre-screening ([www.cecs.ucf.edu/prescreen](http://www.cecs.ucf.edu/prescreen)) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying the application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Master's or bachelor's degree in Civil Engineering or a closely related discipline.
- Résumé.
- Statement of educational, research, and professional career objectives.
- Three letters of recommendation.

Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

Faculty members may choose to conduct face-to-face or telephone interviews before accepting applicants into their research program.

## Application Deadlines

Civil Engineering PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

## CONTACT INFO

### David Cooper PhD

Professor

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ENG2 227

# Computer Engineering PhD

## PROGRAM DESCRIPTION

The doctoral program in Computer Engineering 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 computer systems and VLSI design, software engineering and algorithms, intelligent systems and Machine Learning, computer networks and computer security and simulation systems.

Research interests of the Computer Engineering faculty include computer architecture, software engineering, artificial intelligence, expert systems, modeling and simulation, computer networking and ubiquitous computing, computer security, and very large-scale integration (VLSI) systems.

The specific research that each one of the EECS faculty conduct can be found at the School of EECS website ([www.eecs.ucf.edu](http://www.eecs.ucf.edu)).

## CURRICULUM

The Computer Engineering PhD degree requires a minimum of 72 credit hours beyond the bachelor's degree. Of these 72 hours, a minimum of 36 credit hours must be formal coursework, exclusive of independent study coursework. A minimum of 15 credit hours with up to a maximum of 24 credit hours of dissertation hours can be credited toward the degree. No more than 12 credit hours of Independent Study are allowed. The remaining hours can be a combination of formal coursework and/or pre-candidacy doctoral research. Details about this program can be found in the Computer Engineering PhD Handbook.

### Total Hours Required:

72 Credit Hours Minimum beyond the Bachelor's Degree

Formal coursework required is 36 credit hours, exclusive of independent study and research. A minimum of 15 credit hours of dissertation are required. All other credit hours will be determined with a faculty adviser. Students admitted with an

earned master's degree may request to have up to 30 of those credit hours counted toward their doctoral program. The student's doctoral adviser in conjunction with the graduate office will determine the precise number of hours to be counted subject to Graduate Studies regulations.

The Program of Study (POS) form must be approved by an adviser in the selected specialization area no later than the end of the second semester after admission. The program of study must meet all the university requirements specified in the graduate catalog.

## Articulation Courses

Undergraduate articulation courses are required to be completed prior to admission for students who do not hold a Bachelor of Science degree in Computer Engineering. In particular, the articulation courses specified below, plus all of the prerequisite string which any of them require, must be completed prior to admission. Grades of "B" or higher must be obtained in each articulation course specified below. Articulation courses are not eligible for inclusion on a graduate Program of Study.

- EEE 3342C Digital Systems
- EEL 3801 Computer Organization
- COP 3502 Computer Science I
- COP 3503 Computer Science II

In addition, choose one of the following:

- COP 4331 Processes for Object-Oriented Development
- EEL 4768C Computer Architecture
- EEL 4781 Computer Communications Networks

## Required Courses—36 Credit Hours

- Suggested courses listed below.

## Elective Courses—12-21 Credit Hours

- May include formal coursework, directed research hours, doctoral research hours, dissertation research, and no more than 12 credit hours of Independent Study.
- Suggested courses listed below.

## Suggested Courses for Doctoral Program

The Computer Engineering Program supports a number of specialization areas. These specialization areas are (in alphabetical order): Computer Networks and Computer Security (CNCS), Computer Systems and Reconfigurable Hardware (CS/RH), Intelligent Systems and Machine Learning (ISML), and Software Systems and Algorithms (SSA). Please contact your graduate program assistant at 407-823-0378 for a list of faculty within each specialization area.

For each one of these areas there is a suggested list of courses stated below. Students are also allowed to take courses from other specialization areas, but the majority of their courses should be chosen from courses in their specialization area.

### Computer Networks and Computer Security (CNCS)

- CDA 5106 Advanced Computer Architecture (3 credit hours)
- CDA 5110 Parallel Processing (3 credit hours)
- CDA 6530 Performance Models of Computers and Networks (3 credit hours)
- CDA 6938 ST: Research in Computer and Network Security (3 credit hours)
- CGS 5131 Computer Forensics I: Seizure and Examination of Computer Systems (3 credit hours)
- CNT 5008 Computer Communication Network Architecture (3 credit hours)
- CNT 6418 Computer Forensics II: Network Security, Intrusion Detection, and Forensics Analysis (3 credit hours)
- CNT 6519 Wireless Security and Forensics (3 credit hours)
- CNT 6707 Computer Network Design and Distributed Processing (3 credit hours)
- COP 5537 Network Optimization (3 credit hours)
- COP 5611 Operating Systems (3 credit hours)
- CAP 6133 Advanced Topics in Computer Security and Forensics (3 credit hours)
- CAP 6135 Malware and Software Vulnerability Analysis (3 credit hours)

- COP 6525 Distributive Processing of Digital Evidence (3 credit hours)
- COT 5405 Theory and Analysis of Algorithms (3 credit hours)
- EEE 5542 Random Processes I (3 credit hours)
- EEL 5780 Wireless Networks (3 credit hours)
- EEL 5881 Software Engineering I (3 credit hours)
- EEL 6762 Performance Analysis of Computer and Communication Systems (3 credit hours)
- EEL 6785 Computer Network Design (3 credit hours)
- EEL 6788 Advanced Topics in Wireless Networks (3 credit hours)
- EEL 6883 Software Engineering II (3 credit hours)
- EEL 6897 Software Development for Real-Time Engineering Systems (3 credit hours)

### Computer Systems and Reconfigurable Hardware (CS/RH)

- CDA 5106 Advanced Computer Architecture I (3 credit hours)
- CDA 5110 Parallel Architecture and Algorithms (3 credit hours)
- CDA 6107 Parallel Computer Architecture (3 credit hours)
- CDA 6938 Multi-Core Architecture and Programming (3 credit hours)
- COP 5537 Network Optimization (3 credit hours)
- COT 6415 Complexity of Parallel Computation (3 credit hours)
- EEE 5390 Full Custom-VLSI Design (3 credit hours)
- EEE 6327 Design of Video Coding Systems (3 credit hours)
- EEL 5704 Computer Aided Logical Design (3 credit hours)
- EEL 5722C Field Programmable Gate Array (FPGA) Design (3 credit hours)
- EEL 6762 Performance Analysis of Computer and Communication Systems (3 credit hours)
- ECM 6308 Current Topics in Parallel Processing (3 credit hours)

### **Intelligent Systems and Machine Learning (ISML)**

- CAP 5055 AI for Game Programming (3 credit hours)
- CAP 5512 Evolutionary Computation (3 credit hours)
- CAP 5610 Machine Learning (3 credit hours)
- CAP 5636 Advanced Artificial Intelligence (3 credit hours)
- CAP 6545 Machine Learning Methods for Bioinformatics (3 credit hours)
- CAP 6616 Neuro-Evolution and Generative Developmental Systems (3 credit hours)
- CAP 6640 Computer Understanding of Natural Language (3 credit hours)
- CAP 6671 Intelligent Systems: Robots, Agents and Humans (3 credit hours)
- CAP 6675 Complex Adaptive Systems (3 credit hours)
- CAP 6676 Knowledge Representation (3 credit hours)
- EEL 5825 Pattern Recognition (3 credit hours)
- EEL 5874 Expert Systems and Knowledge Engineering (3 credit hours)
- EEL 6769 Parallel Knowledge Processing Systems (3 credit hours)
- EEL 6812 Introduction to Neural Networks (3 credit hours)
- EEL 6875 Autonomous Agents (3 credit hours)
- EEL 6876 Current Topics in Artificial Intelligence (3 credit hours)
- EEL 6878 Modeling and Artificial Intelligence (3 credit hours)

### **Software Systems and Algorithms (SSA)**

- CAP 6515 Algorithms in Computational Biology (3 credit hours)
- CGS 5131 Computer Forensics I: Seizure and Examination of Computer Systems (3 credit hours)
- CNT 6418 Computer Forensics II: Network Security, Intrusion Detection, and Forensics Analysis (3 credit hours)
- CAP 5510 Bioinformatics (3 credit hours)

- CAP 6133 Advanced Topics in Computer Security and Computer Forensics (3 credit hours)
- CAP 6545 Machine Learning Methods for Bioinformatics (3 credit hours)
- CEN 5016 Software Engineering (3 credit hours)
- CEN 6075 Formal Specification of Software Systems (3 credit hours)
- COP 5021 Program Analysis (3 credit hours)
- COP 5711 Parallel and Distributed Database Systems (3 credit hours)
- COP 6730 Transaction Processing (3 credit hours)
- COP 6731 Advanced Database Systems (3 credit hours)
- COT 5310 Formal Languages and Automata (3 credit hours)
- COT 5405 Design and Analysis of Algorithms (3 credit hours)
- COT 6410 Computational Complexity (3 credits)
- COT 6417 Algorithms on Strings and Sequences (3 credit hours)
- COT 6600 Quantum Computing (3 credit hours)
- COT 6602 Introduction to Quantum Information Theory (3 credit hours)
- EEL 5881 Software Engineering I (3 credit hours)
- EEL 6883 Software Engineering II (3 credit hours)

### **Dissertation—15-24 Credit Hours**

- XXX 7980 Dissertation Research (15 credit hours minimum).
- The program will only allow students to complete up to 24 hours of dissertation coursework in XXX 7980.

The College of Engineering and Computer Science requires that all dissertation defense announcements are approved by the student's adviser and posted on the college's website at least two weeks before the defense date.

## Qualifying Review

The Qualifying Review relies on annual appraisals of the student's progress conducted by the student's research/academic adviser and advisory committee, once formed. The student's appraisal template that the adviser completes will assess the student's academic performance (course performance) and research performance. On an annual basis, and based on the completed PhD Student Annual Review template, as well as additional student documentation attached with approval of the adviser, the EECS Graduate Committee will rate the student's performance as "Above Expectation," "At Expectation," or "Below Expectation" toward the completion of the PhD degree.

Students must pass the Qualifying Review no later than the deadline, which is the semester in which they complete 24 credit hours after admission or within two calendar years after admission, whichever occurs later. If a student has passed the Qualifying Review, then the student is eligible to continue PhD studies. However, a student who does not pass the Qualifying Review by the deadline will be dismissed from the degree program and will be given the opportunity to complete a master's degree (if applicable).

## Dissertation Committee

PhD dissertation committees for this degree program must have all of the below characteristics:

- consist of at least five committee members including the committee chair
- the committee chair must be either a Regular Appointment faculty member in EECS or a Secondary-Joint Appointment faculty member in EECS
- at least 50% of committee members (when tabulated including the chair) must be EECS regular faculty
- the majority of committee members must vote in favor of passing for the student to Pass
- in addition to the above, all college and university requirements (such as one member outside of EECS) must be met.

Joint faculty members may serve as committee chairs, but graduate faculty scholars may not serve as committee chairs.

## Candidacy Examination

After passing the Qualifying Review, students are required to successfully complete the candidacy examination in order to demonstrate readiness for preliminary research in a chosen field of study. This exam is administered by the student's dissertation advisory committee. Preparedness for taking the candidacy examination requires the acceptance of a professional paper by a peer-reviewed conference or journal that is deemed acceptable by the student's advisory committee. Candidacy is normally attempted at the completion of required coursework and must be passed before registering for doctoral dissertation hours (EEL 7980). Continuous enrollment in at least 3 hours of doctoral dissertation hours is required once a student starts taking dissertation credits.

## Admission to Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours.

- Completion of all required formal coursework, except for dissertation hours.
- Successful completion of the candidacy examination.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.

Signed and well-formed Doctoral Committee Candidacy Status form and associated paperwork must be submitted to the Electrical and Computer Engineering Graduate Office for processing on or before **the last day to defend Dissertation during the semester prior to** enrolling in dissertation credits.

## Dissertation Proposal Exam

After passing the candidacy examination, the student will write a dissertation proposal and present it to the dissertation advisory committee for approval. The proposal must include a description of the research performed to date and the research planned to be completed for the dissertation. The presentation of a written dissertation proposal must be deemed as passing requirements by the majority of the dissertation committee.



### Equipment Fee

Students in the Computer Engineering PhD program pay a \$23 equipment fee each semester that they are enrolled. Part-time students pay \$11 per semester.

### Independent Learning

The Independent Learning requirement is met by successful completion of the student’s candidacy and dissertation defense examinations.

## APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to submit a free pre-screening ([www.cecs.ucf.edu/prescreen](http://www.cecs.ucf.edu/prescreen)) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying the application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Master’s or bachelor’s degree in Computer Engineering or a closely related discipline.
- Résumé
- Statement of educational, research, and professional career objectives.

- Three letters of recommendation.

Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Additional courses may also be required to correct any course deficiencies. Students should contact the graduate program director for further information.

### Application Deadlines

Computer Engineering PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Applicants	Jan 15	Mar 1	Sep 1	

## CONTACT INFO

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 HEC 439B

# Computer Science PhD

## PROGRAM DESCRIPTION

The Computer Science PhD program produces professionals trained at the highest possible academic level in the theory and practice of Computer Science in order to meet current and projected market demands for Computer Science experts. Students graduate with proven abilities in research and instruction and have expertise suitable for positions in industry, academia and government. 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, bioinformatics, 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, neural networks, parallel and distributed processing, performance evaluation, programming languages, quantum computing, semantic web, software agents, software engineering and VLSI systems.

## CURRICULUM

The Computer Science PhD program requires a minimum of 72 credit hours beyond the bachelor's degree. A plan of study for each student must be filed within the first two weeks of the student's second semester in the program. Details about this program can be found in the Computer Science PhD Handbook.

This plan must satisfy the following:

- A minimum of 72 credit hours (including CDA 5106, COT 5405, and COT 6410 - all with a grade of "B" (3.0) or better). At most 30 credit hours can be waived from a completed MS

program, exclusive of thesis, independent study, dissertation and research. Otherwise, at most 9 external credits can be transferred.

- Grades 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.
- No courses below the 5000-level, with no 5000-level CGS prefix course work.
- No more than 12 credit hours of independent study (6908).
- Five 6000- or 7000-level courses (15 credits) with grades of "B" (3.0) or better taught by EECS faculty. None of these may be independent study or dissertation for which letter grades (not S/U) are assigned.
- Six additional computer science graduate credits to make the total of all non-independent study (e.g., formal coursework exclusive of independent study) of at least 36 credits.
- A minimum of 15 credit hours and a maximum of 24 credit hours of PhD dissertation (CAP, CDA, CEN, CIS, CNT, COP or COT 7980).

### Total Hours Required:

72 Credit Hours Minimum beyond the Bachelor's Degree

### Prerequisites—12 Credit Hours

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:

- EEL 4768C Computer Architecture (3 credit hours)
- COP 4020 Programming Languages I (3 credit hours)
- COP 4600 Operating System (3 credit hours)
- COT 4210 Discrete Computational Structures (3 credit hours)

### Required Courses—9 Credit Hours

- CDA 5106 Advanced Computer Architecture (3 credit hours)

- COT 5405 Design and Analysis of Algorithms (3 credit hours)
- COT 6410 Computational Complexity (3 credit hours)

### **Elective Courses—48 Credit Hours**

- Grades 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.
- No courses below the 5000-level, with no 5000-level CGS prefix course work.
- No more than 12 credit hours of independent study (6908).
- Five 6000- or 7000-level courses (15 credits) with grades of “B” (3.0) or better taught by EECS faculty. None of these may be independent study or dissertation for which letter grades (not S/U) are assigned. At least 36 hours must be formal course work, exclusive of independent study or doctoral research.

### **Dissertation—15 Credit Hours**

- XXX 7980 (15 credit hours minimum)

### **Qualifying Review**

The Qualifying Review relies on annual appraisals of the student’s progress conducted by the student’s research/academic adviser. The student’s appraisal template that the adviser completes will assess the student’s academic performance (course performance) and research performance.

On an annual basis, and based on the completed student’s appraisal template, as well as additional student documentation (up to the discretion of the Computer Science Graduate Committee), the CS Graduate Committee will rank the student’s performance as “Above Expectation,” “At Expectation,” or “Below Expectation” toward the completion of the PhD degree. The evaluation by the CS Graduate Committee will have detailed justification for the student’s ranking, and the ranking and its associated justification will be provided to the student and the student’s adviser.

Students will be allowed to attempt the Qualifying Review twice. All students must pass the Qualifying Review in order to remain eligible to continue as a PhD student in the program. All students must request their first Qualifying Review prior

to completion of their 18 credit hours since their admission to the program, and their second Qualifying Review prior to completion of their 36 credit hours. A student who passes the Qualifying Review will continue with the completion of the rest of the PhD program’s milestones (i.e., Candidacy Examination, Dissertation Proposal Examination, and Dissertation Defense). A student who fails the Qualifying Review will be dismissed from the program and will be given the opportunity to finish their Master’s degree (if applicable).

A student who in the CS Graduate Committee’s opinion fails the Qualifying Review will be given the opportunity to request a reevaluation of his or her case by the committee. The decision of the CS Graduate Committee, as a result of this reevaluation, is final.

Annual appraisals will end after the student has passed the Qualifying Review; however, annual evaluations by faculty advisers and student’s dissertation committee will continue throughout the remainder of the program.

### **Dissertation Committee**

The Dean, through the Chairs and Directors, is responsible for committee formation, additions and deletions. The doctoral committee must consist of a minimum of four members; three must be graduate faculty members from within EECS and one must be at large from outside the EECS faculty. Joint faculty members may serve as school-faculty committee members. The Computer Science Graduate Committee may specify additional membership. The College of Graduate Studies reserves the right to review appointments to advisory committees, place a representative on any advisory committee, or appoint a co-adviser.

Joint faculty members may serve as committee chairs, but graduate faculty scholars 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**

After passing qualifiers, students are required to successfully complete the candidacy examination to demonstrate readiness for preliminary research

in a chosen field of study. This exam requires the acceptance of a professional paper by a peer-reviewed conference or journal that is deemed acceptable to the student's advisory committee as a major contribution to student's area of research. Candidacy is normally taken near the completion of required course work and must be passed before registering for doctoral dissertation hours (XXX 7980). Continuous enrollment in at least 3 hours of doctoral dissertation hours is required once a student starts taking 7980 credits. The candidacy status change form and any associated paperwork (advisory committee form, program of study, etc.) must be submitted for processing by the last day of classes of the semester prior to enrolling in dissertation credits. In order to start taking dissertation hours you must be within 57 credit hours.

### Admission to Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours. Evidence of successful completion of these requirements must be received in the College of Graduate Studies by the day before the first day of classes in which the student wishes to enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submission of an approved program of study.

### Time Limitation

Students have seven years from the beginning of regular graduate status in the PhD program to complete all requirements for the degree, although most students finish within 4 to 5 years.

### Dissertation Proposal

After passing the candidacy examination, the student will write a dissertation proposal and present it orally to the dissertation advisory committee for approval. The proposal must include a description of the research performed to date and research plans.

### 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 reviewed by the research committee. The College of Engineering and Computer Science requires that all dissertation defense announcements are approved by the student's adviser and posted on the college's website and the Events Calendar at the College of Graduate Studies website at least two weeks before the defense date. 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 the College of Graduate Studies is required.

### Equipment Fee

Students in the Computer Science PhD program pay a \$75 equipment fee each semester that they are enrolled. Part-time students pay \$37.50 per semester.

### Independent Learning

The Independent Learning requirement is met by successful completion of the student's candidacy and dissertation defense examinations.

## APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to submit a free pre-screening () of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying the application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is

possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Résumé.
- Statement of educational, research, and professional career objectives.
- Three letters of recommendation.

Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Outstanding students with a bachelor's degree are encouraged to apply directly into the doctoral program. Admission to the PhD program is formalized by the university upon the recommendation of the Computer Science Graduate Coordinator.

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 upper-division undergraduate courses listed under the Articulation Section of the Curriculum Information. Applicants may choose to demonstrate their knowledge of these courses by taking these courses as non-degree seeking and scoring "B" or better in all of them.

### Fellowships

Fellowships are awarded based on academic merit to highly qualified students. They are paid to students through the Office of Student Assistance, based on instructions provided by the College of

Graduate Studies. Fellowships are given to support a student's graduate study and do not have a work obligation. For more information, see Fellowships, which includes descriptions of UCF fellowships and what you should do to be considered for a fellowship.

### Application Deadlines

Computer Science PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

### CONTACT INFO

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 HEC 212



# Conservation Biology PhD

- Applied Conservation Biology Track
- Ecology and Organismal Biology Track

## PROGRAM DESCRIPTION

The Conservation Biology PhD 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 capable of doing independent research and the ability to 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, nongovernmental organizations or government in a leadership role applying cutting-edge principles to problem solving in conservation biology. The Ecology and Organismal Biology Track embraces 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.

## CURRICULUM

The Conservation Biology PhD program requires 72 credit hours beyond the bachelor's degree, including a minimum of 27 hours of formal course work exclusive of independent study. The formal course work includes 12 credit hours of required core courses, 20 credit hours of elective courses, and 15 hours of dissertation research. The remaining credit hours may consist of additional electives, doctoral research, and a maximum of 12 credit hours of directed research and independent study. All students will take core courses that provide an introduction to the science of conservation biology.

A student is required to establish a program of study before the completion of nine credit hours of course work, in conjunction with their dissertation adviser

and 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, a student's advisory committee may require the candidate to take any graduate course taught at UCF if deemed appropriate for the student's area of emphasis. Students entering with a master's degree may request up to 30 semester credit hours of previous work be waived toward the requirements for this degree with approval from the advisory committee. Students may register for dissertation research only after passing the candidacy exam.

### Total Hours Required:

72 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—12 Credit Hours Minimum

- PCB 6XXX Conservation Biology Theory (4 credit hours)
- BSC 6935 Seminar in Biology (2 credit hours - take twice at 1 credit hour each)
- PCB 6095 Professional Development in Biology I (1 credit hour)
- PCB 6096 Professional Development in Biology II (1 credit hour)
- PCB 6053C Restoration Ecology (4 credit hours)

### Elective Courses—20 Credit Hours Minimum

This formal course work could be from Biology or other programs and is selected in consultation with the adviser and advisory committee. The goal is to tailor the program of study to the individual student's needs and may include courses in economics, engineering, chemistry, sociology, or statistics, for example.

### Additional Elective Courses—25 Credit Hours Minimum

May include additional electives, dissertation research, internship, and a maximum of 12 credit hours of combined independent study and directed research.

## Dissertation—15 Credit Hours Minimum

- PCB 7980 (15 credit hours)

### Advisory Committee

The Advisory Committee shall consist of a minimum of four members: the dissertation adviser plus at least three members of the graduate faculty. At least one member will be from a department other than Biology and may include persons from outside the university if they qualify as graduate faculty scholars. The chair, or co-chair, must be a member of the Department of Biology graduate faculty. The major role of the student's advisory committee is to offer guidance on study design (early and throughout the study) and analysis/interpretation of results (later). The dissertation adviser and advisory committee are faculty who have agreed to serve as a resource for the student throughout the dissertation process. In turn, the student should keep their adviser and committee regularly informed of progress and problems.

### 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 examination should be completed as early as the fall semester following the first academic year, but no later than the end of the fall semester of the second year. This examination measures the student's proficiency in all subject matter related to the chosen field. Exam questions are related to the student's discipline and designed to examine general knowledge and reasoning within the field.

The student will meet with their advisory committee at least one month prior to the examination to discuss expectations. Committee members must clearly articulate in writing the general areas that may be examined. A failing grade requires a majority vote by committee members. Any student failing the examination must repeat the examination within six calendar months of the date of the first examination. A second failed attempt will result in dismissal from the program.

### Candidacy Examination

Each student will be required to generate, organize and orally defend a written proposal outlining their dissertation research to their dissertation advisory committee no later than 12 months after passing the Qualifying Examination. The oral Candidacy Examination will cover all areas within the scope of the student's doctoral program and requires that the student demonstrate knowledge of the theory, literature and research methodologies relevant to the proposed area of research as well as demonstrate an understanding of how their work relates to the field of biology as a whole. After passing the candidacy examination the student will be a candidate, can register for dissertation hours, and the focus of their efforts will be on dissertation research. For most students, the research and writing of the dissertation will take two to three years after advancing to candidacy. During this time, students should remain in close contact with the dissertation adviser and advisory committee and annual progress reports must be filed with the Graduate Program Director.

### Candidacy Examination Proposal

A written dissertation proposal, already approved by the adviser, must be submitted to each committee member no later than two weeks prior to the Candidacy Examination. An example format is described below; an alternative format may be used with the approval of the dissertation adviser. The proposal should be approximately 10 to 15 pages in length not including references, single-spaced and typed in 12-point font with one-inch margins on all sides. The use of figures and tables is encouraged. With rare exceptions it is expected that dissertation research will be hypothesis-driven.

1. **Specific Aims:** Describe concisely the problem(s) to be addressed and the specific goals of the dissertation research as they relate to the problem(s), including clear statements of hypotheses to be tested.
2. **Background and Significance:** Review background literature relevant to the dissertation topic, indicating clearly where gaps in knowledge exist. Justify the need for the research by explaining its anticipated significance. Conclude by linking gaps in current knowledge to the proposed specific aims.
3. **Methodology:** Outline carefully the study design (observations, experiments, models,

statistical analysis, etc.) related to, and the methodology to be used for, each specific aim. Methodologies should be explained in sufficient detail to allow committee members to assess the validity of its use in the study. Potential outcomes and alternative approaches should be discussed.

4. **Literature Cited:** References should be indicated in the main body of the proposal wherever appropriate and should follow the format of a peer-reviewed journal in a field of study appropriate to your research. This section can be as long as necessary.

### Examination

At least one week prior to the examination, an abstract describing the proposed research will be posted in the Biological Sciences Building and department web page and circulated by e-mail among faculty and graduate students. The candidate will present the research proposal in a forum open to all faculty, students and visitors. The oral presentation should require approximately 45-50 minutes to be followed by a public question-and-answer period. Department faculty then have an opportunity to provide private comment to the advisory committee on the presentation, and then the committee and student will continue the exam in closed session. Questions can be directed to any matter relevant to the research proposal and areas of weakness previously identified in the written (qualifying) exam or proposal or presentation. The purpose of the examination is to ascertain that the student can demonstrate knowledge of the theory, literature, research methods, and potential significance of the proposed area of research. A majority vote is required to pass the examination; however, no more than one negative vote is permitted. The majority must include the dissertation adviser. Any student failing the examination must repeat the examination within six calendar months of the date of the first examination. A second failed attempt will result in dismissal from the program.

After passing the candidacy examination the student will be admitted to candidacy and can register for dissertation hours. In addition, candidates enrolled in three dissertation credit hours are considered full-time students. Most students require 2-3 years to conduct research and write their dissertation after advancing to candidacy. During this time, students should remain in close contact with the dissertation

advisor and advisory committee. Annual progress reports must be filed with the Graduate Program Director.

### Admission to Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.

### Dissertation Defense

The dissertation represents an original and significant contribution to the discipline. Upon approval by the dissertation adviser and advisory committee, the candidate makes 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.

In addition, the dissertation must meet format specifications of the university. The most commonly preferred structure is chapters that are targeted to publication, with an overall introduction, summary, and appendices for accessory information: each candidate must consult their dissertation adviser and advisory committee on the preferred structure. A polished draft must be delivered to the advisory committee for review after the candidate and dissertation adviser have agreed upon editorial changes; this should occur well before the anticipated date of the final defense. Committee members should be given at least two weeks to review the draft before the candidate attempts to schedule the final defense. Committee members have the right to reject documents that fail to meet customary scientific standards. The final defense is to be scheduled only after the advisory committee agrees that the dissertation is ready for defense. Committee members should return the corrected dissertation to the candidate two weeks after receipt and the candidate should check with committee members to ensure they have the time to review the

document. If the candidate delivers the final draft to the committee one month prior to the proposed defense date, that would allow two weeks before the scheduled defense date for the candidate to make recommended changes.

At least one week prior to the defense, an abstract describing the research conducted and conclusions reached will be posted in the Biological Sciences Building, the department web page, circulated by e-mail among faculty and graduate students, and posted on the College of Graduate Studies Events Calendar. The candidate will present the research in a forum open to all faculty, students, and visitors. The oral presentation should be approximately 45-50 minutes in length to be followed by a question-and-answer period. In the presentation the candidate should focus on background information, describe the research performed, and draw attention to the significance of the conclusions reached. Department faculty have an opportunity for private comment to the advisory committee at the conclusion of the question-and-answer period, and then the committee and candidate will continue the defense and the candidate will answer questions about the subject matter presented and defend the conclusions drawn. The committee will ask questions of the process used and assess the candidate's level of competency with the research topic. A majority vote is required to pass the examination; however, no more than one negative vote is permitted. The majority must include the dissertation adviser.

## 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 GTAs offered by the UCF Faculty Center for Teaching and Learning and the College of Sciences. A university orientation is also held approximately one week prior to the fall semester and students are encouraged to attend.

## Independent Learning

Graduate students enrolled in the Conservation Biology PhD program are expected to engage in independent learning throughout their graduate career. Research towards, and ultimate completion, of the doctoral dissertation is the primary example of independent learning in which all doctoral students participate. Independent learning is also a key component of the core course in Conservation Biology and Advanced Research Communication where emphasis is placed on the development of analytical skills and critical thinking. In addition, depending upon their career goals, other experiences such as directed readings, additional research projects, or internships may be undertaken by the students.

## APPLICATION REQUIREMENTS

Applicants must choose a track in this program. Track(s) may have different requirements.

Applicants should first identify faculty who match their own research interests, and then contact faculty in advance to inquire about research opportunities in faculty labs and to solicit agreement that a faculty member is interested in serving as the student's dissertation advisor. Applicants to the Ph.D. program who do not have a consenting dissertation advisor within the faculty will not be accepted into the program.

### Application Deadlines

Conservation Biology PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jan 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

## CONTACT INFO

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# Applied Conservation Biology Track

## TRACK DESCRIPTION

The Applied Conservation Biology track in the Conservation Biology PhD program is intended to provide the academic background necessary to begin work in industry, nongovernmental organizations or government in a leadership role applying cutting-edge principles to problem solving in conservation biology. Students taking this track will be prepared to pursue an academic career.

## CURRICULUM

### Required Courses—12 Credit Hours Minimum

- PCB 6042 Conservation Biology Theory (4 credit hours)
- BSC 6935 Seminar in Biology (2 credit hours - take twice at 1 credit hour each)
- PCB 6095 Professional Development in Biology I (1 credit hour)
- PCB 6096 Professional Development in Biology II (1 credit hour)
- PCB 6053C Restoration Ecology (4 credit hours)

### Elective Courses—45 Credit Hours Minimum

A minimum of 20 credit hours of formal graduate-level courses from Biology, or other departments, are selected in consultation with the adviser and the dissertation committee. The goal is to tailor the program of study to the individual student's needs while maximizing exposure to a variety of disciplines including, among others, policy, economics, engineering, chemistry or sociology. The remaining 25 credit hours may include additional electives, dissertation research, internship, and a maximum of 12 credit hours of combined independent study and directed research.

### Dissertation—15 Credit Hours Minimum

PCB 7980 Dissertation (15 credit hours)

### 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 graduate faculty in 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 graduate faculty.

### 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 examination should be completed in the fall semester following the first academic year, but could be undertaken no later than the end of the fall semester of the second year. This examination measures the student's proficiency in all subject matter related to the chosen field. These questions could be related to the dissertation research proposal or designed to examine general knowledge and reasoning within the field.

The candidate will meet with their advisory committee at least one month prior to the examination to discuss expectations. Committee members must clearly articulate in writing the general areas that may be examined. Any student failing the examination must repeat the examination within six calendar months of the date of the first examination and requires a majority vote by committee members. A second failed attempt will result in dismissal from the program.

### Candidacy Examination

Each student will be required to generate, organize and orally defend a written proposal outlining their dissertation research to their dissertation advisory committee no later than 12 months after passing the Qualifying Examination. The oral Candidacy Examination will cover all areas within the scope



of the student's doctoral program and requires that the student demonstrate knowledge of the theory, literature and research methodologies relevant to the proposed area of research as well as demonstrate an understanding of how their work relates to the field of biology as a whole. After passing the candidacy examination and meeting other requirements, the student will be deemed as having been admitted to candidacy and can register for dissertation hours. Once a student is admitted to candidacy, the focus will be on dissertation research. For most students, the research and writing of the dissertation will take two to three years after advancing to candidacy. During this time, students should remain in close contact with the dissertation adviser and advisory committee and annual progress reports must be filed with the Graduate Program Director.

### **Candidacy Examination Proposal**

A written dissertation proposal, already approved by the adviser, must be submitted to each committee member no later than two weeks prior to the Candidacy Examination. Typically, the proposal will be in the format described below. However, in cases where this format is not appropriate, an alternative format may be used with the approval of the dissertation adviser. The proposal should be approximately 10 to 15 pages in length not including references, single-spaced and typed in 12-point font with one-inch margins on all sides. The use of figures and tables is encouraged. With rare exceptions it is expected that dissertation research will be hypothesis-driven.

1. **Specific Aims:** Describe concisely the problem(s) to be addressed and the specific goals of the dissertation research as they relate to the problem(s), including clear statements of hypotheses to be tested.
2. **Background and Significance:** Review background literature relevant to the dissertation topic, indicating clearly where gaps in knowledge exist. Justify the need for the research by explaining its anticipated significance. Conclude by linking gaps in current knowledge to the proposed specific aims.
3. **Methodology:** Outline carefully the study design (observations, experiments, models, statistical analysis, etc.) related to, and the methodology to be used for, each specific aim. Methodologies should be explained in sufficient detail to allow committee members

to assess the validity of its use in the study. Potential outcomes and alternative approaches should be discussed.

4. **Literature Cited:** References should be indicated in the main body of the proposal wherever appropriate and should follow the format of a peer-reviewed journal in a field of study appropriate to your research. This section can be as long as necessary.

### **Examination**

At least one week prior to the examination, an abstract describing the proposed research will be posted in the Biological Sciences Building and circulated by e-mail among faculty and graduate students. The candidate will present the research proposal in a forum open to all faculty, students and visitors. The oral presentation should be approximately 45-50 minutes in length to be followed by a public question-and-answer period. Presentation of preliminary data is neither required nor expected, but should be provided if available and relevant. With the exception of the advisory committee and candidate, all faculty, students and visitors will leave at the conclusion of the public question-and-answer period. The committee will continue the exam in closed session with further questioning. Questions can be directed to any matter relevant to the research proposal and areas of weakness previously identified in the written (qualifying) exam. A majority vote is required to pass the examination; however, no more than one negative vote is permitted. The majority must include the dissertation adviser. Any student failing the examination must repeat the examination within six calendar months of the date of the first examination. A second failed attempt will result in dismissal from the program.

### **Admission to Candidacy**

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.

- Submittal of an approved program of study.

## Dissertation Defense

The dissertation is expected to represent an original and significant contribution to the discipline. 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 dissertation should be in a format appropriate for publication and should be “tightened” to a readiness for submittal by use of appendixes for nonessential information. The major role of the student’s advisory committee is to offer guidance on study design and interpretation of results. A polished draft must be delivered to the advisory committee for review after the student and dissertation adviser have agreed upon editorial changes; this should occur well before the anticipated date of the final defense. Committee members have the right to reject documents that fail to meet these guidelines. Committee members should be given at least two weeks to review the draft before the student attempts to schedule the final defense. The final defense is to be scheduled only after the advisory committee agrees that the dissertation is ready for defense. Committee members should return the corrected dissertation to the student two weeks after receipt and the candidate should check with committee members to ensure they have the time to review the document. If the student delivers the final draft to the committee one month prior to the proposed defense date, that would allow two weeks before the scheduled defense date for the student to make recommended changes.

At least one week prior to the defense, an abstract describing the research conducted and conclusions reached will be posted in the Biological Sciences Building, circulated by e-mail among faculty and graduate students, and posted at the College of Graduate Studies Events Calendar. The candidate will present the research in a forum open to all faculty, students, and visitors. The oral presentation should be approximately 45-50 minutes in length to be followed by a question-and-answer period. In the presentation the candidate should focus on background information, describe the research performed, and draw attention to the significance of the conclusions reached. With the exception of

the committee and candidate, all faculty, students, and visitors will leave at the conclusion of the question-and-answer period. The committee will continue the defense and the candidate will answer questions about the subject matter presented and defend the conclusions drawn. The committee will ask questions of the process used and assess the candidate’s level of competency with the research topic. A majority vote is required to pass the examination; however, no more than one negative vote is permitted. The majority must include the dissertation adviser.

## 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 GTAs offered by the UCF Faculty Teaching and Learning Center and the College of Sciences. Students are strongly encouraged to attend the university’s orientation also, held approximately one week before classes begin in the Fall semester.

## Total Hours Required:

72 Credit Hours Minimum beyond the Bachelor’s Degree

## Independent Learning

The dissertation satisfies the independent learning experience.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.

- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation.
- Résumé.
- Statement of research interest and purpose, including a summary of relevant work or research experience.
- A computer-based score of 230 (or 89 internet-based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant’s degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.

Applied Conservation Biology Track	Fall Priority	Fall	Spring	Summer
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

## CONTACT INFO

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 Telephone: 407-823-1662  
 BL 401

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.

Applicants should first identify faculty who match their own research interests, and then contact faculty in advance to inquire about research opportunities in faculty labs and to solicit agreement that a faculty member is interested in serving as the student’s dissertation advisor. Applicants to the Ph.D. program who do not have a consenting dissertation advisor within the department faculty will not be accepted into the program. Admission is competitive and based on an overall assessment of the qualifications as submitted and the availability of faculty to serve as dissertation advisor.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant’s abilities, past performance, recommendations, match of this program and faculty expertise to the applicant’s career/academic goals, the identification of a dissertation advisor, and the applicant’s potential for completing the degree.

## Application Deadlines

Applied Conservation Biology Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jan 15		

# Ecology and Organismal Biology Track

## TRACK DESCRIPTION

The Ecology and Organismal Biology track in the Conservation Biology PhD program embraces applied and basic research concerning ecological questions to address current concerns in the area of conservation biology. Students taking this track will be prepared to pursue an academic career.

## CURRICULUM

### Total Credit Hours Required:

72 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—12 Credit Hours Minimum

- PCB 6042 Conservation Biology Theory (4 credit hours)
- BSC 6935 Seminar in Biology (2 credit hours - take twice at 1 credit hour each)
- PCB 6095 Professional Development in Biology I (1 credit hour)
- PCB 6096 Professional Development in Biology II (1 credit hour)
- PCB 6053C Restoration Ecology (4 credit hours)

### Elective Courses—45 Credit Hours Minimum

A minimum of 20 credit hours of formal graduate-level courses from Biology, or other departments, are selected in consultation with the adviser and the dissertation committee. The goal is to tailor the program of study to the individual student's needs while maximizing exposure to a variety of disciplines including, among others, policy, economics, engineering, chemistry or sociology. The remaining 25 credit hours may include additional electives, dissertation research, and a maximum of 12 hours of combined independent study and directed

research. Professional internship hours can be substituted for directed research.

### Dissertation—15 Credit Hours Minimum

- PCB 7980 Dissertation (15 credit hours)

### 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 graduate faculty of 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 graduate faculty.

### 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 examination should be completed in the fall semester following the first academic year, but could be undertaken no later than the end of the fall semester of the second year. This examination measures the student's proficiency in all subject matter related to the chosen field. These questions could be related to the dissertation research proposal or designed to examine general knowledge and reasoning within the field.

The candidate will meet with their advisory committee at least one month prior to the examination to discuss expectations. Committee members must clearly articulate in writing the general areas that may be examined. Any student failing the examination must repeat the examination within six calendar months of the date of the first examination and the examination requires a majority vote by committee members. A second failed attempt will result in dismissal from the program.

## Candidacy Examination

Each student will be required to generate, organize and orally defend a written proposal outlining their dissertation research to their dissertation advisory committee no later than 12 months after passing the Qualifying Examination. The oral Candidacy Examination will cover all areas within the scope of the student's doctoral program and requires that the student demonstrate knowledge of the theory, literature and research methodologies relevant to the proposed area of research as well as demonstrate an understanding of how their work relates to the field of biology as a whole. After passing the candidacy examination and meeting other requirements, the student will be deemed as having been admitted to candidacy and can register for dissertation hours. Once a student is admitted to candidacy, the focus will be on dissertation research. For most students, the research and writing of the dissertation will take two to three years after advancing to candidacy. During this time, students should remain in close contact with the dissertation adviser and advisory committee and annual progress reports must be filed with the Graduate Program Director.

### Candidacy Examination Proposal

A written dissertation proposal, already approved by the adviser, must be submitted to each committee member no later than two weeks prior to the Candidacy Examination. Typically, the proposal will be in the format described below. However, in cases where this format is not appropriate, an alternative format may be used with the approval of the dissertation adviser. The proposal should be approximately 10 to 15 pages in length not including references, single-spaced and typed in 12-point font with one-inch margins on all sides. The use of figures and tables is encouraged. With rare exceptions it is expected that dissertation research will be hypothesis-driven.

- **Specific Aims:** Describe concisely the problem(s) to be addressed and the specific goals of the dissertation research as they relate to the problem(s), including clear statements of hypotheses to be tested.
- **Background and Significance:** Review background literature relevant to the dissertation topic, indicating clearly where gaps in knowledge exist. Justify the need for the research by explaining its anticipated significance. Conclude by linking gaps in

current knowledge to the proposed specific aims.

- **Methodology:** Outline carefully the study design (observations, experiments, models, statistical analysis, etc.) related to, and the methodology to be used for, each specific aim. Methodologies should be explained in sufficient detail to allow committee members to assess the validity of its use in the study. Potential outcomes and alternative approaches should be discussed.
- **Literature Cited:** References should be indicated in the main body of the proposal wherever appropriate and should follow the format of a peer-reviewed journal in a field of study appropriate to your research. This section can be as long as necessary.

### Examination

At least one week prior to the examination, an abstract describing the proposed research will be posted in the Biological Sciences Building and circulated by e-mail among faculty and graduate students. The candidate will present the research proposal in a forum open to all faculty, students and visitors. The oral presentation should be approximately 45-50 minutes in length to be followed by a public question-and-answer period. Presentation of preliminary data is neither required nor expected, but should be provided if available and relevant. With the exception of the advisory committee and candidate, all faculty, students and visitors will leave at the conclusion of the public question-and-answer period. The committee will continue the exam in closed session with further questioning. Questions can be directed to any matter relevant to the research proposal and areas of weakness previously identified in the written (qualifying) exam. A majority vote is required to pass the examination; however, no more than one negative vote is permitted. The majority must include the dissertation adviser. Any student failing the examination must repeat the examination within six calendar months of the date of the first examination. A second failed attempt will result in dismissal from the program.

### Admission to Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours:



- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.

## Dissertation Defense

The dissertation is expected to represent an original and significant contribution to the discipline. 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 dissertation should be in a format appropriate for publication and should be “tightened” to a readiness for submittal by use of appendixes for nonessential information. The major role of the student’s advisory committee is to offer guidance on study design and interpretation of results. A polished draft must be delivered to the advisory committee for review after the student and dissertation adviser have agreed upon editorial changes; this should occur well before the anticipated date of the final defense. Committee members have the right to reject documents that fail to meet these guidelines. Committee members should be given at least two weeks to review the draft before the student attempts to schedule the final defense. The final defense is to be scheduled only after the advisory committee agrees that the dissertation is ready for defense. Committee members should return the corrected dissertation to the student two weeks after receipt and the candidate should check with committee members to ensure they have the time to review the document. If the student delivers the final draft to the committee one month prior to the proposed defense date, that would allow two weeks before the scheduled defense date for the student to make recommended changes.

At least one week prior to the defense, an abstract describing the research conducted and conclusions reached will be posted in the Biological Sciences Building, circulated by e-mail among faculty and

graduate students, and posted on the College of Graduate Studies Events Calendar. The candidate will present the research in a forum open to all faculty, students, and visitors. The oral presentation should be approximately 45-50 minutes in length to be followed by a question-and-answer period. In the presentation the candidate should focus on background information, describe the research performed, and draw attention to the significance of the conclusions reached. With the exception of the committee and candidate, all faculty, students, and visitors will leave at the conclusion of the question-and-answer period. The committee will continue the defense and the candidate will answer questions about the subject matter presented and defend the conclusions drawn. The committee will ask questions of the process used and assess the candidate’s level of competency with the research topic. A majority vote is required to pass the examination; however, no more than one negative vote is permitted. The majority must include the dissertation adviser.

## 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 GTAs offered by the UCF Faculty Teaching and Learning Center and the College of Sciences. Students are strongly encouraged to attend the university orientation as well, held approximately one week prior to each fall semester.

## Total Hours Required:

72 Credit Hours Minimum beyond the Bachelor’s Degree

## Independent Learning

The dissertation satisfies the independent learning experience.

## TRACK DESCRIPTION

The Ecology and Organismal Biology track in the Conservation Biology PhD program embraces applied and basic research concerning ecological questions to address current concerns in the area of conservation biology. Students taking this track will be prepared to pursue an academic career.

### Application Deadlines

Ecology and Organismal Biology Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jan 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

## CONTACT INFO

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# Criminal Justice PhD

## PROGRAM DESCRIPTION

### CURRICULUM

The Doctoral Program in Criminal Justice is a 57 - credit - hour, post - master's program of study and research. Substantive emphasis is placed on core coursework in criminal justice theory and institutions, and on in - depth concentrations in policing, corrections or juvenile justice. Students complete a minimum of 42 credit hours of doctoral course work and 15 credit hours of dissertation research.

57 Credit Hours Minimum beyond the Master's Degree

### Prerequisites

Applicants are expected to have a master's degree in criminal justice or a closely related discipline. Applicants' transcripts will be reviewed for successful completion of a sufficient number of fundamental criminal justice classes. Applicants may be required to complete master's - level courses in certain topics before being admitted to the program or permitted to take classes.

Students must have completed master's - level courses in advanced research methods and advanced quantitative methods and be familiar with SPSS, SAS, STATA, or R prior to enrolling in the Methodological Core courses. Students who do not meet this requirement will be required to complete CCJ 6702 Advanced Research Methods and CCJ 6714 Advanced Quantitative Methods prior to enrolling in CCJ 7XXX Advanced Quantitative Methods for Criminal Justice Research and CCJ 7XXX Ad-

vanced Research Methods in Criminal Justice. All students must also have completed master's level courses in the concentration area they choose prior to taking courses in that area (policing, corrections, or juvenile justice).

## Required Courses - 36 Credit Hours

### Substantive Core - 15 Credit Hours

A grade of B or better is required for all courses listed in the Substantive Core.

- CCJ 7XXX Seminar in the Nature of Crime (3 credit hours)
- CCJ 7457 Seminar in Criminal Justice Theory (3 credit hours)
- CCJ 7XXX Seminar in Criminal Justice Systems (3 credit hours)
- CCJ 7XXX Teaching Criminal Justice (3 credit hours)
- CCJ 7XXX Criminal Justice Research in the Community (3 credit hours)

### Methodological Core - 12 Credit Hours

A grade of B or better is required for all courses listed in the Methodological Core.

- CCJ 7XXX Advanced Research Methods in Criminal Justice (3 credit hours)
- CCJ 7XXX Advanced Quantitative Methods in Criminal Justice Research (3 credit hours)

Select two courses from the list below or another methodological course with adviser approval:

- CCJ 7XXX The Geography of Crime: Theory and Methods (3 credit hours)
  - Students selecting this option must complete CCJ 6073 Data Management for Crime Analysis and CCJ 6079 Crime Mapping and Analysis in Criminal Justice
- CCJ 7XXX Hierarchical Linear Modeling in

Criminal Justice Research (3 credit hours)

- CCJ 7XXX Structural Equation Modeling in Criminal Justice Research (3 credit hours)

### Concentration Area - 9 Credit Hours

Students select an area of concentration and complete the assigned 9 credit hours of coursework. Entering doctoral students must have completed a master's - level precursor in their chosen area (e.g., master's - level survey course in policing if the area chosen is Policing Theory and Research). A grade of B or better is required for all courses listed in the selected Concentration area. Areas of concentration are:

#### *Policing Theory and Research*

- CJE 6XXX Seminar in Policing Urban Communities (3 credit hours)
- CJE 6XXX Seminar in Police Socialization and Culture (3 credit hours)
- CJE 6XXX Seminar in Police Administration (3 credit hours)

#### *Correctional Theory and Research*

- CJC 6XXX Seminar in Institutional Corrections (3 credit hours)
- CJC 6XXX Seminar in Community Corrections (3 credit hours)
- CJC 6XXX Seminar in Correctional Effectiveness (3 credit hours)

#### *Juvenile Justice Theory and Research*

- CJJ 6XXX Seminar in Policing and Prevention in the Juvenile Justice System (3 credit hours)
- CJJ 6XXX Seminar in Prosecuting Juvenile Offenders (3 credit hours)
- CJJ 6XXX Seminar in Juvenile Corrections (3 credit hours)

### Elective Courses - 6 Credit Hours

Students select two additional courses (3 credit hours each) from an approved list of electives.

## Examinations

Students must successfully complete a series of cumulative examinations to ensure expertise in the substantive, methodological and concentration areas. Students may enroll in doctoral research (CCJ 7919) during the period of study preceding the examinations.

## Dissertation - 15 Credit Hours

Upon successful completion of all examinations, students will enter candidacy and complete a dissertation. The dissertation topic should be grounded in the student's selected concentration area. **Dissertation committees will contain a minimum of four faculty members, at least three of which (including the chair) will be from the Department of Criminal Justice. The fourth member must be from outside the Department of Criminal Justice and may be from outside the university. All dissertation committee members must be approved graduate faculty or graduate faculty scholars.**

- CCJ 7980 (15 credit hours)

## APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.

- An earned Master's degree in criminal justice or a closely related discipline from an accredited institution.
- Official, competitive GRE score taken within the last five years.
- Three letters of reference from faculty or professionals who can assess the student's ability to succeed in a doctoral program. A minimum of two letters must be from university faculty members, at least one of which must be written by a faculty member from the institution/program from which the Master's degree was earned, preferably a thesis advisor or close mentor who has the capacity to directly assess the applicant's potential for PhD - level work
- A personal narrative of 500-1,000 words describing research interests, educational expectations, career aspirations, level of computer skills, and any special qualifications that may enhance the overall learning environment of the CJ PhD program.
- A current resume or Curriculum vita.
- A writing sample that is at least 2,000 words long, is academic in nature (e.g., paper written for a Master's class), and demonstrates the applicant's ability to complete graduate - level composition.

Applicants may be requested to participate in an interview (in person, by Skype, or by phone) with the Department's Doctoral Program Committee.

Admission to the Criminal Justice doctoral program will be granted on a competitive basis. Meeting minimum UCF admission standards does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match to the program, ability to enhance program strength and diversity, and potential for completing the degree and making significant contributions to criminal justice.

## Application Deadlines

All application materials must be submitted by the appropriate deadline listed below.

<b>Criminal Justice PhD</b>	<b>*Fall Priority</b>	<b>Fall</b>	<b>Spring</b>	<b>Summer</b>
<b>Domestic Applicants</b>	Jan 15	Mar 1	-	-
<b>International Applicants</b>	Jan 15	Jan 15	-	-
<b>International Transfer Applicants</b>	Jan 15	Mar 1	-	-
*Applicants who plan to enroll full time in a degree program and who wish to be considered for university fellowships or assistantships should apply by the Fall Priority date.				

## CONTACT INFO

### Graduate Program

**Eugene Paoline, III PhD**

Professor

Eugene.Paoline@ucf.edu

Telephone: 407-823-4946

HPA 1, RM 321

# Education EdD

## PROGRAM DESCRIPTION

The Doctor of Education EdD program is designed for experienced practicing educators and practitioners who wish to gain advanced skills in:

- Evaluating the effectiveness of educational and clinical programs and identifying impediments to effective practice and program improvement;
- Analyzing and synthesizing educational and clinical research and scholarship to identify research-based practices and solutions to complex problems of the practice;
- Leading the change process through the implementation of data and evidence-based decisions and solutions.

The Doctor of Education program culminates with the Dissertation in Practice.

## CURRICULUM

The Doctor of Education (EdD) program is a professional practice doctorate. It is problem-based and designed for practitioners who aspire to positions of influence through their engagement in the development of others. The program builds that expertise from a core of courses in learning, development and motivation; data, accountability and leadership; organizational contexts and the use of research to drive decision-making. Students will work with a team of faculty and field advisers who will support their specialization area. All students in the program will be expected to complete an internship. This program is intended for professionals who are interested in teaching in a college, university, or community college, or leading program improvement in a school or school district, higher education, social service agencies, military or business settings.

The EdD in Education consists of three distinct program areas, all with emphasis on professional practice: core, concentration, and capstone. The program requires 24 credit hours of core courses, 18 credit hours within the chosen concentration area and 12 credit hours of dissertation in practice, including proposal, defense, and final submission of a dissertation in practice.



**Total Hours Required:**

54 Credit Hours Minimum beyond the Master's Degree

**Required Courses—54 Credit Hours****Core—24 Credit Hours**

The Core courses include 15 credit hours covering what all graduates of a professional practice doctoral program should know and be able to do and 9 credit hours of research continuum designed to identify, analyze and evaluate complex problems of practice.

- EDP 7517 Facilitating Learning, Development and Motivation (3 credit hours)
- EDF 7457 Data, Assessment and Accountability (3 credit hours)
- EDA 7101 Organizational Theory in Education (3 credit hours)
- EDF 7494 Identifying Complex Problems of Practice (3 credit hours)
- EDA 7196 Leadership in a Learning Organization (3 credit hours)
- EDF 7478 Analysis of Data for Complex Problems of Practice (3 credit hours)
- EDF 7468 Evaluation of Complex Problems of Practice (3 credit hours)
- EDG 7985 Proposing and Implementing Data-Driven Decisions (3 credit hours)

**Concentration—18 Credit Hours**

The concentration is comprised of 12 credit hours of specialization courses and 6 credit hours of “labs of practice.” The specialization courses are designed to enhance the student’s professional practice by extending the knowledge base earned through the master’s degree and work experience. The Laboratory of Practice is a field-based intern experience.

Students must select an area of concentration. Concentration areas are subject to the discretion of the College based on course and faculty availability. Applicants are advised to contact the Program Director regarding specializations.

Students must complete two 3-credit-hour “Laboratory of Practice” (internship) experiences.

This is not a “work for credit” experience; rather, it places the student in a professional setting for the purpose of gaining practical leadership experience. Students may also enroll in an internship designated by the concentration area as an alternative to the Laboratory of Practice.

- EDG 7947 Laboratory of Practice (internship; 3 credit hours; repeated for a total of 6 credit hours)

Examples of concentration areas are provided below; however, these are **only examples** and do not represent specific requirements.

**Example I: Curriculum and Instruction**

The Curriculum and Instruction option provides students with a broad understanding of the factors affecting education and approaches to addressing systemic problems. For example, a student interested in curriculum design and development and contemporary instructional practice may select the following specialization to include:

- EDG 7692 Issues in Curriculum (3 credit hours)
- EDG 7221 Advanced Curriculum Theory (3 credit hours)
- EDF 7232 Analysis of Learning Theories in Instruction (3 credit hours)
- EDG 7325 Models of Teaching and Instructional Theory (3 credit hours)

**Example II: Instructional Design and Technology**

- EME 6055 Current Trends in Instructional Technology (3 credit hours)
- EME 6507 Multimedia for Education and Training (3 credit hours)
- EME 6417 Online and Virtual Learning (3 credit hours)
- EME 6458 Virtual Teaching (3 credit hours)

**Program Milestones**

Program milestones are observable demonstrations of competency administered in place of comprehensive exams. Milestones are designed to monitor student progress and clear the student for continuation to the next program level.

- Milestone 1 - Case Study and Portfolio Presentation

- Milestone 2 - Problem of Practice Exhibition
- Milestone 3 - Capstone Project Proposal and Proposal Defense

To enter the Capstone Project for the EdD, students must have an overall 3.0 GPA on all graduate work in the program and successfully complete the required program milestones.

### **Dissertation in Practice—12 Credit Hours**

- EDG 7987 Dissertation in Practice (12 credit hours minimum; repeatable for credit)

The dissertation in practice is the culmination of coursework and field experience as it relates to complex problems of education practice. The dissertation is the final demonstration of competency in the EdD in Education program. It is a rigorous academic project and is expected to demonstrate the skills and knowledge the student has acquired throughout the program as applied in an authentic professional environment. The dissertation is completed in partnership with the student, university faculty, and the student's mentor/client. It may be a group or team project.

The dissertation in practice is presented in a thorough and comprehensive written report. It must be appropriately formatted according to APA citation guidelines. The student must present findings to both university faculty and the student's client. The dissertation in practice will be evaluated on the thoroughness, applicability and appropriateness of the work. The project also includes an oral defense and presentation of the student's program portfolio.

## **APPLICATION REQUIREMENTS**

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- **Official transcript**  
One official transcript (in a sealed envelope) from each college/university attended.
- **Master's degree in a closely related field.**
- **Graduate Record Examination scores and transcripts**  
Official, competitive GRE score taken within the last five years. Please see GRE website for

further information: [www.gre.org](http://www.gre.org). Applicants to this program are also strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

- **The goal statement**  
The goal statement should clearly convey the applicant's intended area of concentration, professional experience, and professional goals after completion of the program. The admissions committee will review the goal statement to determine whether the EdD program is the right match for the applicant. In addition, as a sample of the applicant's writing ability, the goal statement should be clear and concise.
- **Resume**  
A current professional resume with at least three to five years of successful professional practice.
- **Three letters of reference**  
Three letters of reference will be read by the admissions committee to determine whether the applicant has the academic ability to succeed in the program. The letters of reference should be written by graduate faculty who are able to judge the applicant's abilities in a doctoral program, including their research and writing skills. One of the letters should be from the applicant's employer/supervisor. This letter will support the applicant's professional experience and commitment to the program.
- **Interview**  
The application interview is an important way for faculty to attach faces to names and draw distinctions among applicants. The admissions interview adds the personal touch to your application. Students in the Ed.D. in Education program will spend three full years working closely with faculty and colleagues in both individual and group settings. The interview allows faculty to meet potential students to begin the process of forming a cohesive and dynamic cohort.
- **Memorandum of Understanding**  
Applicants must submit a Memorandum of Understanding from their current employer/learning organization (Please click here for

a copy of this form) or from the client organization with whom the student will work while in the program (Please click here for a copy of this form). The MOU serves as an understanding of the applicant’s commitment to the EdD program as well as the agreement to work with and support the student while in the program. This document is not required prior to acceptance to the program, but will be required prior to the start of the Laboratory of Practice.

### Application Deadlines

Education EdD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	May 1		
The application deadline for Fall 2014 has been extended to May 1, 2014.				
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

### CONTACT INFO

**Thomas Vitale EdD**  
 thomas.vitale@ucf.edu  
 Telephone: 407-823-4212

## Education PhD

- Communication Sciences and Disorders Track
- Counselor Education Track
- Elementary Education Track
- Early Childhood Track
- Exceptional Education Track
- Exercise Physiology Track
- Higher Education Track
- Instructional Technology Track
- Mathematics Education Track
- Methodology, Measurement, and Analysis Track
- Reading Education Track
- Science Education Track
- Social Science Education Track
- Teaching English to Speakers of Other Languages (TESOL) Track

### PROGRAM DESCRIPTION

The PhD in Education is a research-oriented degree appropriate for those who seek positions in the professoriate or in school districts, businesses, industry, educational agencies and other educational settings that require a strong research base.

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 who seek faculty positions in a research university or research-oriented education positions in business and industry.

### CURRICULUM

The Education PhD requires a minimum of 69 credit hours beyond the master’s degree; minimum credit hour requirements vary by track. Students from all tracks must complete 24 credit hours of core courses, 24 credit hours of dissertation, and 3 credit hours of internship; the Communication Sciences and Disorders track requires 2 credit hours in university teaching and 2 credit hours in clinical supervision. Additional course requirements vary by

track. All students must also complete the candidacy examination.

### Total Hours Required:

**69** Credit Hours Minimum beyond the Master's Degree

This section describes the elements of the curriculum that are in common for all of the tracks. The internship requirement is common to most of the tracks but not all, and more detail is provided on the internship in each specialization section.

### Required Courses

#### Core—24 Credit Hours

- IDS 7501 Issues and Research in Education (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) or one of the following approved research electives:
  - EDF 7406 Multivariate Statistics in Education (3 credit hours)
  - EDF 7405 Quantitative Methods II (3 credit hours)
  - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
  - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
  - EDF 7473 Ethnography in Educational Settings (3 credit hours)
  - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
  - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
  - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders

(Communication Sciences Track students only) (3 credit hours)

- EDF 7406 Multivariate Statistics in Education (3 credit hours) or one of the following approved research electives:
  - IDS 7938 Research Cluster Seminar (3 credit hours)
  - EDF 7405 Quantitative Methods II (3 credit hours)
  - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
  - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
  - EDF 7473 Ethnography in Educational Settings (3 credit hours)
  - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
  - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
  - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)

#### Internship—3 Credit Hours

Specialization in all tracks must include a professional internship. In the Communication Sciences and Disorders Track, however, students must complete a three-part internship: one in university teaching (2 credit hours), one in clinical supervision (2 credit hours) for children, adolescents and adults with disorders in language and literacy, and one in professional development (2 credit hours).

#### Dissertation—24 Credit Hours

Doctoral students must present a prospectus for the dissertation to the doctoral adviser, prepare a proposal and present it to the dissertation committee, and defend the final research submission with the dissertation committee.

#### Candidacy

To enter candidacy for the PhD, students must have an overall 3.0 GPA on all graduate work included in the planned program and pass all required examinations. 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. Students must be enrolled in the university during the semester an examination is taken.

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submission of an approved program of study.

## CONTACT INFO

**Mike Robinson PhD**  
 Professor  
 edward.robinson@ucf.edu  
 Telephone: 407-823-6106  
 ED 209E

### Candidacy Examinations

All PhD candidates will be required to complete two examinations.

- Research in the Specialization—8-hour written examination.
- Specialization—3-hour oral examination.

### Independent Learning

The dissertation fulfills the independent learning requirement.

## APPLICATION REQUIREMENTS

Applicants must choose a track in this program. Track(s) may have different requirements.

### Application Deadlines

Education PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 20	Feb 15		
International Applicants	Dec 20	Jan 15		
International Transfer Applicants	Dec 20	Feb 15		



# Communication Sciences and Disorders Track

## TRACK DESCRIPTION

The Communication Sciences and Disorders track in the Education PhD program is designed specifically for those who wish to pursue careers as scholars, teachers and leaders in the area of school speech-language pathology with a content focus on language disorders and literacy. The program prepares doctoral-level professionals to serve as university professors in academic or clinical course work and supervisors or directors of school programs at district, state or national levels. The emphasis is on developing expertise in conducting research to promote evidence-based practice and in collaborating with professionals from a variety of related disciplines.

## CURRICULUM

### Total Credit Hours Required:

**81** Credit Hours Minimum beyond the Master's Degree

### Required Courses—42 Credit Hours

#### Core—24 Credit Hours

- IDS 7501 Issues and Research in Education (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) or one of the following approved research electives:
  - EDF 7406 Multivariate Statistics in Education (3 credit hours)

- EDF 7405 Quantitative Methods II (3 credit hours)
- EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
- EDF 7415 Latent Variable Modeling in Education (3 credit hours)
- EDF 7473 Ethnography in Educational Settings (3 credit hours)
- EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
- EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
- SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)
- EDF 7406 Multivariate Statistics in Education (3 credit hours) or one of the following approved research electives:
  - IDS 7938 Research Cluster Seminar (3 credit hours)
  - EDF 7405 Quantitative Methods II (3 credit hours)
  - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
  - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
  - EDF 7473 Ethnography in Educational Settings (3 credit hours)
  - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
  - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
  - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)

#### Specialization—18 Credit Hours

- SPA 6843 Severe Language-Based Reading and Writing Disabilities (3 credit hours)
- SPA 7490 Advanced Studies in Language Disorders (3 credit hours)
- SPA 7493 Advanced Studies in School Speech-Language Pathology (3 credit hours)

- SPA 7494 Doctoral Seminar I: Spoken and Written Language Disorders (3 credit hours)
- SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (3 credit hours)
- IDS 7657 Professional Collaboration Around Language Issues (3 credit hours)

### **Elective Courses—9 Credit Hours**

- Advanced course work in Reading (3 credit hours)
- Advanced course work in Exceptional Education (3 credit hours)
- Additional course work in Teaching English to Speakers of Other Languages (3 credit hours)

### **Dissertation—24 Credit Hours**

- Dissertation Research (24 credit hours minimum)

Doctoral students must present a prospectus for the dissertation to the doctoral adviser, prepare a proposal and present it to the dissertation committee, and defend the final research submission with the dissertation committee.

### **Internship—6 Credit Hours**

Specialization in all tracks must include a professional internship (minimum of 6 credit hours). In the Communication Sciences and Disorders Track, however, students must complete a three-part internship:

- University teaching (2 credit hours)
- Clinical supervision (2 credit hours)
- Professional development (2 credit hours)

### **Candidacy**

To enter candidacy for the PhD, students must have an overall 3.0 GPA on all graduate work included in the planned program and pass all required examinations. 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. Students must be enrolled in the university during the semester an examination is taken.

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.

### **Candidacy Examinations**

All PhD candidates will be required to complete two examinations.

- Research in the Specialization—8-hour written examination.
- Specialization—3-hour oral examination.

Please note that there may be variations in length of exam time and content based on the respective requirements of each track.

### **Independent Learning**

The dissertation satisfies the independent learning requirement.

## **APPLICATION REQUIREMENTS**

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A master's degree with an emphasis related to one of the tracks in the PhD program and master's level competency in educational research and statistics. For the Communication Sciences and Disorders Track, evidence of a master's degree in Communication Sciences and Disorders (Speech-Language Pathology).
- Competitive GRE score, taken within the last five years.
- Three letters of recommendation.
- Goal statement.
- Résumé.

- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

The PhD in Education is a research-oriented degree appropriate for those who seek positions in the professoriate or in school districts, businesses, industry, educational agencies and other educational settings that require a strong research base.

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 who seek faculty positions in a research university or research-oriented education positions in business and industry.

## Application Deadlines

Communication Sciences and Disorders Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 20	Feb 15		
International Applicants	Dec 20	Jan 15		
International Transfer Applicants	Dec 20	Feb 15		

## CONTACT INFO

**Barbara Ehren PhD, CCC-SLP, ASHA Fellow**  
 Professor  
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 HPA2 109

# Counselor Education Track

## TRACK DESCRIPTION

The CACREP Accredited Counselor Education track in the Education PhD program 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 is fully accredited with 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 UCF Community Counseling Clinic serves as a hub for teaching and research in the program, providing services to over one thousand individuals a year through child, adult, couples and family counseling. The clinic includes facilities for group counseling and play therapy.

## CURRICULUM

### Total Hours Required:

**84** Credit Hours Minimum beyond the Master's Degree

### Required Courses—54 Credit Hours

#### Core—24 Credit Hours

- IDS 7501 Issues and Research in Education (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) or one of the following approved research electives:

- EDF 7406 Multivariate Statistics in Education (3 credit hours)
  - EDF 7405 Quantitative Methods II (3 credit hours)
  - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
  - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
  - EDF 7473 Ethnography in Educational Settings (3 credit hours)
  - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
  - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
  - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)
- EDF 7406 Multivariate Statistics in Education (3 credit hours) or one of the following approved research electives:
- IDS 7938 Research Cluster Seminar (3 credit hours)
  - EDF 7405 Quantitative Methods II (3 credit hours)
  - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
  - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
  - EDF 7473 Ethnography in Educational Settings (3 credit hours)
  - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
  - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
  - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)

### Specialization—30 Credit Hours

- MHS 7406 Advanced Theories in Counseling (3 credit hours)
- MHS 7801 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 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)

### Dissertation—24 Credit Hours

Doctoral students must present a prospectus for the dissertation to the doctoral adviser, prepare a proposal and present it to the dissertation committee, and defend the final research submission with the dissertation committee.

### Required Internship—6 Credit Hours

- MHS 7840 Internship in Counselor Education (repeatable) (6 credit hours minimum)

### Candidacy

To enter candidacy for the PhD, students must have an overall 3.0 GPA on all graduate work included in the planned program and pass all required examinations. 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. Students must be enrolled in the university during the semester an examination is taken.

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.

- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submission of an approved program of study.

### Candidacy Examinations

All PhD candidates will be required to complete two examinations.

- Research in the Specialization—8-hour written examination.
- Specialization—3-hour oral examination.

Please note that there may be variations in length of exam time and content based on the respective requirements of each track.

### Independent Learning

The dissertation satisfies the independent learning requirement.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A master's degree in a closely related field and master's level competency in educational research and statistics.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation.
- Goal statement.
- Resumé.
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

### Application Deadlines

Counselor Education Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 20	Feb 15		
International Applicants	Dec 20	Jan 15		
International Transfer Applicants	Dec 20	Feb 15		

### CONTACT INFO

#### Mike Robinson PhD

Professor

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Telephone: 407-823-6106

ED 209E



# Elementary Education Track

## TRACK DESCRIPTION

The Elementary Education track in the Education PhD program is designed to provide further education for those aspiring to work in the area of education at the post-secondary level (four-year colleges and/or research universities). The program permits students to concentrate their doctoral study in either a field of emphasis, such as science, mathematics, literacy and social studies, or to create an interdisciplinary focus, such as mathematics-science or reading-social studies. The 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 EdD, the doctoral program relies on 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 members in interdisciplinary research projects, and long-term mentoring via supervised internships.

## CURRICULUM

### Total Hours Required:

69 Credit Hours Minimum beyond the Master's Degree

### Required Courses—30 Credit Hours

#### Core—24 Credit Hours

- IDS 7501 Issues and Research in Education (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) or one of the following approved research electives:
  - EDF 7406 Multivariate Statistics in Education (3 credit hours)
  - EDF 7405 Quantitative Methods II (3 credit hours)
  - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
  - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
  - EDF 7473 Ethnography in Educational Settings (3 credit hours)
  - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
  - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
  - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)
- EDF 7406 Multivariate Statistics in Education (3 credit hours) or one of the following approved research electives:
  - IDS 7938 Research Cluster Seminar (3 credit hours)
  - EDF 7405 Quantitative Methods II (3 credit hours)
  - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
  - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
  - EDF 7473 Ethnography in Educational Settings (3 credit hours)
  - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
  - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
  - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)

**Specialization—6 Credit Hours**

- Philosophical Foundations for Studies in Education (3 credit hours)
- Writing for Professional Publication in Education (3 credit hours)

**Elective Courses—12 Credit Hours**

Areas of emphasis: four 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 minimum).

**Dissertation—24 Credit Hours**

- EDE 7980 Dissertation Research (24 credit hours minimum)

Doctoral students must present a prospectus for the dissertation to the doctoral adviser, prepare a proposal and present it to the dissertation committee, and defend the final research submission with the dissertation committee.

**Required Internship—3-6 Credit Hours**

Depending on the student's experiential background, the program of study requires three to six variable credit hours of supervised internships. Often elementary teachers seeking the PhD have served as successful supervising teachers to undergraduate interns. If this is not the case, the adviser may seek to have the doctoral student take three credit hours to serve as a supervised internship coordinator at the university level. Additionally, students interested in long-term goals related to research may want to use the variable credit hours to accumulate a minimum of 250 hours as a supervised intern working for an educational researcher. Most likely, since our doctoral students' career goals will align with the professoriate, students will be required to teach one university course with supervision and feedback from an established professor. The adviser/program coordinator will determine the kind of internship and the number of semester hours needed. These internship experiences are highly valued and set the candidate apart from other applicants as they seek employment at the college and university level.

- EDE 6946 Elementary Education Internship (3-6 credit hours minimum)

**Candidacy**

To enter candidacy for the PhD, students must have an overall 3.0 GPA on all graduate work included in the planned program and pass all required examinations. 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. Students must be enrolled in the university during the semester an examination is taken.

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submission of an approved program of study.

**Candidacy Examinations**

All PhD candidates will be required to complete two examinations.

- Research in the Specialization—8-hour written examination.
- Specialization—3-hour oral examination.

Please note that there may be variations in length of exam time and content based on the respective requirements of each track.

**APPLICATION REQUIREMENTS**

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A master's degree in a related field of study, including one Graduate Curriculum course,

and master’s level competency in educational research and statistics.

- A minimum of 12 credit hours of Graduate Education courses.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation.
- Goal statement.
- Resumé.
- Writing sample.
- Interview.
- Elementary certification, with a minimum of three years teaching experience in early childhood, elementary, or middle school.
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

### Application Deadlines

Elementary Education Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 20	Feb 15		
International Applicants	Dec 20	Jan 15		
International Transfer Applicants	Dec 20	Feb 15		

### CONTACT INFO

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# Early Childhood Track

## TRACK DESCRIPTION

The Early Childhood track in the Education PhD program is designed to prepare highly competent doctoral-level professionals to assume leadership positions in teaching, research and service in the area of early childhood.

## CURRICULUM

### Total Hours Required:

69 Credit Hours Minimum beyond the Master’s Degree

### Required Courses—45 Credit Hours

#### Core Courses—24 Credit Hours

- IDS 7501 Issues and Research in Education (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) or one of the following approved research electives:
  - EDF 7406 Multivariate Statistics in Education (3 credit hours)
  - EDF 7405 Quantitative Methods II (3 credit hours)
  - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
  - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
  - EDF 7473 Ethnography in Educational Settings (3 credit hours)
  - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)

- EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
- SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)
- EDF 7406 Multivariate Statistics in Education (3 credit hours) or one of the following approved research electives:
  - IDS 7938 Research Cluster Seminar (3 credit hours)
  - EDF 7405 Quantitative Methods II (3 credit hours)
  - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
  - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
  - EDF 7473 Ethnography in Educational Settings (3 credit hours)
  - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
  - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
  - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)

### Specialization Courses—15 Credit Hours

- EEC 7058 Theoretical Foundations of Early Childhood (3 credit hours)
- EEC 7673 Early Childhood: Professional Publishing and Grant Writing (3 credit hours)
- EEC 7055 Advocacy, Public Policy, and Program Evaluation (3 credit hours)
- EEC 7409 Current Trends in Child, Family, and Community Sciences (3 credit hours)
- EEC 7676 Critical Analysis of Early Childhood Research (3 credit hours)

### Independent Study—6 Credit Hours

- EEC 6908 Internship (focusing on teaching an undergraduate Early Childhood course) (3 credit hours)

- EEC 6908 Internship (focusing on Early Childhood research) (3 credit hours)

### Dissertation—24 Credit Hours

Doctoral students must present a prospectus for the dissertation to the doctoral adviser, prepare a proposal and present it to the dissertation committee, and defend the final research submission with the dissertation committee.

### Candidacy

To enter candidacy for the PhD, students must have an overall 3.0 GPA on all graduate work included in the planned program and pass all required examinations. 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. Students must be enrolled in the university during the semester an examination is taken.

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.

### Candidacy Examinations

All PhD candidates will be required to complete two examinations.

- Research in the Specialization—8-hour written examination.
- Specialization—3-hour oral examination.

Please note that there may be variations in length of exam time and content based on the respective requirements of each track.

### Independent Learning

The dissertation satisfies the independent learning requirement.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A master’s degree in a related field of study.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation.
- Goal statement.
- Resumé.
- Writing sample.
- Interview.
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

### Application Deadlines

Early Childhood Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 20	Feb 15		
International Applicants	Dec 20	Jan 15		
International Transfer Applicants	Dec 20	Feb 15		

## CONTACT INFO

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 Education 122Q

# Exceptional Education Track

## TRACK DESCRIPTION

The Exceptional Education track in the Education PhD program 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.

## CURRICULUM

### Total Hours Required:

**69** Credit Hours Minimum beyond the Master’s Degree

### Required Courses—39 Credit Hours

#### Core Courses—24 Credit Hours

- IDS 7501 Issues and Research in Education (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) or one of the following approved research electives:
  - EDF 7406 Multivariate Statistics in Education (3 credit hours)
  - EDF 7405 Quantitative Methods II (3 credit hours)
  - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)



- EDF 7415 Latent Variable Modeling in Education (3 credit hours)
- EDF 7473 Ethnography in Educational Settings (3 credit hours)
- EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
- EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
- SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)
- EDF 7406 Multivariate Statistics in Education (3 credit hours) or one of the following approved research electives:
  - IDS 7938 Research Cluster Seminar (3 credit hours)
  - EDF 7405 Quantitative Methods II (3 credit hours)
  - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
  - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
  - EDF 7473 Ethnography in Educational Settings (3 credit hours)
  - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
  - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
  - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)

### Specialization Courses—15 Credit Hours

- EEX 7936 Current Issues/ Trends in Special Education (3 credit hours)
- EEX 7527 Professional Writing/ Grant Writing in Special Education (3 credit hours)
- EEX 7766 Technology Research/ Training in Special Education (3 credit hours)
- EEX 7428 Personnel Preparation: Special Education (3 credit hours)
- EEX 7320 Program Evaluation and Planning in Special Education (3 credit hours)

### Dissertation—24 Credit Hours

- EEX 7980 Dissertation Research (24 credit hours minimum)

Doctoral students must present a prospectus for the dissertation to the doctoral adviser, prepare a proposal and present it to the dissertation committee, and defend the final research submission with the dissertation committee.

### Internship—6 Credit Hours

- EEX 7865 Internship in College Instruction in Special Education (3 credit hours)
- EEX 7866 Internship in Practicum Supervision in Special Education (3 credit hours)

Specialization in this track must include a minimum of 6 credit hours in professional internship.

### Candidacy

To enter candidacy for the PhD, students must have an overall 3.0 GPA on all graduate work included in the planned program and pass all required examinations. 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. Students must be enrolled in the university during the semester an examination is taken.

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submission of an approved program of study.

### Candidacy Examinations

All PhD candidates will be required to complete two examinations.

- Research in the Specialization—8-hour written examination.
- Specialization—3-hour oral examination.

Please note that there may be variations in length of exam time and content based on the respective requirements of each track.

### Independent Learning

The dissertation satisfies the independent learning requirement.

### CONTACT INFO

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 ED 215F

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A master’s degree in a closely related field.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation.
- Goal statement.
- Resumé
- A timed writing sample produced during the interview.
- Group interview with faculty. Current doctoral students may also interview applicants.
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

### Application Deadlines

Exceptional Education Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 20	Feb 15		
International Applicants	Dec 20	Jan 15		
International Transfer Applicants	Dec 20	Feb 15		

# Exercise Physiology Track

## TRACK DESCRIPTION

The Exercise Physiology track in the Education PhD program provides advanced studies in the area of exercise physiology and wellness, sport and exercise science. Students interested in the doctoral program might come from the biological and health-related professions, exercise science, physical education, or athletic training.

## CURRICULUM

### Total Hours Required:

75 Credit Hours Minimum beyond the Master's Degree

### Required Courses—51 Credit Hours

#### Core Courses—24 Credit Hours

- IDS 7501 Issues and Research in Education (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) or one of the following approved research electives:
  - EDF 7406 Multivariate Statistics in Education (3 credit hours)
  - EDF 7405 Quantitative Methods II (3 credit hours)
  - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
  - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
  - EDF 7473 Ethnography in Educational Settings (3 credit hours)

- EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
- EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
- SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)
- EDF 7406 Multivariate Statistics in Education (3 credit hours) or one of the following approved research electives:
  - IDS 7938 Research Cluster Seminar (3 credit hours)
  - EDF 7405 Quantitative Methods II (3 credit hours)
  - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
  - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
  - EDF 7473 Ethnography in Educational Settings (3 credit hours)
  - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
  - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
  - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)

### Specialization Courses—27 Credit Hours

Students select nine specialization courses from the following list.

- PET 6357C Environmental Perturbation and Human Performance (3 credit hours)
- PET 6363 Dietary and Nutritional Supplementation for Athletic Performance (3 credit hours)
- PET 6366 Exercise, Nutrition and Weight Control (3 credit hours)
- PET 6376 Sport Nutrition (3 credit hours)
- PET 6381 Physiology of Neuromuscular Mechanisms (3 credit hours)

- PET 6388 Cardiovascular Physiology (3 credit hours)
- PET 6389 Physiological Aspects of Sport and Training (3 credit hours)
- PET 6395 Program Design in Strength and Conditioning (3 credit hours)
- PET 6515 Assessment and Evaluation in Sport and Exercise Science (3 credit hours)
- PET 6521 Exercise Physiology Instrumentation (3 credit hours)
- PET 6690 Exercise Prescription for Special Populations (3 credit hours)
- PET 7365 Cardiovascular Dynamics During Exercise (3 credit hours)
- PET 7368 Regulation of Metabolism During Exercise (3 credit hours)
- PET 7387 Exercise Endocrinology (3 credit hours)
- PET 7535 Research and Experimental Design in Exercise Physiology (3 credit hours)
- PET 7939 Advanced Research Seminar (3 credit hours)

### Dissertation—24 Credit Hours

- PET 7980 Dissertation Research (24 credit hours minimum)

Doctoral students must present a prospectus for the dissertation to the doctoral adviser, prepare a proposal and present it to the dissertation committee, and defend the final research submission with the dissertation committee.

### Candidacy

To enter candidacy for the PhD, students must have an overall 3.0 GPA on all graduate work included in the planned program and pass all required examinations. 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. Students must be enrolled in the university during the semester an examination is taken.

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.

- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submission of an approved program of study.

### Candidacy Examinations

All PhD candidates will be required to complete two examinations.

- Research in the Specialization—8-hour written examination.
- Specialization—3-hour oral examination.

Please note that there may be variations in length of exam time and content based on the respective requirements of each track.

### Independent Learning

The dissertation satisfies the independent learning requirement.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A master's degree in a closely related field and master's level competency in educational research and statistics.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation.
- Goal statement.
- Resumé/vita reflecting relevant experience.
- Writing sample.
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly

to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

## Application Deadlines

Exercise Physiology Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 20	Feb 15		
International Applicants	Dec 20	Jan 15		
International Transfer Applicants	Dec 20	Feb 15		

## CONTACT INFO

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ED 320K

# Higher Education Track

## TRACK DESCRIPTION

The Higher Education track in the Education PhD program is designed for applicants who have extensive experience as administrators or staff in postsecondary institutions who want to pursue careers as scholars and leaders. A doctoral degree in this track will broaden the analytical skills necessary to contribute to the advancement of the field of higher education through research, administration and teaching. The students in this program are considered future leaders interested in intensive study of the organizational and policy issues influencing the diverse sector comprising contemporary American postsecondary education.

## CURRICULUM

### Total Hours Required:

69 Credit Hours Minimum beyond the Master's Degree

### Required Courses—42 Credit Hours

#### Core—24 Credit Hours

- IDS 7501 Issues and Research in Education (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) or one of the following approved research electives:
  - EDF 7406 Multivariate Statistics in Education (3 credit hours)
  - EDF 7405 Quantitative Methods II (3 credit hours)



- EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
- EDF 7415 Latent Variable Modeling in Education (3 credit hours)
- EDF 7473 Ethnography in Educational Settings (3 credit hours)
- EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
- EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
- SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)
- EDF 7406 Multivariate Statistics in Education (3 credit hours) or one of the following approved research electives:
  - IDS 7938 Research Cluster Seminar (3 credit hours)
  - EDF 7405 Quantitative Methods II (3 credit hours)
  - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
  - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
  - EDF 7473 Ethnography in Educational Settings (3 credit hours)
  - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
  - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
  - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)

### Specialization—18 Credit Hours

- EDH 6632 American Professoriate and College Presidency (3 credit hours)
- EDH 7401 Higher Education and Public Policy (3 credit hours)
- EDH 7631 Managing Change, Conflict and Stability in Higher Education (3 credit hours)
- EDH 7405 Legal Issues in Higher Education (3 credit hours)

- EDH 6635 Organization and Administration of Higher Education (3 credit hours)
- EDH 6065 History and Philosophy of Higher Education (3 credit hours)

### Dissertation—24 Credit Hours

- EDH 7980 Dissertation Research (24 credit hours minimum)

Doctoral students must present a prospectus for the dissertation to the doctoral adviser, prepare a proposal and present it to the dissertation committee, and defend the final research submission with the dissertation committee.

### Internship—3 Credit Hours

- EDH 6946 Higher Education Internship (3 credit hours minimum)

### Candidacy

To enter candidacy for the PhD, students must have an overall 3.0 GPA on all graduate work included in the planned program and pass all required examinations. 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. Students must be enrolled in the university during the semester an examination is taken.

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.

### Candidacy Examinations

All PhD candidates will be required to complete two examinations.

- Research in the Specialization—8-hour written examination.
- Specialization—3-hour oral examination.

Please note that there may be variations in length of exam time and content based on the respective requirements of each track.

## Independent Learning

The dissertation satisfies the independent learning experience.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A master's degree in a closely related field.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation.
- Goal statement.
- Resumé.
- Submit one of the following writing samples: research paper, journal article, grant proposal, policy analysis, or program evaluation.
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

## Application Deadlines

Higher Education Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 20	Feb 15		
International Applicants	Dec 20	Jan 15		
International Transfer Applicants	Dec 20	Feb 15		

## CONTACT INFO

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Education 320D

# Instructional Technology Track

## TRACK DESCRIPTION

The Instructional Technology track in the Education PhD program prepares students for teaching and research in the field of instructional systems in professions such as a university professor or corporate researcher. The focus is upon the application of appropriate instructional technologies to the adult learner. For more information about the Instructional Technology track, visit <http://insttech.education.ucf.edu>.

## CURRICULUM

### Total Hours Required:

**69** Credit Hours Minimum beyond the Master's Degree

### Required Courses—33 Credit Hours

#### Core—24 Credit Hours

- IDS 7501 Issues and Research in Education (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) or one of the following approved research electives:
  - EDF 7406 Multivariate Statistics in Education (3 credit hours)
  - EDF 7405 Quantitative Methods II (3 credit hours)
  - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)

- EDF 7415 Latent Variable Modeling in Education (3 credit hours)
- EDF 7473 Ethnography in Educational Settings (3 credit hours)
- EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
- EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
- SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)
- EDF 7406 Multivariate Statistics in Education (3 credit hours) or one of the following approved research electives:
  - IDS 7938 Research Cluster Seminar (3 credit hours)
  - EDF 7405 Quantitative Methods II (3 credit hours)
  - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
  - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
  - EDF 7473 Ethnography in Educational Settings (3 credit hours)
  - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
  - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
  - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)

### Specialization—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)

### Elective Courses—9 Credit Hours

Cognate or elective; approved by adviser (9 credit hours minimum)

### Dissertation—24 Credit Hours

- EME 7980 Dissertation Research (24 credit hours minimum)

Doctoral students must present a prospectus for the dissertation to the doctoral adviser, prepare a proposal and present it to the dissertation committee, and defend the final research submission with the dissertation committee.

### Required Internship—3 Credit Hours

- EME 7942 Doctoral Internship in Educational Technology (3 credit hours minimum)

### Candidacy

To enter candidacy for the PhD, students must have an overall 3.0 GPA on all graduate work included in the planned program and pass all required examinations. 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. Students must be enrolled in the university during the semester an examination is taken.

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submission of an approved program of study.

### Candidacy Examinations

All PhD candidates will be required to complete two examinations.

- Research in the Specialization—8-hour written examination.
- Specialization—3-hour oral examination.

Please note that there may be variations in length of exam time and content based on the respective requirements of each track.

## Independent Learning

The dissertation satisfies the independent learning requirement.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A master's degree in a closely related field.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation.
- Goal statement.
- Résumé.
- Writing sample of a ten to twenty page original paper on any topic.
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

## Application Deadlines

Instructional Technology Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 20	Feb 15		
International Applicants	Dec 20	Jan 15		
International Transfer Applicants	Dec 20	Feb 15		

## CONTACT INFO

**Atsusi Hirumi PhD**  
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ED 320-F

# Mathematics Education Track

## TRACK DESCRIPTION

The Mathematics Education track in the Education PhD program is designed to prepare mathematics educators for various career options, including training educators, 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 Teaching Academy for Mathematics and Science.

## CURRICULUM

### Total Hours Required:

72 Credit Hours Minimum beyond the Master's Degree

### Required Courses—33 Credit Hours

#### Core—24 Credit Hours

- IDS 7501 Issues and Research in Education (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) or one of the following approved research electives:
  - EDF 7406 Multivariate Statistics in Education (3 credit hours)
  - EDF 7405 Quantitative Methods II (3 credit hours)
  - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)

- EDF 7415 Latent Variable Modeling in Education (3 credit hours)
- EDF 7473 Ethnography in Educational Settings (3 credit hours)
- EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
- EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
- SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)
- EDF 7406 Multivariate Statistics in Education (3 credit hours) or one of the following approved research electives:
  - IDS 7938 Research Cluster Seminar (3 credit hours)
  - EDF 7405 Quantitative Methods II (3 credit hours)
  - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
  - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
  - EDF 7473 Ethnography in Educational Settings (3 credit hours)
  - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
  - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
  - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)

### Specialization—9 Credit Hours

- MAE 7640 History of Mathematics Education (3 credit hours)
- MAE 7795 Seminar on Research in Mathematics Education (6 credit hours)

### Elective Courses—12 Credit Hours

- Course work in elementary mathematics education (3 credit hours)
- Course work in secondary mathematics education (3 credit hours)

- Course work in mathematics or mathematics education (6 credit hours)

### Dissertation—24 Credit Hours

- MAE 7980 Dissertation Research (24 credit hours minimum)

Doctoral students must present a prospectus for the dissertation to the doctoral adviser, prepare a proposal and present it to the dissertation committee, and defend the final research submission with the dissertation committee.

### Internship—3 Credit Hours

- MAE 7945 Internship in Mathematics Education (3 credit hours minimum)

### Candidacy

To enter candidacy for the PhD, students must have an overall 3.0 GPA on all graduate work included in the planned program and pass all required examinations. 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. Students must be enrolled in the university during the semester an examination is taken.

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submission of an approved program of study.

### Candidacy Examinations

All PhD candidates will be required to complete two examinations.

- Research in the Specialization—8-hour written examination.
- Specialization—3-hour oral examination.



Please note that there may be variations in length of exam time and content based on the respective requirements of each track.

### Independent Learning

The dissertation satisfies the independent learning requirement.

### CONTACT INFO

**Juli K. Dixon PhD**  
 Professor  
 jkdixon@ucf.edu  
 Telephone: 407-823-4140  
 ED 123F

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A master’s degree in a closely related field and master’s level competency in educational research and statistics.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation.
- Goal statement.
- Résumé.
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

### Application Deadlines

Mathematics Education Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 20	Feb 15		
International Applicants	Dec 20	Jan 15		
International Transfer Applicants	Dec 20	Feb 15		

# Methodology, Measurement, and Analysis Track

## TRACK DESCRIPTION

The Methodology, Measurement, and Analysis track in the Education PhD program is designed to prepare methodologists in education and related disciplines for either the professoriate or the practice of scale construction and program evaluation. Four major areas are encompassed in this program: quantitative research, qualitative research, measurement, and program evaluation.

## CURRICULUM

### Total Hours Required:

75 Credit Hours Minimum beyond the Master's Degree

### Required Courses—42 Credit Hours

#### Core—24 Credit Hours

- IDS 7501 Issues and Research in Education (3 credit hours)
- IDS 7500 Seminar in Educational Research (variable credit and repeatable, 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)
- EDF 7475 Qualitative Research in Education (3 credit hours)
- IDS 7502 Case Studies in Research Design (3 credit hours) or one of the following approved research electives:
  - EDF 7406 Multivariate Statistics in Education (3 credit hours)
  - EDF 7405 Quantitative Methods II (3 credit hours)
  - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
  - EDF 7415 Latent Variable Modeling in Education (3 credit hours)

- EDF 7473 Ethnography in Educational Settings (3 credit hours)
- EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
- EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
- SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)
- EDF 7406 Multivariate Statistics in Education (3 credit hours) or one of the following approved research electives:
  - IDS 7938 Research Cluster Seminar (3 credit hours)
  - EDF 7405 Quantitative Methods II (3 credit hours)
  - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
  - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
  - EDF 7473 Ethnography in Educational Settings (3 credit hours)
  - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
  - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
  - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)

#### Specialization—18 Credit Hours

- EDF 7427 Psychometrics (3 credit hours)
- EDF 7405 Quantitative Methods II (3 credit hours)
- EDF 7476 Advanced Research Methods (3 credit hours)
- EDF 7406 Multivariate Statistics in Education (3 credit hours)
- EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
- EDF 7415 Latent Variable Modeling in Education (3 credit hours)

**Electives—6 Credit Hours**

- EDF 6447 Development and Validation of Educational Tests and Measures (3 credit hours)
- EDF 6464 Mixed Methods for Evaluation in Educational Settings (3 credit hours)
- EDF 6486 Research Design in Education (3 credit hours)
- EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
- EDG 6285 Evaluation of School Programs (3 credit hours)
- EDF 7473 Ethnographic Research in Education (3 credit hours)
- EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
- EDF 7479 Applications of Technology in Qualitative Research, Data, Organization, and Analysis (3 credit hours)

**Dissertation—24 Credit Hours**

- EDF 7980 Dissertation Research (24 credit hours minimum)

Doctoral students must present a prospectus for the dissertation to the doctoral adviser, prepare a proposal and present it to the dissertation committee, and defend the final research submission with the dissertation committee.

**Internship—3 Credit Hours**

- EDF 7XXX Internship (3 credit hours)

**Candidacy**

To enter candidacy for the PhD, students must have an overall 3.0 GPA on all graduate work included in the planned program and pass all required examinations. 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. Students must be enrolled in the university during the semester an examination is taken.

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.

- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.

**Candidacy Examinations**

All PhD candidates will be required to complete two examinations.

- Research in the Specialization—8-hour written examination.
- Specialization—3-hour oral examination.

Please note that there may be variations in length of exam time and content based on the respective requirements of each track.

**Independent Learning**

The dissertation satisfies the independent learning experience.

**APPLICATION REQUIREMENTS**

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A master's degree in a closely related field.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation.
- Goal statement.
- Resumé.
- Writing Sample.
- Interview.
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly

to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

## Application Deadlines

Methodology, Measurement, and Analysis Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 20	Feb 15		
International Applicants	Dec 20	Jan 15		
International Transfer Applicants	Dec 20	Feb 15		

## CONTACT INFO

### Stephen Sivo PhD

Professor

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Telephone: 407-823-4147

ED 222Q

# Reading Education Track

## TRACK DESCRIPTION

The Reading Education track in the Education PhD program 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) or as a lead teacher/resource teacher for a school district. The program assumes prior study in reading education. The program provides for an area of advanced study in the field of reading and a concentration in a closely related field. The program includes a strong research base through the research core and specialization course work and an internship during which a candidate gains professorial experience.

Students are required to have the equivalent of the Master of Education in Reading degree, 21 hours of graduate reading education credit, prior to entering the program. In the event that a student does not have 21 hours of graduate reading education credit, the student can be admitted to the program, but will be required to complete the 21 hours in addition to the required program hours.

## CURRICULUM

### Total Hours Required:

78 Credit Hours Minimum beyond the Master's Degree

### Required Courses—39 Credit Hours

#### Core—24 Credit Hours

- IDS 7501 Issues and Research in Education (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) or one of the following approved research electives:
  - EDF 7406 Multivariate Statistics in Education (3 credit hours)
  - EDF 7405 Quantitative Methods II (3 credit hours)
  - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
  - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
  - EDF 7473 Ethnography in Educational Settings (3 credit hours)
  - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
  - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
  - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)
- EDF 7406 Multivariate Statistics in Education (3 credit hours) or one of the following approved research electives:
  - IDS 7938 Research Cluster Seminar (3 credit hours)
  - EDF 7405 Quantitative Methods II (3 credit hours)
  - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
  - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
  - EDF 7473 Ethnography in Educational Settings (3 credit hours)
  - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
  - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
  - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)

### **Specialization—15 Credit Hours**

- RED 7797 Theoretical Processes of Reading Comprehension (3 credit hours)
- RED 7743 Reading and Writing Processes (3 credit hours)
- RED 7648 Analysis and Evaluation of Trends and Issues in Literacy Education (3 credit hours)
- RED 7745 Research in Reading Education Seminar (3 credit hours)
- RED 7697 Literacy for the Twenty-First Century (3 credit hours)

### **Elective Courses—9 Credit Hours**

Students choose a minimum of 9 credit hours of elective courses from a concentration in a related field, such as Communication Sciences and Disorders, Exceptional Student Education, TESOL, Language Arts Education, Children's/ Adolescent Literature.

### **Dissertation—24 Credit Hours**

- RED 7980 Dissertation Research (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.

### **Internship—3-6 Credit Hours**

- RED 7947 Internship in Reading Education (3 credit hours minimum) (repeat 1-2 times)

### **Candidacy**

To enter candidacy for the PhD, students must have an overall 3.0 grade point average on all graduate work included in the planned program and pass all required examinations. 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. Students must be enrolled in the university during the semester an examination is taken.

The following are required to be admitted to candidacy and enroll in dissertation hours:



- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submission of an approved program of study.

### Candidacy Examinations

All PhD candidates will be required to complete two examinations.

- Research in the Specialization—8-hour written examination.
- Specialization—3-hour oral examination.

### Independent Learning

The dissertations fulfills the independent learning requirement.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A master’s degree in a related field of study, including one Graduate Curriculum course, and master’s level competency in educational research and statistics.
- A minimum of 21 credit hours of graduate reading education courses.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation.
- Goal statement.
- Resumé.
- Writing sample.
- Interview.
- Applicants to this program are strongly encouraged to complete the necessary

information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

### Application Deadlines

Reading Education Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 20	Feb 15		
International Applicants	Dec 20	Jan 15		
International Transfer Applicants	Dec 20	Feb 15		

### CONTACT INFO

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 Assistant Professor  
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 ED 315

# Science Education Track

## TRACK DESCRIPTION

This Science Education track in the Education PhD program is designed to prepare science educators for various career options, including training science teachers, teaching postsecondary science, and conducting research in science education. Doctoral students in this track engage in research activities with an interdisciplinary faculty, experience internships, and interact with the nationally acclaimed Lockheed Martin/UCF Teaching Academy for Mathematics and Science.

## CURRICULUM

### Total Hours Required:

75 Credit Hours Minimum beyond the Master's Degree

### Required Courses—42 Credit Hours

#### Core—24 Credit Hours

- IDS 7501 Issues and Research in Education (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) or one of the following approved research electives:
  - EDF 7406 Multivariate Statistics in Education (3 credit hours)
  - EDF 7405 Quantitative Methods II (3 credit hours)
  - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
  - EDF 7415 Latent Variable Modeling in Education (3 credit hours)

- EDF 7473 Ethnography in Educational Settings (3 credit hours)
- EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
- EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
- SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)
- EDF 7406 Multivariate Statistics in Education (3 credit hours) or one of the following approved research electives:
  - IDS 7938 Research Cluster Seminar (3 credit hours)
  - EDF 7405 Quantitative Methods II (3 credit hours)
  - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
  - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
  - EDF 7473 Ethnography in Educational Settings (3 credit hours)
  - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
  - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
  - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)

### Specialization—18 Credit Hours

- SCE 7746 Teaching Theory and Research in Science Education (3 credit hours)
- SCE 7145 Design of Post Secondary Science Curriculum (3 credit hours)
- SCE 7242 Assessment in Science Teaching, Learning and Research (3 credit hours)
- SCE 7864 Science, Technology and Society (3 credit hours)
- SCE 7935 Special Seminar Professional Writing/Grant Writing in Science Education (3 credit hours)
- SCE 7146 Professional Issues in Science Education (3 credit hours)

**Electives—3 Credit Hours**

- Additional specialization electives (3 credit hours minimum)

**Dissertation—24 Credit Hours**

- SCE 7980 Dissertation Research (24 credit hours minimum)

Doctoral students must present a prospectus for the dissertation to the doctoral adviser, prepare a proposal and present it to the dissertation committee, and defend the final research submission with the dissertation committee.

**Internship—6 Credit Hours**

- SCE 7942 Internship/Practicum in Science Education (K-12 or Community College) (6 credit hours minimum)

**Candidacy**

To enter candidacy for the PhD, students must have an overall 3.0 GPA on all graduate work included in the planned program and pass all required examinations. 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. Students must be enrolled in the university during the semester an examination is taken.

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submission of an approved program of study.

**Candidacy Examinations**

All PhD candidates will be required to complete two examinations.

- Research in the Specialization—8-hour written examination.
- Specialization—3-hour oral examination.

Please note that there may be variations in length of exam time and content based on the respective requirements of each track.

**Independent Learning**

The dissertation serves as the independent learning experience.

**APPLICATION REQUIREMENTS**

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A master's degree in a closely related field.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation.
- Goal statement.
- Resumé.
- Interview.
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

**Application Deadlines**

Science Education Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 20	Feb 15		
International Applicants	Dec 20	Jan 15		
International Transfer Applicants	Dec 20	Feb 15		

**CONTACT INFO****Bobby Jeanpierre PhD**

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 Education Complex, 115-H

# Social Science Education Track

## TRACK DESCRIPTION

The Social Science Education track in the Education PhD program is designed to prepare social science educators for successful careers in research and teaching. The program assists students in providing options to careers in preparing social science teachers, teaching postsecondary social science (history, political science, economics, etc.), and conducting research activities in social science education. Doctoral students in the track engage in research activities with an interdisciplinary faculty, experience internships, and interact with various social science educators and social science experts. Throughout this program, students are mentored by experienced and successful university social science education faculty. Based on the students' previous graduate course work, students may be required to complete additional graduate social science education (SSE) courses and/or graduate content courses beyond the minimum requirements.

## CURRICULUM

### Total Hours Required:

69 Credit Hours Minimum beyond the Master's Degree

### Required Courses—42 Credit Hours

#### Core—24 Credit Hours

- IDS 7501 Issues and Research in Education (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) or one of the following approved research electives:

- EDF 7406 Multivariate Statistics in Education (3 credit hours)
- EDF 7405 Quantitative Methods II (3 credit hours)
- EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
- EDF 7415 Latent Variable Modeling in Education (3 credit hours)
- EDF 7473 Ethnography in Educational Settings (3 credit hours)
- EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
- EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
- SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)
- EDF 7406 Multivariate Statistics in Education (3 credit hours) or one of the following approved research electives:
  - IDS 7938 Research Cluster Seminar (3 credit hours)
  - EDF 7405 Quantitative Methods II (3 credit hours)
  - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
  - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
  - EDF 7473 Ethnography in Educational Settings (3 credit hours)
  - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
  - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
  - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)

#### Specialization—18 Credit Hours

- SSE 7740 History of Social Studies Education Seminar (3 credit hours)
- SSE 7796 Research in Social Science Education Seminar (3 credit hours)

- SSE 7797 Content and Program Analysis in Social Science Education (3 credit hours)
- SSE 7700 Critical Issues in Social Studies Teacher Education (3 credit hours)
- Social Science Education (SSE) Electives (6 credit hours; must be approved by adviser)

### Dissertation—24 Credit Hours

- SSE 7980 Dissertation Research (24 credit hours minimum)

Doctoral students must present a prospectus for the dissertation to the doctoral adviser, prepare a proposal and present it to the dissertation committee, and defend the final research submission with the dissertation committee.

### Internship—3 Credit Hours

- SSE 7947 Internship in Social Science Education (3 credit hours minimum)

### Candidacy

To enter candidacy for the PhD, students must have an overall 3.0 GPA on all graduate work included in the planned program and pass all required examinations. 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. Students must be enrolled in the university during the semester an examination is taken.

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submission of an approved program of study.

### Candidacy Examinations

All PhD candidates will be required to complete two examinations.

- Research in the Specialization—8-hour written examination.
- Specialization—3-hour oral examination.

Please note there may be variations in length of exam time and content based upon the respective requirements of each track.

### Independent Learning

The dissertation fulfills the independent learning requirement.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A master's degree in a closely related field.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation.
- Goal statement / letter of intent.
- Resumé / vita reflecting relevant experience.
- Writing sample.
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

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.



## Application Deadlines

Social Science Education Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 20	Feb 15		
International Applicants	Dec 20	Jan 15		
International Transfer Applicants	Dec 20	Feb 15		

## CONTACT INFO

### William Russell PhD

Associate Professor

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Education 115J

# Teaching English to Speakers of Other Languages (TESOL) Track

## TRACK DESCRIPTION

The University of Central Florida is uniquely positioned to meet the critical need for advanced degrees in TESOL. Faculty from the College of Education and Human Performance and the College of Arts and Humanities approach TESOL issues from multiple perspectives and collaborate in teaching and research. Combining the interdisciplinary expertise of faculty in two Colleges, the PhD Track in TESOL offers students in-depth experiences in the research, theory, and practice of TESOL, as well as flexibility in selecting a complementary cognate that meets their professional goals.

## CURRICULUM

### Total Hours Required:

**78** Credit Hours Minimum beyond the Master's Degree

The Teaching English to Speakers of Other Languages (TESOL) track in the Education PhD program requires at least 78 credit hours of study beyond the master's degree.

### Prerequisites

- TSL 6250 Applied Linguistics in ESOL
- TSL 6440 Issues in TESOL Assessment
- TSL 6642 Issues in Second Language Acquisition
- TSL 5345 ESOL Methods or TSL 5085 Teaching Language Minority Students in K-12
- EDF 6401 Statistics for Educational Data

## Required Courses—45 Credit Hours

### Core—24 Credit Hours

- IDS 7501 Issues and Research in Education (3 credit hours)
- IDS 7500 Research Seminar (variable credit and repeatable, 6 credit hours)
- EDF 7475 Qualitative Research Methods in Education (3 credit hours)
- EDF 7403 Quantitative Research Methods in Education (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) or one of the following approved research electives:
  - EDF 7406 Multivariate Statistics in Education (3 credit hours)
  - EDF 7405 Quantitative Methods II (3 credit hours)
  - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
  - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
  - EDF 7473 Ethnography in Educational Settings (3 credit hours)
  - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
  - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
  - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)
- EDF 7406 Multivariate Statistics in Education (3 credit hours) or one of the following approved research electives:
  - IDS 7938 Research Cluster Seminar (3 credit hours)
  - EDF 7405 Quantitative Methods II (3 credit hours)
  - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)

- EDF 7415 Latent Variable Modeling in Education (3 credit hours)
- EDF 7473 Ethnography in Educational Settings (3 credit hours)
- EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
- EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
- SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)

### Specialization—21 Credit Hours

Students are required to take the following five courses:

- TSL 6643 Diachronic Analysis of Second Language Acquisition Processes (3 credit hours)
- TSL 6379 Second Language Literacy (3 credit hours)
- TSL 6600 Second Language Vocabulary Acquisition (3 credit hours)
- TSL 6252 Sociolinguistics for ESOL (3 credit hours)
- IDS 7657 Professional Collaboration Around Language Issues (3 credit hours)

Students should also take a minimum of 6 credit hours of the following courses.

- TSL 6938 Special Topics in TESOL (3 credit hours; course may be repeated up to 9 credits)
- TSL 7948 Doctoral Internship in TESOL (3 credit hours; course may be repeated up to 6 credits)

### Cognate—9 Credit Hours

A minimum of 9 credit hours of cognate courses must be approved by the adviser and graduate program director. Possible cognates include Communication Sciences and Disorders, Community College Teaching, Exceptional Education, Global and Comparative Education, Multicultural Education, Instructional Technology, Program Administration, Reading, and other related areas.

## Dissertation—24 Credit Hours

- TSL 7980 Dissertation Research (24 credit hours minimum)

Doctoral students must present a prospectus for the dissertation to the doctoral adviser, prepare a proposal and present it to the dissertation committee, and defend the final research submission with the dissertation committee.

## Examinations

A qualifying examination will be required during the first year of study as an intake, diagnostic tool to determine student proficiency in TESOL. A written candidacy examination will be required to be admitted to candidacy and will normally occur at the completion of course work.

## Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submission of an approved program of study.

## Additional Program Requirement:

Students must have completed a minimum of two college-level courses in a foreign language or basic proficiency in a foreign language as measured by the American Council on the Teaching of Foreign Languages (ACTFL) oral proficiency interview (OPI) or other assessment approved by the program faculty before completion of 36 hours of study. Non-native speakers of English may use their native language to meet this requirement. This requirement may be satisfied prior to admission but must be satisfied prior to candidacy.

## Independent Learning

The dissertation satisfies the independent learning experience.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A master's degree in a closely related field.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation no more than one year old from people who can attest to your potential and ability for doctoral level work.
- Goal statement.
- Resume.
- A master's thesis or two original papers related to graduate coursework
- An interview may be required once the application materials are received.
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

## Application Deadlines

Teaching English to Speakers of Other Languages (TESOL) Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 20	Feb 15		
International Applicants	Dec 20	Jan 15		
International Transfer Applicants	Dec 20	Feb 15		

## CONTACT INFO

### Joyce Nutta PhD

Associate Professor

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Telephone: 407-823-4341

ED 122N

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# Educational Leadership EdD

- Executive Track
- Higher Education Track

## PROGRAM DESCRIPTION

The **Higher Education** track is appropriate for students who are committed to advancing their leadership capabilities in college and university settings. The Program of Study has been designed to broaden the administrative knowledge and skills of higher education professionals who bring to the program a prior discipline specialization. Students admitted to the program are typically employed in teaching, research and administrative positions in universities, colleges, community colleges and education related institutions and organizations. The Higher Education track requires completion of a dissertation.

The **Executive track in Educational Leadership EdD**. The Executive EdD is appropriate for students who are committed to advancing their leadership opportunities and capabilities in PK-12 and other organizational settings. Students admitted to the program are typically employed in teaching and administrative positions in elementary and secondary schools, as well as other educational agencies and organizations. Focus areas include: political and organizational theory, leadership, systems theory, planning and evaluation, school law and finance, data-based decision making, communications, instructional leadership, human resource management, program analysis and evaluation. Educational Leadership certification is not included in this program.

The program is taught in a lock-step cohort-based format to be convenient to those who are working in teaching and administrative positions. The Executive track requires completion of a client-based field study.

## CURRICULUM

Students must choose one of either two tracks in the Educational Leadership program: the Executive Track or Higher Education Track. The Executive track requires a minimum of 54 credit hours beyond the master's degree, including 6 credit hours of

a client-based Doctoral Field Study and at least 15 credit hours of Dissertation in Practice. The Higher Education track requires 63 minimum credit hours based on evidence of a master's degree with an emphasis related to the study of higher education as a field of inquiry.

### Total Hours Required:

**Executive, 54; Higher Education, 63** Credit Hours Minimum beyond the Master's Degree

## APPLICATION REQUIREMENTS

Applicants must choose a track in this program. Track(s) may have different requirements.

## CONTACT INFO

### Walter Doherty PhD

Assistant Professor

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ED 222F

# Executive Track

## TRACK DESCRIPTION

The Executive track in the Educational Leadership EdD program is designed to prepare educators for leadership positions in PK-12 organizations and other educational organizations. The program prepares students for professional practice as scholar practitioners.

The Executive EdD is appropriate for students who are committed to advancing their leadership opportunities and capabilities in PK-12 and other organizational settings. Students admitted to the program are typically employed in teaching and administrative positions in elementary and secondary schools, as well as other educational agencies and organizations. Focus areas include: political and organizational theory, leadership, systems theory, planning and evaluation, school law and finance, data-based decision making, communications, instructional leadership, human resource management, program analysis and evaluation. Educational Leadership certification is not included in this program.

## CURRICULUM

### Total Hours Required:

**54** Credit Hours Minimum beyond the Master's Degree

The program of study for the Executive track in the Educational Leadership EdD is arranged as a lock-step cohort-based program to facilitate scheduling for those who are employed in teaching and administrative positions. Details about this program are found in the Executive Handbook.

### Required Courses—39 Credit Hours

#### Core—24 Credit Hours

- EDA 7101 Organizational Theory in Education (3 credit hours)
- EDA 7192 Educational Leadership (3 credit hours)
- EDA 7195 Politics, Governance, and Financing of Educational Organizations (3 credit hours)

- EDA 7205 Planning, Research, and Evaluation Systems in Educational Administration (3 credit hours)
- EDA 7225 Advanced Legal Studies in Education (3 credit hours)
- EDA 7215 Community Outreach for Educational Leaders (3 credit hours)
- EDA 7193 Instructional Leadership (3 credit hours)
- EDA 7224 Human Resource Development in Educational Organizations (3 credit hours)

#### Research Methods—9 Credit Hours

- EDF 7471 Research in Educational Leadership I (3 credit hours)
- EDF 7407 Research in Educational Leadership II (3 credit hours)
- EDF 7408 Research in Educational Leadership III (3 credit hours)

#### Doctoral Field Study—6 Credit Hours

Doctoral students will conduct a dissertation in practice on an issue or problem of practice during the last four semesters of the program. The proposal is developed during the first 3 semester hours of EDA 7943 and implemented during the second semester.

- EDA 7943 Doctoral Field Study (6 credit hours)

#### Dissertation in Practice—15 Credit Hours

In EDA 7987 Dissertation in Practice students conduct scholarly research on a complex problem of practice in an education organization. The dissertation in practice will have an introduction and its essential components, literature review, methodology, findings, and discussion and conclusions.

- EDA 7987 Dissertation in Practice (15 credit hours minimum)

#### Candidacy

To enter candidacy for the Executive track in the Educational Leadership EdD program, students must have an overall 3.0 GPA on all graduate



work included in the planned program and pass all required milestones.

The following are required to be admitted to candidacy:

- Completion of a whitepaper to be assigned during the summer semester of Year 1.
- Completion of a dissertation in practice proposal accepted during the summer semester of Year 2.
- Completion of all course work, except for the Doctoral Field Study.
- Submission of an approved program of study.

### Independent Learning

The doctoral field study provides the independent learning experience by having students a study on an issue or problem of practice in education.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Master’s degree in a closely related field.
- Official, competitive GRE score, taken within the last five years.
- Three letters of recommendation.
- Resume.
- Goal statement.
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

Admission to the program is once per year, fall term only, with students paced in a cohort sequence.

### Application Deadlines

Executive Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	May 1		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

### CONTACT INFO

**Walter Doherty PhD**  
 Assistant Professor  
 wjdohert@ucf.edu  
 Telephone: 407-823-1153  
 ED 222F

# Higher Education Track

## TRACK DESCRIPTION

The Higher Education track in the Educational Leadership EdD program has been designed to broaden the administrative knowledge and skills of higher education professionals who bring to the program a prior discipline specialization. Students admitted to the program are typically employed in teaching, research and administrative positions in community colleges and universities or education related agencies.

## CURRICULUM

### Total Hours Required:

**63** Credit Hours Minimum beyond the Master's Degree

Students pursuing the Higher Education track in the Educational Leadership EdD program are typically employed in two- or four-year colleges or universities. Their programs of study require them to complete a minimum of 27 credit hours of specified core and specialization courses plus two elective courses. Students must also complete 9 credit hours in research methods and 21 hours of dissertation. The 63 minimum credit hours is required beyond the master's degree, with an emphasis related to the study of higher education as a field of inquiry. Details about the administration of this program can be found in the Higher Education Handbook.

### Required Courses—36 Credit Hours

#### Core—15 Credit Hours

- EDH 6046 Diversity in Higher Education (3 credit hours)
- EDH 6632 American Professoriate and College Presidency (3 credit hours)
- EDH 7401 Higher Education and Public Policy (3 credit hours)
- EDH 7040 Research on the College Student (3 credit hours)

- EDH 7631 Managing Change, Conflict and Stability in Higher Education (3 credit hours)

#### Specialization—12 Credit Hours

- EDH 6065 History and Philosophy of Higher Education (3 credit hours)
- EDH 6635 Organization and Administration of Higher Education (3 credit hours)
- EDH 6505 Finance in Higher Education (3 credit hours)
- EDH 7405 Legal Issues in Higher Education (3 credit hours)

#### Research Methods—9 Credit Hours

- EDF 6401 Statistics for Educational Data (3 credit hours)
- EDF 7403 Quantitative Foundations of Educational Research (3 credit hours)
- EDF 7463 Analysis of Survey and Qualitative Data (3 credit hours)

#### Elective Courses—6 Credit Hours

Choose two courses from the list below.

- EDH 6047 Theories of College Student Development (3 credit hours)
- EDH 6054 Issues in Postsecondary Education (3 credit hours)
- EDH 7409 Legal Issues in Higher Education II (3 credit hours)
- EDH 7638 Advance Seminar in Higher Education (3 credit hours)
- EDH 7366 Assessment Practices in Higher Education (3 credit hours)
- EDH 6045 First Year College Experience (3 credit hours)
- EDH 6067 International Higher Education (3 credit hours)
- EDH 7934 Higher Education Literature, Research and Professional Writing Seminar (3 credit hours)

#### Dissertation—21 Credit Hours

Doctoral students must present a prospectus for the dissertation to the doctoral adviser, prepare a proposal, present the proposal 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.

- EDH 7980 Dissertation Research (21 credit hours minimum)

### Candidacy

To enter candidacy for the Educational Leadership EdD program, students must have an overall 3.0 GPA on all graduate work included in the planned program and pass all required examinations. In addition, evidence of the following are required to be admitted to candidacy and enroll in dissertation hours before the first day of classes for which the student wishes to enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- Successful defense of the written dissertation prospectus.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submission of an approved program of study.

### Candidacy Examination

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:

- Higher education (five hours)
- Area of specialization (three hours)

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Master’s degree in a closely related field.
- Official, competitive GRE score, taken within the last five years.
- Three letters of recommendation.

- Resumé.
- Goal statement.
- An interview might be required.
- Relevant experience in the work setting of colleges and universities is desired.
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

### Application Deadlines

Higher Education Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	May 1		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

## CONTACT INFO

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 Education 320D

# Electrical Engineering PhD

## PROGRAM DESCRIPTION

The Doctor of Philosophy in Electrical Engineering 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 and Robotics, Electromagnetics, Electro-Optics, Photonics, Power Electronics and Electronics, and Solid-State/Microelectronics.

Research interests of the Electrical Engineering faculty include antennas, microwave and millimeter circuits/devices, communication systems, digital signal/image processing, power electronics, 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.

## CURRICULUM

The Electrical Engineering PhD degree requires a minimum of 72 credit hours beyond the bachelor's degree. Of these 72 hours, a minimum of 36 credit hours must be formal coursework, exclusive of independent study coursework. A minimum of 15 credit hours with up to a maximum of 24 credit hours of dissertation hours can be credited toward the degree. No more than 12 credit hours of Independent Study are allowed. The remaining hours can be a combination of formal coursework and/or pre-candidacy doctoral research.

## Total Hours Required:

72 Credit Hours Minimum beyond the Bachelor's Degree

Formal coursework required is 36 credit hours, exclusive of independent study and research. A minimum of 15 credit hours of dissertation hours are required. All other credit hours will be determined with a faculty adviser. Students admitted with an earned master's degree may request to have up to 30 of those credit hours counted toward their doctoral program. The student's doctoral adviser in conjunction with the graduate office will determine the precise number of hours to be counted subject to Graduate Studies regulations.

The Program of Study (POS) form must be approved by an adviser in the selected specialization area no later than the end of the second semester after admission. The program of study must meet all the university requirements specified in the graduate catalog. Details about this program are located in the Electrical Engineering PhD Handbook.

## Articulation Courses

Undergraduate articulation courses are required to be completed prior to admission for students who do not hold a Bachelor of Science degree in Electrical Engineering. In particular, the articulation courses specified below, plus all of the prerequisite string which any of them require, must be completed prior to admission. Grades of "B" or higher must be obtained in each articulation course specified below. Articulation courses are not eligible for inclusion on a graduate Program of Study.

- EEL 3123C Network and Systems
- EEE 3307C Electronics I
- EEL 3470 Electromagnetic Fields
- EEL 3552 Signal Analysis and Communications
- EEE 3350 Semiconductor Devices I

In addition, choose one of the following:

- EEL 3657 Linear Control Systems
- EEE 4309C Electronics II
- EEL 4750 Digital Signal Processing Fundamentals

## Required Courses—36 Credit Hours

- Suggested courses listed below.

## Elective Courses—12-21 Credit Hours

- May include formal coursework, directed research hours, doctoral research hours, dissertation research, and no more than 12 credit hours of Independent Study.
- Suggested courses listed below.

## Suggested Courses for Doctoral Program

The Electrical Engineering Program supports a number of specialization areas. These technical areas are (in alphabetical order): Electromagnetics and Optics (EO), Signal Processing and Systems (SPS), and Micro-Systems and Nano-Systems (MNS). The Micro-Systems and Nano-Systems area covers the typical Electrical Engineering topic areas of Electronics, Power Electronics and Micro-Electronics, while the Signal Processing and Systems area covers the typical electrical topic areas of communications, controls, and signal processing. Please contact your graduate program assistant Nicole Mitchell at [nicole@eecs.ucf.edu](mailto:nicole@eecs.ucf.edu) or 407-823-0378 for a list of faculty within each specialization area.

For each one of these areas there is a suggested list of courses stated below. Students are also allowed to take courses from other specialization areas, but the majority of their courses should be chosen from courses in their specialization area.

### Suggested Courses for Electromagnetics and Optics (EO)

- EEE 5542 Random Processes I(3 credit hours)
- EEE 5557 Introduction to Radar Systems (3 credit hours)
- EEL 5437C Microwave Engineering (4 credit hours)
- EEL 5439C RF and Microwave Communications (3 credit hours)
- EEL 5462C Antenna Analysis and Design (3 credit hours)
- EEL 5432 Satellite Remote Sensing (3 credits)

- EEL 6425C RF and Microwave Measurement Techniques (3 credit hours)
- EEL 6463 Antenna Analysis and Design II (3 credit hours)
- EEL 6482 Electromagnetic Theory I (3 credit hours)
- EEL 6488 Electromagnetic Theory II (3 credit hours)
- EEL 6481 Numerical Techniques in Electromagnetics (3 credit hours)
- EEL 6489 Advanced Topics in Electromagnetics (3 credit hours)
- EEL 6504 Communication System Design (3 credit hours)
- EEL 6530 Communication Theory (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)
- OSE 5041 Introduction to Wave Optics (3 credit hours)
- OSE 5414 Fundamentals of Optoelectronic Devices (3 credit hours)
- OSE 6111 Optical Wave Propagation (3 credit hours)
- OSE 6115 Interference and Diffraction (3 credit hours)
- OSE 6143 Fiber Optics Communications (3 credit hours)
- OSE 6225 Radiometry and Detection (3 credit hours)
- OSE 6143 Fiber Optic Communications (3 credit hours)
- OSE 6211 Fourier Optics (3 credit hours)
- OSE 6445 High Speed Photonics (3 credit hours)
- OSE 6455C Photonics Laboratory (3 credit hours)
- OSE 6615L Optoelectronic Device Fabrication Laboratory (3 credit hours)
- OSE 6525 Laser Engineering (3 credit hours)



### Suggested Courses for Micro-Systems and Nano-Systems (MNS)

- BME 5572 Biomedical Nanotechnology (3 credit hours)
- EEL 5245C Power Electronics (3 credit hours)
- EEE 5332C Thin Film Technology (3 credit hours)
- EEE 5352 Semiconductor Materials Characterization (3 credit hours)
- EEE 5353 Semiconductor Device Modeling and Simulation (3 credit hours)
- EEE 5356C Fabrication of Solid-State Devices (4 credit hours)
- EEE 5370 Operational Amplifiers (3 credit hours)
- EEE 5378 CMOS Analog and Digital Circuit Design (3 credit hours)
- EEE 5390 Full Custom VLSI Design (3 credit hours)
- EEE 5555 Surface Acoustic Wave Devices and Systems (3 credit hours)
- EEE 6317 Power Semiconductor Devices and Integrated Circuits (3 credit hours)
- EEE 6358 Advanced Semiconductor Device I (3 credit hours)
- EEL 6246 Power Electronics II (3 credit hours)
- EEE 6326C MEMS Fabrication Laboratory (3 credit hours)
- EEE 6338 Advanced Topics in Microelectronics (3 credit hours)
- EEE 6371 Advanced Electronics I (3 credit hours)
- EEE 6372 Advanced Topics in Electronics (3 credit hours)

### Suggested Courses for Signal Processing and Systems (SPS)

- EEE 5513 Digital Signal Processing Applications (3 credit hours)
- EEE 5542 Random Processes I (3 credit hours)
- EEE 5557 Introduction to Radar Systems (3 credit hours)
- EEE 6504 Adaptive Digital Signal Processing Applications (3 credit hours)

- EEE 6508 Advanced Topics in Digital Signal Processing (3 credit hours)
- EEL 5820 Image Processing (3 credit hours)
- EEL 5825 Pattern Recognition (3 credit hours)
- EEL 5630 Digital Control Systems (3 credit hours)
- EEL 5173 Linear Systems Theory (3 credit hours)
- EEL 6504 Communication System Design (3 credit hours)
- EEL 6530 Communication Theory (3 credit hours)
- EEL 6590 Advanced Topics in Communications (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)
- EEL 6812 Introduction to Neural Networks (3 credit hours)
- EEL 5630 Digital Control Systems (3 credit hours)
- EEL 5173 Linear Systems Theory (3 credit hours)
- EEL 6619 Nonlinear Robust Control (3 credit hours)
- EEL 6621 Nonlinear Control Systems (3 credit hours)
- EEL 6662 Design of Robot Control Systems (3 credit hours)
- EEL 6667 Planning and Control for Mobile Robotic Systems (3 credit hours)
- EEL 6671 Modern and Optimal Control Systems (3 credit hours)
- EEL 6674 Optimal Estimation for Control (3 credit hours)
- EEL 6616 Adaptive Control (3 credit hours)
- EEL 6680 Advanced Topics in Modern Control Systems (3 credit hours)
- EEL 6683 Cooperative Control of Networked Autonomous Systems (3 credit hours)
- EEL 6812 Introduction to Neural Networks (3 credit hours)
- EEL 6823 Image Processing II (3 credit hours)

- EEL 5669 Autonomous Robotic Systems (3 credit hours)
- EEL 6026 Optimization of Engineering Systems (3 credit hours)
- CAP 5015 Multimedia Compression in the Internet (3 credit hours)
- CAP 5415 Computer Vision (3 credit hours)
- CAP 6419 3D Computer Vision (3 credit hours)
- CAP 6411 Computer Vision Systems (3 credit hours)
- CAP 6412 Advanced Computer Vision (3 credit hours)

### Dissertation—15-24 Credit Hours

- XXX 7980 Dissertation Research (15 credit hours minimum).
- The program will only allow students to complete up to 24 hours of dissertation coursework in XXX 7980.

The College of Engineering and Computer Science requires that all dissertation defense announcements are approved by the student's adviser and posted on the college's website, [www.cecs.ucf.edu/graddefense](http://www.cecs.ucf.edu/graddefense), at least two weeks before the defense date.

### Qualifying Review

The Qualifying Review relies on annual appraisals of the student's progress conducted by the student's research/academic adviser and advisory committee, once formed. The student's appraisal template that the adviser completes will assess the student's academic performance (course performance) and research performance. On an annual basis, and based on the completed PhD Student Annual Review template, as well as additional student documentation attached with approval of the adviser, the EECS Graduate Committee will rate the student's performance as "Above Expectation," "At Expectation," or "Below Expectation" toward the completion of the PhD degree.

Students must pass the Qualifying Review no later than the deadline, which is the semester in which they complete 24 credit hours after admission or within two calendar years after admission, whichever occurs later. If a student has passed the Qualifying Review, then the student is eligible to continue PhD studies. However, a student who does

not pass the Qualifying Review by the deadline will be dismissed from the degree program and will be given the opportunity to complete a master's degree (if applicable).

### Dissertation Committee

PhD Dissertation Committees for this degree program must have all of the below characteristics:

- consist of at least five committee members including the committee chair
- the committee chair must be either a Regular Appointment faculty member in EECS or a Secondary-Joint Appointment faculty member in EECS
- at least 50% of committee members (when tabulated including the chair) must be EECS regular faculty
- the majority of committee members must vote in favor of passing for the student to Pass
- in addition to the above, all college and university requirements (such as one member outside of EECS) must be met.

Joint faculty members may serve as committee chairs, but graduate faculty scholars may not serve as committee chairs.

### Candidacy Examination

After passing the Qualifying Review, students are required to successfully complete the candidacy examination in order to demonstrate readiness for preliminary research in a chosen field of study. This exam is administered by the student's dissertation advisory committee. Preparedness for taking the candidacy examination requires the acceptance of a professional paper by a peer-reviewed conference or journal that is deemed acceptable by the student's advisory committee. Candidacy is normally attempted at the completion of required coursework and must be passed before registering for doctoral dissertation hours (EEL 7980). Continuous enrollment in at least 3 hours of doctoral dissertation hours is required once a student starts taking dissertation credits.

### Admission to Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours.

- Completion of all required formal coursework, except for dissertation hours.
- Successful completion of the candidacy examination.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submission of an approved program of study.

Signed and well-formed Doctoral Committee Candidacy Status form and associated paperwork (dissertation advisory committee and program of study, etc.) must be submitted to the Electrical and Computer Engineering Graduate Office for processing on or before **the last day to defend Dissertation during the semester prior to enrolling in dissertation credits.**

### Dissertation Proposal Exam

After passing the candidacy examination, the student will write a dissertation proposal and present it to the dissertation advisory committee for approval. The proposal must include a description of the research performed to date and the research planned to be completed for the dissertation. The presentation of a written dissertation proposal must be deemed as passing requirements by the majority of the dissertation committee.

### Equipment Fee

Students in the Electrical Engineering PhD program pay a \$63 equipment fee each semester that they are enrolled. Part-time students pay \$31 per semester.

### Independent Learning

The Independent Learning Requirement is met by successful completion of the student's candidacy and dissertation defense examinations.

## APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening ([www.cecs.ucf.edu/prescreen](http://www.cecs.ucf.edu/prescreen)) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants

before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Bachelor's or Master's degree in Electrical Engineering or a closely related discipline.
- Résumé.
- Statement about educational, research, and professional career objectives.
- Three letters of recommendation.

Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

Faculty members may choose to conduct face-to-face or telephone interviews before accepting applicants into their research programs.

Additional courses may also be required to correct any course deficiencies. Students should contact the graduate program director for further information.

## Application Deadlines

Electrical Engineering PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

## CONTACT INFO

### Kalpathy Sundaram PhD

Professor

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HEC 439B

# Environmental Engineering PhD

## PROGRAM DESCRIPTION

The Environmental Engineering PhD program focuses on pollution control, pollution prevention, and the correction of pollution effects on natural and man-made environments. The program is known for its strong faculty research interests. Areas of study include drinking water treatment, astute treatment, solid and hazardous waste management, atmospheric pollution control and modeling, environmental water resources, and storm water management. The program's mission is to prepare students for careers in environmental engineering with consulting firms; with industry; within federal, state, and local governments; and/or in higher education.

The program offers an intensive, individually tailored research program suitable for development of an academic or similar research-oriented career. Graduates of the program will have technical knowledge in critical areas of environmental engineering, critical thinking skills, formed and maintained partnerships with industry, government agencies, and professional organizations, and have developed awareness of the changing environmental needs of society and the global environment.

## CURRICULUM

The Environmental Engineering PhD program focuses on pollution control, pollution prevention, and the correction of pollution effects on natural and man-made environments preparing students for careers in environmental engineering with consulting firms; with industry; within federal, state, and local governments; and/or in higher education.

### Total Hours Required:

**72** Credit Hours Minimum beyond the Bachelor's Degree

**42** Credit Hours Minimum beyond the Master's Degree  
Total Hours Required:

The Environmental Engineering PhD program is research oriented and requires a minimum of 72 credit hours beyond the bachelor's degree. Thirty

of the 72 credit hours can be met with either a nonthesis or thesis MS in Environmental Engineering. This leaves 42 credit hours of which 18 credit hours must be Dissertation and a minimum of 15 credit hours must be formal course work. A maximum of 9 credit hours of Doctoral Research can be used in the doctoral program, which could be replaced by additional formal course work.

For students not having an MS degree who directly enter the PhD program (BS to PhD), there will be a minimum of 45 credit hours formal course work (i.e., 30 credit hours identical to the course work for a nonthesis MS in Environmental Engineering plus a minimum of 15 credit hours course work past the MS). However, unlike MS students, BS to PhD students will be required to take only 4 of the 5 required courses from the nonthesis MS in Environmental Engineering requirements. In addition, these students can enroll for Doctoral Research credit hours during or after their first semester in the program. The 27 credit hours required in addition to the 45 credit hours course work will be 18 credit hours in Dissertation Research, and a maximum of 9 credit hours in Doctoral Research. Up to 9 credit hours of Doctoral Research can be replaced by additional formal course work subject to the approval of the PhD adviser and the advisory committee.

For both MS to PhD and BS to PhD students, the program of study must be developed with an advisory committee and meet with departmental approval at the beginning of the PhD program, at which time transfer credit will be evaluated on a course-by-course basis.

## Required Courses—12 Credit Hours

All students completing the PhD program must take one course each from 4 of the 5 technical areas listed below for a total of 12 credit hours.

### *Water Process Engineering*

- ENV 6015 Physical/Chemical Treatment Systems in Environmental Engineering (3 credit hours)

### *Wastewater Process Engineering*

- ENV 6016 Biological Treatment Systems in Environmental Engineering (3 credit hours)

### *Waste Treatment/Water Treatment/Industrial Treatment*

- ENV 6347 Hazardous Waste Incineration (3 credit hours)
- ENV 6558 Industrial Waste Treatment (3 credit hours)
- ENV 5410 Water Treatment (3 credit hours)
- EES 5318 Industrial Ecology (3 credit hours)

### *Air Quality Modeling/Air Pollution Control*

- ENV 6106 Theory and Practice of Atmospheric Dispersion Modeling (3 credit hours)
- ENV 6126 Design of Air Pollution Controls (3 credit hours)

### *Water Resources*

- Any CWR course at the 5000 or 6000 level (3 credit hours)
- ENV 5636 Environmental and Water Resources Systems Analysis (3 credit hours)
- ENV 6047 Environmental Informatics and Remote Sensing (3 credit hours)

## Elective Courses—42 Credit Hours

- To be approved by a faculty adviser and the graduate coordinator
- At least 27 credit hours of formal course work is required, exclusive of research and independent study. For students entering the program with a completed master's degree, at least 15 of the 27 credit hours (exclusive of independent study and research) must be taken at UCF after the master's program, from approved formal courses. For students entering the program without a master's degree in Environmental Engineering or a closely related discipline, at least 45 credit hours of formal course work are required.
- Doctoral Research (XXX 7919) - 9 credit hours maximum (more than 9 research credit hours can be taken, but only a maximum of 9 credit hours will be counted toward the program of study).
- Independent Study (XXX 6908) - 3 credit hours maximum
- No more than a total of 12 credit hours of doctoral research plus independent study will be included in a program of study.



- Directed Research (XXX 6918) is not permitted in a PhD program of Study.

Students can choose among the following courses with the consent of the academic adviser. Students that have no MS degree should complete the core courses for the MS degree in Environmental Engineering or Environmental Engineering Sciences. In addition, all elective courses will be 5000 or 6000 level courses.

Suggested elective courses include:

- EES 5318 Industrial Ecology
- ENV 5335 Hazardous Waste Management
- ENV 5356 Solid and Hazardous Waste Management
- ENV 5410 Water Treatment
- ENV 5505 Sludge Management Operations in Environmental Engineering
- ENV 5517 Engineering Chemical and Biological Processes
- ENV 5636 Environmental and Water Resources Systems
- ENV 6015 Physical/Chemical Treatment Systems in Environmental Engineering
- ENV 6016 Biological Treatment Systems in Environmental Engineering
- ENV 6046 Membrane Mass Transfer
- ENV 6055 Fate and Transport of Subsurface Contaminants
- ENV 6030 Environmental Biotechnology
- ENV 6047 Environmental Informatics and Remote Sensing
- ENV 6106 Theory and Practice of Atmospheric Dispersion Modeling
- ENV 6126 Design of Air Pollution Controls
- ENV 6336 Site Remediation and Hazardous Waste Treatment
- ENV 6347 Hazardous Waste Incineration
- ENV 6504L Unit Operation and Processes Laboratory
- ENV 6515L Biological Unit Operations and Processes Laboratory
- ENV 6519 Aquatic Chemical Processes
- ENV 6558 Industrial Waste Treatment

In addition, elective courses can be chosen from any of the following disciplines:

**Engineering:** any 5000 or 6000 level course from any Engineering discipline. Typical electives come from Environmental Engineering (ENV courses), Water Resources Engineering (CWR courses), Civil Engineering, Construction Engineering, and Industrial Engineering.

**Non-Engineering:** Statistics, Molecular Biology, Microbiology, Biochemistry, Organic Chemistry, General or Inorganic Chemistry, Biology, Math, and Physics.

### Dissertation—18 Credit Hours

- ENV 7980 (18 credit hours minimum)

### Examinations

Students must pass three examinations. The first is the PhD qualifying examination. This examination must be taken within the first year of admission into the PhD program. It may be attempted no more than twice. In addition to the qualifying examination, students must pass the candidacy examination and the dissertation defense examination. The candidacy examination is normally taken near the end of the course work and consists of a written and oral presentation of a research proposal, and may include additional written or oral questioning by the committee. 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.

The College of Engineering and Computer Science requires that all dissertation defense announcements be approved by the student's adviser and posted on the college's website and on the College of Graduate Studies Events Calendar at least two weeks before the defense date.

### Admission to Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours. Evidence of meeting these requirements must be received by the College of Graduate Studies by the day before the first day of classes for the semester in which a student wishes to enroll in dissertation hours.

- Completion of all course work, except for dissertation hours.

- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.
- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- A bachelor's and/or master's degree in Environmental Engineering or a closely related discipline.
- Résumé.
- Statement of educational, research, and professional career objectives.
- Three letters of recommendation.

## Equipment Fee

Full-time students in the Environmental Engineering PhD program pay \$16 per semester for equipment used in the laboratories. Part-time students pay \$8 per semester.

## Independent Learning

The Independent Learning Requirement is met by successful completion of the student's candidacy and dissertation defense examinations.

## APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening ([www.cecs.ucf.edu/prescreen](http://www.cecs.ucf.edu/prescreen)) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Final articulation requirements will be determined by the department after students have been admitted and after discussions with their advisers.

## Application Deadlines

Environmental Engineering PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

## CONTACT INFO

### David Cooper PhD

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 ENG2 227

# Hospitality Management PhD

## PROGRAM DESCRIPTION

The PhD in Hospitality Management prepares individuals for teaching and research-based careers in academia or as practitioner researchers and field consultants in hospitality and tourism enterprises.

## CURRICULUM

### Total Hours Required:

**58** Credit Hours Minimum beyond the Master's Degree

### Required Courses—43 Credit Hours

#### Core—16 Credit Hours

- HMG 7587 Foundations in Hospitality and Tourism Research (3 credit hours)
- HMG 7589 Advanced Research Methods in Hospitality and Tourism (3 credit hours)
- HMG 7588 Research Seminar in Hospitality and Tourism (1 credit hour)
- PAF 7802 Advanced Research Methods in Public Affairs I (3 credit hours)
- PAF 7804 Advanced Quantitative Methods I (3 credit hours)
- PAF 7806 Advanced Research Methods in Public Affairs II (3 credit hours)

#### Specialization—27 Credit Hours

At least 6 credit hours should be from HFT 7XXX level courses. Course selection should be based on the student's area of interest in consultation with the major adviser and approved by the graduate program director.

Select a minimum of two courses from the following list:

- HMG 7258 Strategies and Tactics: Lodging (3 credit hours)
- HMG 7546 Strategies and Tactics: Guest Service Management (3 credit hours)

- HMG 7715 Strategies and Tactics: Travel and Tourism (3 credit hours)
- HMG 7876 Strategies and Tactics: Foodservice (3 credit hours)

Select a minimum of three Research Electives from the following list:

- HMG 6586 Research Methods in Hospitality and Tourism (3 credit hours)
- HMG 6918 Directed Research (3 credit hours)
- PAF 7805 Advanced Quantitative Research Methods in Public Affairs II (3 credit hours)
- PAF 7820 Seminar in Qualitative Methods in Public Affairs (3 credit hours)
- EDF 7475 Qualitative Research in Education (3 credit hours)
- EDF 7463 Multivariate Statistics (3 credit hours)
- EDF 7406 Analysis of Survey, Record, and Other Qualitative Data (3 credit hours)

Select the remainder of your minimum 27 credit hours from any HFT 6000 level or greater courses or approved 6000/7000 level courses from other UCF colleges.

- FSS 6365 Management of Food Service Operations (3 credit hours)
- HMG 6227 Advanced Training and Development in the Hospitality Industry (3 credit hours)
- HMG 6228 Hospitality Human Resources and Leadership (3 credit hours)
- HMG 6245 Managing Hospitality and Guest service Organizations (3 credit hours)
- HMG 6247 Organizational Communications in Hospitality/Tourism Enterprises (3 credit hours)
- HMG 6251 The Management of Lodging Operations (3 credit hours)
- HMG 6267 Case Studies in Restaurant Management (3 credit hours)
- HMG 6291 Hospitality Entrepreneurship (3 credit hours)
- HMG 6296 Strategic Management in Hospitality and Tourism (3 credit hours)
- HMG 6319 Convention Center Management (3 credit hours)

- HMG 6347 Advanced Vacation Ownership Resort Planning (3 credit hours)
- HMG 6446 Hospitality/Tourism Information Technology (3 credit hours)
- HMG 6476 Feasibility Studies for Hospitality Tourism Enterprises (3 credit hours)
- HMG 6477 Financial Analysis of Hospitality Enterprises (3 credit hours)
- HMG 6529 Vacation Ownership Resort Sales Management (3 credit hours)
- HMG 6528 Convention and Conference Sales and Services (3 credit hours)
- HMG 6533 Hospitality/Tourism Industry Brand Management (3 credit hours)
- HMG 6566 Principles of Destination Marketing and Management (3 credit hours)
- HMG 6596 Strategic Marketing in Hospitality and Tourism (3 credit hours)
- HMG 6608 Hospitality/Tourism Law and Ethics Seminar (3 credit hours)
- HMG 6636 Hospitality/Tourism Risk Management (3 credit hours)
- HMG 6707 Economics of Travel and Tourism (3 credit hours)
- HMG 6710 International Tourism Management (3 credit hours)
- HMG 6738 Tourism Industry Analysis (3 credit hours)
- HMG 6797 Event Administration (3 credit hours)

### Dissertation—15 Credit Hours

- HMG 7980 Dissertation Research (15 credit hours minimum)

Doctoral students must present a prospectus for the dissertation to the doctoral adviser, prepare a proposal and present it to the dissertation committee, and defend the final research submission with the dissertation committee.

### Candidacy

To enter candidacy for the PhD, students must have an overall 3.0 GPA on all graduate work included in the planned program and pass all required examinations. Examinations will be scheduled by the student and major adviser in collaboration with

the Rosen College Examination Committee. The associate dean for graduate studies and research must be notified of the date and location of the exam 30 days in advance. Students must be enrolled in the university during the semester an examination is taken.

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.

### Candidacy Examinations

All PhD candidates will be required to complete two examinations.

- Research Methodology/Statistics and Specialization—8-hour written examination.
- Specialization—1-hour oral examination.

Please note that there may be variations in length of exam time and content based on the respective requirements of each track.

### Independent Learning

The dissertation satisfies the independent learning requirement.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A master's degree in a closely related field.
- Official, competitive GRE or GMAT score taken within the last five years.
- Three letters of recommendation.
- Goal statement.

- Résumé
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

The Rosen College of Hospitality Management requires a higher level of proof of English language proficiency than the university. If an applicant is from a country where English is not the official language, a score on the Test of English as a Foreign Language (TOEFL) or equivalent test that is acceptable to the university must be submitted by the application deadline regardless of the institution or the country from which their degree (s) was received.

The UCF Rosen College has established a minimum TOEFL score of 91 (iBT), 233 (Computer), or 577 (Paper). Although we prefer the TOEFL, we will accept IELTS scores of 8.0 or higher as an equivalent.

## Application Deadlines

Hospitality Management PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 20	Feb 15		
International Applicants	Dec 20	Jan 15		
International Transfer Applicants	Dec 20	Feb 15		

## CONTACT INFO

### Alan Fyall PhD

Professor

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# Industrial Engineering PhD

## PROGRAM DESCRIPTION

The Doctor of Philosophy in Industrial Engineering is intended for a student with a master's degree in Industrial Engineering or a closely related discipline.

The PhD 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 candidate to thoroughly study some aspect of industrial engineering through faculty expertise in research areas such as management systems, systems simulation and modeling, operations research, quality systems engineering, interactive simulation and training systems, systems engineering, and human systems engineering, human-computer interaction, and ergonomics.

The Industrial Engineering program is 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.

In the Industrial Engineering PhD program, students may be able to individually craft their programs of study and select their courses to focus in one or more of the following research areas for their dissertations:

### Human Systems Engineering/Ergonomics:

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 assist 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.

Research in the Human Systems Engineering and Ergonomics area provides 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.

#### **Interactive Simulation and Training Systems:**

The Interactive Simulation and Training Systems research within the Industrial Engineering MS program focuses on providing a fundamental understanding of significant topics relative to simulation systems and the requirements, design, development, and use of such systems for knowledge transfer in the technical environment. Courses in this area address 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 UCF's Institute for Simulation and Training, industrial organizations involved in simulation in the Central Florida region, military organizations, and other governmental organizations, ISTS research in the MS program provides exposure to both military and commercial interactive simulation and training systems.

The 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. Courses in the interactive simulation and training systems area prepare 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.

#### **Management Systems/Engineering management:**

The Management Systems/Engineering Management research focuses on providing the knowledge for improving organizational systems. Engineering Management focuses on effective decision-making and successful project delivery

in engineering and technological organizations. With technological advancements comes a new level of organizational complexity. As a result new knowledge is needed to help the technical organization understand how to improve. The Management Systems/Engineering Management studies and research in the Industrial Engineering program are intended for individuals of all engineering disciplines. Research and coursework focus on a systems view of engineering problems related to the management of complex industrial, military, government, and social systems.

#### **Operations Research:**

The Operations Research courses in the Industrial Engineering MS program 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. Research in this area is ideal for students who have an undergraduate degree in engineering, mathematics, or science. The knowledge in these courses build on an undergraduate Engineering, Mathematics, or Science degree to develop a strong modeling and analytical capability to improve processes and decision-making.

#### **Quality Systems Engineering:**

The Quality Systems Engineering research in the Industrial Engineering MS program focuses on providing the knowledge for improving product and process quality in manufacturing and service industries. Quality Systems 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 Systems Engineering courses builds on an undergraduate degree in industrial engineering 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.

**Simulation Modeling and Analysis:**

The Simulation Modeling and Analysis research and studies in the Industrial Engineering MS program focus on providing a fundamental understanding of the functional and technical design requirements for simulation in manufacturing and service industries. Research in this area 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 research and coursework prepare 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.

**Systems Engineering:**

Intelligence in being infused into everyday systems, processes and infrastructure that enable physical goods to be developed, manufactured, bought and sold. These same systems also facilitate the movement and delivery of global products and services that support worldwide markets such as finance, energy resources and healthcare systems.

With these technological advancements, comes a new level of complexity as organizations struggle to integrate systems, processes and data feeds. As a result, the demand for systems engineering and related skills is expected to grow significantly.

Systems engineers design and implement computer systems, software and networks, including defining complex system requirements, and determining system specifications, processes and working parameters.

The Systems Engineering studies and research in the Industrial Engineering MS program are intended for individuals of all engineering disciplines. Research and coursework focus on a systems view of engineering problems related to the management of complex industrial, military, government, and social systems.

**CURRICULUM**

The Industrial Engineering PhD program requires a minimum of 72 credit hours beyond the bachelor's degree. Beyond the master's degree, students must

complete at least 27 credit hours of required course work, in addition to 15 credit hours of dissertation.

Of the total course work taken, 27 hours must be formal course work exclusive of independent study and 15 credit hours must consist of dissertation research (EIN 7980). All remaining hours are determined with a faculty adviser and approved by the department. Details about this program are located in the Industrial Engineering PhD Handbook.

**Total Hours Required:**

**72 Credit Hours Minimum beyond the Bachelor's Degree**

The Industrial Engineering PhD program requires a minimum of 72 credit hours beyond the bachelor's degree. Beyond the master's degree, students must complete at least 27 credit hours of required formal course work exclusive of independent study, in addition to 15 credit hours of dissertation research (EIN 7980).

All remaining hours are determined with a faculty adviser and approved by the department. Details about this program are located in the Industrial Engineering PhD Handbook.

As a pre-doctoral student at the beginning of the PhD program, a preliminary plan of study must be developed with the graduate program director and meet with departmental approval. At this time transfer credit will be evaluated on a course-by-course basis. The student's plan of study itemizing the study plan must be approved prior to the end of the first semester of studies by the Graduate Director of the IEMS department.

After completion of the Qualifying Examination and admission as a doctoral student, the official plan of study is developed that must meet with departmental approval. The student's dissertation committee approves the final plan of study after the Candidacy Examination is passed. These steps are normally completed within the first year of study beyond the master's degree. 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.

The Department of Industrial Engineering and Management Systems monitors student progress and may dismiss a student if performance standards or academic progress 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 plan of study. Satisfactory performance also involves maintaining the standards of academic progress and professional integrity expected in our discipline. Failure to maintain these standards may result in dismissal from the program.

## Prerequisites

Students must have background in the following areas.

- MS degree in Industrial Engineering or related discipline
- Must have MS Core knowledge (to be tested through Qualifying Examination)

## Required Courses—6 Credit

### Hours

- ESI 6891 IEMS Research Methods (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)

## Elective Courses—up to 21 Credit

### Hours

- Up to seven unrestricted electives

## Credit Waived from an Earned Master's Degree—up to 30 Credit Hours

A maximum of 30 semester credit hours from an earned master's degree may be applied toward these requirements. Waived credits are evaluated on a course-by-course basis.

## Dissertation—15 Credit Hours

- EIN 7980 Dissertation (15 credits hours minimum)

## Other Electives

Students, with the approval of their advisers and/or the graduate program director, may select from the following groups of courses to satisfy the needs of their research goals or career objectives. To assist students in achieving their

goals and objectives, courses are grouped below to suggest focus areas, only as guides for advising and course selection. The listing of these courses does not guarantee that they will be offered by the department in a particular year or semester.

In addition to the courses listed below, students may be allowed to take courses from the following disciplines, with the approval of the graduate program director, as an elective in their graduate plan of study.

- Other Engineering Programs
- Computer Science
- Mathematics and Statistics
- Business Administration/Management

### ***Group A: Human System Engineering/Ergonomics***

- EIN 5248C Ergonomics
- EIN 5251 Usability Engineering
- EIN 6270C Work Physiology
- EIN 6258 Human-Computer Interaction
- EIN 6279C Biomechanics
- EIN 6935 Advanced Ergonomics Topics
- EIN 6271 Human Reliability

### ***Group B: Quality and Production Systems***

- ESI 6225 Quality Design and Control
- ESI 6224 Quality Management
- EIN 5392 Manufacturing Systems Engineering
- EIN 6336 Production and Inventory Systems
- EIN 6425 Scheduling and Sequencing
- EIN 5356 Cost Engineering
- ESI 5227 Total Quality Improvement

### ***Group B: Management Systems***

- EIN 6182 Engineering Management
- EIN 5117 Management Information Systems I
- EIN 6370 Innovation in Engineering Design
- EIN 6339 Operations Engineering
- EIN 5108 The Environment of Technical Organizations

***Group C: Simulation, Optimization, and Modeling***

- ESI 6336 Queuing Systems
- ESI 5306 Operations Research
- ESI 6418 Linear Programming and Extensions
- ESI 6532 Object-Oriented Simulation
- ESI 5531 Discrete System Simulation
- EIN 5255C Interactive Simulation
- EIN 6528 Simulation Based Life Cycle Engineering
- EIN 6645 Real-Time Simulation Agents
- EIN 6936 Seminar in Advanced Industrial Engineering
- ESI 5419C Engineering Applications of Linear and Nonlinear Optimization
- ESI 6217 Statistical Aspects of Digital Simulation
- ESI 6529 Advanced Systems Simulation
- ESI 6921 Seminar in Advanced Operations Research

***Group D: Systems Engineering***

- ESI 6358 Decision Analysis
- ESI 5359 Risk Assessment and Management
- EIN 6215 Systems Safety Engineering and Management
- ESI 5236 Reliability Engineering
- EIN 5346 Engineering Logistics

**Examinations**

While thinking about taking the Qualifying Examination, students are strongly encouraged to evaluate their options for research and make informed decisions about their area of research interests. It is recommended that students seek advice from faculty members whose research interests match their own research areas in order for the students to properly select their electives and develop the appropriate plan of study.

In addition to the Qualifying Examination, the student must pass a Candidacy Examination and a Dissertation Defense Examination. Details about these examinations and other requirements are located in the Industrial Engineering PhD Handbook.

The Qualifying Examination consists of questions designed to test the student's knowledge of fundamentals with the discipline and to assess the student's ability to think analytically, creatively, and independently.

The Candidacy Examination may be taken any time after successful completion of the Qualifying Examination, but not in the same semester. The objective of the Candidacy Examination is to determine if the student has the breadth and depth of knowledge required to conduct independent research in the proposed area. The Candidacy Examination includes an oral presentation of a detailed dissertation proposal, which becomes the oral candidacy document, and the written component of the Candidacy Examination is satisfied by the proposal document, which becomes the required candidacy document.

The Dissertation Defense Examination is an oral examination taken in defense of the written dissertation. The College of Engineering and Computer Science requires that all dissertation defense announcements are approved by the student's adviser and posted on the college's website and on the Events Calendar of the College of Graduate Studies website at least two weeks before the defense date.

**Dissertation Committee Requirement**

The doctoral committee must consist of a minimum of four members: at least three must be graduate faculty members from within the student's department, and one must be at large, from graduate faculty scholars outside the Industrial Engineering faculty. The committee chair must be a member of the graduate faculty who is approved to direct dissertations. Faculty members with joint appointments in IEMS may serve as department-faculty committee members. Adjunct faculty and off-campus experts who are graduate faculty scholars may serve as the outside-the-department person on the committee, as well as serve as co-chairs of the committee with the approval of the department Chair. The College of Graduate Studies reserves the right to review appointments to advisory committees, place a representative on any advisory committee, or appoint a co-adviser.

Joint faculty members may serve as committee chairs. Off-campus experts and adjunct faculty



who are graduate faculty scholars may not serve as committee chairs, but may serve as co-chairs.

All committee members vote on acceptance or rejection of the dissertation proposal and the final dissertation. The dissertation proposal or final dissertation must be approved by the advisory committee with no more than one dissenting vote.

## Admission to Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours. Evidence of successful completion of these requirements must be received by the College of Graduate Studies one day prior to the start of classes for the semester in which a student wishes to enroll in dissertation hours.

- Completion or near completion of course work, except for dissertation hours.
- Successful completion of the candidacy examination, including successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.

## Equipment Fee

Students in the Industrial Engineering PhD program pay a \$58 equipment fee each semester that they are enrolled. For part-time students, the equipment fee is \$29 per semester.

## Independent Learning

The Independent Learning requirement is met by successful completion of the student's candidacy and dissertation defense examinations.

## APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening ([www.cecs.ucf.edu/prescreen](http://www.cecs.ucf.edu/prescreen)) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants

before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended
- Official, competitive score on the GRE taken within the last five years
- Résumé or Curriculum Vita
- Goal Statement
  - The Goal Statement should discuss all relevant professional background and any previous research experience. The statement should explain the motivation behind the pursuit of a doctoral degree in Industrial Engineering at UCF. Future career goals after the completion of the applicant's doctoral study should be discussed.
  - Most importantly, the applicant must clearly describe the particular area(s) of research interest. The applicant should identify at least one UCF faculty member who shares a similar research focus and is believed to be best suited to serve as a potential dissertation advisor.
  - The goal statement should be between 500 and 1,000 words.
- Three letters of recommendation
  - The letters of recommendation should be from faculty members, university administrators and employers with a supervisory role of the applicant. The letters, which must be current to the



application and must not be for another degree program, should address the educational and career goals of applicant. The letter writers should also know the applicant well enough to discuss the applicant’s capacity to perform, excel and succeed in a graduate program. Letters for PhD applicants must discuss the applicant’s ability to perform graduate-level research. At least two of the letters should be furnished by college or university professors who are acquainted with the applicant

- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Applications are accepted for the fall and spring terms only.

Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

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 GRE scores above the 80th percentile in both the verbal and quantitative sections of the GRE may be considered for direct entrance as pre-doctoral students with bachelor’s degrees.

Fellowships and assistantships may be awarded based on the student’s GPA, GRE scores, letters of recommendation, curriculum vitae/resume, and goals statement.

Students must complete any needed articulation course work and pass a PhD 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.

## Application Deadlines

Industrial Engineering PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

## CONTACT INFO

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# Materials Science and Engineering PhD

## PROGRAM DESCRIPTION

The Materials Science and Engineering PhD program is designed for students with a master's degree in materials science and engineering, or closely related disciplines. The program provides students with a fundamental and applied research-based education suitable for seeking employment in industry or academia.

## CURRICULUM

The Materials Science and Engineering PhD program requires a minimum of 72 credit hours beyond the bachelor's degree. The program requires 27 hours of formal course work exclusive of independent study and a minimum of 15 hours of dissertation research (EMA 7980). A minimum of 12 credit hours of elective coursework is required to be taken at UCF. Details of program requirements are located in the Materials Science and Engineering PhD Handbook.

### Total Hours Required:

72 Credit Hours Minimum beyond the Bachelor's Degree

Students entering the Materials Science and Engineering PhD program with a bachelor's degree are required to complete 72 credit hours of graduate coursework, of which 27 hours must be formal coursework, 12 credit hours must be elective courses taken at UCF and a minimum of 15 dissertation credit hours.

The rest of the hours in the PhD program can be chosen by the student in consultation with the adviser and the dissertation committee and with the approval of the program director.

Unless a completed (signed) program of study itemizing the study plan is approved prior to the end of the first semester of studies, the program director may choose not to accept any part of the coursework (including independent studies and/or

directed research) taken by the student on a program of study subsequently submitted by the student.

### Core Courses—12 Credit Hours

The following core courses are used as the basis for the doctoral qualifying exam and are recommended, but not required:

- EMA 5104 Intermediate Structure and Properties of Materials (3 credit hours)
- EMA 5106 Metallurgical Thermodynamics (3 credit hours)
- EMA 5317 Materials Kinetics (3 credit hours)
- EMA 6126 Physical Metallurgy (3 credit hours) or EMA 6319 Colloids and Interface Engineering (3 credit hours)

### Elective Courses—57 Credit Hours

The program requires that 27 credit hours must be formal coursework, exclusive of independent study. Of these, it is required that 12 credit hours consist of elective courses taken at UCF, outside of the core courses listed above. Note that if both EMA 6126 Physical Metallurgy and EMA 6319 Colloids and Interface Engineering are taken, one of them may be taken as an elective. Elective courses that are commonly taught in Materials Science and Engineering are listed below:

- EMA 5104 Intermediate Structure and Properties of Materials (3 credit hours)
- EMA 5106 Metallurgical Thermodynamics (3 credit hours)
- EMA 5317 Materials Kinetics (3 credit hours)
- EMA 6626 Mechanical Behavior of Materials (3 credit hours)
- EMA 5108 Surface Science (3 credit hours)
- EMA 5140 Introduction to Ceramic 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 Films (3 credit hours)
- EMA 6516 X-ray Diffraction and Crystallography (3 credit hours)
- EMA 5586 Photovoltaic Solar Energy Materials (3 credit hours)

- EMA 5584 Biomaterials (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)
- EMA 5610 Laser Materials Processing (3 credit hours)
- EMA 5587C Characterization and Reliability of PV Cells (3 credit hours)
- EML 6085 Research Methods in MMAE (3 credit hours)

### Electives Outside EMA Offerings

- CHM 5450 Polymer Chemistry (3 credit hours)
- CHM 5451C Techniques in Polymer Science (3 credit hours)
- CHM 5715C Optical Materials Processing and Characterization Techniques (3 credit hours)
- CHM 6711 Chemistry of Materials (3 credit hours)
- EEE 5332C Thin Film Technology (3 credit hours)
- EEE 5352 Semiconductor Material and Device Characterization (3 credit hours)
- EEE 6326C MEMS Fabrication Laboratory (3 credit hours)
- EML 5290 Introduction to MEMS and Micromachining (3 credit hours)
- EML 5291 MEMS Materials (3 credit hours)
- OSE 5312 Light Matter Interaction (3 credit hours)
- OSE 6432 Guided Waves and Optoelectronics (3 credit hours)
- PHY 5140C Ion-Solid Interactions (3 credit hours)
- PHY 7423 Physics of Nanostructures (3 credit hours)
- PHZ 5405 Condensed Matter Physics (3 credit hours)

Other courses may be included in the elective hours with the approval of the student's faculty adviser and the Materials Science and Engineering graduate program director.

### Dissertation—15 Credit Hours

- EMA 7980 (15 credit hours minimum)

The College of Engineering and Computer Science requires that all dissertation defense announcements are approved by the student's adviser and posted on the college's website, [www.cecs.ucf.edu/graddefense](http://www.cecs.ucf.edu/graddefense) and on the Events Calendar of the College of Graduate Studies website at least two weeks before the defense date.

### Examinations

Both a qualifying exam and a candidacy exam are required. The doctoral qualifying exam is offered twice each year: during the fall and shortly after the end of the spring semester. This is a two-day written examination and is intended to evaluate the student's mastery of the field of Materials Science and Engineering. Depending on their area of research specialization and with their faculty adviser's approval, students may choose to take one of two versions of the exam. One focuses on Nanomaterials and the second is more broadly based in Materials Science Engineering. Details of the content of the two exams may be found at the departmental website, <http://mse.ucf.edu/graduateprogram/CurrentStudents.php>. The candidacy exam should be taken in the academic semester immediately following the student's passing of the qualifying exam and is scheduled by mutual agreement of the student and his/her dissertation committee. The student must prepare a written description of their proposed dissertation research prior to the examination, and present that to their dissertation committee to review prior to the candidacy examination. Additionally, the student may be questioned orally during the exam by his/her committee on topics relevant to the proposed dissertation research.

### Dissertation Committee

The doctoral committee must consist of a minimum of five members: three must be faculty members of the graduate program faculty approved to direct dissertations by the Materials Science and Engineering program (see [www.gradcatalog.ucf.edu/GradFaculty/](http://www.gradcatalog.ucf.edu/GradFaculty/)), one must be at large from outside the degree program. The committee Chair must also be a member of the UCF Graduate Faculty approved to direct dissertations by the Materials Science and Engineering program. Adjunct faculty and off-campus experts, if approved

as Graduate Faculty Scholars, may serve as the outside-the-program person on the committee. Off-campus experts and adjunct faculty, if Graduate Faculty Scholars, may not serve as committee chairs but may be co-chairs. The College of Graduate Studies reserves the right to review appointments to advisory committees, place a representative on any advisory committee, or appoint a co-adviser.

## Admission to Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours (enrollment in dissertation hours begins the semester following the completion of these requirements). Evidence of meeting these requirements must be received by the College of Graduate Studies by the day before the first day of classes for the semester in which a student wishes to enroll in dissertation hours.

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved Graduate Faculty and Graduate Faculty Scholars.
- Submission of an approved program of study.

## Dissertation Defense

All dissertations in Materials Science and Engineering must represent high quality scientific work. Prior to scheduling the dissertation defense, the high quality of the research must be evidenced by: (1) two refereed journal publications with the doctoral candidate as first author that are in print, or formally accepted for publication, or (2) satisfaction of an alternative publication requirement as recommended by the Dissertation Advisory Committee and approved by a majority vote at a meeting of the program faculty (those having primary or secondary appointments in the MSE Department).

The dissertation proposal must be successfully defended and accepted by the Dissertation Committee in a meeting convened for that purpose. The dissertation proposal must be a complete dissertation document provided to the committee

at least two weeks prior to the date of defense. In addition, the high quality of the research must be evidenced by two refereed journal publications of the doctoral candidate as first author that are in print, or formally accepted for publication, prior to the dissertation proposal defense.

All members of the Dissertation Committee 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.

## APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening ([www.cecs.ucf.edu/prescreen](http://www.cecs.ucf.edu/prescreen)) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Master's and/or bachelor's degree in Materials Science and Engineering or a closely related discipline.
- Résumé.

- Statement about educational, research, and professional career objectives should include the student's intention for full or part-time study and their desire for a assistantship or fellowship.
- Three letters of recommendation.

Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

### Application Deadlines

Materials Science and Engineering PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

### CONTACT INFO

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ENG2 312G

## Mathematics PhD

### PROGRAM DESCRIPTION

The Doctor of Philosophy degree in Mathematics is intended to provide a broad base in applied and industrial mathematics. The goal of the program is to produce students who will attain distinction in their fields of research. In order to achieve this, the program has required core courses as well as a set of electives providing cross-disciplinary subjects. All students are required to take electives outside the department.

Students in the program can specialize in one of many 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. Responding to this wide variety of interests, the program offers flexibility in the composition of the core courses as well as the qualifying examination. The program is comprehensive with opportunities for students to pursue research in a variety of disciplines.

Faculty research interests 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.

### CURRICULUM

The Mathematics PhD program consists of at least 75 credit hours of course work beyond the bachelor's degree, of which a minimum of 39 hours of formal course work, exclusive of independent study, and 15 credit hours of dissertation research (7980) are required. The program requires 18 credit hours of core courses, and 6 to 12 credit hours in two 2-semester sequences. The remaining 30 to 36 credit hours consist of additional dissertation research (7980 or 7919), at least 15 credit hours of regular classroom elective courses, and at most 12



credit hours of independent study or independent directed research. Electives require the approval of the adviser and the graduate program director; up to 12 credit hours may be taken outside the department. At least one-half of the program courses must be taken at the 6000 level. Students who pass the qualifying examination may substitute some of the core courses at the approval of the adviser and the graduate program director.

### Total Hours Required:

75 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—18 Credit Hours

All students are required to complete the following courses with grade of "B" or better.

- MAA 5228 Analysis I (3 credit hours)
- MAA 6229 Analysis II (3 credit hours)
- MAT 5712 Scientific Computing (3 credit hours)
- MAP 6385 Applied Numerical Mathematics (3 credit hours)
- MAS 5145 Advanced Linear Algebra and Matrix Theory (3 credit hours)
- MAA 6405 Complex Variables (3 credit hours) or MAP 5336 Ordinary Differential Equations and Applications (3 credit hours)

### Elective Courses—42 Credit Hours

At least 21 hours of course work here must be formal course work, exclusive of independent study.

### Restricted Electives—6-12 Credit Hours

All students are required to complete two 2-semester sequences. Sequences are pairs of related courses that give advanced knowledge in an area of mathematics.

Each sequence must be approved by the dissertation adviser, dissertation committee, and the graduate program director. The following shows examples of acceptable sequences using current courses. We expect that other sequences will be developed as our program grows. Note that some sequences consist of a core course plus one elective, while others consist of two electives. Thus, the credit hours in this

requirement are variable (6 to 12 credit hours). A written examination on two such sequences will be required as part of the candidacy examination (see more details in Candidacy Examination section).

- MAP 6407 Applied Mathematics I (3 credit hours) / MAP 6408 Applied Mathematics II (3 credit hours)
- MAA 6405 Complex Variables (3 credit hours) / MAA 6404 Complex Analysis (3 credit hours)
- MAD 6309 Advanced Graph Theory I (3 credit hours) / MAD 5205 Combinatorics and Graph Theory II (3 credit hours)
- MAS 5145 Advanced Linear Algebra and Matrix Theory (3 credit hours) / MAS 5311 Abstract Algebra with Applications (3 credit hours)
- MAP 5336 Ordinary Differential Equations with Applications (3 credit hours) / MAP 6356 Partial Differential Equations (3 credit hours)
- MAA 6238 Measure and Probability (3 credit hours) / MAP 6111 Mathematical Statistics (3 credit hours)
- MAA 6306 Real Analysis (3 credit hours) / MAA 6506 Functional Analysis (3 credit hours)

### Unrestricted Electives—30-36 Credit Hours

Electives are chosen in consultation with the student's advisory committee and may be chosen from the suggested options: Discrete Mathematics, General Applied Mathematics, Mathematical Computer Tomography, Image Processing and Computer Graphics, Mathematical Finance, Mathematical Optics, Mathematical Physics, Pure Mathematics, Rational Mechanics, Signal Analysis, and Mathematical Statistics. A list of elective course options can be obtained from the graduate program director. If a student takes MAP 4363 (Applied Boundary Value Problems I) previously as part of an undergraduate program, then MAP 5435 (Advanced Mathematics for Engineers) cannot be applied toward the graduate program of study, but another alternative can be taken.

Courses taken outside the Mathematics department must be approved by the adviser and graduate program director. These courses are selected in consultation with the student's advisory committee.

## Dissertation—15 Credit Hours Minimum

- XXXX 7980 Dissertation Research (15 credit hours minimum)

### Qualifying Examination

The qualifying/comprehensive examination is based on the core course work. To continue in the PhD program students must pass the examination at the PhD level. Two attempts are permitted. The examination will be administered twice a year: one before the Fall semester and one in the Spring semester. To take the examination, students must have earned a “B” or better in each core course, must have a minimum grade point average of 3.0 (out of 4.0) in the program, or must obtain permission from the graduate program director. Students will normally take the examination after the first year and are expected to have passed it by the end of the second year of study unless a written request for a postponement has been approved by the Graduate Committee at least two months before the examination date. The student must pass the Qualifying Examination in at most two attempts.

It is strongly recommended that the student select a dissertation adviser by the completion of 18 credit hours of course work, and it is strongly recommended that the student works with the dissertation adviser to form a dissertation committee within two semesters of passing the Qualifying Examination.

### Candidacy Examination

The Candidacy Examination consists of a written examination based on the materials from two of the selected two-semester sequence courses taken by the students beyond the core courses. A committee formed or selected by the Graduate Committee is responsible for preparing and grading the written examinations.

After passing the candidacy examination and meeting other requirements, the student can register for Doctoral Dissertation (MAP 7980 or MAA 7980). A minimum of 15 Doctoral Dissertation credit hours are required. The Candidacy Examination can be attempted after passing the qualifying examination. The Candidacy Examination must be completed within three years after passing the qualifying examination. A student

must successfully pass the Candidacy Examination within at most two attempts.

### Admission to Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.

### Dissertation Proposal Examination

After passing the candidacy examination, the student will prepare a dissertation proposal and orally present it to the dissertation advisory committee for approval. The proposal will include a description of the research performed to date and an agenda for the research planned to be completed for the dissertation. In addition to standards of correctness, indicating a suitable level of mastery of the material of the area of the dissertation, and suitability of the proposed dissertation topic, the presentation must meet current standards for professional presentations within the discipline of mathematics. For the successful completion of the Dissertation Proposal Examination the presentation must be judged as passing the requirements for the examination by the majority of the dissertation committee. This exam must be passed within 18 months of passing the candidacy examination and not later than the end of the sixth year of graduate study. A candidate must pass this examination within at most two attempts.

### Dissertation Defense

Upon completion of a student’s research, the student’s committee schedules an oral defense of the dissertation. Most students complete the program within five years after obtaining their bachelor’s degree. Students are expected to complete the dissertation in no more than seven years from the date of admission to the program.

## Independent Learning

The required 15 credit hours of dissertation will provide ample opportunities for students to gain the independent learning experience through studying published research papers and deriving, on their own, new and meaningful research results.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Bachelor's degree in related field.
- Official, competitive GRE score, taken in the last five years.
- Three letters of recommendation.
- Goal statement.
- Résumé.
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of the program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

Transfer of credits from other programs will be considered on a course-by-course basis. 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). Students who 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, do not count toward the graduate degree.

## Application Deadlines

Mathematics PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

## CONTACT INFO

### Joseph Brennan PhD

Professor

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MAP 202G

# Mechanical Engineering PhD

## PROGRAM DESCRIPTION

The Doctor of Philosophy degree in Mechanical Engineering is intended for students with a master's or a bachelor's degree in Mechanical or Aerospace engineering or a closely related discipline. The doctoral program is intended to allow students to study in depth, with an emphasis on research in Aerospace Systems, Mechanical Systems, or Thermofluids.

## CURRICULUM

The Mechanical Engineering PhD program requires a minimum of 72 credit hours beyond a bachelor's degree. This program requires 15 dissertation credit hours minimum and may include up to a total of 12 credit hours combined of directed (XXX 6918) or doctoral research (XXX 7919) and/or of independent study (6908) with an approved Program of Study. At least 45 hours of the program of study must consist of formal coursework, exclusive of independent study. The rest of the hours can be chosen by the student in consultation with the adviser and the dissertation committee and with the approval of the graduate program coordinator. Details about this program are located in the Mechanical Engineering PhD Handbook.

### Total Hours Required:

**72 Credit Hours** Minimum beyond the Bachelor's Degree

Students entering the program with a master's degree are required to complete 42 credit hours minimum, of which 27 credit hours minimum must be formal course work, exclusive of independent study, and 15 credit hours minimum of dissertation research (XXX 7980).

Students entering the program with a bachelor's degree are required to complete 72 credit hours minimum, of which 45 credit hours minimum must be formal course work, exclusive of independent study, and 15 credit hours minimum of dissertation research (XXX 7980). The balance formal coursework (12 hours) can be taken as a combination of classes, doctoral research (XXX

7919) and/or independent study (XXX 6908), no more than 12 credit hours combined of directed (XXX 6918) or doctoral research (XXX 7919) and/or independent study (XXX 6908) may be taken toward fulfilling the degree program of study course work requirements.

The rest of the hours in the PhD program can be chosen by the student in consultation with the adviser and the dissertation committee and with the approval of the Graduate Coordinator. These credit hours may include doctoral directed research hours or doctoral dissertation hours.

Unless a completed (signed) program of study itemizing the study plan is approved prior to the end of the first semester of studies, the Graduate Director of the MMAE department may choose not to accept any part of the coursework (including independent studies and/or directed research) taken by the student on a program of study subsequently submitted by the student.

Admission to doctoral status requires that the student (1) pass a PhD Qualifying Examination, (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.

Additionally, all students pursuing the doctoral program must enroll in the following course:

- EML 5090 Mechanical and Aerospace Seminar (0 credit hours)

Students must register for the seminar course a minimum of four times during their graduate career in the doctoral program. Students must complete the EML 5936 seminar course twice prior to taking the candidacy exam and twice after completing the candidacy exam. The students must also complete the course with a satisfactory (S) grade in all attempts. If the student does not complete the course with a satisfactory grade, the student will be asked to repeat the course to meet program requirements.

### Elective Courses—57 Credit Hours

- May include up to a total of 12 credit hours combined of Directed (XXX 6918) or Doctoral Research (XXX 7919) and/or of Independent Study (6908)
- At least 45 credit hours must be formal coursework, exclusive of independent study, doctoral research and/or directed research.

## Dissertation—15 Credit Hours

- EML 7980 (15 credit hours minimum)

## 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 MMAE department requires that a PhD student submits his/her candidacy exam the academic semester immediately following his/her successfully passing the PhD Qualifying Exam. The Dissertation Defense Examination is an oral examination taken in defense of the written dissertation. The College of Engineering and Computer Science requires that all dissertation defense announcements are approved by the student's advisor and posted on the college's website and on the Events Calendar of the College of Graduate Studies website at least two weeks before the defense date.

More information on these examinations and other requirements of the PhD program are contained in the Mechanical Engineering PhD Handbook.

## Dissertation Committee

The doctoral committee must consist of a minimum of five members: three must be graduate 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 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, if approved graduate faculty scholars, may serve as the outside-the-college person in the committee. Program areas may further specify additional committee membership. The UCF College of Graduate Studies reserves the right to review appointments to advisory committees, place a representative on any advisory committee, or appoint a co-adviser.

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.

## Admission to Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours (enrollment in dissertation hours begins the semester following the completion of these requirements). Evidence of meeting these requirements must be received by the College of Graduate Studies by the day before the first day of classes for the semester in which a student wishes to enroll in dissertation hours.

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved Graduate Faculty and Graduate Faculty Scholars.
- Submission of an approved program of study.

## Equipment Fee

Students in the Mechanical Engineering PhD program pay a \$90 equipment fee each semester that they are enrolled. Part-time students pay \$45 per semester.

## MAE Department Graduate Seminar Requirement

The MAE Graduate seminar is a zero (0) credit hour (S/U) course that is offered each fall and spring academic semesters. **Prior to graduation**, all MAE graduate students who are pursuing a PhD dissertation are required to register, participate, and receive a satisfactory (S) for four (4) semesters of MAE Graduate seminar, with at least two of these taken prior to candidacy.

## Independent Learning

The Independent Learning Requirement is met by successful completion of the student's candidacy and dissertation defense examinations.



## APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening ([www.cecs.ucf.edu/prescreen](http://www.cecs.ucf.edu/prescreen)) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Bachelor's or Master's degree in Mechanical or Aerospace Engineering or a closely related discipline.
- Résumé.
- Statement about educational, research, and professional career objectives.
- Three letters of recommendation.

Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Additional courses may be required to correct deficiencies. Students should contact the graduate program director for more information.

### Application Deadlines

Mechanical Engineering PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

### CONTACT INFO

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 Engineering 313

# Modeling and Simulation PhD

## PROGRAM DESCRIPTION

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 and involves constructing human-centered, equipment-centered, and/or stand-alone computer-based models of existing as well as conceptual systems or processes. The purpose of simulation is to evaluate the behavior of the human, organization, equipment, and/or systems under study through the evaluation of output from the corresponding simulation construct. Because of 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. The curriculum is designed to provide a broad overall perspective of the developing simulation industry and an awareness of the economic considerations. Upon completion of the program, graduates will have the diverse training necessary to enable them to work in varied capacities in government agencies, or in the defense, service, entertainment, and manufacturing industries.

Students in the Modeling and Simulation graduate program have often focused their study and research efforts in one or more of the following research areas:

### *Human Systems*

The Human Systems in M&S research area has attracted 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.

### *Computer Visualization*

Computer Visualization in M&S is a research area that attracts those who wish to gain expertise in technical aspects of computer graphic systems, virtual environments, and human-centered simulation systems applying the state-of-the-art in computer graphics and other human-interface technologies. Typical courses include Human Computer Interaction, Computer Graphics Systems, Computer Vision, Machine Perception, Human-Virtual Environment Interaction, and Sensation and Perception. Students in this research area typically have an interest in the area of Emerging Media, which focuses on the development of new forms of interactive media and the creation of story-driven content for them such as interactive works of art, electronic games, virtual reality, the Internet, portable devices and mobile applications, wearable computers, etc.

### *Simulation Modeling and Analysis*

The Simulation Modeling and Analysis research area attracts those who desire to gain expertise in using simulation as a optimization tool for effective design, planning, analysis, and decision-making. The emphasis of this area is on problem definition, model formulation, design of simulation experiments, and model-based analysis. This area attracts those who seek to develop skills in the application of advanced quantitative methods to modeling and simulation. Building on backgrounds in operations research, mathematics or statistics, they should gain experience in modeling and simulation through the application of optimization, mathematical and statistical theory to build multidisciplinary simulation models and conducting rigorous simulation experimentation. 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 Engineering Statistics, Statistical Aspects of Digital Simulation, and Mathematical Modeling, Discrete Systems Simulation, Object-Oriented Simulation, Experimental Design, and Quantitative Aspects of Modeling and Simulation.

***Simulation in Healthcare***

Simulation in Healthcare is a fast growing new area in M&S. Issues related to bringing down the cost of healthcare and reducing costly medical errors are generating many new opportunities related to systems analysis, communication between healthcare providers and patients, and simulation-based training, to name a few. Currently a disproportionate amount of the US economy goes to healthcare, at least twice as much as the average of the 25 richest nations, and health outcomes in the US place the country near the bottom of this group of countries. M&S can contribute significantly towards improving this situation. Typical courses include Discrete Systems Simulation, Experimental Design, and Object-Oriented Simulation, Engineering Statistics, Human Computer Interaction.

***Interactive Simulation and Intelligent Systems***

Interactive Simulation and Intelligent Systems research attracts those who wish to pursue or are currently pursuing careers in the training simulation/simulator industries. Graduates specializing in this research area typically are interested in creating designs for simulators and simulator-based training systems and to apply expert systems and other intelligent systems in a simulation setting. Typical courses include Training Systems Engineering, Simulation of Real-Time Processes, and Intelligent Simulation.

***Simulation Infrastructure***

The research area of Simulation Infrastructure attracts 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 should 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. Simulation Management: Simulation Management research area attracts those who wish to gain expertise in the management of projects related to modeling, simulation, and training (MS&T). Graduates who focus in this

area of study should 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.

***Simulation Management***

Simulation Management research area attracts those who wish to gain expertise in the management of projects related to modeling, simulation, and training (MS&T). Graduates who focus in this area of study should 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.

**CURRICULUM**

The Modeling and Simulation PhD requires a minimum of 72 credit hours of coursework beyond the bachelor's degree, including a minimum of 15 dissertation hours.

The M&S PhD program requires 15 credit hours of 5 required core courses. These core courses will provide an interdisciplinary framework for all students.

The remaining 42 credit hours may consist of additional unrestricted elective courses and research hours. At least 27 hours of the total program must consist of formal coursework, exclusive of independent study.

**Total Hours Required:**

**72** Credit Hours Minimum beyond the Bachelor's Degree

**42** Credit Hours Minimum beyond the Master's Degree  
Total Hours Required:

Students may fulfill the restricted elective requirements through the courses chosen in the restricted core. Such students will meet the total credit hour requirements with additional unrestricted elective courses.

## Required Courses—15 Credit Hours

### Core—15 Credit Hours

- IDS 6147 Perspectives on Modeling and Simulation (3 credit hours)
- DIG 5876 Quantitative Aspects of Modeling and Simulation (3 credit hours) or an advanced higher level quantitative course as approved by the Graduate Program Director
- IDS 6148 Human Systems Integration for Modeling and Simulation (3 credit hours) or EIN 6258 Human Computer Interaction (3 credit hours) or EXP 6541 Advanced Human-Computer Interaction (3 credit hours)
- IDS 6916 Simulation Research Methods and Practicum (3 credit hours)
- An advanced research methods course (at least 3 credit hours). The purpose of the advanced research methods course is to provide background and analysis of the interpretive act in all educational research and to prepare students to perform independent research for their dissertations. Topics covered in these types of courses typically include research questions/hypotheses formulation, critical analysis of journal articles when performing a survey of the open literature, data collection and sampling methods, experimental and quasi-experimental designs, statistical methods, quantitative and qualitative data analysis and research report writing. Eligible advanced research methods courses for the M&S PhD program are:
  - DIG 6825 Digital Media Research Methods (3 credit hours)
  - ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)
  - ESI 6891 IEMS Research Methods (3 credit hours)
  - PHI 5340 Research Methods in the Cognitive Sciences (3 credit hours)
  - PSY 6216C Research Methodology (4 credit hours)
  - STA 5205 Experimental Design (3 credit hours)
  - A graduate-level advanced research methods course approved by a M&S Program Director

## Unrestricted Electives—42 Credit Hours

All M&S PhD degree program students must take at least 42 credit hours of unrestricted elective courses that support the student's area of graduate study.

A student must carefully select a set of courses in order to design an appropriate plan of coursework. The purpose of the courses is to ensure that students have depth in their research area as well as have breadth in the interdisciplinary area of modeling and simulation. The set of courses should also support a student's area of graduate study and to meet the specific educational needs, goals and objectives of that student.

Unrestricted electives must consist of at least 12 credit hours of formal courses, excluding independent study. The remaining credits may consist of additional coursework, directed research, independent study, and additional dissertation as advised appropriately by faculty adviser and/or program director.

### Modeling and Simulation PhD Elective Courses

In addition to successfully completing the core courses for the M&S PhD program, students are required to carefully select electives with the guidance of a Program Director or faculty adviser. Elective choices should be made with the intent to strengthen a research interest and/or area of focus in order to meet the individual student's educational goals and objectives.

Listed below are suggested courses in various areas of focus or specialization. These course groupings are mere guides, are not exhaustive and are only meant to assist with advising and course selection in order to meet the individual student's educational goals and objectives. They are not intended to restrict elective choices among focus areas as we strongly encourage Modeling and Simulation students to maintain an interdisciplinary approach to their graduate studies.

If a student identifies another UCF course which may be of value to his/her M&S research area, but is not already identified in a list below, that student may request approval from the Graduate Program Director for the course to be used as an elective in

the Graduate Plan of Study. All such requests must be made in advance of enrolling in the course.

Those electives categorized as “General” and “Fundamentals of Modeling and Simulation” would be appropriate for all students regardless of interest area. The remaining categories are grouped by area of interest.

### General

- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)
- ESI 6891 IEMS Research Methods (3 credit hours)
- IDS 5907 Independent Study (variable)
- IDS 5917 Directed Research (variable)
- IDS 6908 Independent Study (variable)
- IDS 6918 Directed Research (variable)
- IDS 6946 Internship (variable)
- IDS 7919 Doctoral Research (variable)
- PHI 5340 Research Methods in Cognitive Sciences (3 credit hours)
- PSY 6216C Research Methodology (4 credit hours)
- STA 5205 Experimental Design (3 credit hours)

### Fundamentals of Modeling and Simulation

- DIG 5876 Quantitative Aspects of Modeling and Simulation (3 credit hours)
- EEL 5892 Continuous System Simulation II (3 credit hours)
- ESI 5219 Engineering Statistics (3 credit hours)
- ESI 6217 Statistical Aspects of Digital Simulation (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)
- ESI 6532 Object-Oriented Simulation (3 credit hours)
- IDS 6146 Modeling and Simulation Systems (3 credit hours)
- IDS 6147 Perspectives on Modeling and Simulation (3 credit hours)

### Human Systems

- CAP 6515 Algorithms in Computational Biology (3 credit hours)

- CAP 6671 Intelligent Systems: Robots, Agents, and Humans (3 credit hours)
- CAP 6676 Knowledge Representation (3 credit hours)
- DIG 6432 Transmedia Story Creation (3 credit hours)
- DIG 6775 Virtual Reality (3 credit hours)
- DIG 6812 Digital Interaction for Informal Learning (3 credit hours)
- EIN 5248C Ergonomics (3 credit hours)
- EIN 5317 Training System Design (3 credit hours)
- EIN 6215 System Safety Engineering and Management (3 credit hours)
- EIN 6258 Human Computer Interaction (3 credit hours)
- EIN 6649C Intelligent Tutoring Training System Design (3 credit hours)
- EME 6458 Virtual Teaching and the Digital Educator (3 credit hours)
- EME 6507 Multimedia for Education and Training (3 credit hours)
- EME 6601 Instructional Simulation Design for Training and Education (3 credit hours)
- EME 6614 Instructional Game Design for Training and Education (3 credit hours)
- EXP 5208 Sensation and Perception (3 credit hours)
- EXP 5256 Human Factors I (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)
- IDS 6148 Human Systems Integration for Modeling and Simulation (3 credit hours)
- PHI 5225 Philosophy of Language (3 credit hours)
- PHI 5325 Topics in Philosophy of Mind (3 credit hours)
- PHI 5327 Topics in Cognitive Sciences (3 credit hours)



- PHI 5329 Philosophy of Neuroscience (3 credit hours)
- PSB 5005 Physiological Psychology (3 credit hours)
- TTE 6270 Intelligent Transportation Systems (3 credit hours)

### Computer Visualization

- CAP 5725 Computer Graphics I (3 credit hours)
- CAP 6411 Computer Vision Systems (3 credit hours)
- CAP 6412 Advanced Computer Vision (3 credit hours)
- CAP 6676 Knowledge Representation (3 credit hours)
- CDA 5106 Advanced Computer Architecture (3 credit hours)
- COT 5405 Design and Analysis of Algorithms (3 credit hours)
- DIG 6605 Physical Computing (3 credit hours)
- DIG 6647 Science and Technology of Dynamic Media (3 credit hours)
- DIG 6775 Virtual Reality (3 credit hours)
- EIN 6258 Human Computer Interaction (3 credit hours)
- EEL 5173 Linear Systems Theory (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 5874 Expert Systems and Knowledge Engineering (3 credit hours)
- EEL 6823 Image Processing II (3 credit hours)
- EEL 6843 Machine Perception (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)
- MAP 5117 Mathematical Modeling (3 credit hours)
- MAP 6118 Introduction to Nonlinear Dynamics (3 credit hours)

### Quantitative Methods for Simulation, Modeling and Analysis

- CAP 5512 Evolutionary Computation (3 credit hours)
- CAP 6515 Algorithms in Computational Biology (3 credit hours)
- CDA 6530 Performance Models of Computers and Networks (3 credit hours)
- COT 5405 Design and Analysis of Algorithms (3 credit hours)
- DIG 5876 Quantitative Aspects of Modeling and Simulation (3 credit hours)
- EEL 5173 Linear Systems Theory (3 credit hours)
- EEL 5892 Continuous System Simulation II (3 credit hours)
- EEL 6878 Modeling and Artificial Intelligence (3 credit hours)
- EIN 6528 Simulation Based Life Cycle Engineering (3 credit hours)
- ESI 5306 Operations Research (3 credit hours)
- ESI 5531 Discrete Systems Simulation (3 credit hours)
- ESI 6217 Statistical Aspects of Digital Simulation (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)
- MAP 5117 Mathematical Modeling (3 credit hours)
- MAP 6118 Introduction to Nonlinear Dynamics (3 credit hours)
- MAP 6207 Optimization Theory (3 credit hours)
- MAP 6385 Applied Numerical Mathematics (3 credit hours)
- MAP 6407 Applied Mathematics I (3 credit hours)
- MAP 6408 Applied Mathematics II (3 credit hours)
- MAP 6445 Approximation Techniques (3 credit hours)
- STA 5703 Data Mining Methodology I (3 credit hours)
- STA 5825 Stochastic Processes and Applied Probability Theory (3 credit hours)

- STA 6236 Regression Analysis (3 credit hours)
- STA 6246 Linear Models (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)
- STA 6704 Data Mining Methodology II (3 credit hours)
- STA 6714 Data Preparation (3 credit hours)

### **Simulation in Healthcare**

- CAP 6515 Algorithms in Computational Biology (3 credit hours)
- CAP 6671 Intelligent Systems: Robots, Agents, and Humans (3 credit hours)
- CAP 6676 Knowledge Representation (3 credit hours)
- DIG 6647 Science and Technology of Dynamic Media (3 credit hours)
- DIG 6812 Digital Interaction for Informal Learning (3 credit hours)
- EEL 5820 Image Processing (3 credit hours)
- EEL 6823 Image Processing II (3 credit hours)
- EIN 6645 Real-Time Simulation Agents (3 credit hours)
- ESI 5531 Discrete Systems Simulation (3 credit hours)
- HUM 5802 Applied Contemporary Humanities (3 credit hours)
- DIG 6775 Virtual Reality (3 credit hours)
- PHI 5329 Philosophy of Neuroscience (3 credit hours)
- PSB 5005 Physiological Psychology (3 credit hours)
- SPA 6417 Cognitive/Communicative Disorders (3 credit hours)
- SPA 6451 Theory and Clinical Aspects Cognitive-Comm Disorders in Traumatic Brain Injury (3 credit hours)
- SPA 6452 Assessment of Cognitive-Communication Disorders in Traumatic Brain Injury (3 credit hours)

### **Interactive Simulation and Intelligent Systems**

- CAP 5512 Evolutionary Computation (3 credit hours)
- CAP 5610 Machine Learning (3 credit hours)
- CAP 5636 Advanced Artificial Intelligence (3 credit hours)
- CAP 6671 Intelligent Systems: Robots, Agents, and Humans (3 credit hours)
- CAP 6676 Knowledge Representation (3 credit hours)
- DIG 6775 Virtual Reality (3 credit hours)
- DIG 6812 Digital Interaction for Informal Learning (3 credit hours)
- EEL 5771C Engineering Applications of Computer Graphics (3 credit hours)
- EEL 5874 Expert Systems and Knowledge Engineering (3 credit hours)
- EEL 6878 Modeling and Artificial Intelligence (3 credit hours)
- EIN 5251 Usability Engineering (3 credit hours)
- EIN 5255C Interactive Simulation (3 credit hours)
- EIN 6258 Human Computer Interaction (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)
- EME 6613 Instructional System Design (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)

### **Simulation Infrastructure**

- CAP 6671 Intelligent Systems: Robots, Agents, and Humans (3 credit hours)
- CAP 6676 Knowledge Representation (3 credit hours)
- CDA 5106 Advanced Computer Architecture (3 credit hours)

- CDA 6107 Parallel Computer Architecture (3 credit hours)
- CDA 6530 Performance Models of Computers and Networks (3 credit hours)
- CNT 5008 Computer Communication Networks Architecture (3 credit hours)
- COT 5405 Design and Analysis of Algorithms (3 credit hours)
- DIG 6605 Physical Computing (3 credit hours)
- EEL 5173 Linear Systems Theory (3 credit hours)
- EEL 5771C Engineering Applications of Computer Graphics (3 credit hours)
- EEL 5892 Continuous System Simulation II (3 credit hours)
- EEL 6762 Performance Analysis of Computer and Communication Systems (3 credit hours)
- EEL 6785 Computer Network Design (3 credit hours)
- EEL 6878 Modeling and Artificial Intelligence (3 credit hours)
- EEL 6883 Software Engineering II (3 credit hours)
- EEL 6885 Software Engineering Quality Assurance Methods (3 credit hours)
- EEL 6887 Software Engineering Life-Cycle Control (3 credit hours)
- ESI 6551C Systems Engineering (3 credit hours)
- EIN 6528 Simulation Based Life Cycle Engineering (3 credit hours)
- ESI 5227 Total Quality Improvement (3 credit hours)
- ESI 6224 Quality Management (3 credit hours)
- ESI 6358 Decision Analysis (3 credit hours)
- ESI 6551C Systems Engineering (3 credit hours)
- ISM 6217 Advanced Database Administration (3 credit hours)
- ISM 7027 Systems Support of Organizational Decision Making (3 credit hours)

### Simulation 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 6182 Engineering Management (3 credit hours)
- EIN 6215 System Safety Engineering and Management (3 credit hours)
- EIN 6339 Operations Engineering (3 credit hours)
- EIN 6357 Advanced Engineering Economic Analysis (3 credit hours)

### Waived Credits

The doctoral program will allow up to 30 credit hours to be waived from an earned master's degree.

### Dissertation—15 Credit Hours Minimum

- XXX 7980 Dissertation Research (15 credit hours minimum)

### Qualifying Examination

A written test is required covering content of the core courses, excluding the research methods course, which prepares students for dissertation research.

### Dissertation Adviser and Dissertation Advisory Committee

Students have the responsibility to select a Dissertation Adviser from a list of faculty authorized to direct dissertations. The student and the Dissertation Adviser, then, must identify and select the other members of the student's Dissertation Advisory Committee. The Dissertation Advisory Committee consists of a minimum of four members.

All committee members should hold a doctoral or terminal degree and be in fields related to the dissertation topic, and at least three members must be regular Modeling and Simulation graduate faculty (one to serve as chair) from at least two UCF colleges. At least one member of the committee must have served as a committee member on a prior M&S Thesis or Dissertation Advisory Committee.

In some cases, with approval from the Program Director, a committee member may serve as co-chair of the committee. The M&S Program Director can assist students with selection of their adviser as well as with committee formation, additions, and deletions. The UCF College of Graduate Studies has the right to review appointments to advisory committees, place a representative on any advisory committee, or appoint a co-adviser.

## Candidacy Examination

The Candidacy Examination evaluates the student's preparation to perform independent research 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 6 credit hours or less of the courses prescribed in the student's Graduate Plan of Study.

The Candidacy Examination includes all of the following:

### *The Dissertation Research Proposal*

The research proposal is a written exposition of a academic or scientific topic and specific research question(s)/hypothesis(es) that is/are developed by the student; the research proposal identifies the chosen area(s) of research and offers convincing support of the need for the research investigation being proposed. Specifically, the research proposal includes at least the following components:

- ***Motivation of the research investigation.*** Background and the motivation for the pursuit of the dissertation topic should be clearly and thoroughly explained including the historical and modern view of the topic and the rationale and need for the proposed research. The specific research questions(s)/hypothesis(es) that is/are being addressed and the research objectives must be described;
- ***Literature review on the topic of the dissertation.*** A good literature review expands upon the reasons behind selecting the research question(s)/hypothesis(es). The review is an extensive summary and synopsis of the area(s) of research, and it provides a critical and in-depth evaluation of previous related research

on the topic. It is an abstracting and synthesis of previous research, and the review explains how it integrates into the proposed research investigation. All sides of an argument must be clearly explained, to avoid bias, and areas of agreement and disagreement should be highlighted; and

- ***A detailed proposed methodology for conducting the research.*** This methodology must be consistent with the requirements of the field. It is customary to include any preliminary modeling and results in this discussion to show the potential of strengths and weaknesses of the methodology.

### *An oral defense of the Dissertation Research Proposal*

This defense includes a formal, oral presentation of the written Dissertation Research Proposal before the Dissertation Advisory Committee.

### *A refereed published or accepted for publication manuscript*

Students preparing for the Candidacy Examination should have at least one refereed published or accepted for publication manuscript directly related to the dissertation research, and the student must be a significant contributor to the work and the paper. If the refereed manuscript is not published, it should be fully accepted, and not conditionally accepted. This manuscript may be a journal or proceedings publication from a reputable conference.

All members vote on acceptance or rejection of the Dissertation Research Proposal and the Dissertation Proposal must be approved with at most one dissenting member of the advisory committee. A student is normally given one opportunity to pass the oral defense of the Dissertation Research Proposal, but the M&S Program Director, upon the recommendation of the student's Dissertation Advisory Committee, may approve at most a second attempt.

## Admission to Candidacy

In summary, the following are required for a student to be admitted to candidacy and subsequently enroll in dissertation hours:

- Completion of all course work, except for dissertation hours;

- The Dissertation Advisory Committee is formed, consisting of approved graduate faculty and graduate faculty scholars;
- Submission of an approved Graduate Plan of Study;
- Successful completion of the Candidacy Examination (see Candidacy Examination section above for details).

## Dissertation Defense

The Dissertation Defense is a formal, oral examination of the written dissertation before the Dissertation Advisory Committee. All members vote either “Pass” or “Fail” of the written dissertation, and the dissertation and Dissertation Defense must be approved with at most one dissenting member of the advisory committee. A student is normally given one opportunity to pass the oral defense of the dissertation, but the M&S Program Director, upon the recommendation of the student’s Dissertation Advisory Committee, may approve at most a second attempt.

## Plan of Study

After admission to the PhD program, students should file a Graduate Plan of Study (GPS) with the Modeling and Simulation Graduate Program Office.

The purpose of the GPS is to design an appropriate program of coursework to support a student’s area of graduate study and to meet the specific educational needs, goals and objectives of that student. The coursework must be selected to form a unified, cohesive plan of study. All graduate credit in a doctoral program must be at 5000 level or higher, and at least one-half of the credit hours used to meet program requirements must be in 6000-level or 7000-level courses.

The GPS should be developed under the supervision of the Dissertation Adviser(s) and members of the Dissertation Advisory Committee, although initially it may be constructed under the supervision of the M&S Graduate Program Office.

Changes in the Graduate Plan of Study can be made (due to course offering deletions, schedule conflicts, etc.) and with the approval of the M&S Graduate Program Office.

Programs of Study for students seeking a doctoral

degree should be on file with the College of Graduate Studies by the end of the third major term of enrollment (based on full-time enrollment) and must be on file prior to the change to candidacy status.

## Equipment Fee

Full-time students in the Modeling and Simulation PhD program pay a \$27 equipment fee each semester that they are enrolled. Part-time students pay a \$13.50 equipment fee each semester that they are enrolled.

## Independent Learning

The dissertation is a project that constitutes independent learning conducted under the guidance of a Dissertation Advisory Committee. Three must be members of the Modeling and Simulation graduate faculty. All members vote on acceptance or rejection of the Dissertation Research Proposal and the Dissertation Proposal must be approved with at most one dissenting member of the advisory committee. A student is normally given one opportunity to pass the oral defense of the Dissertation Research Proposal, but the M&S Program Director, upon the recommendation of the student’s Dissertation Advisory Committee, may approve at most a second attempt.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended
- Official, competitive score on the GRE taken within the last five years
- Résumé or Curriculum Vitae
- Goal statement
  - The goal statement should discuss all relevant professional background and any previous research experience. The statement should explain the motivation behind the pursuit of a Doctoral degree in Modeling and Simulation. Future career goals after the completion of the applicant’s doctoral study should be discussed.



- Most importantly, the applicant must clearly describe the particular area(s) of research interest. The applicant should identify at least one UCF faculty member who shares a similar research focus and is believed to be best suited to serve as a potential dissertation advisor.
- The goal statement should be between 500 and 1,000 words.
- Three letters of recommendation
  - The letters of recommendation should be from faculty members, university administrators and employers. The letters, which must be current to the application, should address the educational and career goals of applicant. The letter writers should also know the applicant well enough to discuss the applicant's capacity to perform, excel and succeed in a graduate program. Letters for PhD applicants must discuss the applicant's ability to perform graduate-level research. At least two of the letters should be furnished by college or university professors who are acquainted with the applicant.
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

Applications are accepted for the fall and spring terms only.

### **Readmission**

Applicants who are reapplying for admission need not resubmit transcripts and GRE scores if the transcripts and scores are previously filed with UCF. However, the following application requirements do need to be current for the new application for readmission:

- Résumé/Curriculum Vitae
- Goal Statement
- Letters of Recommendation

### **Prerequisites**

Students who enter the 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/C++, Visual Basic, Java, etc.). Students with undergraduate or graduate degrees in Engineering, Computer Science, or Mathematics will generally have this background.

For students with less technical academic preparation, the core course DIG 5876 Quantitative Aspects of Modeling and Simulation, will prepare them for several, but not all, aspects of the program. However, some students may need a number of prerequisite courses in Mathematics, Statistics, and Computer Science in order to pursue one or more areas of study.

### **Application Deadlines**

<b>Modeling and Simulation PhD</b>	<b>Fall Priority</b>	<b>Fall</b>	<b>Spring</b>	<b>Summer</b>
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

### **CONTACT INFO**

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#### **J. Peter Kincaid PhD**

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Telephone: 407-882-1330

Partnership 2 Bldg 131E

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# Nursing PhD

## PROGRAM DESCRIPTION

The Doctor of Philosophy program in Nursing is designed to prepare students for 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 doctoral program in Nursing prepares nurse scholars to possess a body of knowledge about theory, processes and methods of inquiry in the discipline of nursing. The program allows students to contribute to disciplinary and interdisciplinary knowledge in nursing and healthcare from the basis of sound conceptual, methodological, and ethical decision-making.

### Program Objectives

At the completion of the PhD in Nursing Program, graduates will be able to:

- Conduct research to generate a body of knowledge and test theories that advance nursing science.
- Develop a program of scholarship that integrates research, teaching, leadership, and service to the profession.
- Contribute to interdisciplinary solutions that advance health care in a global society.

## CURRICULUM

The Nursing PhD program requires a minimum of 60 credit hours beyond a master's degree in Nursing. This program includes 36 credit hours of required courses that focus on foundation, knowledge development and research methods, 15 dissertation credit hours, and 9 credit hours of electives allowing students to gain additional expertise in the area chosen for their dissertation. At least two of the three elective courses must be taken outside of the College of Nursing. Details about this program are located in the Nursing PhD Handbook.

### Total Hours Required:

**60** Credit Hours Minimum beyond the Master's Degree

Students in the Nursing PhD program must complete all course work with GPA of 3.0 ("B") or better, a satisfactory dissertation and defense of dissertation.

### Required Courses—36 Credit Hours

#### Foundation Areas—9 Credit Hours

- NGR 7892 Healthcare Systems and Policy (3 credit hours)
- NGR 7805 Doctoral Scholarship (3 credit hours)
- NGR 7806 Doctoral Scholarship II (3 credit hours)

#### Knowledge Development—9 Credit Hours

- NGR 7115 Philosophical and Theoretical Foundations of Nursing Science (3 credit hours)
- NGR 7123 Concept Development in Nursing (3 credit hours)
- NGR 7939 Dissertation Seminar (3 credit hours)

#### Research Methods—18 Credit Hours

- NGR 7815 Qualitative Methods in Nursing Research and Healthcare I (3 credit hours)
- NGR 7817 Quantitative Methods for Nursing and Healthcare I (3 credit hours)
- NGR 7818 Quantitative Methods for Nursing and Healthcare II (3 credit hours) or NGR 7808 Qualitative Methods in Nursing and Healthcare II (3 credit hours)
- NGR 7807 Research Approaches and Designs for Nursing and Healthcare (3 credit hours)
- NGR 7823 Psychometrics and Measurement for Nursing Research (3 credit hours)
- NGR 7919 Doctoral Research (3 Credit Hours)

### Elective Courses—9 Credit Hours Minimum

The supporting course work is designed to permit students to gain additional expertise and knowledge in the area chosen for the dissertation. At

least two of the three courses must be taken outside of the College of Nursing.

### **Dissertation Research—15 Credit Hours Minimum**

The dissertation research addresses the design and conduct of research that advances nursing science. Students conduct the dissertation in areas of faculty interest and expertise. Students are required to complete at least 15 credit hours of dissertation and are required to register for 3 credit hours of dissertation each semester until they complete the degree requirements.

- NGR 7980 Dissertation Research (15 credit hours)

### **Doctoral Research**

The course NGR 7919 Doctoral Research is designed for students to gain research experience with a faculty researcher. Students must obtain permission from the faculty member before registering for this course and complete the College of Nursing doctoral research form. The purpose of this course is for students to have an experience with research in addition to that of the dissertation. This course is not to be used as a pilot study for the student's dissertation.

### **Admission to Candidacy and Examinations**

The process for candidacy will start with the appointment of the dissertation advisory committee. The Candidacy Examination has both written and oral components. When these are completed successfully, the student becomes a doctoral candidate and is eligible to enroll in dissertation credits. When candidacy status is obtained, the student must enroll in at least three semester credits of dissertation credit each semester 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.

The following are required to enroll in dissertation hours. Evidence that items have been completed must be received by the Graduate College on the

Friday before the first day of classes for those who wish to enroll in dissertation hours in that semester:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study (should be finalized by the student's third semester).

### **Equipment Fee**

Students in the Nursing PhD program pay a \$90 equipment fee each semester that they are enrolled.

### **Independent Learning**

The dissertation satisfies the independent learning experience.

## **APPLICATION REQUIREMENTS**

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A Master's and a Bachelor's Degree in nursing from an accredited institution or the equivalent.
- Licensure as a Registered Nurse in the state of Florida. (Does not apply to international applicants).
- Official, competitive GRE score taken within the last five years.
- An essay of no more than 500 words addressing goals for doctoral study to knowledge development for Nursing.
- A personal interview.
- Research interests that match faculty expertise.
- Resume/Curriculum Vitae which reflects prior education, recent clinical accomplishments, any scholarly work (publications and presentations), and activities with professional organizations. For recent graduates this can include accomplishments as a student.

- Three letters of recommendation evaluating potential for doctoral study preferably by nursing instructors, nurse employers or nurses with advanced degrees.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

The College of Nursing accepts the most qualified students based on evaluations of the applicant's abilities, past performance, recommendations and match of UCF programs with applicant's career goals. Students are admitted to the program in the summer for the program of study.

Please call the College of Nursing Graduate Office (407) 823-3079 to speak with a doctoral adviser to discuss your goals for doctoral study. It would be very advantageous to discuss the program before you write your essay in the admission application.

### Application Deadlines

Nursing PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants				Jan 15
International Applicants				Nov 1
International Transfer Applicants				Dec 15

### CONTACT INFO

**Susan Chase EdD**  
Associate Dean  
gradnurse@ucf.edu  
Telephone: 407-823-2744  
Suite 300

## Nursing Practice DNP

- Adult/Gerontology Clinical Nurse Specialist Track
- Adult/Gerontology Nurse Practitioner Track
- Executive Track
- Family Nurse Practitioner Track

### PROGRAM DESCRIPTION

The Doctor of Nursing Practice (DNP) program prepares nurses at the highest level of practice for the current health care environment based on a strong scientific foundation for practice; flexibility and emphasis on evidence-based practice, leadership, and organizational analysis; and analysis of the DNP Project.

#### Program Objectives

The objectives of the DNP program are to prepare graduates to:

- Critically analyze complex clinical situations and practice systems.
- Assume leadership roles in the development of clinical practice models, health policy and standards of care.
- Demonstrate advanced diagnostic reasoning skills and clinical judgment through scholarship and nursing practice.
- Analyze the social, economic, political, epidemiological and other scientific data to improve individual, aggregate and population health.
- Demonstrate information fluency and advanced communication skills to lead quality improvement initiatives to improve patient care and health care systems.
- Design, implement, and evaluate comprehensive care to clients within an area of advanced practice specialization.

**NOTE FOR INTERNATIONAL STUDENTS:**  
Please contact the College of Nursing at gradnurse@ucf.edu or 407-823-2744 prior to applying to this online program.

## CURRICULUM

The Doctor of Nursing Practice (DNP) curriculum requires a minimum of 43-45 credit hours beyond the master's degree, including 31-33 credit hours of core courses, 3 credit hours of electives, and 9 credit hours of a DNP Project. The total clinical hours (including those hours accrued in MSN degree) will be 1000. The total clinical hours noted in this curriculum are based on an MSN total of 500 hours. Actual hours may vary depending on a review of MSN program hours accrued on entry into the program. The core courses have been carefully constructed to incorporate the AACN competencies for DNP graduates. Details about this program are located in the Nursing DNP Handbook.

Applicants not holding an appropriate MSN degree as described in the application section may enter the post-MSN certificates through one of the two tracks: Adult/Gerontology Nurse Practitioner or Family Nurse Practitioner.

### Total Hours Required:

**43-45** Credit Hours Minimum beyond the Master's Degree

Students will take course work corresponding to the eight essential competencies delineated by the American Association of Colleges of Nursing (AACN). The competencies address the following:

1. Scientific underpinning for practice
2. Organizational and systems leadership for quality improvement and systems thinking
3. Clinical scholarship and analytical methods for evidence-based practice
4. Information systems/technology and patient care technology for the improvement and transformation of health care
5. Health care policy for advocacy in health care
6. Inter-professional collaboration for improving patient and population health outcomes
7. Clinical prevention and population health for improving the nation's health
8. Advanced nursing practice

## Required Courses—31-33 Credit Hours

The core DNP courses serve to enhance the skill and science base of the graduate and strengthen the focus on evidence-based practice. Safety and efficiency in health care systems is addressed and organizational and policy implications are emphasized within the context of care delivery. An emphasis is placed on evidence-based practice, state-of-the-art interventions and information fluency.

- NGR 6874 Nursing Environment Management (3 credit hours)
- NGR 7892 Healthcare Systems and Policy (3 credit hours)
- NGR 7673 Epidemiological Principles for APN (3 credit hours)
- NGR 7065 Advanced Clinical Management for APN (3 credit hours)
- NGR 7855C Evidenced-Based Practice Development for DNP (3 credit hours, 60 clinical hours)
- NGR 7748L Advanced Clinical Practice Selective for APN (1-3 credit hours; 60-180 clinical hours)
- NGR 7827 Concepts, Measurement, and Data Management (3 credit hours)
- NGR 7793 Leadership and Economics in APN (3 credit hours)
- NGR 7820 Innovative Technologies in Healthcare (3 credit hours)
- NGR 6722 Financial Management and Resource Development (3 credit hours)
- NGR 7779C Program Development and Management for DNP (3 credit hours; 60 clinical hours)

### Elective—3 Credit Hours

- Elective (3 credit hours)

### DNP Project—9 Credit Hours

The DNP Project is the product of the culminating or comprehensive experience of an independent project that demonstrates application of advanced clinical and evidence-based practice. The DNP Project is guided and evaluated by an academic committee and is derived from the practice



immersion experience (residency). It will serve as a foundation for future scholarly practice.

- NGR 7911C Doctoral Project I (3 credit hours; 60 clinical hours)
- NGR 7912C Doctoral Project II (3 credit hours; 120 clinical hours)
- NGR 7913 Doctoral Project III (3 credit hours)

The DNP Project is related to advanced nursing practice and benefits a group, population or community rather than an individual patient. It addresses identified needs and builds on an evidence base. DNP projects may include but are not limited to:

- Translate research into practice and evaluate outcomes
- Quality improvement (care processes, continuity of care, patient outcomes)
- Implement and evaluate evidence-based practice guidelines
- Analyze policy: develop, implement, evaluate, or revise policy
- Design and use databases to retrieve information for decision making, planning, evaluation
- Conduct financial analyses to compare care models and potential cost savings, etc.
- Design and evaluate new models of care
- Design and evaluate health promotion and disease prevention programs
- Assess integration of technology in care

The theme that links these forms of scholarly experiences is the use of evidence to improve either practice or patient outcomes. Additional examples of DNP projects can be found on the National Organization of Nurse Practitioner Faculty (NONPF) website under Practice Doctorate Resource Center.

## Progress to Degree

Students are required to maintain a 3.0 grade point average. Grades below B are not acceptable in the doctoral program in the College of Nursing. Students who receive a grade of below B in any course are subject to dismissal from the DNP program and will be reviewed by the DNP Admissions, Progression and Graduation Committee for continuation in the program.

Students who do not maintain a 3.0 GPA will be put on probation or dismissed from the program.

## Graduation Requirements

- All course work completed with a minimum grade of “B”
- A satisfactory DNP Project
- Clinical performance evaluated at a satisfactory level
- A satisfactory public presentation of the DNP Project

## Equipment Fee

Students in the Nursing Practice DNP program pay a \$90 equipment fee each semester that they are enrolled.

## Independent Learning

A DNP Project will be completed by all students in the DNP program. A scholarly project, derived from clinical practice, will be developed in depth with faculty supervision.

## APPLICATION REQUIREMENTS

**Applicants not holding an appropriate MSN degree as described in the application requirements listed below may enter the DNP program through one of the two tracks: Adult/Gerontology Nurse Practitioner or Family Nurse Practitioner.**

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- MSN degree in an APN specialty role or a post-MSN certificate (NP, CNS, CRNA, CNM) from an accredited institution.
- Official, competitive GRE score taken within the last five years.
- Advanced Registered Nurse Practitioner (ARNP) licensure in the State of Florida required. (Out of state applicants must be eligible for licensure in Florida and must achieve ARNP licensure to begin clinical courses.)

- Certification as an APN or ability to obtain it in the first semester of enrollment is required.
- A personal interview may be required with two members of the College of Nursing Doctoral Committee.
- Address the following 3 items in a written essay. Total word count for all (not each) answers should be 500 words or less, double spaced, 12 point Times New Roman font, and 1 inch margins:
  - Describe how your professional experiences have prepared you for future education in the role which is the focus of your desired track.
  - Describe your plans to alter your work, professional and/ or personal obligations in order to have the time needed for graduate course and clinical practice work.
  - Identify one significant contemporary issue/ problem in the US Health care system and explore how members of the nursing profession can help address that issue or solve that problem.
- Curriculum Vitae which reflects prior education, recent clinical accomplishments, any recent scholarly work (publications and presentations), awards, additional certifications, and activities with professional organizations. For recent graduates this can include accomplishments as a student.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

printing and certified background checks, and the match of UCF programs with the applicant’s career goals. The College 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.

### Application Deadlines

Nursing Practice DNP	Fall Priority	Fall	Spring	Summer
Domestic Applicants			Sep 15	
International Applicants			Jul 1	
International Transfer Applicants			Sep 1	

### CONTACT INFO

**Julee Waldrop PhD**  
 Associate Professor  
 julee.waldrop@ucf.edu  
 Telephone: 407-823-2198  
 UTWR 454

Before submitting your application, it is recommended that applicants call the College of Nursing Graduate Office at 407-823-2744 to schedule an appointment with a DNP adviser to discuss your goals for doctoral study. It is advantageous to discuss the program before writing the required essay because the essay must address your goals for doctoral-level preparation for advanced nursing practice.

Admission to the program is competitive, based on evaluations of the applicant’s abilities, past performance, recommendations, FDLE/FBI finger

# Adult/Gerontology Clinical Nurse Specialist Track

## TRACK DESCRIPTION

**This program has been temporarily suspended effective Fall 2014.**

The Doctor of Nursing Practice (DNP) program in the Adult/Gerontology Clinical Nurse Specialist Track prepares nurses at the highest level of practice for the current health care environment based on a strong scientific foundation for practice; flexibility and emphasis on evidence-based practice, leadership, and organizational analysis; and analysis of the DNP project.

The DNP Adult/Gerontology Clinical Nurse Specialist Track allows students to earn an MSN along the way to the Doctor of Nursing Practice (DNP). This MSN allows students in the DNP program to sit for certification examinations when they have completed the list of courses required. Certification authorizes them to function in the advanced role while they complete the DNP curriculum.

## CURRICULUM

### Total Hours Required:

**86** Credit Hours Minimum beyond the Bachelor's Degree

The DNP Adult/Gerontology Clinical Nurse Specialist track allows students to acquire a MSN along the way upon completion of 45 credit hours of master's level courses, including 600 hours of clinical practice. This is followed by an additional 41 credit hours of doctoral-level courses, including 9 credit hours of the DNP Project and at least 420 clinical hours. All totaled, 1,020 practicum hours including those leading to the MSN are required to earn the DNP.

### Required Courses for MSN—45 Credit Hours

#### Core Courses—21 Credit Hours

- NGR 5003 Advanced Health Assessment and Diagnostic Reasoning (2 credit hours)
- NGR 5003L Advanced Health Assessment and Diagnostic Reasoning Lab (1 credit hour; 60 clinical hours)
- NGR 5141 Pathophysiological Bases for Advanced Nursing Practice (3 credit hours)
- NGR 5800 Theory for Advanced Practice Nursing (3 credit hours)
- NGR 5884 Legal and Professional Behavior in Advanced Practice Nursing (3 credit hours)
- NGR 6172 Pharmacology for Advanced Nursing Practice (3 credit hours)
- NGR 6801 Research Methods (3 credit hours)
- NGR 6813 Evidence-Based Nursing Practice (3 credit hours)

### Specialty Courses: Adult/ Gerontology Clinical Nurse Specialist—24 Credit Hours

- NGR 5720 Organizational Dynamics (3 credit hours)
- NGR 6265 Adult/Gerontology CNS I (3 credit hours)
- NGR 6265L Adult/Gerontology CNS I Clinical (3 credit hours; 180 clinical hours)
- NGR 6266 Adult/Gerontology CNS II (3 credit hours)
- NGR 6266L Adult/Gerontology CNS II Clinical (3 credit hours; 180 clinical hours)
- NGR 6267 Adult/Gerontology CNS III (3 credit hours)
- NGR 6267L Adult/Gerontology CNS III Clinical (3 credit hours; 180 clinical hours)
- NGR 6874 Nursing Environment Management (3 credit hours)

### Required Courses for the DNP— 41 Credit Hours

The DNP courses serve to enhance the skill and science base of the graduate and strengthen the focus on research utilization. Safety and efficiency in health care systems is addressed and organizational and policy implications are emphasized within the context of care delivery. An emphasis is placed on evidence-based

practice, state-of-the-art interventions and information fluency.

- NGR 6722 Financial Management and Resource Development (3 credit hours)
- NGR 7065 Advanced Clinical Management for APN (3 credit hours)
- NGR 7673 Epidemiology Principles in Advanced Practice Nursing (3 credit hours)
- NGR 7748 Advanced Clinical Practice Selective for Advanced Practice Nursing (2 credit hours; 120 clinical hours)
- NGR 7779C Program Development and Management for DNP (3 credit hours; 60 clinical hours)
- NGR 7793 Leadership and Economics in Advanced Practice Nursing (3 credit hours)
- NGR 7820 Innovative Technologies in Healthcare (3 credit hours)
- NGR 7827 Concepts, Measurement, and Data Management (3 credit hours)
- NGR 7855C Evidence-Based Practice Development for DNP (3 credit hours; 60 clinical hours)
- NGR 7892 Healthcare Systems and Policy (3 credit hours)
- NGR 7911C Doctoral Project 1 (3 credit hours; 60 clinical hours)
- NGR 7912C Doctoral Project 2 (3 credit hours; 120 clinical hours)
- NGR 7913 Doctoral Project 3 (3 credit hours)
- Elective (3 credit hours)

## Progress to Degree

Students are required to maintain a 3.0 grade point average. Students who receive a grade of below B in any course will be reviewed by the DNP Admissions, Progression and Graduation Committee for continuation in the program. Grades of below B are not acceptable in the doctoral program in the College of Nursing. Students who do not maintain a 3.0 GPA will be put on probation or dismissed from the program.

## Graduation Requirements

- All course work completed with a minimum grade of "B"
- A satisfactory DNP Project

- Clinical performance evaluated at a satisfactory level
- A satisfactory public presentation of the DNP Project
- A professional portfolio

## Independent Learning

A DNP Project will be completed by all students in the DNP program. A scholarly project, derived from clinical practice, will be developed in depth with faculty supervision.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- BSN degree from an accredited institution.\*
- Undergraduate Statistics course.
- Official, competitive GRE score taken within the last five years.
- Licensure as a registered nurse in the State of Florida. (Out of state applicants must be eligible for licensure in Florida and must achieve RN licensure to begin clinical courses.)
- Address the following 3 items in a written essay. Total word count for all (not each) answers should be 500 words or less, double spaced, 12 point Times New Roman font, and 1 inch margins:
  - Describe how your professional experiences have prepared you for future education in the role which is the focus of your desired track.
  - Describe your plans to alter your work, professional and/ or personal obligations in order to have the time needed for graduate course and clinical practice work.
  - Identify one significant contemporary issue/ problem in the US Health care system and explore how members of the nursing profession can help address that issue or solve that problem.
- Curriculum Vitae which reflects prior education, recent clinical accomplishments,

any recent scholarly work (publications and presentations), awards, additional certifications, and activities with professional organizations. For recent graduates this can include accomplishments as a student.

- An interview with faculty may also be required.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

\*For students with a Bachelor’s degree in a discipline other than nursing, but possess a Florida RN License, please contact the College of Nursing at [gradnurse@ucf.edu](mailto:gradnurse@ucf.edu) or 407-823-2744 for additional options.

Before submitting your application, it is recommended that applicants call the College of Nursing Graduate Office (407-823-2744) to speak with a DNP adviser to discuss your goals for doctoral study. It is advantageous to discuss the program before writing the required essay because the essay must address your goals for doctoral-level preparation for advanced nursing practice. Students are admitted to the program in the fall for the program of study; however, spring admissions are possible for a revised plan of study.

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 College of Nursing accepts most qualified students.

Students may take classes as a nursing nondegree-seeking, postbaccalaureate student on a space-available basis. Students must designate on their application that they are applying to the College of Nursing in order to facilitate processing of files. Successful completion of postbaccalaureate courses does not guarantee admission to the graduate program. Students may only take nonclinical courses. Prior to applying as a nondegree student, please contact the main nursing advising office for deadlines and nondegree options at [gradnurse@ucf.edu](mailto:gradnurse@ucf.edu).

## Application Deadlines

Adult/Gerontology Clinical Nurse Specialist Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Feb 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

## CONTACT INFO

### Julee Waldrop PhD

Associate Professor

[julee.waldrop@ucf.edu](mailto:julee.waldrop@ucf.edu)

Telephone: 407-823-2198

UTWR 454



# Adult/Gerontology Nurse Practitioner Track

## TRACK DESCRIPTION

The Doctor of Nursing Practice (DNP) program in the Adult/Gerontology Nurse Practitioner Track prepares nurses at the highest level of practice for the current health care environment based on a strong scientific foundation for practice; flexibility and emphasis on evidence-based practice, leadership, and organizational analysis; and analysis of the DNP project.

The DNP Adult/Gerontology Nurse Practitioner Track allows students to earn an MSN along the way to the Doctor of Nursing Practice (DNP). This MSN allows students in the DNP program to sit for certification examinations when they have completed the list of courses required. Certification authorizes them to function in the advanced role while they complete the DNP curriculum.

### Program Objectives

The objectives of the DNP program are to prepare graduates to:

- Critically analyze complex clinical situations and practice systems.
- Assume leadership roles in the development of clinical practice models, health policy and standards of care.
- Demonstrate advanced diagnostic reasoning skills and clinical judgment through scholarship and nursing practice.
- Analyze the social, economic, political, epidemiological and other scientific data to improve individual, aggregate and population health.
- Demonstrate information fluency and advanced communication skills to lead quality improvement initiatives to improve patient care and health care systems.
- Design, implement, and evaluate comprehensive care to clients within an area of advanced practice specialization.

## CURRICULUM

### Total Hours Required:

82 Credit Hours Minimum beyond the Bachelor's Degree

The DNP Adult/Gerontology Nurse Practitioner track allows students to earn a MSN along the way to the Doctor of Nursing Practice (DNP) and therefore requires a minimum of 82 credit hours beyond the baccalaureate degree. These include 42 credit hours of master's level courses following which students complete an additional 40 credit hours of doctoral level courses including 9 credit hours of a DNP Project. A total of 1,020 practicum hours including those leading to the MSN are required to earn the DNP. Details about this program are located in the Adult-Gerontology DNP Handbook.

### Required Courses for the MSN— 42 Credit Hours

#### Core Courses—24 Credit Hours

- NGR 5003 Advanced Health Assessment and Diagnostic Reasoning (2 credit hours)
- NGR 5003L Advanced Health Assessment and Diagnostic Reasoning Lab (1 credit hour; 60 clinical hours)
- NGR 5141 Pathophysiological Bases for Advanced Nursing Practice (3 credit hours)
- NGR 5638 Health Promotion (3 credit hours)
- NGR 5800 Theory for Advanced Nursing Practice (3 credit hours)
- NGR 5884 Legal and Professional Behavior in Advanced Nursing Practice (3 credit hours)
- NGR 6172 Pharmacology for Advanced Nursing Practice (3 credit hours)
- NGR 6801 Research Methods (3 credit hours)
- NGR 6813 Evidence-Based Nursing Practice (3 credit hours)

#### Specialty Courses: Adult/Gerontology Nurse Practitioner—18 Credit Hours

- NGR 6201 Adult I Primary Care (3 credit hours)
- NGR 6240L Adult I Clinical for APNs (3 credit hours; 180 clinical hours)

- NGR 6202L Adult II Primary Care Clinical (2 credit hours; 120 clinical hours)
- NGR 6334 Women's Health for APNs (2 credit hours)
- NGR 6263 Gerontologic Care for APNs (3 credit hours)
- NGR 6263L Gerontologic Care Clinical for NPs (2 credit hours; 120 clinical hours)
- NGR 6248 Advanced Practice Practicum (3 credit hours; 180 clinical hours)
- NGR 7911C DNP Project 1 (3 credit hours, 60 clinical hours)
- NGR 7912C DNP Project 2 (3 credit hours, 120 clinical hours)
- NGR 7913 DNP Project 3 (3 credit hours)

## Required Courses for the DNP— 40 Credit Hours

The DNP courses serve to enhance the skill and science base of the graduate and strengthen the focus on research utilization. Safety and efficiency in health care systems is addressed and organizational and policy implications are emphasized within the context of care delivery. An emphasis is placed on evidence-based practice, state-of-the-art interventions and information fluency

- NGR 6722 Financial Management and Resource Development (3 credit hours)
- NGR 6874 Nursing Environment Management (3 credit hours)
- NGR 7065 Advanced Clinical Management for Advanced Practice Nursing (3 credit hours)
- NGR 7673 Epidemiology Principles in Advanced Practice Nursing (3 credit hours)
- NGR 7748L Advanced Clinical Practice Selective for APN (1 credit hours, 60 clinical hours)
- NGR 7779C Program Development and Management (3 credit hours, 60 clinical hours)
- NGR 7793 Leadership and Economics in Advanced Practice Nursing (3 credit hours)
- NGR 7820 Innovative Technologies in Healthcare (3 credit hours)
- NGR 7827 Concepts, Measurement, and Data Management (3 credit hours)
- NGR 7855C Evidence-Based Practice Development for DNP (3 credit hours, 60 clinical hours)
- NGR 7892 Healthcare Systems and Policy (3 credit hours)

## Progress to Degree

Students are required to maintain a 3.0 grade point average. Students who receive a grade below B in any course will be reviewed by the DNP Admissions, Progression and Graduation Committee for continuation in the program. Grades of below B are not acceptable in the doctoral program in the College of Nursing. Students who do not maintain a 3.0 GPA will be put on probation or dismissed from the program.

## Graduation Requirements

- All course work completed with a minimum grade of "B"
- A satisfactory DNP Project
- Clinical performance evaluated at a satisfactory level
- A satisfactory public presentation of the DNP Project

## Independent Learning

A DNP Project will be completed by all students in the DNP program. A scholarly project, derived from clinical practice, will be developed in depth with faculty supervision.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- BSN degree from an accredited institution.\*
- Undergraduate Statistics course.
- Official, competitive GRE score taken within the last five years.
- Licensure as a registered nurse in the State of Florida. (Out of state applicants must be

eligible for licensure in Florida and must achieve RN licensure to begin clinical courses.)

- Address the following 3 items in a written essay. Total word count for all (not each) answers should be 500 words or less, double spaced, 12 point Times New Roman font, and 1 inch margins:
  - Describe how your professional experiences have prepared you for future education in the role which is the focus of your desired track.
  - Describe your plans to alter your work, professional and/ or personal obligations in order to have the time needed for graduate course and clinical practice work.
  - Identify one significant contemporary issue/ problem in the US Health care system and explore how members of the nursing profession can help address that issue or solve that problem.
- Curriculum Vitae which reflects prior education, recent clinical accomplishments, any recent scholarly work (publications and presentations), awards, additional certifications, and activities with professional organizations. For recent graduates this can include accomplishments as a student.
- An interview with faculty may also be required.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

\*For Students with a Bachelor’s degree in a discipline other than nursing, please contact the advisement office at [gradnurse@ucf.edu](mailto:gradnurse@ucf.edu) or 407-823-2744 for additional options.

Before submitting your application, it is recommended that applicants call the College of

Nursing Graduate Office (407-823-2744) to speak with a DNP adviser to discuss your goals for doctoral study. It is advantageous to discuss the program before writing the required essay because the essay must address your goals for doctoral-level preparation for advanced nursing practice. Students are admitted to the program in the fall for the program of study; however, spring admissions are possible for a revised plan of study.

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 College of Nursing accepts most qualified students.

Students may take classes as a nursing nondegree-seeking, postbaccalaureate student on a space-available basis. Students must designate on their application that they are applying to the College of Nursing in order to facilitate processing of files. Successful completion of postbaccalaureate courses does not guarantee admission to the graduate program. Students may only take nonclinical courses. Prior to applying as a nondegree student, please contact the main nursing advising office for deadlines and nondegree options at [gradnurse@ucf.edu](mailto:gradnurse@ucf.edu).

### Application Deadlines

Adult/Gerontology Nurse Practitioner Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Feb 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

### CONTACT INFO

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 UTWR 454

# Executive Track

## TRACK DESCRIPTION

The Executive Track in the Doctor of Nursing Practice (DNP) program is a dynamic and engaging academic curriculum that prepares the nurse executive for the multiple dimensions of administrative responsibilities within varied healthcare environments. The Executive DNP track extends and enhances the knowledge, skill and performance of healthcare system leaders in a wide variety of clinical and administrative environments. The DNP Executive Track meets the unique needs and taps the talent of nurse executives through experiential learning and leadership projects in a team-centered environment. It provides enrolled executives the opportunity to interact with prominent healthcare experts who address emergent and challenging issues for nurse leaders, and encourages networking with colleagues across local and state healthcare and policy organizations.

### Program Objectives

The objectives of the DNP Executive Track are to prepare graduates to:

- Critically analyze complex clinical situations and practice systems.
- Assume leadership roles in the development of clinical practice models, health policy and standards of care.
- Develop practice models that support nurses in diagnostic reasoning skills and clinical judgment through the use of evidence based practice.
- Analyze the social, economic, political, epidemiological and other scientific data to improve individual, aggregate and population health.
- Demonstrate information fluency and advanced communication skills to lead quality improvement initiatives to improve patient care and health care systems.
- Design, implement, and evaluate comprehensive care models for clients within an area of responsibility.

## CURRICULUM

### Total Hours Required:

42 Credit Hours Minimum beyond the Master's Degree

The Executive Track in the Doctor of Nursing Practice program prepares nurses at the highest level of practice for the current healthcare environment based on a strong scientific foundation for practice; offers flexibility and emphasis on evidence-based practice, leadership, and organizational analysis, and provides analytic skills to examine practice innovations involving completion of the residency project requirement. Details about this program are located in the Executive DNP Handbook.

### Required Courses—27 Credit Hours

- NGR 6874 Nursing Environment Management (3 credit hours)
- NGR 7673 Epidemiology Principles in Advanced Practice Nursing (3 credit hours)
- NGR 7793 Leadership and Economics in Advanced Practice Nursing (3 credit hours)
- NGR 7827 Concepts, Measurement, and Data Management (3 credit hours)
- NGR 7820 Innovative Technologies in Healthcare (3 credit hours)
- NGR 7892 Healthcare Systems and Policy (3 credit hours)
- NGR 7855C Evidence-Based Practice Development (3 credit hours; 60 practice hours)
- NGR 7779C Program Development and Management (3 credit hours; 120 practice hours)
- NGR 7778L Advanced Leadership Selective (3 credit hours, 190 practice hours)

### Elective—3 Credit Hours

- Graduate Elective (3 credit hours, chosen from an approved list)

### DNP Practicum Residency—3 Credit Hours

The DNP residency provides an in-depth clinical experience for students. This advanced practicum

provides the opportunity to link policy making with clinical systems, translate research into practice and serve as change agents for health care. The clinical residency experience is facilitated by an advanced practice expert clinician/teacher.

- NGR 7948L DNP Residency (3 credit hours, 180 practice hours). Can be repeated.

Practicum hours depend upon record review of hours completed at MSN level and all totaled the DNP clinical hours will be 1,000 hours.

## DNP Project—9 Credit Hours

The DNP Project is the product of the culminating or comprehensive experience of an independent project that demonstrates application of advanced clinical and evidence-based practice. The DNP Project is guided and evaluated by an academic committee and is derived from the practice immersion experience (residency). It will serve as a foundation for future scholarly practice.

- NGR 7911C Doctoral Project 1 (3 credit hours; 60 practice hours)
- NGR 7912C Doctoral Project 2 (3 credit hours; 120 practice hours)
- NGR 7913 Doctoral Project 3 (3 credit hours)

The DNP Project is related to advanced nursing practice and benefits a group, population or community rather than an individual patient. It addresses identified needs and builds on an evidence base.

## Independent Learning

A DNP Project will be completed by all students in the DNP program. A scholarly project, derived from clinical practice, will be developed in depth with faculty supervision.

## APPLICATION REQUIREMENTS

### PATH 1: Traditional MSN in Nursing Leadership and Management

In addition to the general UCF graduate application requirements, applicants to this program that hold a MSN degree in Nursing Leadership and Management must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- MSN degree in Nursing Leadership and Management from an accredited institution.
- Official, competitive GRE score taken within the last five years.
- Florida licensure required for all students who will be taking clinical and practice coursework in Florida health care agencies and institutions. For those students at a distance, a license is required in the state or country in which they will practice.
- ANCC (NEA-BC) or AONE (CENP) certification, or eligibility for certification.
- A personal interview with two members of the College of Nursing faculty.
- Address the following 3 items in a written essay. Total word count for all (not each) answers should be 500 words or less, double spaced, 12 point Times New Roman font, and 1 inch margins:
  - Describe how your professional experiences have prepared you for future education in the role which is the focus of your desired track.
  - Describe your plans to alter your work, professional and/ or personal obligations in order to have the time needed for graduate course and clinical practice work.
  - Identify one significant contemporary issue/ problem in the US Health care system and explore how members of the nursing profession can help address that issue or solve that problem.
- Curriculum Vitae which reflects prior education, recent clinical accomplishments, any recent scholarly work (publications and presentations), awards, additional certifications, and activities with professional organizations. For recent graduates this can include accomplishments as a student.
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).



**PATH 2: MS or MSN in field other than Nursing Leadership and Management**

In addition to the general UCF graduate application requirements, applicants to this program that hold a MS or MSN degree in a field other than Nursing Leadership and Management must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Masters Degree from an accredited institution.
- Official, competitive GRE score taken within the last five years.
- Florida licensure required for all students who will be taking clinical and practice coursework in Florida health care agencies and institutions. For those students at a distance, a license is required in the state or country in which they practice.
- ANCC (NEA-BC) or AONE (CENP) certification or eligibility for certification.
- A personal interview with College of Nursing faculty may be requested.
- Address the following 3 items in a written essay. Total word count for all (not each) answers should be 500 words or less, double spaced, 12 point Times New Roman font, and 1 inch margins:
  - Describe how your professional experiences have prepared you for future education in the role which is the focus of your desired track.
  - Describe your plans to alter your work, professional and/ or personal obligations in order to have the time needed for graduate course and clinical practice work.
  - Identify one significant contemporary issue/ problem in the US Health care system and explore how members of the nursing profession can help address that issue or solve that problem.
- Curriculum Vitae which reflects prior education, recent clinical accomplishments, any recent scholarly work (publications and presentations), awards, additional certifications, and activities with professional organizations. For recent graduates this can include accomplishments as a student.
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI

(Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

**Portfolio Review for course equivalency and currency.**

A Portfolio review is required for course equivalency and currency for students who did not graduate from UCF. UCF graduates will require a Portfolio review for course currency.

**MSN applicants will require portfolio review for NLM master’s level requirements, which will also include verification of practice/laboratory hours completed in coursework. Missing coursework may be taken as a co-requisite upon admission.**

- **NGR 5720 Organizational Dynamics or NGR 6723 Nursing Leadership and Management**
- **NGR 6722 Financial Management and Resource Development**

**Non-nursing master’s degree graduates will require review for completion of basic NLM requirements as noted above, as well as general nursing core requirements and verification of practice/laboratory hours completed in coursework including:**

- **NGR 6801 Research Methodology for APN**

**Application Deadlines**

Executive Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Feb 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

**CONTACT INFO**

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# Family Nurse Practitioner Track

## TRACK DESCRIPTION

The Doctor of Nursing Practice (DNP) program in the Family Nurse Practitioner Track prepares nurses at the highest level of practice for the current health care environment based on a strong scientific foundation for practice; flexibility and emphasis on evidence-based practice, leadership, and organizational analysis; and analysis of the DNP project.

The DNP Family Nurse Practitioner Track allows students to earn an MSN along the way to the Doctor of Nursing Practice (DNP). This MSN allows students in the DNP program to sit for certification examinations when they have completed the list of courses required. Certification authorizes them to function in the advanced role while they complete the DNP curriculum.

### Program Objectives

The objectives of the DNP program are to prepare graduates to:

- Critically analyze complex clinical situations and practice systems.
- Assume leadership roles in the development of clinical practice models, health policy and standards of care.
- Demonstrate advanced diagnostic reasoning skills and clinical judgment through scholarship and nursing practice.
- Analyze the social, economic, political, epidemiological and other scientific data to improve individual, aggregate and population health.
- Demonstrate information fluency and advanced communication skills to lead quality improvement initiatives to improve patient care and health care systems.
- Design, implement, and evaluate comprehensive care to clients within an area of advanced practice specialization.

## CURRICULUM

### Total Hours Required:

**86** Credit Hours Minimum beyond the Bachelor's Degree

The DNP Family Nurse Practitioner Track allows students to acquire a MSN along the way to the Doctor of Nursing Practice (DNP) and therefore requires a minimum of 86 credit hours beyond the baccalaureate degree. These include 46 credit hours of master's level courses following which students take an additional 40 credit hours of doctoral level courses including 9 credit hours of a DNP Project. A total of 1,080 clinical hours required to earn the DNP. Details about this program are located in the Family Nurse DNP Handbook.

### Required Courses for the MSN— 46 Credit Hours

#### Core Courses—24 Credit Hours

- NGR 5003 Advanced Health Assessment and Diagnostic Reasoning (2 credit hours)
- NGR 5003L Advanced Health Assessment and Diagnostic Reasoning Lab (1 clinical credit hour; 60 clinical hours)
- NGR 5141 Pathophysiological Bases for Advanced Nursing Practice (3 credit hours)
- NGR 5638 Health Promotion (3 credit hours)
- NGR 5800 Theory for Advanced Nursing Practice (3 credit hours)
- NGR 5884 Legal and Professional Behavior in Advanced Nursing Practice (3 credit hours)
- NGR 6172 Pharmacology for Advanced Nursing Practice (3 credit hours)
- NGR 6801 Research Methods (3 credit hours)
- NGR 6813 Evidence-Based Nursing Practice (3 credit hours)

#### Specialty Courses: Family Nurse Practitioner—22 Credit Hours

- NGR 6201 Adult I Primary Care (3 credit hours)
- NGR 6240L Adult I Clinical for APNs (3 credit hours; 180 clinical hours)
- NGR 6263 Gerontologic Care for APNs (3 credit hours)

- NGR 6263L Gerontologic Care Clinical for NPs (2 credit hours; 120 clinical hours)
- NGR 6305 Pediatric Primary Care (3 credit hours)
- NGR 6305L Pediatric Primary Care Clinical (2 credit hours; 120 clinical hours)
- NGR 6334 Women's Health for APNs (2 credit hours)
- NGR 6342L Women's Health for APNs Clinical (1 credit hour; 60 clinical hours)
- NGR 6248 Advanced Practice Practicum (3 credit hours; 180 clinical hours)
- NGR 7892 Healthcare Systems and Policy (3 credit hours)
- NGR 7911C DNP Project 1 (3 credit hours, 60 clinical hours)
- NGR 7912C DNP Project 2 (3 credit hours, 120 clinical hours)
- NGR 7913 DNP Project 3 (3 credit hours)

## Required Courses for the DNP— 40 Credit Hours

The core DNP courses serve to enhance the skill and science base of the graduate and strengthen the focus on research utilization. Safety and efficiency in health care systems is addressed and organizational and policy implications are emphasized within the context of care delivery. An emphasis is placed on evidence-based practice, state-of-the-art interventions and information fluency.

- NGR 6722 Financial Management and Resource Development (3 credit hours)
- NGR 6874 Nursing Environment Management (3 credit hours)
- NGR 7065 Advanced Clinical Management for Advanced Practice Nursing (3 credit hours)
- NGR 7673 Epidemiology Principles in Advanced Practice Nursing (3 credit hours)
- NGR 7748 Advanced Clinical Practice Selective for APN (1 credit hours, 60 clinical hours)
- NGR 7779C Program Development and Management (3 credit hours, 60 clinical hours)
- NGR 7793 Leadership and Economics in Advanced Practice Nursing (3 credit hours)
- NGR 7820 Innovative Technologies in Healthcare (3 credit hours)
- NGR 7827 Concepts, Measurement, and Data Management (3 credit hours)
- NGR 7855C Evidence-Based Practice Development for DNP (3 credit hours, 60 clinical hours)

## Progress to Degree

Students are required to maintain a 3.0 grade point average. Students who receive a grade of below B in any course will be reviewed by the DNP Admissions, Progression and Graduation Committee for continuation in the program. Grades of below B are not acceptable in the doctoral program in the College of Nursing. Students who do not maintain a 3.0 GPA will be put on probation or dismissed from the program.

## Graduation Requirements

- All course work completed with a minimum grade of "B"
- A satisfactory DNP Project
- Clinical performance evaluated at a satisfactory level
- A satisfactory public presentation of the DNP Project
- A professional portfolio

## Independent Learning

A DNP Project will be completed by all students in the DNP program. A scholarly project, derived from clinical practice, will be developed in depth with faculty supervision.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- BSN degree from an accredited institution.\*
- Undergraduate Statistics course.
- Official, competitive GRE score taken within the last five years.

- Licensure as a registered nurse in the State of Florida. (Out of state applicants must be eligible for licensure in Florida and must achieve RN licensure to begin clinical courses.)
- Address the following 3 items in a written essay. Total word count for all (not each) answers should be 500 words or less, double spaced, 12 point Times New Roman font, and 1 inch margins:
  - Describe how your professional experiences have prepared you for future education in the role which is the focus of your desired track.
  - Describe your plans to alter your work, professional and/ or personal obligations in order to have the time needed for graduate course and clinical practice work.
  - Identify one significant contemporary issue/ problem in the US Health care system and explore how members of the nursing profession can help address that issue or solve that problem.
- Curriculum Vitae which reflects prior education, recent clinical accomplishments, any recent scholarly work (publications and presentations), awards, additional certifications, and activities with professional organizations. For recent graduates this can include accomplishments as a student.
- An interview with faculty may also be required.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

\*For Students with a Bachelor’s degree in a discipline other than nursing, please contact the College of Nursing at [gradnurse@ucf.edu](mailto:gradnurse@ucf.edu) or 407-823-2744 for additional options.

Before submitting your application, it is recommended that applicants call the College of Nursing Graduate Office (407-823-2744) to speak with a DNP adviser to discuss your goals for doctoral study. It is advantageous to discuss the program before writing the required essay because the essay must address your goals for doctoral-level preparation for advanced nursing practice. Students are admitted to the program in the fall for the program of study; however, spring admissions are possible for a revised plan of study.

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 College of Nursing accepts most qualified students.

Students may take classes as a nursing nondegree-seeking, postbaccalaureate student on a space-available basis. Students must designate on their application that they are applying to the College of Nursing in order to facilitate processing of files. Successful completion of postbaccalaureate courses does not guarantee admission to the graduate program. Students may only take nonclinical courses. Prior to applying as a nondegree student, please contact the main nursing advising office for deadlines and nondegree options at [gradnurse@ucf.edu](mailto:gradnurse@ucf.edu).

### Application Deadlines

Family Nurse Practitioner Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Feb 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

### CONTACT INFO

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 UTWR 454

# Optics and Photonics PhD

## PROGRAM DESCRIPTION

The Optics and Photonics PhD program provides the highest-quality education in optical science and engineering, allowing students to conduct scholarly, fundamental, and applied research, while aiding in the development of Florida's and the nation's technology-based industries.

Research activities cover all aspects of optics, photonics, and lasers, and the Center for Research and Education in Optics and Lasers (CREOL), the Florida Photonics Center of Excellence (FPCE), and the Townes Laser Institute (TLI) are integral parts of the College of Optics and Photonics. Current research areas include: linear and nonlinear guided-wave optics and devices, high speed photonic telecommunications, fiber optic fabrication, fiber optic communications, solid state laser development, nonlinear optics, laser-induced damage, quantum-well optoelectronics, quantum optics, 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 College of Optics and Photonics (COP) was the first program to be offered the distinction of a college devoted to Optics in the United States. The College of Optics and Photonics has grown rapidly and now has 55 faculty members and faculty with joint appointments, 41 research scientists and 148 graduate students with research activities covering all aspects of optics, photonics, and lasers. Research expenditures are over \$10 million annually, with more than 20 percent of the funding coming from industrial partners, illustrating the effectiveness of the commitment to partnerships that is a foundational value of the COP.

## CURRICULUM

The Optics and Photonics PhD program requires a minimum 72 credit hours beyond the bachelor's degree, of which more than 50 percent should be

at the 6000 level or higher. These hours must be comprised of:

- At least 39 credit hours of formal course work satisfying the following requirements:
  - at least 30 credit hours must be Optics (prefix OSE) courses.
  - at least 6 credit hours must be science and engineering graduate research methods/ laboratory courses of which at least 3 credit hours must be in Optics.
- at least 15 credit hours of Dissertation (OSE 7980)

### Total Hours Required:

**72 Credit Hours Minimum beyond the Bachelor's Degree**

The Optics and Photonics PhD program is intended for students with a bachelors or 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 director on a case-by-case basis.

Students are required to pass a qualifying examination, usually taken after 12 months in the program. About one year after passing the qualifying exam, students must take a candidacy examination, form a dissertation committee, and submit an approved program of study before being admitted to candidacy doctoral status. The PhD core courses are not absolutely 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:

- A minimum of 39 hours of formal course work is required of which at least 30 credit hours must be formal Optics (OSE) courses.
- Up to 30 credit hours of appropriate graduate courses earned in a master's program from accredited universities may be waived with approval from the graduate committee.
- Only courses with grades of "B" or better can be transferred.



## Required Courses—24 Credit Hours

### Core Courses—18 Credit Hours

- OSE 6111 Optical Wave Propagation (3 credit hours)
- OSE 6115 Interference and Diffraction (3 credit hours)
- OSE 5203 Geometrical Optics and Imaging Systems (3 credit hours)
- OSE 5312 Light Matter Interaction (3 credit hours)
- OSE 6525 Laser Engineering (3 credit hours)
- OSE 6432 Guided Waves and Optoelectronics (3 credit hours)

### Research Methods/ Laboratory Courses—6 Credit Hours

At least 6 credit hours of approved Optics and related science/engineering research methods/ laboratory courses are required from the list below. At least one must be in Optics (OSE). One required laboratory may be waived if the student can demonstrate an equivalent hands-on proficiency in that laboratory specialization. These research methods/laboratory courses count toward the formal graduate course work requirement.

- OSE 6234C Applied Optics Laboratory (3 credit hours)
- OSE 6455C Photonics Laboratory (3 credit hours)
- OSE 6526C Laser Engineering Laboratory (3 credit hours)
- OSE 6615L Optoelectronic Device Fabrication Laboratory (3 credit hours)
- Other graduate science and engineering labs may be taken with college approval.

## Elective Courses—33 Credit Hours Minimum

### Restricted Electives—6-9 Credit Hours

In addition to the required courses above, students will need to complete an additional 6 credit hours to meet the 30 hours of formal Optics (OSE) course work required. An additional three hours of optics course work will also be required if the

student waived out of one of the research methods/ laboratory courses above.

Any formal graduate course with an OSE prefix may be an elective with the approval of the adviser. In addition, the following courses are also accepted toward meeting the Optics (OSE) course work requirement.

- EMA 5610 Laser Materials Processing (3 credit hours)
- PHY 5455 Modern X-ray Science (3 credit hours)
- PHZ 5505 Plasma Physics (3 credit hours)

A listing and description of courses offered by the College of Optics and Photonics is found in the “Courses” section of the Graduate Catalog Menu at the top of the page.

## Unrestricted Electives—27 Credit Hours Minimum

A combination of formal course work and research hours comprise the remaining unrestricted hours. At least 9 of these hours must be formal course work, which may be graduate optics, science or engineering courses. In addition to the 9 hours, 18 credits may be regular formal course work, doctoral research hours, independent study, or doctoral dissertation hours. Any courses outside of the graduate optics, science or engineering disciplines must be approved by the college associate dean.

## Dissertation—15 Credit Hours Minimum

- OSE 7980 Dissertation Research (15 credit hours)

## Qualifying Examination

Before students are eligible to take the candidacy examination, they must 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 graduate 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 areas of electromagnetic foundations of optics, interference, diffraction, coherence, geometrical optics and imaging systems, light matter interaction, and guided waves and optoelectronics. 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 PhD program through preliminary research work in the chosen field of study. The candidacy exam is comprised of written and oral portions. The exam is administered by the members of the student's dissertation advisory committee who are full faculty members of the College of Optics and Photonics. External committee members of the dissertation advisory committee are not appointed until after the student has passed the candidacy exam. The 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).

## Admission to Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of most course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.

## Dissertation Proposal and Defense

Approximately 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 their 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 graduate

faculty members from the College of Optics and Photonics and one faculty member from outside the college, must be approved by the director or designee and will meet annually to review the student's progress. The dissertation advisory committee also administers the dissertation oral defense examination.

## Independent Learning

The dissertation satisfies the independent learning experience.

## APPLICATION REQUIREMENTS

**Before completing general UCF graduate application requirements, all applicants for programs in the College of Optics and Photonics are recommended to complete the pre-application process. The pre-application is located at <http://www.creol.ucf.edu/Academics/Prospective/PreApplication.aspx>.**

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Bachelor's or master's degree in Optics, Electrical Engineering, Physics or closely related discipline.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation
- Goal statements: Personal Statement and Research Statement
  - Personal Statement should describe your career goals. Please include why you want to come to CREOL and how the PhD will help you achieve your ultimate career goals. Do you want to work in industry or do you want to go into academia?
  - Research Statement should describe the type of research that you are most interested in or specific faculty members that you wish to work with. If there are multiple areas of research, please provide information for each area.
- Résumé

Students with degrees in related fields may be required to take undergraduate articulation courses determined by the program director on a case-by-case basis.

### Application Deadlines

Optics PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 2	Jul 15	Dec 1	Apr 15
International Applicants	Jan 2	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 2	Mar 1	Sep 1	Dec 15

### CONTACT INFO

#### David Hagan PhD

Associate Dean

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CROL 231

# Physical Therapy DPT

## PROGRAM DESCRIPTION

The mission of the Doctor of Physical Therapy program at the University of Central Florida is to educate students to be compassionate, competent, confident, and able to practice in a variety of healthcare settings. The graduates will be highly dedicated professionals with excellent ability in patient skills, communication, critical thinking, patient education and advocacy, management and research. They will be life-long learners and ethical practitioners.

#### Goals of the DPT Program:

- To prepare Physical Therapists who are committed to their profession through the active participation in their communities and their advocacy for patients.
- To meet the needs of the changing healthcare environment and to provide quality physical therapy education for students at the University of Central Florida. The work of the faculty encompasses teaching, practice, research, and service activities to accomplish this goal.
- To inspire physical therapy students throughout their education process at UCF of the value of multidisciplinary collaboration by encouraging interdepartmental relationships and relationships with the community in education, research, and service.
- To serve students who are diverse in age, with ethnic and racial identity, and socioeconomic background.
- To foster an environment of creativity and innovation by using state-of-the-art technology.

The DPT program is a three-year (nine consecutive semesters) professional doctoral curriculum designed to prepare entry-level therapists to practice in a variety of clinical settings. The professional curriculum is a full-time “lock-step” program with no opportunity to take courses other than those prescribed by the program. The program includes multiple clinical practica and internships ranging from six weeks to twelve weeks long. Applicants need to note that one or more of the clinical practica may be assigned at a site sufficiently removed from the Orlando area and

may require the student to provide transportation and housing. Students who successfully complete the course of study will be granted the Doctorate in Physical Therapy degree, enabling the graduate to take the national board examination leading to state licensure as a Physical Therapist. The UCF DPT program promotes lifelong learning and professional development, which is attained through active involvement in professional organizations such as the American Physical Therapy Association. UCF's Program in Physical Therapy is fully accredited by the Commission on Accreditation of Physical Therapy Education.

## CURRICULUM

The Doctor of Physical Therapy (DPT) Program is a full-time professional doctoral program requiring completion of 112 credits beyond the bachelor's degree. The course work is taken in a prescribed sequence over nine semesters as provided here and all course work is required. The program requires a total of 34 weeks of full-time clinical training. During the clinical affiliations, students work under the direct supervision of a licensed physical therapist.

### Total Hours Required:

**112** Credit Hours Minimum beyond the Bachelor's Degree

### Prerequisites

Each prerequisite course must be completed with a minimum grade of "C". The overall GPA for all prerequisite courses must be a **3.00** or higher to be considered for admission. The program recommends all prerequisite courses be completed at time of application and candidates with all prerequisites completed at time of application may be given preference over those still completing courses. **No more than two prerequisite courses may be in progress the fall semester prior to the program's start and no more than one course may be in progress during the spring semester prior to the program's start.** Courses older than seven years will not be accepted.

**Anatomy and Physiology** - Two courses with labs and a minimum of 8 credit hours is required. One of two options must be met:

Option 1: One semester of Human Physiology with lab and one semester of Anatomy with lab.

Option 2: Two semesters of Anatomy/Physiology combined courses with labs.

**Biology / Biological Studies** - Two courses and a minimum of 6 credit hours is required. Labs are not required. Must be courses for science majors.

**Chemistry** - Two courses with labs and a minimum of 8 credit hours is required. Introduction and survey courses are NOT accepted.

**Physics** - Two courses with labs and a minimum of 8 credit hours is required. General Physics and Physics with Calculus are both acceptable courses.

**Psychology** - One course (3 credit hours) is required. Any psychology course that is taken within the Psychology Department will meet this requirement.

**Statistics** - One course (3 credit hours) is required.

## Required Courses

### Year 1

#### *Summer Term 1 (14 Credit Hours)*

- PHT 5003 Foundations of Physical Therapy I (2 credit hours)
- PHT 5125 Clinical Kinesiology (2 credit hours)
- PHT 5125L Clinical Kinesiology Lab (2 credit hours)
- PHT 6115C Gross Anatomy/Neuroscience I (6 credit hours)
- PHT 6606 Research Methods in Physical Therapy (2 credit hours)

#### *Fall Term 1 (17 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 6118C Gross Anatomy/Neuroscience II (6 credit hours)
- PHT 6156C Applied Human Physiology for Health Science (5 credit hours)

***Spring Term 1 (14 Credit Hours)***

- 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 6242 Orthopedic Physical Therapy (2 credit hours)
- PHT 6242L Orthopedic Physical Therapy Lab (1 credit hour)
- PHT 6306 Pathology/Pharmacology (4 credit hours)

**Year 2*****Summer Term 2 (12 Credit Hours)***

- PHT 5718 Neurological Physical Therapy (2 credit hours)
- PHT 5718L Neurological Physical Therapy Lab (1 credit hour)
- PHT 6219 Theories and Procedures II (2 credit hours)
- PHT 6219L Theories and Procedures II Lab (1 credit hour)
- PHT 6245 Therapeutic Exercise II (3 credit hours)
- PHT 6245L Therapeutic Exercise II Lab (1 credit hour)
- PHT 7722C Physical Therapy Integration I (2 credit hours)

***Fall Term 2 (16 Credit Hours)***

- PHT 6521 Management of Physical Therapy Services (3 credit hours)
- PHT 6322C Pediatric Physical Therapy (3 credit hours)
- PHT 6381C Cardiopulmonary Physical Therapy (2 credit hours)
- PHT 6070C Radiology/Imaging for Physical Therapy (3 credit hours)
- PHT 6805C Clinical Education I (3 credit hours)
- PHT 6716C Advanced Orthopedic Physical Therapy I (2 credit hours)

***Spring Term 2 (12 Credit Hours)***

- PHT 6374C Gerontology in Physical Therapy (2 credit hours)
- PHT 6618 Research Applications in Physical Therapy (2 credit hours)
- PHT 6719 Advanced Neurological Physical Therapy (2 credit hours)
- PHT 6719L Advanced Neurological Physical Therapy Lab (1 credit hour)
- PHT 7134C Physical Therapy Integration II (2 credit hours)
- PHT 6720 Wound Care and Professional Issues (1 credit hour)
- PHT 7730C Primary Care for the Physical Therapist (2 credit hours)

**Year 3*****Summer Term 3 (6 Credit Hours)***

- PHT 7822C Advanced Clinical Education I (6 credit hours)

***Fall Term 3 (10 Credit Hours)***

- PHT 7823C Advanced Clinical Education II (4 credit hours)
- PHT 7721C Advanced Orthopedic Physical Therapy II (1 credit hour)
- PHT 7772C Advanced Neurological Physical Therapy II (1 credit hour)
- PHT 7780C Advanced Gerontology in Physical Therapy I (1 credit hour)
- PHT 7329C Advanced Pediatric Physical Therapy I (1 credit hour)
- PHT 7521C Management of Physical Therapy Services II (2 credit hours)

***Spring Term 3 (11 Credit Hours)***

- PHT 5005 Foundations of Physical Therapy II (2 credit hours)
- PHT 7900 Capstone Project in Physical Therapy (3 credit hours)
- PHT 7829C Advanced Clinical Education III (4 credit hours)
- PHT 7XXXC \*\*\*Elective Course (2 credit hours)



\*\*\*Elective Course Options (student must select at least one of the following courses, pending availability):

- PHT 7742C Acute Care Physical Therapy (2 credit hours)
- PHT 7778C Advanced Manual Therapy (2 credit hours)
- PHT 7764C Advanced Neurologic Treatment (2 credit hours)
- PHT 7702C Advanced Orthotics and Prosthetics (2 credit hours)
- PHT 7779C Sports Physical Therapy (2 credit hours)

## Examinations

This program requires a final comprehensive examination on all course work in the program of study. Students are required to pass the comprehensive examination with an 80% proficiency. Students will be allowed to re-take the examination for a total of three (3) attempts. A student may not graduate from the DPT program until the comprehensive examination is passed with an 80%. Failure to pass the examination after 3 attempts will result in a meeting with the Retention and Advancement Committee for the DPT Program, where further action will be determined. In addition, comprehensive examinations may be required at the end of each year of the program. Participation and completion of a capstone (research) project is also required of each student prior to graduation.

## Equipment Fee

Students in the DPT program pay a \$90 equipment fee each semester that they are enrolled.

## Independent Learning

All students in the Doctor of Physical Therapy (DPT) program are required to engage in independent learning, a process in which individuals take the initiative, with or without help of others to attain knowledge, skills, and professional behaviors. Tangible assignments, such as “Grand Rounds” (i.e., patient case studies), research projects, scholarly reviews, and full-time clinical practica mandated by the program and provide important independent learning experiences giving students ample opportunities to develop and demonstrate

independent learning skills as a result of self-inquiry and group dialogue.

## APPLICATION REQUIREMENTS

The Doctor of Physical Therapy program at UCF will participate in the Physical Therapist Centralized Application Service, known as PTCAS, beginning in July 2014. Prospective students applying to the entry-level physical therapist education program for the 2015 entering class must apply online using the PTCAS application. To learn more about the PTCAS application process, visit [www.ptcas.org](http://www.ptcas.org).

The following application materials must be submitted to PTCAS no later than October 15th of the year prior to the anticipated entry date:

- One official transcript from each college/ university attended.
- Official GRE scores taken within last five years. Use GRE CODE for UCF PTCAS: **3871** (Do not use the “Institution Code” for GRE listed to the right.)
- PTCAS application (visit [www.ptcas.org](http://www.ptcas.org)).
- Prerequisite courses within seven (7) years of anticipated matriculation.
- A minimum of 30 hours of volunteer or work experience under the direct supervision of a licensed physical therapist. A variety of settings is recommended.
- Three (3) letters of recommendation with PTCAS recommendation forms, including one from a physical therapist.
- Resume.
- Biographical essay indicating interest in the program, exposure to the field of physical therapy, and professional goals.
- Applicants who have attended a college/ university outside the United States must also provide a course-by-course credential evaluation with GPA calculation.

*Applications that are incomplete in the PTCAS after October 15 will NOT be reviewed.*

Application requirements:

- The bachelor’s degree may be in any discipline from a regionally accredited institution and may be in progress at time of application.

However the degree must be awarded prior to the program's start date in the Summer C semester.

- Minimum GPA of 3.00 (on 4.00 scale) in the last 60 credit hours of undergraduate degree.
- Minimum GPA of 3.00 (on 4.00 scale) for all prerequisite courses. Each prerequisite course grade must be a 'C' or higher.
- Minimum GRE scores of 146 for verbal reasoning; 144 for quantitative reasoning; and 3 on the analytical writing portion.
- An on-campus interview, by invitation only, scheduled after the initial application review process is complete.

*Applicants not meeting these minimum requirements will not be considered for admission. Meeting these minimum requirements does not guarantee an applicant an interview or admission to the program. All applicants and admitted students to the Doctorate of Physical Therapy program must perform certain Essential Functions in order to participate and complete program requirements.*

PTCAS will begin accepting applications in July, however the program will not begin reviewing applications until September. Applicants invited for on-campus interviews will be notified in November.

Admissions decisions will be made only once per academic year. Incoming students must begin the program in the summer semester.

Thirty-six (36) students are admitted to the program each year. The demographics of a recent class include an average age of 24 years and a grade point average of 3.7 (on a 4.0 scale) for both GPA of upper division coursework and prerequisite courses, and an average GRE scores of 154Q / 154V / 4WA.

Admission to the program is competitive based on the above criteria, the applicant's abilities, past academic performance, work experience and match of the applicant with the program's mission and goals.

### Application Deadlines

Applications are only accepted for Summer admission. The application for this program can be found at [www.ptcas.org](http://www.ptcas.org).

Physical Therapy DPT	Fall Priority	Fall	Spring	Summer
Domestic Applicants				Oct 15
International Applicants				Oct 15
International Transfer Applicants				Oct 15

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# Physics PhD

- Planetary Sciences Track

## PROGRAM DESCRIPTION

The doctoral program in Physics intends to provide a broad base in experimental and theoretical physics. Students will obtain distinction in their field of study with research opportunities in condensed matter physics, nanostructure devices, surface science, optical physics, complex systems, biophysics, atomic and molecular physics, and planetary/space science.

The rules and recommendations below do not apply to the Planetary Sciences track of the Physics PhD program.

## CURRICULUM

The Physics PhD program requires a total of 72 credit hours for completion. A specific set of six required core courses (18 credit hours), thirteen elective courses (39 credit hours), and a minimum of 15 credit hours of dissertation are part of the 72 hours. Of the 39 credit hours, 9 credit hours must be formal courses and 3 credit hours must be in a methods course selected from a list approved by the Physics department (see below). The remaining 27 credit hours need to be a combination of directed research, other electives, and/or dissertation. Courses must be selected so that at least one-half of the required 72 hours are taken at the 6000 level.

### Total Hours Required:

72 Credit Hours Minimum beyond the Bachelor's Degree

42 Credit Hours Minimum beyond the Master's Degree  
Total Hours Required:

### Required Core Courses—18 Credit Hours

All students are required to take the following core courses. For all core courses there will be weekly recitations.

- 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)
- PHY 5524 Statistical Physics (3 credit hours)
- PHY 6246 Classical Mechanics (3 credit hours)

### Elective Courses—39 Credit Hours

Elective and research courses are determined by the student's chosen specialization as listed below. Of the 39 credit hours, 9 credit hours must be from formal courses and 3 credit hours must be in a methods course approved by the department. The remaining 27 credit hours can consist of any combination of courses.

#### Formal Courses—9 Credit Hours

Students must complete three formal courses (9 credit hours) from the specialization coursework listed below.

#### Methods Course—3 Credit Hours

Students must complete one methods course (3 credit hours) from the following list:

- PHY 5846C Methods of Experimental Physics (3 credit hours)
- PHZ 5156 Computational Physics (3 credit hours)
- AST 5765C Advanced Astronomical Data Analysis (3 credit hours)
- PHY 5937 Nano-Electronics (3 credit hours)

#### Remaining Electives—27 Credit Hours

Students must complete 27 credit hours of unrestricted electives, which may consist of formal courses, research, and/or dissertation hours. Students should consult with their adviser about selections for the remaining unrestricted electives.

#### 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.

**Recommended Courses**

- PHY 6673 Advanced Quantum Mechanics (3 credit hours)
- PHY 5933 Selected Topics in Biophysics and Macromolecules
- PHZ 5156 Computational Physics (3 credit hours)
- PHY 5846C Methods of Experimental Physics (3 credit hours)
- PHZ 5405 Introduction to Condensed Matter Physics (3 credit hours)
- PHZ 6426 Condensed Matter Physics I (3 credit hours)
- PHZ 6428 Condensed Matter Physics II (3 credit hours)
- PHY 6667 Quantum Field Theory I (3 credit hours)
- PHY 7669 Quantum Field Theory II (3 credit hours)
- PHZ 5505 Plasma Physics (3 credit hours)
- PHY 5650 Introduction to Quantum Computation (3 credit hours)
- PHZ 5304 Nuclear and Particle Physics (3 credit hours)
- PHZ 6234 Atomic Physics (3 credit hours)
- PHZ 6420 First Principles Computational Methods in Condensed Matter Physics and Materials Science (3 credit hours)
- PHY 6600C Theory and Computation of Molecular Wave Functions (3 credit hours)
- PHY 6938 Selected Topics in Scattering Theory (3 credit hours)
- OSE 5312 Fundamentals of Optical Science (3 credit hours)
- OSE 6347 Quantum Optics (3 credit hours)
- PHY 7919 Directed Research
- Other courses from Physics, Math, Optics, Materials Science, Engineering require approval by the student's adviser and the graduate program director.

**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 Introduction to Condensed Matter Physics (3 credit hours)
- PHZ 6426 Condensed Matter Physics I (3 credit hours)
- PHZ 6428 Condensed Matter Physics II (3 credit hours)
- PHZ 5156 Computational Physics (3 credit hours)
- PHY 5846C Methods of Experimental Physics (3 credit hours)
- PHZ 6420 First Principles Computational Methods in Condensed Matter Physics and Materials Science (3 credit hours)
- PHZ 5437 Nanoscale Surface Physics (3 credit hours)
- PHZ 5432 Introduction to Soft Condensed Matter Physics (3 credit hours)
- PHY 5933 Selected Topics in Biophysics of Macromolecules (3 credit hours)
- PHY 5650 Introduction to Quantum Computation (3 credit hours)
- PHY 6667 Quantum Field Theory I (3 credit hours)
- PHY 7669 Quantum Field Theory II (3 credit hours)
- PHY 6938 Theory and Computation of Molecular Wave Functions (3 credit hours)
- PHY 6938 Selected Topics in Scattering Theory (3 credit hours)
- 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 David Hagan, PhD, College of Optics and Photonics. Students are recommended to take at least one of the following courses.

- OSE 6111 Optical Wave propagation (3 credit hours)
- OSE 6115 Interference and Diffraction (3 credit hours)

Select at least one of the following laboratory courses.

- OSE 6526C Laser Engineering Laboratory (3 credit hours)
- OSE 6455C Photonics Laboratory (3 credit hours)

The remaining courses (up to three) may be selected from other graduate courses in Optics (see [www.creol.ucf.edu](http://www.creol.ucf.edu)).

## Dissertation—15 Credit Hours Minimum

- PHY 7980 Dissertation Research (15 credit hours minimum)

All students must complete a minimum of 15 credit hours of dissertation prepared in consultation with a dissertation adviser. A fifteen-page written proposal is presented orally to the student's dissertation committee within one year after the written candidacy exam. 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.

## Seminar Attendance

Students in their fourth semester and beyond will be required to attend a major fraction of seminars and colloquia hosted by the Physics Department, as well as to make an annual presentation of their research work or independent study.

## Examinations

**Placement Exam**—All incoming PhD students in Physics will be required to take a placement exam covering topics in Quantum Mechanics, Classical Mechanics, Electromagnetism, and Thermodynamics at the undergraduate level.

**Candidacy Exam**—The candidacy exam consists of two parts.

Part 1 is a written exam covering the material of the core courses. It should be taken immediately after the core courses have been completed. After passing the written exam, the student should identify a research supervisor and a dissertation committee must be put in place with the approval of the graduate program director. Students are only allowed two attempts at passing the written part of the candidacy exam.

Part 2 is an oral exam that combines an examination of the student's command of Physics and a written dissertation proposal. The oral exam should be taken no later than one year after the written exam has been satisfied.

## Admission to Candidacy

The following are required to obtain candidacy status and enroll in dissertation hours:

- Completion of 51 credit hours to include all required core courses, formal course work and at least 21 credit hours of remaining electives. (Dissertation hours are not included)
- Successful completion of both part I (written exam) and part II (oral exam) of the candidacy exam.
- The dissertation advisory committee is formed, consisting of a chair, approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.

## Independent Learning

The Physics PhD program requires a doctoral dissertation. This will provide ample opportunities for students to gain independent learning experience through studying published research papers, conducting research and presenting their results in conferences and in peer-reviewed scientific journals.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.



- Official, competitive GRE score taken within the last five years.
- The Physics Subject Test of the GRE is recommended, but not required.
- Three letters of recommendation.
- Statement of goals.
- Résumé.
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

Students entering the Physics 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 and statistical physics, and quantum mechanics.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

## Application Deadlines

Physics PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jun 15	Nov 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

## CONTACT INFO

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# Planetary Sciences Track

## TRACK DESCRIPTION

The University of Central Florida has rapidly grown to become a center for research and teaching in the planetary sciences. Our goal is to create a vibrant planetary science research environment that can attract top students, researchers, and faculty and contribute significantly to the exploration of space. The Planetary Sciences track in the Physics PhD program is designed to prepare students to be competitive in the global planetary sciences research community.

## CURRICULUM

### Total Hours Required:

72 Credit Hours Minimum beyond the Bachelor's Degree

42 Credit Hours Minimum beyond the Master's Degree  
 Total Hours Required:

The Planetary Sciences track in the Physics PhD program requires a minimum of 72 credit hours beyond the bachelor's degree or 42 hours beyond the master's degree. This includes completion of 6 required courses (18 credit hours), 5 elective courses (15 credit hours) of regular course work selected in consultation with the student's dissertation advisory committee, a minimum of 15 credit hours of dissertation, and the remaining 24 credit hours of appropriately selected research, dissertation, and elective courses. Courses must be selected so that at least 36 of the 72 hours are at 6000 level or higher. No more than 12 hours of independent study may be credited toward the PhD degree. The PhD includes a Candidacy Exam to be taken after the completion of the core courses, a written dissertation, and a dissertation defense before the student's dissertation advisory committee.

### Required Courses—18 Credit Hours

The core is designed to give students a broad foundation in the planetary sciences and a rapid

training in the data analysis techniques that will be necessary for a successful research and publications.

- PHY 5524 Statistical Physics (3 credit hours)
- PHY 6246 Classical Mechanics (3 credit hours)
- PHZ 5156 Computational Physics (3 credit hours) or AST 5765C Advanced Astronomical Data Analysis (3 credit hours)
- AST 5154 Advanced Planetary Geophysics (3 credit hours)
- AST 5263 Advanced Observational Astronomy (3 credit hours)
- AST 5165 Planetary Atmospheres (3 credit hours)

### **Elective Courses—15 Credit Hours**

- AST 6XXX Planetary Astronomy Seminar (3 credit hours)
- AST 6112 Origins of Solar Systems (3 credit hours)
- AST 5334 Extrasolar Planets and Brown Dwarfs (3 credit hours)
- PHY 5937 Astrobiology (3 credit hours)
- AST 5145 Advanced Asteroids, Comets, and Meteorites (3 credit hours)

### **Other Electives—24 Credit Hours**

Please see your adviser. This may include elective courses, dissertation hours, or selected research courses.

- PHZ 5505 Plasma Physics (3 credit hours)
- PHY 5346 Electrodynamics I (3 credit hours)
- PHY 6347 Electrodynamics II (3 credit hours)
- PHY 5606 Quantum Mechanics I (3 credit hours)
- PHY 6624 Quantum Mechanics II (3 credit hours)
- OSE 5041 Introduction to Wave Optics (3 credit hours)
- EEL 5820 Image Processing (3 credit hours)
- OSE 5312 Fundamentals of Optical Science (3 credit hours)

### **Dissertation—15 Credit Hours**

- PHY 7980 Dissertation (15 credit hours)

### **Dissertation Advisory Committee**

Within the first half-semester of admission to the planetary sciences graduate track, each student must select, by mutual agreement, a faculty adviser and two other faculty members to serve on his or her Dissertation Advisory Committee. One of the faculty members who is not the adviser must be from an area in the department other than Planetary Sciences. UCF graduate faculty and self-funded research scientists who are graduate faculty scholars are eligible to serve on these committees. Changes in the membership of a Advisory Committee must be approved by the Planetary Sciences Graduate Committee. The adviser is expected to meet regularly with the student. The full committee shall meet with the student at least once per semester to review and make recommendations regarding the student's academic progress. At the time of the Candidacy Exam, a non-UCF Planetary Sciences scientist shall be added to the Advisory Committee.

### **Candidacy Exam**

The Planetary Sciences Track requires a candidacy exam to be taken after the completion of the core courses. This exam is composed of a written component and an oral exam. The written component is a journal-level research paper. The oral component is a two parts: (1) A public presentation of the research contained in the paper including the traditional question-and-answer period of a scientific presentation; and (2) private questioning on the detail of the presented research as well as the topics covered in the student's preparation and course work.

### **Dissertation Proposal**

The dissertation proposal may be presented simultaneously with the candidacy exam or in a separate meeting not more than one semester thereafter. Before substantial work is done on the dissertation, the Supervisory Committee must approve the proposal and must also assess whether additional course work is necessary to begin the dissertation. Such course work should be completed at the earliest opportunity and before substantial work is done on the dissertation.

### **Admission to Candidacy**

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all required and formal elective course work, except for research hours.
- Successful completion of the candidacy examination.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.

### Dissertation Defense

The dissertation defense is the final requirement for the PhD. It consists of a public presentation of the dissertation typically lasting 45-60 minutes including the traditional question-and-answer period of a scientific presentation, followed by private questioning by the Dissertation Advisory Committee. Procedures are similar to the candidacy exam.

### Independent Learning

The Planetary Sciences Track in the Physics PhD program requires a dissertation.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in physics, astronomy, geology, geophysics, geochemistry, atmospheric sciences, or planetary sciences.
- Official, competitive GRE score taken within the last five years.
- The Physics Subject Test of the GRE is recommended, but not required.
- Three letters of recommendation.
- Statement of goals.
- Résumé.
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly

to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

Additional courses may also be required to correct any course deficiencies for those applicants without full preparation in physics and astronomy. Students entering the Physics 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 and statistical physics, and quantum mechanics. Students should contact the graduate program director for further information.

Current students in the existing Physics graduate program wishing to switch to the Planetary Sciences track must submit a letter to the Planetary Science Graduate Committee addressed to Dr. Dan Britt. The letter should include the request to join the planetary sciences track, the student's degree goal (Masters), the name of the student's planetary sciences adviser, and a brief description of their expected area of research. Upon departmental approval, a Graduate Status Change Form will be submitted to the College of Graduate Studies.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

### Application Deadlines

Planetary Sciences Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jun 15	Nov 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

## CONTACT INFO

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# Clinical Psychology PhD

## PROGRAM DESCRIPTION

The Clinical Psychology track in the Psychology PhD program emphasizes the scientist-practitioner model of training as promulgated by the American Psychological Association (APA). The doctoral program in Clinical Psychology is accredited by the American Psychological Association.

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. Psychologists are utilized less for the direct delivery of psychological services and increasingly for performing professional duties such as administration, development of programmatic treatments, program evaluation, supervision, and research. Thus, there is a need for training to reflect the professional roles of the clinical psychologist in the twenty-first century. The Clinical Psychology doctorate is designed to respond to these changing roles.

Consistent with the mission of a major metropolitan university, the Clinical Psychology program 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 extensive partnership with public and private health service delivery resources in the central Florida area who participate as externship training sites.

## CURRICULUM

The Clinical Psychology track in the Psychology PhD program is designed to be a full-time program, with some summer enrollment expected. There are a total of 84 semester hours of courses, practica, and research requirements. In addition to the 84 semester hours, students engage in a variety of clinical training experiences that occur in health and mental health facilities throughout greater Orlando. Courses are presented in sequential fashion and students entering with a baccalaureate degree must earn a master's degree in route to the PhD. Students who enter with a master's degree must complete at least 54 semester hours at UCF. A dissertation that represents a significant scientific contribution to

the discipline is required. Successful completion of the Qualifying and Comprehensive Examination is required to be admitted into candidacy and prior to initiation of dissertation research.

### Total Credit Hours Required:

**84** Credit Hours Minimum beyond the Bachelor's Degree

**54** Credit Hours Minimum beyond the Master's Degree

### Required Courses—69 Credit Hours

#### Psychology Foundation Courses—12 Credit Hours

- DEP 5057 Developmental Psychology (3 credit hours)
- SOP 5059 Advanced Social Psychology (3 credit hours)
- PSB 5005 Physiological Psychology (3 credit hours)
- EXP 6506 Human Cognition and Learning (3 credit hours)

#### Research Courses—18 Credit Hours

- PSY 7217C Advanced Research Methodology I (4 credit hours)
- PSY 7218C Advanced Research Methodology II (4 credit hours)
- PSY 7219C Advanced Research Methods III (4 credit hours)
- PSY 6971 Thesis (6 credit hours)

#### Clinical Courses—36 Credit Hours

- CLP 6191 Cross-Cultural Psychotherapy (3 credit hours)
- CLP 7446C Child Psychological Assessment (3 credit hours)
- CLP 7447C Adult Psychological Assessment (3 credit hours)
- CLP 7145C Introduction to Clinical Psychology and Psychotherapy (2 credit hours; taken two times at 1 credit hour each time)
- CLP 7125 Adult Psychopathology (3 credit hours)

- CLP 7136 Child Psychopathology (3 credit hours)
- CLP 7623 Ethical and Professional Issues in Clinical Psychology (3 credit hours)
- CLP 7494 Adult Empirically Supported Treatments (3 credit hours)
- CLP 7474 Child Empirically Supported Treatments (3 credit hours)
- CLP 7943C Clinical Practicum (taken 2 times at 3 hours; 6 credit hours)
- CLP 6949 Pre-doctoral Internship (taken 3 times at 1 credit hours; 3 credit hours)
- CLP 7942L Supervision Practicum (1 credit hour)

### **Professional Development—3 Credit Hours**

- EXP 6939 Teaching Seminar (3 credit hours)

### **Dissertation—15 Credit Hours**

- PSY 7980 Doctoral Dissertation (15 credit hours)

### **Quality/Comprehensive Doctoral Examinations**

#### ***Domain A: Research (required)***

- Theoretical or Review Article, or
- Empirical Article

#### ***Domain B: Clinical Practice/Consultation***

- Comprehensive Case Presentation, or
- Program Development (Rx/Prevention)

#### ***Domain C: Teaching***

- Undergraduate Instructor Experience, or
- Professional Presentation Experience

**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) be expertly

trained, empirically oriented clinicians capable of designing, implementing and assessing programs concerned with mental health and mental health delivery broadly defined; and (c) competently serve as innovative teachers/instructors in colleges, universities, and medical schools, and as presenters at local, regional, national and international professional conferences.

#### **Requirements, Rationale, and Objectives—**

Successful completion of qualifying and comprehensive examination requirements reflects the program's desire to ensure overall breadth of training in the field of Clinical Psychology that is complemented by individually tailored professional training experiences and competencies consistent with a student's professional career goals. The three professional domains outlined above are consistent with this intent. All students are expected to discuss possible selections with their major professor/faculty adviser prior to formalizing their choices. Choices made are 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.

### **Admission to Candidacy**

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of most course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.

The American Psychological Association requires that graduate students be evaluated at least annually, and provide written feedback to graduate students. Because clinical psychology involves the provision of mental health services to the public, special care must be taken to ensure that graduate 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 interpersonal functioning. The Clinical Psychology Committee reserves the right to drop from the program graduate students who continue to exhibit serious difficulties in these behavioral domains and do not respond to feedback and efforts at remediation.

## MASTER OF SCIENCE IN CLINICAL PSYCHOLOGY

Graduate students enrolled in the Clinical Psychology PhD earn a Master of Science in Clinical Psychology in route to their doctorate unless they are admitted with an acceptable master's degree. This is a nonterminal master's degree available only to students in the Clinical Psychology PhD program.

### Independent Learning

As befits the nature of graduate training and the pursuit of a doctoral degree, graduate students in clinical psychology are expected to engage in independent learning throughout their graduate career. The completion of the master's thesis and the doctoral dissertation are two examples of independent learning in which all graduate students participate. In addition, depending upon their career goals, other experiences, such as directed readings or additional research projects, may be undertaken by graduate students.

## APPLICATION REQUIREMENTS

Applicants must have at least a Baccalaureate degree with a major in psychology or a Baccalaureate 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 theory, abnormal psychology, learning, physiological psychology, clinical psychology, developmental psychology, social psychology). Applicants who enter with a Master's degree may be eligible to waive or transfer up to 30 credit hours for credits earned from a completed Master's degree from an accredited institution (as long as this number does not exceed 50% of the program's requirements). In these cases, each applicant's situation will be reviewed individually based on program standards and requirements.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years (use UCF Institution Code: 5233).
- The Psychology Subject Test of the GRE.
- Evidence of successful completion of undergraduate course work in statistics and general areas of psychology.
- Curriculum Vitae.
- Three letters of recommendation, with at least two furnished by college or university professors who are acquainted with the applicant.
- A 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.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

Due to the competitive nature of the application process, 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 clinical 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.

In 2012, the Doctoral Program in Clinical Psychology received 214 applications for admission, but only a total of four students entered the Ph.D. program. 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.

Previous graduate work will be considered on a case-by-case basis (including acceptance of a previously completed Master's Thesis). Graduate

students may be eligible to waive up to 18 credits earned from a completed Master's degree from an accredited institution. Each graduate student's situation is considered individually by the clinical faculty. Graduate students should submit a request to the Director of Clinical Training and provide a course catalog description, course syllabus, and other relevant information to enable the clinical faculty to make a determination of equivalence with a course in the Ph.D. curriculum. The waived hours must come from graduate-level course work (e.g., numbered 5000 and above in the Florida SUS approach). No courses with grades less than "B" will be considered for waiver. Graduate students who did not complete an empirical thesis as part of their required training at another accredited institution must complete an empirical thesis prior to forming a dissertation committee. Graduate students who completed an empirical Master's Thesis at their former accredited institution may submit the Master's Thesis to the Director of Clinical Training, who will assign a faculty committee to review the Master's Thesis and determine whether it meets the Ph.D. program's standards for excellence. Graduate students must propose and successfully defend an approved Master's Thesis under the direction of clinical faculty if the Master's Thesis that they completed at a previous institution fails to meet the Ph.D. program's standards.

### Application Deadlines

Clinical Psychology PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 1	Dec 1		
International Applicants	Dec 1	Dec 1		
International Transfer Applicants	Dec 1	Dec 1		

### CONTACT INFO

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# Applied Experimental and Human Factors Psychology PhD

## PROGRAM DESCRIPTION

The Psychology PhD program in Applied Experimental and Human Factors Psychology includes classroom studies and a variety of research, consulting, and internship opportunities. The program is accredited by the Human Factors and Ergonomics Society, and 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 APA's Division 21 (Applied Experimental and Engineering Psychology).

Human Factors is an approach to practice and design focusing 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.

## CURRICULUM

For students who enter with a baccalaureate degree, the Applied Experimental and Human Factors track in the Psychology PhD program requires a minimum of 75 credit hours, and students may earn the MA degree in route to the PhD by completing all of the requirements of the PhD except for dissertation. For students who already have a master's degree in Psychology, the MA is not available. Students who enter with a master's degree in psychology will be allowed to waive up to 30 hours of graduate course work to the doctoral program with approval of the program faculty, and will also be required to complete a minimum of 60 semester hours at UCF.

### Total Credit Hours Required:

75 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—42 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 6541 Advanced Human-Computer Interaction (3 credit hours)
- INP 7089 Human Factors Professional Issues (3 credit hours)
- PSB 5005 Physiological Psychology (3 credit hours)
- PSY 7217C Advanced Research Methodology I (4 credit hours)
- PSY 7218C Advanced Research Methodology II (4 credit hours)
- PSY 7219C Advanced Research Methodology III (4 credit hours)

### Elective Courses—18 Credit Hours

Students should choose electives in concentrated course groupings: for example, human-machine systems, performance measurement and evaluation, human computer interaction, 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 5248C Ergonomics (3 credit hours)
- EIN 5251 Usability Engineering (3 credit hours)
- EIN 6258 Human Computer Interaction (3 credit hours)
- EXP 5254 Human Factors and Aging (3 credit hours)
- INP 5825 Human-Computer Interface (HCI) Design: A Team Approach (3 credit hours)
- INP 7310 Organizational Psychology I (3 credit hours)
- PPE 5055 Personality Theories (3 credit hours)
- SOP 5059 Advanced Social Psychology (3 credit hours)
- PSY 5605 History and Systems of Psychology (3 credit hours)
- DIG 5875C Introduction to Modeling and Simulation (3 credit hours)
- DIG 6432 Transmedia Story Creation (3 credit hours)
- EIN 5255C Interactive Simulation (3 credit hours)
- EME 6613 Instructional System Design (3 credit hours)
- EME 6614 Instructional Game Design for Training and Education (3 credit hours)
- DIG 5876 Quantitative Aspects of Modeling and Simulation (3 credit hours)
- IDS 6916 Simulation Research Methods and Practicum (3 credit hours)
- INP 6072 Applied Research Methods in I/O (3 credit hours)
- PSY 7315 Psychometric Theory and Practice (3 credit hours)
- STA 6714 Data Preparation (3 credit hours)

- STA 6704 Data Mining Methodology II (3 credit hours)
- STA 5703 Data Mining Methodology I (3 credit hours)

### **Dissertation—15 Credit Hours**

- PSY 7980 Doctoral Dissertation (15 credit hours)

### **Qualifying/Comprehensive Doctoral Examinations**

#### ***Domain 1: Research***

- Published/Publishable Article (1st Author)

#### ***Domain 2: Teaching/Professional Presentations***

- Undergraduate Instructor Experience, or
- Professional Presentation Experience

#### ***Domain 3: Grant Proposal***

- Grant Proposal

#### ***Domain 4: Professional Experience***

- Submit an Article to EID (Ergonomics In Design), or
- Patent, or
- Consulting, or
- Design Project, or
- Complete HF III course

#### ***Domain 5: Research Methods/Critique***

- In Class Test Administration Offered in Spring, or
- In Class Test Administration Offered in Fall

**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 Applied Experimental and Human Factors 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 graduate student skills and abilities in (1) Research; (2) competently serving as innovative teachers/instructors in colleges and universities, and as presenters at local, regional, national, and international professional conferences; (3) preparing/reviewing

grants; (4) obtaining Professional Experience, and (5) understanding and using Research Methods/Critique.

#### **Requirements, Rationale, and Objectives—**

Successful completion of qualifying and comprehensive examination requirements reflects the program's desire to ensure overall breadth of training in the field of Applied Experimental and Human Factors Psychology that is complemented by individually tailored professional training experiences and competencies consistent with a student's professional career goals. The five professional domains outlined above are consistent with this intent. Students are required to complete all domains. The student must meet all domain requirements during his or her tenure at UCF. Work completed outside the program will not be considered for domain completion. Some competency domains contain options, and students are free to select any option (see options under each domain in above matrix) in consultation with their faculty advisers.

1. Students fulfill the **Research** domain by submitting an article to a refereed journal. Students must be first or solo author on empirical research that is either published or publishable in a peer-reviewed journal. If the student does not receive word on journal submission by 6 months or if article is rejected, the faculty committee will review the student's work and determine if it fulfills the requirement.

Fulfillment of this component is intended to (a) complement the student's graduate level course work in research methods, design, statistics, and on-going research practica, (b) hone conceptual and professional writing skills related to publishing findings in scholarly journals, (c) encourage students to submit completed scholarly works to journals for peer review, and (d) provide students with the opportunity to receive and react to comments offered by professional journal reviewers.

2. Fulfillment of the **Teaching/ Professional Presentations** domain requires first that all students complete the UCF College of Graduate Studies 2-day GTA Training session. In addition, students need to either serve as instructor of record for an undergraduate class at UCF or complete 5 formal presentations. If the student opts for Instructor of Record of an undergraduate course, the student must



do the following: Submit a syllabus, lecture notes, examinations, two course evaluations (mid and end-of-semester), as well as written feedback from the student's major professor or members of the student's doctoral committee who directly observed or viewed videotapes of at least three lectures. If the student opts to conduct professional presentations, that student must complete 5 presentations where he or she is an author and is also the primary presenter. Professional presentations do not include poster presentations or classroom presentations.

Fulfillment of the traditional **Teaching** domain is intended to provide students with (a) additional training and opportunities to develop instructional skills consistent with university level instruction, (b) the opportunity to receive and react to constructive comments concerning their developing instructional skills, (c) additional opportunities to learn and develop expertise in using newly developed technology and methods relevant to university level instruction (e.g., active learning groups, computer assisted technology, software programs that facilitate and complement traditional instructional activities), and (d) additional expertise in select areas of psychology to prepare them for future professional instructional opportunities following graduation from the University. The **alternative option** under this domain is intended to encourage students to engage in research studies beyond those required by the program and to present their findings at professional meetings. Fulfillment of this requirement is expected to promote research involvement throughout graduate training and promote student competency in (a) developing written submissions of completed empirical works, (b) oral presentations skills with professional audiences, (c) learning and using innovative technology relevant to paper/poster presentations, and (d) receiving and reacting to constructive comments offered by professionals.

3. Fulfillment of this domain requires each student to submit an independent grant application that he or she has initiated. The grant application must be submitted to a funding agency. If the grant is not awarded, its acceptability to fulfill the domain's requirement will be reviewed by the HF faculty committee.

Fulfillment of the **Grant/Proposals** domain is intended to (a) provide students with additional training and opportunities to critically review a specific area of empirical research related to applied experimental and human factors psychology, (b) hone conceptual and professional writing skills related to submitting grant applications to private and/or public granting agencies, (c) provide students with an opportunity to interact with department and university grant support facilities, (d) encourage extra-department financial support for conducting empirical studies (e.g., federal and private awards for dissertation research), and (e) provide students with an opportunity to receive and react to grant reviewer comments.

4. Fulfillment of the **Professional Experience** domain requires students to engage in professional experience that has an end product that can be evaluated by the HF Faculty committee by doing one of the following: a) Submit an article to EID (Ergonomics in Design) or comparable publication [note: article submission cannot be used to meet Domain 1], or b) Consulting or completing a design project that has been pre-approved by the HF Faculty committee, or c) successfully complete HF III course.
5. Fulfillment of the **Research Methods** domain requires all students to take an in-class exam administered in either the Fall or Spring semester of each year.

### Procedures and Time Guidelines for Completing the Comprehensive Examination

Students admitted to the PhD Applied Experimental and Human Factors Program will complete all of the five professional activity domain options (Research, Teaching/Professional Presentations, Grant Proposals, Professional Experience, and Research Methods/Critique) to fulfill the requirements of the comprehensive exams. Students are strongly encouraged to discuss their preferences and planned course for fulfilling the examination requirements with their academic advisers. Students admitted to the PhD Applied Experimental and Human Factors Program will not be able to use previous work completed at any institution other than the AEHF PhD program at the University of Central Florida (UCF) to fulfill the requirements.



Successful completion of the comprehensive examination criteria is expected within seven years, and must be completed before proposing the dissertation. Each student's comprehensive examination committee (which may be identical to the dissertation committee) will determine whether the student has successfully fulfilled the requirements of the comprehensive examination based on written grading procedures to be outlined by the AEHF faculty. A written summary of the results and the student's Professional Activity Domain dossier will be forwarded to the Applied Experimental and Human Factors Program faculty for review and final approval. The Applied Experimental and Human Factors Program faculty will review each submitted dossier within a three-week time interval. The Director of the Applied Experimental and Human Factors Program will notify students in writing following the successful completion of comprehensive examination requirements. Students may formally propose their dissertation following written notification that they have completed the comprehensive examination requirements.

### Admission to Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.

## MASTER OF ARTS IN APPLIED EXPERIMENTAL AND HUMAN FACTORS PSYCHOLOGY

Students enrolled in the Applied Experimental and Human Factors (AEHF) PhD track may elect to earn a Master of Arts in AEHF Psychology in route to their doctorate. This is a nonterminal master's

degree available only to students in the AEHF Psychology PhD track.

### Additional Program Requirements

The MA in AEHF Psychology requires a total of 60 credit hours beyond the bachelor's degree, as well as successful completion of the candidacy examination that qualifies the student for candidacy status within the AEHF Psychology PhD. All AEHF MA students take the same credit hours of core courses (less the 15 hour dissertation requirement) as well as and 18 credit hours of electives. All required courses and selected electives are described in the PhD program of study above.

**Note:** The MA in AEHF cannot be pursued if a master's in psychology or master's in modeling and simulation has already been awarded.

### Independent Learning

Given the nature of graduate training and the pursuit of a doctoral degree, graduate students in Applied Experimental and Human Factors Psychology are required to become involved in independent learning throughout their graduate careers. The obtaining of the master's degree on route to the doctoral degree and the doctoral dissertation are examples of independent learning in which all graduate students participate. In addition, the comprehensive evaluation activities which include passing a research methods examination, teaching, research with publishing, and applied experience are required of all graduate students. Depending upon their career goals, other experiences such as directed readings or additional research projects may be undertaken by the students.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Degree(s) should be in psychology or an allied area.

- Evidence of successful completion of undergraduate courses in statistics and general areas of experimental psychology.
- Résumé or Curriculum Vitae.
- A clear statement concerning the professional background, the type of research you wish to pursue as a graduate student, and the faculty member you believe would be best suited to serve as your major professor and mentor.
- Three letters of recommendation, with at least two furnished by college or university professors who are acquainted with the applicant.
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

Students are not normally admitted to the program without having completed a minimum amount of basic preparation in content related to experimental psychology. This preparation is judged on an individual basis but typically consists of at least 18 semester hours in 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 are evaluated for program prerequisites and advised of any need for additional preparation. Previous graduate work is evaluated for credit on a case-by-case basis.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree. Admission criteria are more stringent because of the competitiveness of the application process.

## Application Deadlines

Applied Experimental and Human Factors Psychology PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 15	Dec 15		
International Applicants	Dec 15	Dec 15		
International Transfer Applicants	Dec 15	Dec 15		

## CONTACT INFO

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# Industrial and Organizational Psychology PhD

## PROGRAM DESCRIPTION

The Industrial and Organizational Psychology track in the Psychology PhD program develops competency through research and training for the application of psychological principles to organizations. The degree is patterned on the scientist-practitioner model of the American Psychological Association (APA).

Program 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 doctoral program provides students with training 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.

To view our Industrial and Organizational Psychology Doctoral Program Handbook, please visit [www.handbooks.graduate.ucf.edu/IOPpsychPhD](http://www.handbooks.graduate.ucf.edu/IOPpsychPhD).

## CURRICULUM

The Psychology PhD program in Industrial and Organizational Psychology (I/O) requires four to five years of full-time study beyond the baccalaureate and three to four years beyond the master's. The first few years are devoted to course work and the final year to the doctoral dissertation.

Students enrolled in the doctoral program who wish to earn a master's degree en route to the PhD must meet with their PhD adviser and the program director for the MS program in Industrial and Organizational Psychology to plan a program of study. Students may be granted a master's degree after completing 40 hours of graduate courses in the PhD program including Industrial Psychology

I, Organizational Psychology I, Professional Issues, Research Methods I and II, Social Psychology, Psychometrics, one Special topics seminar, two credit hours of directed research, Industrial Psychology Practicum I, and three of the following electives offered in the MS program:

- INP 6058 Job and Task Analysis (3 credit hours)
- INP 6605 Training and Performance Appraisal (3 credit hours)
- PSY 6318 Applied Testing and Selection (3 credit hours)
- INP 6215 Assessment Centers and Leadership (3 credit hours)

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.

### Total Credit Hours Required:

72 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—45 Credit Hours

#### I/O Area Courses—33 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 7081 Professional Issues in Industrial and Organizational Psychology (3 credit hours)
- PSY 7315 Psychometric Theory and Practice (3 credit hours)
- PSY 7217C Advanced Research Methodology I (4 credit hours)
- PSY 7218C Advanced Research Methodology II (4 credit hours)
- PSY 7219C Advanced Research Methodology III (4 credit hours)

- INP 6072 Applied Research Methods in I/O (3 credit hours)

### Psychology Field Courses—6 Credit Hours

- SOP 5059 Advanced Social Psychology (3 credit hours)
- EXP 6506 Human Cognition and Learning (3 credit hours)

### Research Courses—6 Credit Hours

- INP 6933 Seminar in Industrial and Organizational Psychology (3 credit hours, taken twice) or
- INP 6971 Thesis (3 credit hours, taken twice)

### Elective Courses—12 Credit Hours

Students must select four elective courses. These courses must be approved by the student's major adviser and the program director. 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 available elective courses include, but are not limited to, the following:

- PPE 5055 Personality Theories (3 credit hours)
- MAN 6311 Advanced Topics in Human Resources Management (3 credit hours)
- MAN 7207 Organizational Theory (3 credit hours)
- MAN 6385 Human Resource Strategy (3 credit hours)
- INP 6605 Training and Team Performance (3 credit hours)
- INP 6215 Assessment Centers and Leadership (3 credit hours)
- INP 6058 Job Analysis and Performance Appraisals (3 credit hours)
- INP 6072 Survey Research Methods and Program Evaluation (3 credit hours)
- PSY 6318 Recruitment, Placement, and Selection (3 credit hours)
- INP 6933 Seminar in Industrial and Organizational Psychology (3 credit hours; may be taken up to 6 times for credit)

### Dissertation—15 Credit Hours

- PSY 7980 Doctoral Dissertation (15 credit hours)

### Teaching Experience

Prior to being admitted to doctoral candidacy, all students must successfully teach a minimum of one undergraduate course as instructor of record.

Fulfillment of the Teaching requirement involves first taking the UCF College of Graduate Studies online and face-to-face GTA Training. In addition, students need to serve as instructor of record for an undergraduate class at UCF. The student must submit a syllabus, lecture notes, examinations, two course evaluations (mid and end-of-semester), as well as written feedback from the student's major professor or members of the student's doctoral committee who directly observed or viewed videotapes of at least three lectures. Students will be required to administer student evaluations to their class mid-way through the semester so that they can receive feedback and make any necessary changes. The student's adviser will provide ratings of the student's performance as instructor of record at the end of the semester. If the adviser believes that the student has not performed satisfactorily, the adviser will determine remediation specific to the student's weakness (e.g., presentation skills). This remediation is not limited to, but may include, the following: serving as a guest lecturer for another instructor of record, taking a course or seminar, or teaching another semester, as determined by the student's adviser.

Fulfillment of the traditional Teaching requirement is intended to provide students with (a) additional training and opportunities to develop instructional skills consistent with university-level instruction, (b) the opportunity to receive and react to constructive comments concerning their developing instructional skills, (c) additional opportunities to learn and develop expertise in using newly developed technology and methods relevant to university-level instruction (e.g., active learning groups, computer-assisted technology, software programs that facilitate and complement traditional instructional activities), and (d) additional expertise in select areas of psychology to prepare them for future professional instructional opportunities following graduation from the university.

## Candidacy Examination

After completing all required courses, students must pass all three sections of the Candidacy Examination. This is a written examination covering the content of the field and are graded by the I/O faculty. Candidacy Examinations may be taken a maximum of three times. Failure to pass any section of the examination on three occasions will result in the student being dismissed from the program.

## Admission to Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.
- Successful completion of an undergraduate teaching assignment as instructor of record.
- Successful completion of the candidacy examination.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.

## Independent Learning

Given the nature of graduate training and the pursuit of a doctoral degree, graduate students in industrial and organizational psychology are expected to engage in independent learning throughout their graduate career. The completion of the doctoral dissertation is an example of independent learning in which all graduate students participate. In addition, a master's thesis or other research projects will be undertaken by the students from the first year on. To facilitate this process, students are expected to attend weekly program-sponsored research presentations during the Fall and Spring semesters and will be required to give at least three of these presentations prior to graduation.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.

- Official, competitive GRE score taken within the last five years.
- Bachelor's or master's degree in Psychology or another allied area.
- Evidence of successful completion of undergraduate courses in statistics and in the general area of experimental psychology.
- Résumé.
- Statement outlining the student's academic and professional background and goals, along with career aspirations and goals.
- Three letters of recommendation, with at least two furnished by college or university professors who are acquainted with the applicant.
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

It is preferred that applicants to the program either have 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. It is up to the discretion of the I/O admissions committee whether a student accepted into the I/O Psychology PhD program, with a bachelor's degree other than psychology, will be required to take upper-division courses in the core content areas of psychology.

Applicants should note that admission to the PhD 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 Deadlines

Industrial and Organizational Psychology PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 15	Dec 15		
International Applicants	Dec 15	Dec 15		
International Transfer Applicants	Dec 15	Dec 15		

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## Public Affairs PhD

- Criminal Justice Track
- Governance and Policy Research Track
- Health Services Management and Research Track
- Public Administration Dual Degree - MPA Track
- Public Administration Track
- Social Work Track

### PROGRAM DESCRIPTION

Instead of a discipline specific approach to the intransient problems facing our society today, the Doctoral Program in Public Affairs is an interdisciplinary program which draws upon the strengths of faculty in Criminal Justice, Health Management and Informatics, Public Administration, and Social Work. The program prepares students for academic appointments in colleges and universities as well as research and leadership positions in public, nonprofit, and private agencies. The dynamic mix of an interdisciplinary faculty, together with students from varied backgrounds, creates a stimulating environment to examine many of the contemporary social ills communities are currently facing.

The program matches 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 focus on taking more courses within their discipline.

Upon completing the program, graduates will have the theoretical, analytical, and ethical foundation to provide alternative solutions to these social ills while deepening our understanding of the underlying problem. This holistic approach answers to both applied and theoretical concerns and, as such, has the potential to have both local as well as national impact on programming and decision-making.

## CURRICULUM

The Doctoral Program in Public Affairs accommodates the needs of both traditional students and working professionals. All course work is offered in the evening hours and selected courses offer reduced seat time.

Students must complete 60 credit hours beyond the master's degree, including 15 courses (45 credit hours) above the master's level distributed in the following manner:

- a three-course, 9-credit required Public Affairs substantive core
- a six-course, 18-credit required Public Affairs methodological and statistical core
- a three-course, 9-credit required discipline-specific courses (Exception: Criminal Justice Track requires four courses, 12 credits)
- a two course, 6-credit elective. (may be taken outside the student's discipline) (Exception: Criminal Justice Track requires one course, 3 credits)
- a one course, 3-credit required Public Affairs practicum
- 15 credit hours of dissertation (minimum)

Students are required to take electives as directed by their track adviser. Students may take a maximum of two 3-credit-hour independent study courses to be used as electives with approval.

Students are to meet all objectives in the program to graduate.

### Total Hours Required:

**60** Credit Hours Minimum beyond the Master's Degree

The Public Affairs PhD program curriculum comprises an interdisciplinary core with advanced studies offered in five tracks: Criminal Justice, Governance and Policy Research, Health Services Management and Research, Public Administration, and Social Work. The program has a community-based focus with an emphasis on collaborative relationships across public, private and nonprofit sectors of the community.

Students are required to take a statistical assessment the summer semester prior to their entering the program fall semester. This assessment

will be used to determine a student's statistical knowledge and competency. Students that receive a passing score will be exempt from taking a 6XXX-level statistics course. Those students requiring the 6XXX-level course will meet with the Track Coordinator to determine which course will meet the requirement. Students are required to complete and pass the course prior to registering in PAF 7804 Quantitative I: Multivariate Analysis. The 6XXX-level course credit hours may be included in the student's program of study as an elective.

A maximum of 6 credit hours of Independent Study may be used as electives with adviser's approval.

Transfer work will only be accepted by the Public Affairs PhD program if taken as part of an approved plan of study for a doctoral program at UCF or elsewhere. A maximum of 6 credit hours taken at the doctoral level may be considered for transfer. The acceptance of transfer credit into the track for Public Affairs specialization or general elective component is dependent upon the approval of the Track Coordinator in consultation with the PAF Director. Transfer work will not be accepted into the PAF substantive or methodological core components..

A grade of B- or better is required in all courses. Students receiving a grade of "C+" or lower will be required to repeat the course and receive a grade of B- or better prior to taking the Qualifying Exam. Any student who receives more than one "C" in their doctoral course work may be dismissed from the program.

A minimum of 3.0 graduate status GPA and program of study GPA is required to maintain graduate student status and for graduation. Students with a GPA less than 3.0 may be dismissed from the program.

Any student who receives an "F" grade in their doctoral course work will be dismissed from the program.

## APPLICATION REQUIREMENTS

Applicants must choose a track in this program. Track(s) may have different requirements.

## Application Deadlines

Public Affairs PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Apr 1		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

## CONTACT INFO

### Lynette Feder PhD

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HPA 220

### Margaret Mlachak

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HPA1 RM 210

# Criminal Justice Track

## TRACK DESCRIPTION

The Doctoral Program in Public Affairs is an interdisciplinary program drawing from the strengths of faculty in Criminal Justice, Health Management and Informatics, Public Administration, and Social Work. The Criminal Justice Track prepares students for academic positions in colleges and universities as well as research and leadership positions in public, nonprofit and private agencies. The dynamic mix of an interdisciplinary faculty with students of varied backgrounds creates a stimulating environment to examine contemporary organizational, institutional and community problems and issues. Graduates possess the theoretical, analytical and ethical foundation to produce new knowledge that impacts policies and programs and enhances institutional and community performance.

## CURRICULUM

### Total Hours Required:

**60** Credit Hours Minimum beyond the Master's Degree

Students must complete 60 credit hours beyond the master's degree, including 15 courses (45 credit hours) above the master's level distributed in the following manner:

- a three-course, 9-credit hour required Public Affairs substantive core
- a six-course, 18-credit hour required Public Affairs methodological and statistical core
- a four-course, 12-credit hour required discipline-specific specialization
- a one course, 3-credit hour elective (may be taken outside the student's discipline)
- a one course, 3-credit hour required Public Affairs practicum
- 15 credit hours of dissertation minimum

Students are required to take a statistical assessment the summer semester prior to their entering the program fall semester. This assessment will be used to determine a student's statistical

knowledge and competency. Students that receive a passing score will be exempt from taking a 6XXX level statistics course. Those students requiring the 6XXX level course will meet with the Track Coordinator to determine which course will meet the requirement. Students are required to complete and pass the course prior to registering in PAF 7804 Quantitative I: Multivariate Analysis. The 6XXX level course credit hours may be included in the student's program of study as an elective.

A maximum of 6 credit hours of Independent Study may be used as electives with adviser's approval.

Transfer work will only be accepted by the Public Affairs PhD program if taken as part of an approved plan of study for a doctoral program at UCF or elsewhere. A maximum of 6 credit hours taken at the doctoral level may be considered for transfer. The acceptance of transfer credit into the track specialization or elective component is dependent upon the approval of the Track Coordinator in consultation with the PAF Program Director. Transfer work will not be accepted into the PAF substantive or methodological core components.

A grade of B- or better is required in all courses. Students receiving a grade of "C+" or lower will be required to repeat the course and receive a grade of B- or better prior to taking the Qualifying Exam. Any student who receives more than one grade of C+ or lower in their doctoral course work may be dismissed from the program

A minimum of 3.0 graduate status GPA and program of study GPA is required to maintain graduate student status and for graduation. Students with a GPA less than 3.0 may be dismissed from the program.

Any student who receives an "F" grade in their doctoral course work will be dismissed from the program.

## Required Courses—45 Credit Hours

### Public Affairs Substantive Core—9 Credit Hours

- PAF 7000 Foundations of Public Affairs: People, Places, Policies and Paradigms (3 credit hours)
- PAF 7230 Strategic Change and Management for Public Affairs (3 credit hours)
- PAF 7317 Social Inquiry and Public Policy (3 credit hours)

### Methodological and Statistical Core—18 Credit Hours

- PAF 7802 Advanced Research Methodology for Public Affairs I (3 credit hours)
- PAF 7804 Advanced Statistics for Public Affairs I: Multivariate Analysis (3 credit hours)
- PAF 7805 Advanced Statistics for Public Affairs II: Survey of Statistical Methods (3 credit hours)
- PAF 7820 Qualitative Methods for Public Affairs (3 credit hours)
- PAF 7325 Policy and Program Evaluation for Public Affairs (3 credit hours)

### *Advanced Methodology*

Choose one of the following courses:

- PAF 7868 Advanced Statistics for Public Affairs III: Continued Survey of Statistical Methods (3 credit hours)
- PAF 7XXX Structural Equation Modeling (3 credit hours)
- Pre-approved methodological or statistical course (3 credit hours)

### Practicum—3 Credit Hours

At the end of the required coursework, students will take the Practicum in Community-Based Research course (PAF 7947). Led by a professor, the practicum provides the student with the opportunity to work within an interdisciplinary team to use their substantive learning and apply their methodological and statistical tools to a real community problem. This experiential learning brings the student out to

the community while bringing the community into the university.

### Track Specialization—12 Credit Hours

Students are required take the following four courses:

- CJE 7029 Advanced Seminar in Law Enforcement (3 credit hours)
- CJC 7029 Advanced Seminar in Corrections (3 credit hours)
- CJL 7029 Advanced Seminar in Court Processes and Procedures (3 credit hours)
- CJL 6568 Law and Social Control (3 credit hours)

### Elective—3 Credit Hours

Choose one additional course from the following courses:

- See adviser for appropriate methodological elective (3 credit hours)
- Directed independent study (3 credit hours)
- Or other course that will add to the student's course of study. Requires approval of adviser. (3 credit hours)

### Dissertation—15 Credit Hours

- PAF 7980 Dissertation Research

### Assignment of Faculty Advisers

Upon acceptance of a student into the program, the program director provides students with an initial orientation and a general advising session. The Track Coordinator in conjunction with the PAF Director helps the student throughout the foundation stage of the program, assisting in the clarification of interests and goals and facilitating the introduction of students to faculty and research interests that can advance the student's program of study. Criminal Justice Track students will be advised by the Criminal Justice Track Coordinator. The Track Coordinator assists the student in selecting elective courses, finalizing the program of study, and facilitating discussion with faculty members who have similar research interests. Discussion and review of dissertation topics should take place with the faculty member who has agreed to chair the dissertation committee. The dissertation chair is to be

selected by the student prior to commencing the dissertation prospectus.

### Qualifying Examination

Following successful completion of all required courses, students are required to pass a qualifying examination. The examination is given following finals, fall or spring semesters. Students are given two opportunities to pass all sections of the exam. Students who fail any section twice are dismissed from the program. Any student who fails any section of the qualifying exam twice will not be readmitted into the PAF program. This policy includes all tracks and/or any masters to PhD program(s) within the PAF program.

### Candidacy Status

Students officially enter candidacy when the following has been accomplished:

- Completion of all course work, except for dissertation hours.
- Successful completion of the qualifying examination.
- The dissertation advisory committee is formed and has been reviewed and accepted by the PAF Director. Members of the committee are to be approved graduate faculty and graduate faculty scholars.
- Submittal of an approved graduate program of study.
- Submission of dissertation prospectus to turnitin.com. Subsequent results to be within acceptable rating.
- Successful defense of the dissertation prospectus.
- All approved documentation has been received by the PAF and Graduate offices.

### Equipment Fee

Full-time students in the Public Affairs Program pay a \$40 equipment fee each semester that they are enrolled. Part-time students pay \$20 per semester.

## APPLICATION REQUIREMENTS

Applicants must hold a master's degree from an accredited institution, preferably in criminal



justice, health, public administration or social work. Applicants who do not have a master’s degree in a field directly related to public affairs may be required to take courses at the master’s level in preparation for doctoral level study. This preparatory course work requirement will be communicated at the time of acceptance into the program. These courses will not substitute for the doctoral degree requirements and will generally be taken prior to beginning the doctoral level course work. Admission is offered for fall semester only.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended for both bachelor’s and master’s degrees.
- Official, competitive GRE score taken within the last five years.
- 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 PAF program.
- Résumé.
- A writing sample, i.e., academic paper, report, etc.
- Three letters of recommendation from faculty or professionals who can assess the applicant’s ability to succeed in a doctoral program.
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

Admission to the Doctoral Program in Public Affairs is granted on a competitive basis. Meeting minimum UCF admission standards does not guarantee program admissions. Final admission is based on evaluation of the applicant’s abilities, past performance, recommendations, match to the program, correspondence of the applicant’s career and academic interests with those of the core and affiliated faculty, and potential for completing the degree and making a significant contribution to Public Affairs.

## Application Deadlines

Criminal Justice Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Apr 1		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

## CONTACT INFO

### Kristina Childs PhD

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HPA 314

# Governance and Policy Research Track

## TRACK DESCRIPTION

The Governance and Policy Track in the Public Affairs PhD program prepares students to perform policy-relevant research concerned with governance and public policy issues, primarily those with national and global implications. Students are empowered to provide unbiased, evidence-based information that is directly relevant to real public-policy problems.

## CURRICULUM

### Total Hours Required:

**60** Credit Hours Minimum beyond the Master's Degree

Students must complete 60 credit hours beyond the master's degree, including 15 courses (45 credit hours) above the master's level distributed in the following manner:

- a three-course, 9-credit required Public Affairs substantive core
- a six-course, 18-credit required Public Affairs methodological and statistical core
- a three-course, 9-credit required discipline-specific specialization
- a two-course, 6-credit hour electives (may be taken outside the student's discipline)
- a one course, 3-credit required Public Affairs practicum
- 15 credit hours of dissertation minimum

Students are required to take a statistical assessment the summer semester prior to their entering the program fall semester. This assessment will be used to determine a student's statistical knowledge and competency. Students that receive a passing score will be exempt from taking a 6XXX level statistics course. Those students requiring the 6XXX level course will meet with the Track Coordinator to determine which course will meet the requirement. Students are

required to complete and pass the course prior to registering in PAF 7804 Quantitative I: Multivariate Analysis. The 6XXX level course credit hours may be included in the student's program of study as an elective.

A maximum of 6 credit hours of Independent Study may be used as electives with adviser's approval.

Transfer work will only be accepted by the Public Affairs PhD program if taken as part of an approved plan of study for a doctoral program at UCF or elsewhere. A maximum of 6 credit hours taken at the doctoral level may be considered for transfer. The acceptance of transfer credit into the track specialization and general elective component is dependent upon the approval of the Track Coordinator in consultation with the PAF Director. Transfer work will not be accepted into the PAF substantive or methodological core components.

A grade of B- or better is required in all courses. Students receiving a grade of "C+" or lower will be required to repeat the course and receive a grade of B- or better prior to taking the Qualifying Exam. Any student who receives more than one grade of "C+" or lower in their doctoral course work may be dismissed from the Public Affairs program.

A minimum of 3.0 graduate status GPA and program of study GPA is required to maintain graduate student status and for graduation. Students with a GPA less than 3.0 may be dismissed from the program.

Any student who receives an "F" grade in their doctoral course work will be dismissed from the program.

## Required Courses—45 Credit Hours

### Public Affairs Substantive Core—9 Credit Hours

- PAF 7000 Foundations of Public Affairs: People, Places, Policies and Paradigms (3 credit hours)
- PAF 7230 Strategic Change and Management for Public Affairs (3 credit hours)
- PAF 7317 Social Inquiry and Public Policy (3 credit hours)

### **Methodological and Statistical Core—18 Credit Hours**

- PAF 7802 Advanced Research Methodology for Public Affairs I (3 credit hours)
- PAF 7804 Advanced Statistics for Public Affairs I: Multivariate Analysis (3 credit hours)
- PAF 7805 Advanced Statistics for Public Affairs II: Survey of Statistical Methods (3 credit hours)
- PAF 7820 Qualitative Methods for Public Affairs (3 credit hours)
- PAF 7325 Policy and Program Evaluation for Public Affairs (3 credit hours)

#### ***Advanced Methodology***

Choose one of the following courses:

- PAF 7868 Advanced Statistics for Public Affairs III: Continued Survey of Statistical Methods (3 credit hours)
- PAF 7XXX Structural Equation Modeling (3 credit hours)
- Pre-approved methodological or statistical course (3 credit hours)

### **Practicum—3 Credit Hours**

At the end of the required coursework, students will take the Practicum in Community-Based Research course (PAF 7947). Led by a professor, the practicum provides students with the opportunity to work within an interdisciplinary team to use their substantive learning and apply their methodological and statistical tools to a real community problem. This experiential learning brings the student out to the community while bringing the community into the university.

### **Track Specialization—9 Credit Hours**

Students are required take the following three courses and attain a “B-” or higher::

- PAF 7055 Seminar in State and Local Government Policy Research (3 credit hours)
- PAF 7510 Seminar in Policy Evaluation and Performance Measurement (3 credit hours)
- PAF 7858 Advanced Seminar in Governance and Policy Research (3 credit hours)

### **Elective—6 Credit Hours**

Choose two additional courses from the following courses:

- PAF 7757 Seminar in Global Governance and Policy Research (3 credit hours)
- PAF 7855 Seminar in Policy Informatics (3 credit hours)
- See adviser for appropriate methodological elective (3 credit hours)
- Directed independent study (3 credit hours)
- Or other course that will add to the student’s course of study. Requires approval of adviser. (3 credit hours)

### **Dissertation—15 Credit Hours**

- PAF 7980 Dissertation Research

### **Assignment of Faculty Advisers**

Upon acceptance of a student into the program, the PAF Program Director provides students with an initial orientation and a general advising session. The Track Coordinator in conjunction with the PAF Director helps the student throughout the foundation stage of the program, assisting in the clarification of interests and goals and facilitating the introduction of students to faculty and research interests that can advance the student’s program of study. Governance and Policy Research Track students will be advised by the Governance and Policy Research Track Coordinator. The Track Coordinator assists the student in selecting elective courses, finalizing the program of study, and facilitating discussion with faculty members who have similar research interests. Discussion and review of dissertation topics should take place with the faculty member who has agreed to chair the dissertation committee. The dissertation chair is to be selected by the student prior to commencing the dissertation prospectus.

### **Qualifying Examination**

Following successful completion of all required courses, students are required to pass a qualifying examination. The examination is given following finals during fall and spring semesters. Students are given two opportunities to pass all sections of the exam. Students who fail any section twice are dismissed from the program. Any student

who fails any section of the qualifying exam twice will not be readmitted to the PAF program. This policy includes all tracks and/or any masters to PhD program(s) within the PAF program.

## Candidacy Status

Students officially enter candidacy when the following has been accomplished:

- Completion of all course work, except for dissertation hours.
- Successful completion of the qualifying examination.
- The dissertation advisory committee is formed and has been reviewed and accepted by the PAF Director. Members of the committee are to be approved graduate faculty and graduate faculty scholars.
- Submittal of an approved graduate program of study.
- Submission of dissertation prospectus to turnitin.com. Subsequent results to be within acceptable rating.
- Successful defense of the dissertation prospectus.
- All approved documentation has been received by the PAF and Graduate offices.

## Equipment Fee

Full-time students in the Public Affairs Program pay a \$40 equipment fee each semester that they are enrolled. Part-time students pay \$20 per semester.

## APPLICATION REQUIREMENTS

Applicants must hold a master's degree from an accredited institution, preferably in criminal justice, health, public administration or social work. Applicants who do not have a master's degree in a field directly related to public affairs may be required to take courses at the master's level in preparation for doctoral level study. This preparatory course work requirement will be communicated at the time of acceptance into the program. These courses will not substitute for the doctoral degree requirements and will generally be taken prior to beginning the doctoral level course work. Admission is offered for fall semester only.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended for both bachelor's and master's degrees.
- Official, competitive GRE score taken within the last five years.
- 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 PAF program.
- Résumé.
- A writing sample, i.e., academic paper, report, etc.
- Three letters of recommendation from faculty or professionals who can assess the applicant's ability to succeed in a doctoral program.
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

Admission to the Doctoral Program in Public Affairs is granted on a competitive basis. Meeting minimum UCF admission standards does not guarantee program admissions. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match to the program, correspondence of the applicant's career and academic interests with those of the core and affiliated faculty, and potential for completing the degree and making a significant contribution to Public Affairs.

## Application Deadlines

Governance and Policy Research Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Apr 1		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

## CONTACT INFO

**Lawrence Martin PhD**  
 Professor  
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 HPA1 218

# Health Services Management and Research Track

## TRACK DESCRIPTION

The Doctoral Program in Public Affairs is an interdisciplinary program that includes the professional and academic expertise of faculty in the fields of Criminal Justice, Health Management and Informatics, Public Administration, and Social Work. The Health Services Management and Research Track prepares students for academic positions in colleges and universities as well as research and leadership positions in public, nonprofit and for profit agencies and organizations. A dynamic mix in the Public Affairs Doctoral Program of an interdisciplinary faculty and students from varied backgrounds creates a stimulating environment in which to examine contemporary organizational, institutional and community challenges. Graduates of the PAF Doctoral Program possess the theoretical, analytical and ethical foundation to discover new knowledge that will impact affirmatively public policy decisions and develop programs and systems that will enhance the delivery of services to an expectant and unyielding public.

## CURRICULUM

### Total Hours Required:

**60** Credit Hours Minimum beyond the Master's Degree

Students must complete 60 credit hours beyond the master's degree, including 15 courses (45 credit hours) above the master's level distributed in the following manner:

- a three-course, 9-credit required Public Affairs substantive core
- a six-course, 18-credit required Public Affairs methodological and statistical core
- a three-course, 9-credit required discipline-specific specialization
- a two-course, 6-credit hour electives (may be taken outside the student's discipline)



- a one course, 3-credit required Public Affairs practicum
- 15 credit hours of dissertation minimum

Students are required to take a statistical assessment the summer semester prior to their entering the program fall semester. This assessment will be used to determine a student's statistical knowledge and competency. Students that receive a passing score will be exempt from taking a 6XXX level statistics course. Those students requiring the 6XXX level course will meet with the Track Coordinator to determine which course will meet the requirement. Students are required to complete and pass the course prior to registering in PAF 7804 Quantitative I: Multivariate Analysis. The 6XXX level course credit hours may be included in the students program of study as an elective.

A maximum of 6 credit hours of Independent Study may be used as electives with adviser's approval.

Transfer work will only be accepted by the Public Affairs PhD program if taken as part of an approved plan of study for a doctoral program at UCF or elsewhere. A maximum of 6 credit hours taken at the doctoral level may be considered for transfer. The acceptance of transfer credit into the track specialization and general elective component is dependent upon the approval of the Track Coordinator in consultation with the PAF Director. Transfer work will not be accepted into the PAF substantive or methodological core components.

A grade of B- or better is required in all courses. Students receiving a grade of "C+" or lower will be required to repeat the course and receive a grade of B- or better prior to taking the Qualifying Exam. Any student who receives more than one "C" in their doctoral course work may be dismissed from the program.

A minimum of 3.0 graduate status GPA and program of study GPA is required to maintain graduate student status and for graduation. Students with a GPA less than 3.0 may be dismissed from the program.

Any student who receives an "F" grade in their doctoral course work will be dismissed from the program.

## Required Courses—45 Credit Hours

### Public Affairs Substantive Core—9 Credit Hours

- PAF 7000 Foundations of Public Affairs: People, Places, Policies and Paradigms (3 credit hours)
- PAF 7230 Strategic Change and Management for Public Affairs (3 credit hours)
- PAF 7317 Social Inquiry and Public Policy (3 credit hours)

### Methodological and Statistical Core—18 Credit Hours

- PAF 7802 Advanced Research Methodology for Public Affairs I (3 credit hours)
- PAF 7804 Advanced Statistics for Public Affairs I: Multivariate Analysis (3 credit hours)
- PAF 7805 Advanced Statistics for Public Affairs II: Survey of Statistical Methods (3 credit hours)
- PAF 7820 Qualitative Methods for Public Affairs (3 credit hours)
- PAF 7325 Policy and Program Evaluation for Public Affairs (3 credit hours)

### Advanced Methodology

Choose one of the following courses:

- PAF 7868 Advanced Statistics for Public Affairs III: Continued Survey of Statistical Methods (3 credit hours)
- PAF 7XXX Structural Equation Modeling (3 credit hours)
- Pre-approved methodological or statistical course (3 credit hours)

### Practicum—3 Credit Hours

At the end of the required coursework, students will take the Practicum in Community-Based Research course (PAF 7947). Led by a professor, the practicum provides the student with the opportunity to work within an interdisciplinary team to use their substantive learning and apply their methodological and statistical tools to a real community problem. This experiential learning brings the student out to

the community while bringing the community into the university.

### **Track Specialization—9 Credit Hours**

Students are required to take the following three courses:

- HSA 7116 Theories in Healthcare Management (3 credit hours)
- HSA 7936 Advanced Seminar in Health Economics (3 credit hours)
- HSA 7938 Advanced Seminar in Health Services Research (3 credit hours)

### **Elective—6 Credit Hours**

Choose two additional courses from the following courses:

- HSA 6108 Healthcare Strategic Management (3 credit hours)
- HSA 6128 Services Management (3 credit hours)
- HSA 6342 Healthcare Human Resources Management (3 credit hours)
- PHC 6000 Epidemiology (3 credit hours)
- PHC 6146 Health Planning and Policy (3 credit hours)
- PHC 6160 Healthcare Finance and Insurance (3 credit hours)
- HSA 7939 Globalization and Health (3 credit hours)
- See adviser for appropriate methodological elective (3 credit hours)
- Directed independent study (3 credit hours)
- Or other course that will add to the student's course of study. Requires approval of adviser. (3 credit hours)

### **Dissertation—15 Credit Hours**

- PAF 7980 Dissertation Research

### **Assignment of Faculty Advisers**

Upon acceptance of a student into the program, the program director provides students with an initial orientation and a general advising session. The Track Coordinator in conjunction with the PAF Director helps the student throughout the foundation stage of the program, assisting in the clarification of

interests and goals and facilitating the introduction of students to faculty and research interests that can advance the student's program of study. Health Services Management and Research Track students will be advised by the Health Services Management and Research Track Coordinator.

The Track Coordinator assists the student in selecting elective courses, finalizing the program of study, and facilitating discussion with faculty members who have similar research interests. Discussion and review of dissertation topics should take place with the faculty member who has agreed to chair the dissertation committee. The dissertation chair is to be selected by the student prior to commencing the dissertation prospectus.

### **Qualifying Examination**

Following successful completion of all required courses, students are required to pass a qualifying examination. The examination is given at the end of fall or spring semesters. Students are given two opportunities to pass all sections of the exam. Students who fail any section twice are dismissed from the program. Any student who fails any section of the qualifying exam twice will not be readmitted to the PAF program. This policy includes all tracks and/or any masters to PhD program(s) within the PAF program.

### **Candidacy Status**

Students officially enter candidacy when the following has been accomplished:

- Completion of all course work, except for dissertation hours.
- Successful completion of the qualifying examination.
- The dissertation advisory committee is formed and has been reviewed and accepted by the PAF Director. Members of the committee are to be approved graduate faculty and graduate faculty scholars.
- Submittal of an approved graduate program of study.
- Submission of dissertation prospectus to turnitin.com. Subsequent results to be within acceptable rating.
- Successful defense of the dissertation prospectus.
- All approved documentation has been received by the PAF and Graduate offices.

## Equipment Fee

Full-time students in the Public Affairs Program pay a \$40 equipment fee each semester that they are enrolled. Part-time students pay \$20 per semester.

## APPLICATION REQUIREMENTS

Applicants must hold a master's degree from an accredited institution, preferably in criminal justice, health, public administration or social work. Applicants who do not have a master's degree in a field directly related to public affairs may be required to take courses at the master's level in preparation for doctoral level study. This preparatory course work requirement will be communicated at the time of acceptance into the program. These courses will not substitute for the doctoral degree requirements and will generally be taken prior to beginning the doctoral level course work. Admission is offered for fall semester only.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended for both bachelor's and master's degrees.
- Official, competitive GRE score taken within the last five years.
- 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 PAF program.
- Résumé.
- A writing sample, i.e., academic paper, report, etc.
- Three letters of recommendation from faculty or professionals who can assess the applicant's ability to succeed in a doctoral program.
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

Admission to the Doctoral Program in Public Affairs is granted on a competitive basis. Meeting minimum UCF admission standards does not guarantee program admissions. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match to the program, correspondence of the applicant's career and academic interests with those of the core and affiliated faculty, and potential for completing the degree and making a significant contribution to Public Affairs.

## Application Deadlines

Health Services Management and Research Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Apr 1		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

## CONTACT INFO

### Myron Fottler PhD

Professor

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HPA2 210A

# Public Administration Dual Degree - MPA Track

## TRACK DESCRIPTION

The Public Affairs PhD - Public Administration MPA Dual Degree Track provides academically talented students an opportunity to earn the Doctor of Philosophy in Public Affairs and the Master of Public Administration degrees concurrently. Students successfully completing the PhD/MPA Dual Degree program will have the skills and analytical techniques for careers in academia or in the public and nonprofit sectors. After successful completion of the PhD/MPA Dual Degree program, students will receive two diplomas, one for the Public Administration MPA degree and one for the Public Affairs PhD degree.

Students seeking admission to the PhD/MPA Dual Degree program should apply directly to the Public Affairs PhD - Public Administration MPA Dual Degree Track. Only one application will be required. If admitted, student will be active in both the Public Administration MPA and the Public Affairs PhD programs.

## CURRICULUM

### Total Hours Required:

**84** Credit Hours Minimum beyond the Bachelor's Degree

The Public Administration MPA Dual Degree track in the Public Affairs PhD program consists of 84 credit hours, including 63 credit hours of required courses, 6 credit hours of electives approved by the student's faculty adviser or program director, and 15 credit hours of dissertation. For required courses, students first complete seven core courses plus the capstone course for the MPA program (24 credit hours), and then take four Public Affairs substantive core courses and six Public Affairs methodological and statistical core courses for the PhD program (30 credit hours), plus three courses (9 credit

hours) from the Public Administration track in the PhD program.

Students are required to take a statistical assessment the summer semester prior to their commencing the PhD course work. This assessment will be used to determine a student's statistical knowledge and competency. Students that receive a passing score will be exempt from taking a 6XXX level statistics course. Those students requiring the 6XXX level course will meet with the Track Coordinator to determine which course will meet the requirement. Students are required to complete and pass the course prior to registering in PAF 7804 Quantitative I: Multivariate Analysis. The 6XXX level course credit hours may be included in the student's program of study as an elective.

A maximum of 6 credit hours of Independent Study may be used as electives with adviser's approval.

A grade of B or better is required in all courses listed under the MPA requirement and Track Specialization. A grade of B- or better is required in all courses listed in the substantive and methodological core of the PAF program. Students receiving a grade below the required minimum listed for each area must repeat the course and receive an acceptable grade prior to taking the Qualifying Exam. Any student who receives more than one grade of C in their doctoral course work may be dismissed from the program.

A minimum of 3.0 graduate status GPA and program of study GPA is required to maintain graduate student status and for graduation. Students with a GPA less than 3.0 may be dismissed from the program.

Any student who receives an "F" grade in their doctoral course work will be dismissed from the program.

## Required Courses—63 Credit Hours

### Required Courses for MPA—24 Credit Hours

In addition to the following required courses, the MPA degree will include 6 credit hours of advanced research methods and quantitative methods in Public Affairs and 12 credit hours of electives

that are incorporated into the prescribed PhD curriculum.

- 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 6207 Public Financial Management (3 credit hours)
- PAD 6227 Public Budgeting (3 credit hours)
- PAD 6335 Strategic Planning and Management (3 credit hours)
- PAD 6417 Human Resource Management (3 credit hours)
- PAD 6062 Advanced Concepts and Applications in Public Administration (3 credit hours)

### **Required Courses for PhD—39 Credit Hours**

#### ***Public Affairs Substantive Core—9 Credit Hours***

- PAF 7000 Foundations in Public Affairs (3 credit hours)
- PAF 7230 Strategic Change and Management for Public Affairs (3 credit hours)
- PAF 7317 Social Inquiry and Public Policy (3 credit hours)

#### ***Methodological and Statistical Core—18 Credit Hours***

- PAF 7802 Advanced Research Methodology for Public Affairs I (3 credit hours)
- PAF 7804 Advanced Statistics for Public Affairs I: Multivariate Analysis (3 credit hours)
- PAF 7805 Advanced Statistics for Public Affairs II: Survey of Statistical Methods (3 credit hours)
- PAF 7820 Qualitative Methods for Public Affairs (3 credit hours)
- PAF 7325 Policy and Program Evaluation for Public Affairs (3 credit hours)

Advanced Methodology (Select one course):

- PAF 7868 Advanced Statistics for Public Affairs III: Continued Survey of Statistical Methods (3 credit hours)
- PAF 7856 Applications of Structural Equation Modeling in Public Affairs (3 credit hours)
- Pre-approved methodological or statistical course (3 credit hours)

#### ***Practicum—3 Credit Hours***

At the end of the required coursework, students will take the Practicum in Community-Based Research course (PAF 7XXX). Led by a professor, the practicum provides the student with the opportunity to work within an interdisciplinary team to use their substantive learning and apply their methodological and statistical tools to a real community problem. This experiential learning brings the student out to the community while bringing the community into the university.

#### ***Track Specialization—9 Credit Hours***

Students take the following three courses:

- PAD 7026 Advanced Seminar in Public Administration (3 credit hours)
- PAD 7057 Advanced Public Management (3 credit hours)
- PAD 7827 Collaborative Public Management (3 credit hours)

#### **Elective Courses—6 Credit Hours**

The two required elective courses (3 credit hours each) offered within the dual degree provide an emphasis on public and nonprofit management; however, other emphases may be developed in consultation with the adviser. With prior approval from the Program Director, up to 6 credit hours of elective course work may be taken from outside the department. Students must show that elective courses taken outside of the department directly support an academic or professional career in public administration.

Students take two of the following courses:

- PAD 7317 Program Design and Management (3 credit hours)
- PAD 7707 Advanced Research in Public Administration (3 credit hours)
- Methodological elective approved by adviser (3 credit hours)



- Directed independent study (3 credit hours)

### Dissertation—15 Credit Hours

- PAF 7980 Dissertation Research

### Qualifying Examination

After completion of the 60 credit hours of required courses and completion of the two elective courses, students take a qualifying examination. The examination is given at the end of fall or spring semesters. Students are given two opportunities to pass all sections of the exam. Students who fail any section twice are dismissed from the program. Any student who fails any section of the qualifying exam twice will not be readmitted into the PAF program. This policy includes all tracks and/or any masters to PhD program(s) with the PAF program.

### Candidacy

Students officially enter candidacy when the following has been accomplished:

- Completion of all course work, except for dissertation hours.
- Successful completion of the qualifying examination.
- The dissertation advisory committee is formed and has been reviewed and accepted by the PAF Director. Members of the committee are to be approved graduate faculty and graduate faculty scholars.
- Submittal of an approved graduate program of study.
- Submission of dissertation prospectus to turn-it-in.com. Subsequent results to be within acceptable rating.
- Successful defense of the dissertation prospectus.
- All approved documentation has been received by the PAF and Graduate offices.

### Additional Program Requirements

Students must achieve a grade of “B” (3.0) or higher in every course listed under MPA core requirements and must maintain a graduate status GPA of 3.0 or higher. Students initially admitted to the MPA/PhD dual degree program who subsequently decide they only want to receive the MPA degree may have all applicable courses completed as part of the

two degree programs applied to the MPA degree program without being counted as transfer courses.

Any student who receives an “F” grade in their course work will be dismissed from the MPA/PhD Dual Degree. Students who are dismissed from the MPA/PhD Dual Degree should contact their MPA advisor immediately.

### Equipment Fee

Full-time students in the Public Affairs PhD Program pay a \$40 equipment fee each semester that they are enrolled. Part-time students pay \$20 per semester.

### Independent Learning

Independent learning is demonstrated throughout the curriculum, through the process of inquiry and dialogue. Tangible projects, such as research scholarly papers and the dissertation contribute to the self development of MPA/PhD students.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- 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 PAF program.
- Résumé.
- A writing sample, i.e., academic paper, report, etc.
- Three letters of recommendation from faculty or professionals who can assess the applicant’s ability to succeed in a doctoral program.
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All

official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

Admission to the Doctoral Program in Public Affairs is granted on a competitive basis. Meeting minimum UCF admission standards does not guarantee program admissions. Final admission is based on evaluation of the applicant’s abilities, past performance, recommendations, match to the program, correspondence of the applicant’s career and academic interests with those of the core and affiliated faculty, and potential for completing the degree and making a significant contribution to Public Affairs.

### Application Deadlines

Public Administration Dual Degree - MPA Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Apr 1		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

### CONTACT INFO

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 HPA2 210A

# Public Administration Track

## TRACK DESCRIPTION

The Public Administration Track integrates the historical evolution of the public administration field, the current challenges in theory and practice in our increasingly interconnected society, and the future directions needed as a discipline and society to achieve responsive solutions to complex public problems.

## CURRICULUM

Students must complete 60 credit hours beyond the master’s degree, including 15 courses (45 credit hours) above the master’s level distributed in the following manner:

### Total Hours Required:

**60** Credit Hours Minimum beyond the Master’s Degree

- a three-course, 9-credit required Public Affairs substantive core
- a six-course, 18-credit required Public Affairs methodological and statistical core
- a three-course, 9-credit required discipline-specific specialization
- a two-course, 6-credit hour electives (may be taken outside the student’s discipline)
- a one course, 3-credit required Public Affairs practicum
- 15 credit hours of dissertation minimum

Students are required to take a statistical assessment the summer semester prior to their entering the program fall semester. This assessment will be used to determine a student’s statistical knowledge and competency. Students that receive a passing score will be exempt from taking a 6XXX level statistics course. Those students requiring the 6XXX level course will meet with the Track Coordinator to determine which course will meet the requirement. Students are required to complete and pass the course prior to registering

in PAF 7804 Quantitative I: Multivariate Analysis. The 6XXX level course credit hours may be included in the student's program of study as an elective.

A maximum of 6 credit hours of Independent Study may be used as electives with adviser's approval.

Transfer work will only be accepted by the Public Affairs PhD program if taken as part of an approved plan of study for a doctoral program at UCF or elsewhere. A maximum of 6 credit hours taken at the doctoral level may be considered for transfer. The acceptance of transfer credit into the track specialization and general elective component is dependent upon the approval of the Track Coordinator in consultation with the PAF Director. Transfer work will not be accepted into the PAF substantive or methodological core components.

A grade of B- or better is required in the substantive core and methodological core courses. A grade of B or better is required in the track specialization courses. Students receiving a grade below the minimum required grade will must repeat the course and receive an acceptable grade prior to taking the Qualifying Exam. Any student who receives more than one "C" in their doctoral course work may be dismissed from the program.

A minimum of 3.0 graduate status GPA and program of study GPA is required to maintain graduate student status and for graduation. Students with a GPA less than 3.0 may be dismissed from the program.

Any student who receives an "F" grade in their doctoral course work will be dismissed from the program.

## Required Courses—45 Credit Hours

### Public Affairs Substantive Core—9 Credit Hours

- PAF 7000 Foundations of Public Affairs: People, Places, Policies and Paradigms (3 credit hours)
- PAF 7230 Strategic Change and Management for Public Affairs (3 credit hours)
- PAF 7317 Social Inquiry and Public Policy (3 credit hours)

### Methodological and Statistical Core—18 Credit Hours

- PAF 7802 Advanced Research Methodology for Public Affairs I (3 credit hours)
- PAF 7804 Advanced Statistics for Public Affairs I: Multivariate Analysis (3 credit hours)
- PAF 7805 Advanced Statistics for Public Affairs II: Survey of Statistical Methods (3 credit hours)
- PAF 7820 Qualitative Methods for Public Affairs (3 credit hours)
- PAF 7325 Policy and Program Evaluation for Public Affairs (3 credit hours)

### Advanced Methodology

Choose one of the following courses:

- PAF 7868 Advanced Statistics for Public Affairs III: Continued Survey of Statistical Methods (3 credit hours)
- PAF 7856 Applications of Structural Equation Modeling in Public Affairs (3 credit hours)
- Pre-approved methodological or statistical course (3 credit hours)

### Practicum—3 Credit Hours

At the end of the required coursework, students will take the Practicum in Community-Based Research course (PAF 7947). Led by a professor, the practicum provides the student with the opportunity to work within an interdisciplinary team to use their substantive learning and apply their methodological and statistical tools to a real community problem. This experiential learning brings the student out to the community while bringing the community into the university.

### Track Specialization—9 Credit Hours

Students are required take the following three courses and attain a "B" or higher:

- PAD 7026 Advanced Seminar in Public Administration (3 credit hours)
- PAD 7057 Advanced Public Management (3 credit hours)
- PAD 7827 Network Governance (3 credit hours)

**Electives—6 Credit Hours**

Choose two additional courses from the following:

- PAD 7317 Program Design and Management (3 credit hours)
- PAD 7707 Advanced Research in Public Administration (3 credit hours)
- See advisor for appropriate methodological elective (3 credit hours)
- Directed independent study (3 credit hours)
- Or other course that will add to the student's course of study. Requires approval of adviser. (3 credit hours)

**Dissertation—15 Credit Hours**

- PAF 7980 Dissertation Research

**Assignment of Faculty Advisers**

Upon acceptance of a student into the program, the program director provides students with an initial orientation and a general advising session. The Track Coordinator in conjunction with the PAF Director helps the student throughout the foundation stage of the program, assisting in the clarification of interests and goals and facilitating the introduction of students to faculty and research interests that can advance the student's program of study. Public Administration Track students will be advised by the Public Administration Track Coordinator. The Track Coordinator assists the student in selecting elective courses, finalizing the program of study, and facilitating discussion with faculty members who have similar research interests. Discussion and review of dissertation topics should take place with the faculty member who has agreed to chair the dissertation committee. The dissertation chair is to be selected by the student prior to commencing the dissertation prospectus.

**Qualifying Examination**

Following successful completion of all required courses, students are required to pass a qualifying examination. The examination is given following finals, fall or spring semesters. Students are given two opportunities to pass all sections of the exam. Students who fail any section twice are dismissed from the program. Any student who fails any section of the qualifying exam twice will not be readmitted into the PAF program. This policy

includes all tracks and/or any masters to PhD program(s) within the PAF program.

**Candidacy Status**

Students officially enter candidacy when the following has been accomplished:

- Completion of all course work, except for dissertation hours.
- Successful completion of the qualifying examination.
- The dissertation advisory committee is formed and has been reviewed and accepted by the PAF Director. Members of the committee are to be approved graduate faculty and graduate faculty scholars.
- Submittal of an approved graduate program of study.
- Submission of dissertation prospectus to turnitin.com. Subsequent results to be within acceptable rating.
- Successful defense of the dissertation prospectus.
- All approved documentation has been received by the PAF and Graduate offices..

**Equipment Fee**

Full-time students in the Public Affairs Program pay a \$40 equipment fee each semester that they are enrolled. Part-time students pay \$20 per semester.

**APPLICATION REQUIREMENTS**

Applicants must hold a master's degree from an accredited institution, preferably in criminal justice, health, public administration or social work. Applicants who do not have a master's degree in a field directly related to public affairs may be required to take courses at the master's level in preparation for doctoral level study. This preparatory course work requirement will be communicated at the time of acceptance into the program. These courses will not substitute for the doctoral degree requirements and will generally be taken prior to beginning the doctoral level course work. Admission is offered for fall semester only.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended for both bachelor’s and master’s degrees.
- Official, competitive GRE score taken within the last five years.
- 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 PAF program.
- Résumé.
- A writing sample, i.e., academic paper, report, etc.
- Three letters of recommendation from faculty or professionals who can assess the applicant’s ability to succeed in a doctoral program.
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

Admission to the Doctoral Program in Public Affairs is granted on a competitive basis. Meeting minimum UCF admission standards does not guarantee program admissions. Final admission is based on evaluation of the applicant’s abilities, past performance, recommendations, match to the program, correspondence of the applicant’s career and academic interests with those of the core and affiliated faculty, and potential for completing the degree and making a significant contribution to Public Affairs.

## Application Deadlines

Public Administration Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Apr 1		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

## CONTACT INFO

### Qian Hu PhD

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# Social Work Track

## TRACK DESCRIPTION

The Social Work Track in the Public Affairs PhD program prepares students for university faculty and research positions, as well as leadership roles in public, non-profit and private human service, health and community-based agencies, drawing upon research and evaluation skills. The track is designed to: (1) to develop student learning and competencies for social work scholarship and research, incorporating disciplinary knowledge in interdisciplinary contexts, and (2) to foster student learning in domains relevant to social work research in the 21st Century; namely through the understanding and application of concepts and tools in knowledge translation, evaluation, evidence-based research, the design of innovative social ventures, and the development and testing of interventions for improving social service practice, social welfare and social policy.

## CURRICULUM

### Total Hours Required:

**60** Credit Hours Minimum beyond the Master's Degree

Students must complete 60 credit hours beyond the master's degree, including 15 courses (45 credit hours) above the master's level distributed in the following manner:

- a three-course, 9-credit required Public Affairs substantive core
- a six-course, 18-credit required Public Affairs methodological and statistical core
- a three-course, 9-credit required discipline-specific specialization
- a two-course, 6-credit hour electives (may be taken outside the student's discipline)
- a one course, 3-credit required Public Affairs practicum
- 15 credit hours of dissertation minimum

Students are required to take a statistical assessment the summer semester prior to their entering the program fall semester. This assessment will be used to determine a student's statistical knowledge and competency. Students that receive

a passing score will be exempt from taking a 6XXX level statistics course. Those students requiring the 6XXX level course will meet with the Track Coordinator to determine which course will meet the requirement. Students are required to complete and pass the course prior to registering in PAF 7804 Quantitative I: Multivariate Analysis. The 6XXX level course credit hours may be included in the student's program of study as an elective.

A maximum of 6 credit hours of Independent Study may be used as electives with adviser's approval.

Transfer work will only be accepted by the Public Affairs PhD program if taken as part of an approved plan of study for a doctoral program at UCF or elsewhere. A maximum of 6 credit hours taken at the doctoral level may be considered for transfer. The acceptance of transfer credit into the track specialization or general elective component is dependent upon the approval of the Track Coordinator in consultation with the PAF Director. Transfer work will not be accepted into the PAF substantive or methodological core components..

A grade of B- or better is required in all courses. Students receiving a grade of "C+" or lower will be required to repeat the course and receive a grade of B- or better prior to taking the Qualifying Exam. Any student who receives more than one "C" in their doctoral course work may be dismissed from the program.

A minimum of 3.0 graduate status GPA and program of study GPA is required to maintain graduate student status and for graduation. Students with a GPA less than 3.0 may be dismissed from the program.

Any student who receives an "F" grade in their doctoral course work will be dismissed from the program.

## Required Courses—45 Credit Hours

### Public Affairs Substantive Core—9 Credit Hours

- PAF 7000 Foundations of Public Affairs: People, Places, Policies and Paradigms (3 credit hours)
- PAF 7230 Strategic Change and Management for Public Affairs (3 credit hours)

- PAF 7317 Social Inquiry and Public Policy (3 credit hours)

### **Methodological and Statistical Core—18 Credit Hours**

- PAF 7802 Advanced Research Methodology for Public Affairs I (3 credit hours)
- PAF 7804 Advanced Statistics for Public Affairs I: Multivariate Analysis (3 credit hours)
- PAF 7805 Advanced Statistics for Public Affairs II: Survey of Statistical Methods (3 credit hours)
- PAF 7820 Qualitative Methods for Public Affairs (3 credit hours)
- PAF 7325 Policy and Program Evaluation for Public Affairs (3 credit hours)

### ***Advanced Methodology***

Choose one of the following courses:

- PAF 7868 Advanced Statistics for Public Affairs III: Continued Survey of Statistical Methods (3 credit hours)
- PAF 7856 Applications of Structural Equation Modeling in Public Affairs (3 credit hours)
- Pre-approved methodological or statistical course (3 credit hours)

### **Practicum—3 Credit Hours**

At the end of the required coursework, students will take the Practicum in Community-Based Research course (PAF 7947). Led by a professor, the practicum provides the student with the opportunity to work within an interdisciplinary team to use their substantive learning and apply their methodological and statistical tools to a real community problem. This experiential learning brings the student out to the community while bringing the community into the university.

### **Track Specialization—9 Credit Hours**

Students are required take the following three courses and attain a “B-” or higher:

- SOW 6383 Social Work Administration (3 credit hours)
- SOW 7492 Theory Development in Social Work and Applied Social Science Research (3 credit hours)

- SOW 7494 Conducting Evidence-based Research in Social Work and Allied Fields (3 credit hours)

### **Electives—6 Credit Hours**

Choose two additional courses from the following:

- SOW 7397 Social Entrepreneurship in Public and Social Sectors (3 credit hours)
- See adviser for appropriate methodological elective (3 credit hours)
- Directed reading (3 credit hours)
- Directed independent study (3 credit hours)
- Or other course that will add to the student’s course of study. Requires approval of adviser. (3 credit hours)

### **Dissertation—15 Credit Hours**

- PAF 7980 Dissertation Research

### **Assignment of Faculty Advisers**

Upon acceptance of a student into the program, the program director provides students with an initial orientation and a general advising session. The Track Coordinator in conjunction with the PAF Director helps the student throughout the foundation stage of the program, assisting in the clarification of interests and goals and facilitating the introduction of students to faculty and research interests that can advance the student’s program of study. Social Work Track students will be advised by the Social Work Track Coordinator. The Track Coordinator assists the student in selecting elective courses, finalizing the program of study, and facilitating discussion with faculty members who have similar research interests. Discussion and review of dissertation topics should take place with the faculty member who has agreed to chair the dissertation committee. The dissertation chair is to be selected by the student prior to commencing the dissertation prospectus.

### **Qualifying Examination**

Following successful completion of all required courses, students are required to pass a qualifying examination. The examination is given following finals, fall or spring semesters. Students are given two opportunities to pass all sections of the exam. Students who fail any section twice are dismissed from the program. Any student who fails any

section of the qualifying exam twice will not be readmitted into the PAF program. This policy includes all tracks and/or any masters to PhD program(s) within the PAF program.

### Candidacy Status

Students officially enter candidacy when the following has been accomplished:

- Completion of all course work, except for dissertation hours.
- Successful completion of the qualifying examination.
- The dissertation advisory committee is formed and has been reviewed and accepted by the PAF Director. Members of the committee are to be approved graduate faculty and graduate faculty scholars.
- Submittal of an approved graduate program of study.
- Submission of dissertation prospectus to turnitin.com. Subsequent results to be within acceptable rating.
- Successful defense of the dissertation prospectus.
- All approved documentation has been received by the PAF and Graduate offices.

### Equipment Fee

Full-time students in the Public Affairs Program pay a \$40 equipment fee each semester that they are enrolled. Part-time students pay \$20 per semester.

## APPLICATION REQUIREMENTS

Applicants must hold a master’s degree in Social Work from an accredited institution. Admission is offered for fall semester only.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended for both bachelor’s and master’s degrees.
- Official, competitive GRE score taken within the last five years.

- 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 PAF program.
- Résumé.
- A writing sample, i.e., academic paper, report, etc.
- Three letters of recommendation from faculty or professionals who can assess the applicant’s ability to succeed in a doctoral program.
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

Admission to the Doctoral Program in Public Affairs is granted on a competitive basis. Meeting minimum UCF admission standards does not guarantee program admissions. Final admission is based on evaluation of the applicant’s abilities, past performance, recommendations, match to the program, correspondence of the applicant’s career and academic interests with those of the core and affiliated faculty, and potential for completing the degree and making a significant contribution to Public Affairs.

### Application Deadlines

Social Work Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Apr 1		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

## CONTACT INFO

**Mary Ann Burg PhD**  
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 HPA 1 RM 204C

# Security Studies PhD

## PROGRAM DESCRIPTION

The Security Studies doctoral program is designed to produce specialists capable of analyzing and communicating security issues to policy makers, the general public, and the government, and academia. It is expected that the majority of graduates will work in military and other governmental organizations, international corporations, and agencies that deal with security. Others will seek employment in research and teaching in institutions of higher education.

The Security Studies doctoral program is designed to produce specialists capable of analyzing and communicating security issues to policy makers, the general public, and the government, and academia. It is expected that the majority of graduates will work in military and other governmental organizations, international corporations, and agencies that deal with security. Others will seek employment in research and teaching in institutions of higher education.

## CURRICULUM

The PhD degree consists of 62 credit hours beyond the master's degree. A master's degree is required for admission to the program with at least 30 credit hours of master's level work (including both course work and thesis hours). The 62 credit hours consist of 17 credit hours of required courses, 15 credit hours of restricted electives, 12 hours of unrestricted electives (including courses offered in other departments, research, independent study, and internship), and a minimum of 18 credit hours of dissertation work.

### Total Hours Required:

**62** Credit Hours Minimum beyond the Master's Degree

## Required Courses—17 Credit Hours

### Core Courses—15 Credit Hours

- INR 7687 Theoretical Approaches to Security Studies (3 credit hours)
- INR 7139 Issues in Domestic Security (3 credit hours)
- INR 7337 Issues in International Security (3 credit hours)
- POS 7745 Advanced Quantitative Methods in Political Research (3 credit hours)
- POS 7707 Advanced Qualitative Methods in Political Research (3 credit hours)

### Professional Development Courses—2 Credit Hours

- POS 7930 Professional Development in Security Studies I (1 credit hour)
- POS 7267 Professional Development in Security Studies II (1 credit hour)

## Elective Courses—27 Credit Hours

### Restricted Electives—15 Credit Hours

All students must complete a minimum of 15 hours of course work in graduate seminars. The choice of specific courses taken will be based on the research interests of students and made in conjunction with their faculty advisor.

- CPO 6058 Revolution and Political Violence (3 credit hours)
- INR 6007 Seminar in International Politics (3 credit hours)
- INR 6071 Seminar in Weapons of Mass Destruction (3 credit hours)
- INR 6136 Seminar in American Security Policy (3 credit hours)
- INR 6108 Seminar in American Foreign Policy (3 credit hours)
- INR 6228 International Politics of the Caspian Sea Region (3 credit hours)
- INR 6275 International Politics of the Middle East (3 credit hours)
- INR 6607 International Relations Theory (3 credit hours)

- INR 6346 Politics of International Terrorism (3 credit hours)
- INR 6065 Seminar on War (3 credit hours)
- INR 6365 Seminar on Intelligence (3 credit hours)
- INR 6062 Peace Studies (3 credit hours)
- INR 6356 Environmental Security (3 credit hours)
- INR 6096 International Drug Policy (3 credit hours)
- INR 6726 Political Behavior in International Conflict (3 credit hours)

### Unrestricted Electives—12 Credit Hours

Unrestricted electives may include regularly scheduled graduate courses in political science, graduate-level courses in programs outside the department (selected from the list below and with approval of the Graduate Program Director), independent study courses, doctoral research courses, and internships (with approval of the Graduate Program Director).

No more than twelve hours can consist of courses outside of the department, dissertation research, independent study, or internship; in addition, no more than six hours can consist of independent study or internship.

Approved courses outside the Political Science Department:

- AMH 5515 Colloquium in U.S. Diplomatic History
- ASH 5485 U.S.-China Relations
- ASH 5227 The Arab-Israeli Conflict
- CCJ 6675 Human Rights and Criminal Justice
- CCJ 6027 Criminal Justice Responses to Terrorism
- CCJ 6067 Perspectives on Genocide
- CCJ 6485 Issues in Justice Policy
- LAH 5713 Colloquium in U.S.-Latin American Relations
- PAD 6399 Foundations of Emergency Management and Homeland Security

### Modern Language Requirement

Prior to enrollment in dissertation hours, students are required to demonstrate proficiency in one modern language (other than English). The requirement is two years (four semesters) of a single college-level modern language, which should normally be in an area relevant to the student's research. Students may meet the requirement by providing evidence of four semesters of enrollment or by passing a university-administered equivalent proficiency examination.

### Dissertation—Minimum of 18 Credit Hours

The dissertation is the culmination of the course work that comprises this research-based degree. It must make a significant theoretical, historical, intellectual, practical, creative, or research contribution to the student's area within the discipline. The dissertation will be completed through a minimum of 18 hours of dissertation credit, which students will use to accomplish original research. Students must maintain enrollment in dissertation hours until the degree is awarded.

- POS 7980 Dissertation Research (18 credit hours)

### Oral Qualifying Examination

The oral qualifying examination is given at the end of the semester in which core course work is completed. It will examine students on theoretical, epistemological, and methodological literature and issues from the five required core courses, although the scope of the examination is not limited to topics covered in the seminars. The exam is administered by an Exam Committee appointed by the Graduate Program Director (who is also a member of the committee). The oral qualifying examination evaluates students' preparation in subjects that are considered to be an essential foundation for their continued doctoral study and research in the program. Any student failing the examination must repeat the examination prior to the start of the next fall semester. A second failed attempt will result in dismissal from the program. The oral qualifying exam will also serve as part of the student's annual academic review for the first year of study.



## Written Candidacy Exams

On completion of all coursework, but prior to enrollment in dissertation, students must take the written candidacy examinations. The candidacy examinations will usually be administered at a time arranged by the student's Examination Committee (three faculty members with whom the student has taken graduate seminars, of which two must be graduate faculty with expertise in security studies). A student must notify the Graduate Program Director in writing of their intent to take candidacy exams at least one month before the date fixed for examination.

Each student will take two exams on separate days. The first exam will be in research methods. The content of this exam will be uniform for each matriculating class of students. The second exam will be a special field in Security Studies, devised by the student in consultation with his or her exam committee. The special field may be geographic or thematic in focus, reflecting the research interests of the student. Both examinations will be used to determine the student's knowledge of theory, methods and past and present research in their chosen areas. Students failing the comprehensive examination may retake the exam one time. If the exam is failed a second time, the student will be dismissed from the program.

## Admission to Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours
- Successful completion of the oral candidacy exam
- Successful completion of the written candidacy exams
- Successful defense of the dissertation proposal
- Formation of a dissertation advisory committee
- Submittal of an approved program of study

## Independent Learning

As with all graduate programs, independent learning is an important component in the Security Studies doctoral program. Students will demonstrate independent learning through research seminars, directed research and the dissertation.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- An earned master's degree or its equivalent in Political Science, International Politics or International Relations, or related discipline. The Graduate Program Director will evaluate the suitability and applicability of MA degrees in other disciplines for admission purposes.
- A competitive score on each of the quantitative and verbal sections of the Graduate Record Examination (GRE) taken within three years prior to admission to the program.
- Three letters of reference that evaluate the applicant's academic performance and their suitability and potential for undertaking doctoral study, at least one of which must be written by a faculty member at the institution where the master's degree was earned, preferably the thesis adviser for those applicants who wrote a master's thesis.
- A personal statement of 200-300 words describing the applicant's academic and professional experience and goals.
- A writing sample of the applicant's work that is at least 2500 words long and demonstrates ability to complete graduate-level research.
- Résumé.
- For international applicants whose first language is not English, a score of 90 or better on the TOEFL internet-based test (iBT); or a score of 232 or better on the TOEFL computer-based test; or a score of 575 or better on the TOEFL paper-based test; or a score of 7.0 or better on the IELTS.

Applicants should plan to take the appropriate test no later than December to ensure consideration of their applications by the January 1 deadline.

Applicants' 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. Consult the graduate program director whenever questions arise.

A department admissions committee that reviews the applicants' credentials will conduct interviews with the top candidates (either in-person on campus or by phone or Skype). Final selection is based on both submitted credentials and interview.

Meeting minimum UCF admissions criteria does not guarantee program admission. Final admission is also based on evaluation of the applicant's abilities, past performance, recommendations, match of this program to the applicant's career/academic goals, applicant's potential for completing the degree, and the interview.

## Application Deadlines

Security Studies PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 1	Jan 1		
International Applicants	Jan 1	Jan 1		
International Transfer Applicants	Jan 1	Jan 1		

## CONTACT INFO

### Roger Handberg

Professor

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PH 308

# Sociology PhD

## PROGRAM DESCRIPTION

The Sociology PhD program is organized around a curriculum combining strong grounding in the acquisition of methodological skills with advanced study in one of the department's four areas of concentration: the Sociology of Crime/Deviance; Domestic Violence; Social Inequalities; and Health, Families, and Communities.

The program is one of only a few in the United States focusing on applied research. Students are trained in specific applied research skills such as data analysis and program evaluation. Combined with course work in one of the four substantive areas, graduates will be trained for employment in academic settings, industry, business, government, and nonprofit agencies. The program provides training in the skills necessary to secure research careers in academic and nonacademic professions and emphasizes applied research in community-based settings.

## CURRICULUM

The Sociology PhD requires a minimum of 60 credit hours beyond the master's degree, with 15 credit hours coming from required core courses and three credit hours from a restricted elective in research methods and data analysis. Students select a minimum of 12 elective credit hours in one of the department's four areas of concentration, Sociology of Crime/Deviant Behavior; Domestic Violence; Social Inequalities; or Health, Families and Communities.

### Total Hours Required:

**60** Credit Hours Minimum beyond the Master's Degree

Students must earn a grade of "B" (3.0) 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.

## Required Courses—18 Credit Hours

### Core—15 Credit Hours

- SYA 7019 Advanced Sociological Theory (3 credit hours)
- SYA 7309 Advanced Sociological Research Methods (3 credit hours)
- SYA 7407 Advanced Data Analysis (3 credit hours)
- SYA 6657 Program Design and Evaluation (3 credit hours)
- SYA 7658 Social Policy and Research Analysis (3 credit hours)

### Research Methods—3 Credit Hours

Select one course from the list below.

- SYA 6315 Qualitative Research Methods (3 credit hours)
- SYA 6425 Design and Conduct of Social Surveys (3 credit hours)
- SYA 7457 Topics in Data Analysis (3 credit hours)

## Elective Courses—27 Credit Hours

### Major Area of Concentration Electives—12 Credit Hours Minimum

Students will select a minimum of 12 credit hours of unrestricted electives in one of the department's four areas of concentration.

- Sociology of Crime/Deviant Behavior
- Domestic Violence
- Social Inequalities
- Health, Families and Communities

### Unrestricted Electives—15 Credit Hours Minimum

The unrestricted electives provide students with an opportunity to expand their doctoral training beyond the program's core courses and the electives in the student's major area of concentration. Unrestricted electives may include formal course work, graduate-level courses in programs outside the Sociology Department, independent study courses with a highly focused student/faculty research component,

directed research, doctoral research and a research practicum, which enable students to gain valuable research experience in a nonacademic setting. At least 9 hours from concentration electives and unrestricted electives must consist of formal course work, exclusive of independent study. Unrestricted electives may be taken at any point in the student's program of study. The research practicum and courses from other departments must be approved by the student's adviser and the Graduate Director.

### Dissertation—15 Credit Hours Minimum

- SYA 7980 Dissertation Research (15 credit hours)

## Examinations

### Qualifying Examinations

After completing the program's required courses, a student will take two qualifying examinations. The qualifying examinations will be designed by a faculty grading committee and reflect the course work in the areas of Theory and Methods/Statistics. The qualifying examinations will be used to determine the student's eligibility to complete the doctoral degree. The exams will screen for research ability, technical skills, and mastery of the discipline's core content. Each examination will be a five hour examination that will be used to determine the student's eligibility to complete the doctoral degree. Qualifying examinations will be administered in December and August, at a date arranged by the graduate committee and a student must notify the Graduate Director in writing of their intent to take the qualifying examinations at least one month before the date fixed for the examination. Students passing the qualifying exams will continue with their program. If an exam is failed a second time, the student will be dismissed from the Sociology doctoral program.

### Major Area Examination

After completing the program's two qualifying examinations and 12 credit hours in their major area of concentration, a student will take a major area examination. The student's adviser and faculty who teach in the selected area will design and administer the examination, which will be based on course work completed in the student's major area of concentration.

## Candidacy Examination

The dissertation proposal hearing constitutes the program's candidacy examination, and students who successfully pass their proposal hearing along with other requirements shall be admitted to candidacy. The proposal will encompass an overview of the dissertation topic that includes an in-depth review of relevant literature, a precise statement of the research question, and specific research design (planned methodology and analysis). The student's Dissertation Advisory Committee will supervise the preparation of the dissertation proposal and the proposal hearing.

## Admission to Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- Successful defense of the dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.

## Dissertation

A dissertation is required for completion of the PhD, along with an oral defense of the dissertation proposal and completed dissertation through a minimum of 15 credit hours, which students use to accomplish original research on a topic approved by their adviser and three committee members. One committee member must be from a relevant field outside the Department of Sociology. The dissertation must conform to standard disciplinary, institutional, and departmental practices. Students may not enroll for dissertation credit until they have completed all examinations in their program of study.

## Applied Research Practicum (Optional)

An important component of the Sociology PhD program is the research practicum. The practicum is a three to six credit hours of directed research experience in a nonacademic setting, which will

provide a "hands-on" approach for advanced doctoral students. Although completion of a research practicum will not be required for all doctoral students, it is expected that some students, including most of those seeking employment in research positions in public and private agencies, will take advantage of this opportunity. Doctoral students must pass their qualifying examinations before being eligible for a research practicum. The student's graduate adviser and the department's Graduate Director must approve the research practicum. Hours completed in a research practicum will count as unrestricted electives in the student's program of study.

## Equipment Fee

Full-time students in the Sociology PhD program pay a \$39 equipment fee each semester that they are enrolled. Part-time students pay \$19.50 per semester.

## Independent Learning

As with all graduate programs, independent learning is an important component in the Sociology doctoral program. Students will demonstrate independent learning through research seminars, directed research and the dissertation.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Master's degree in a related field from an accredited institution (Note: Official, preliminary transcript reflecting Master's degree in-progress may be submitted prior to first semester of enrollment. Final, official transcripts are required post admission to document completion of master's degree.).
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation, at least two from academic sources regarding the applicant's potential for success in the program.
- A 250-500 word personal statement identifying the area of research interest, faculty with whom

they would like to work with and a description of the applicant's academic and professional experiences and goals.

- Résumé.
- A writing sample, at least 2,500 words and demonstrating the ability to complete advanced graduate work.
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

Applicants' 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. Consult the graduate program director whenever questions arise.

Meeting minimum UCF admissions criteria does not guarantee program admission. Final admission is also based on evaluation of the applicant's abilities, past performance, recommendations, match of this program to the applicant's career/academic goals, and applicant's potential for completing the degree.

## Application Deadlines

Sociology PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 1	Jan 1		
International Applicants	Jan 1	Jan 1		
International Transfer Applicants	Jan 1	Jan 1		

## CONTACT INFO

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PH 403B

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PH 403J

# Texts and Technology PhD

## PROGRAM DESCRIPTION

The Texts and Technology PhD program focuses on theory and practice in new media combined with historical grounding in pre-digital media studies. This program prepares students for positions in research, teaching and program development, web design, multimedia production, distributed education, entertainment, publishing, information architecture, and visualization.

The doctoral program in Texts and Technology produces communicators and problem solvers who can assume leadership positions as educators, consultants, employees, and administrators in the new meeting ground between textuality and technology. The future demands those who can analyze, synthesize, and produce new knowledge, and effectively communicate to a broad range of audiences verbally, electronically, and in writing. The Texts and Technology PhD program brings forth such communicators.

The interdisciplinary curriculum prepares graduates to have a clear understanding of the medium and the problems at hand, along with a holistic knowledge of the history, patterns, and possibilities afforded by digital developments. Study combines textual studies, empirical research, creative production, theoretical investigations, and historical explorations. The curriculum emphasizes theory, research, and applied practice in new digital media supplemented by historical grounding in pre-digital media studies. Areas of research and creative production include digital archiving and editing, asset management, predictive modeling, information architecture, visualization, Web design, and distributed education.

## CURRICULUM

The Texts and Technology PhD program requires five core courses (15 credit hours), three courses in an Area of Specialization (9 credit hours), three Interdisciplinary elective courses (9 credit hours), two courses in the internship and teaching area (6 credit hours), 3 credit hours for candidacy examination, and at least 15 credit hours of dissertation work for a total of at least 57



semester hours of credit taken at UCF beyond the master's degree.

### **Total Hours Required:**

**57** Credit Hours Minimum beyond the Master's 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. Students choose their dissertation adviser and committee from within the program. Students will submit at least one substantial scholarly article to a national peer-reviewed journal with the approval and assistance of the dissertation chair and the director of the doctoral program.

### **Required Courses—15 Credit Hours**

#### **Core—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)
- DIG 6836 Design and Development for Texts and Technology (3 credit hours)

#### **Research Methods—3 Credit Hours**

Select one course from the list below, or an alternate 6000-level methods course subject to approval by the instructor and the Texts and Technology Program Director.

- ENG 6812 Research Methods for Texts and Technology (3 credit hours)
- DIG 6825 Research Methods for Digital Media (3 credit hours)
- ENC 6720 Research Methods in Rhetoric and Composition (3 credit hours)
- HIS 6159 Historiography (3 credit hours)

### **Elective Courses—18 Credit Hours**

#### **Area of Specialization—9 Credit Hours**

After 18 credit hours in the program, students are expected to select an Area of Specialization.

Students are required to select 9 credit hours from the Area of Specialization as noted below, or other graduate courses in the discipline subject to approval by the instructor and the Texts and Technology Program Director.

#### ***Digital Humanities***

ENG 6812 Research Methods for Texts and Technology (3 credit hours) is the recommended Methods course.

- DIG 5137 Information Architecture (3 credit hours)
- DIG 6546 Previsualization and Concept Development (3 credit hours)
- DIG 6647 Science and Technology of Dynamic Media (3 credit hours)
- ENC 5225 Theory and Practice of Document Usability (3 credit hours)
- ENC 6426 Visual Texts and Technology (3 credit hours)
- ENC 6428 Rhetoric of Digital Literacy (3 credit hours)
- ENC 6939 Topics in Texts and Technology (may be repeated for credit) (3 credit hours)
- ENG 6806 Digital Editing and Databases (3 credit hours)
- ENG 6811 Cultural Contexts in Texts and Technology (3 credit hours)
- ENG 6814 Gender in Texts and Technology (3 credit hours)
- ENG 6948 Teaching Practicum in Texts and Technology (3 credit hours)

#### ***Digital Media***

DIG 6825 Digital Media Research Methods (3 credit hours) is the recommended Methods course.

- DIG 5137 Information Architecture (3 credit hours)
- DIG 6812 Digital Interaction for Informal Learning (3 credit hours)
- DIG 6546 Previsualization and Concept Development (3 credit hours)
- DIG 6605 Physical Computing (3 credit hours)
- DIG 6647 Science and Technology of Digital Media (required) (3 credit hours)

- ENC 5225 Theory and Practice of Document Usability (3 credit hours)
- ENC 6296 Writing and Designing Online Help Systems (3 credit hours)
- ENC 6428 Rhetoric of Digital Literacy (3 credit hours)

### ***Public History***

If the student does not hold a master's degree in History, HIS 6159 Historiography (3 credit hours) is the recommended Methods course. If the student holds a master's degree in history, the recommended Methods course is ENG 6812 Research Methods for Texts and Technology (3 credit hours).

- AMH 5378 History of Technology (3 credit hours)
- AMH 5636 Colloquium in U.S. Environmental History (3 credit hours)
- AMH 6346 Seminar in the History of American Automobility (3 credit hours)
- AMH 6429 Seminar in Community and Local History (3 credit hours)
- AMH 6592 Seminar in Oral History (3 credit hours)
- HIS 5067 Introduction to Public History (3 credit hours)
- HIS 5083 Cultural Heritage Management (3 credit hours)
- HIS 6068 Seminar in Documentary Editing and New Media (3 credit hours)
- HIS 6096 Seminar in Historic Preservation (3 credit hours)
- HIS 6165 Digital Tools for Historians (3 credit hours)
- HIS 6942 Public History Internship (3 credit hours)

### ***Rhetoric and Composition***

ENC 6720 Research Methods in Rhetoric and Composition (3 credit hours) is the recommended Methods course.

- ENC 6335 Rhetorical Traditions (required) (3 credit hours)
- ENC 5705 Theory and Practice in Composition (3 credit hours)

- ENC 6245 Teaching Professional Writing (3 credit hours)
- ENC 6333 Contemporary Rhetoric and Composition Theory (3 credit hours)
- ENC 6428 Rhetoric of Digital Literacy (3 credit hours)
- ENC 6339 Rhetorical Movements (3 credit hours)
- ENC 6712 Studies in Literacy and Writing (3 credit hours)
- ENC 6945 Community Literacy Practicum (3 credit hours)
- ENG 6811 Cultural Contexts in Texts and Technology (3 credit hours)

### ***Scientific and Technical Communication***

ENG 6812 Research Methods for Texts and Technology (3 credit hours) is the recommended Methods course.

- ENC 6261 Technical Writing: Theory and Practice (required) (3 credit hours)
- ENC 5225 Theory and Practice of Document Usability (3 credit hours)
- LIT 6435 Rhetoric of Science (3 credit hours)
- ENC 6217 Technical Editing (3 credit hours)
- ENC 6292 Project Management of Technical Writers (3 credit hours)
- ENC 6297 Production and Publication Methods (3 credit hours)
- ENC 6296 Writing and Designing Online Help Systems (3 credit hours)
- ENC 6425 Hypertext Theory and Design (3 credit hours)

### ***Interdisciplinary Electives—9 Credit Hours***

Students select 9 credit hours of interdisciplinary electives from any Area of Specialization, or from other departments within the university, subject to approval by the instructor and the Texts and Technology Program Director. This requirement encourages students to find graduate-level coursework best suited to develop their research agendas and to prepare for their dissertation.

## Dissertation—18 Credit Hours

### Candidacy Examination—3 Credit Hours

- ENC 7919 Doctoral Research (3 credit hours)

Students are admitted to doctoral candidacy status upon completion of a written examination with three parts—one part based on a reading list reviewed biennially by the Texts and Technology faculty and the other two parts based on reading lists prepared by each student and approved by the examination committee. The candidacy examination for each student is written and evaluated by a committee of three UCF graduate faculty chosen by the student; however, at least two members of each candidacy examination committee must be members of the Texts and Technology core or associated faculty. Students must be registered for ENC 7919 during the semester in which they take their candidacy examination and they must find a Texts and Technology core faculty member to serve as the chair of their examination during the semester before taking ENC 7919. Students cannot register for dissertation credit ENC 7980 until the semester after they have successfully completed the candidacy examination. Students who fail the candidacy examination a second time cannot continue in the program.

### Admission to Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Successful completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- An approved dissertation advisory committee is on file, consisting of approved graduate faculty and graduate faculty scholars.
- A current, approved program of study is on file.

### Dissertation and Oral Defense—15 Credit Hours

- ENC 7980 Doctoral Dissertation (15 credit hours)

Students choose their dissertation adviser and committee from among the faculty in the Texts and Technology PhD 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 PhD or another 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. Students are required to submit and defend a written dissertation proposal during the first year in dissertation. The dissertation committee administers the candidate's oral defense of the dissertation, with passing determined by acceptance by a majority of the committee. The dissertation adviser, the dissertation committee and the dean of the college or designee must approve the final dissertation. Format approval is required from the Thesis and Dissertation Office and final approval of degree requirement completion by the College of Graduate Studies (Millican Hall 230).

Students will submit at least one substantial scholarly article to a national and/or international peer-reviewed journal with the approval and assistance of the dissertation chair and the director of the doctoral program.

### Internship and Practicum—6 Credit Hours

- ENG 6813 Teaching Online in Texts and Technology (3 credit hours)
- ENG 6947 Internship in Texts and Technology (3 credit hours)

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended, demonstrating a competitive GPA in the student's major field of study.
- Applicants must hold a master's degree from a regionally accredited university. Fields with a technological and/or textual theory component, such as technical communication, digital

media, cultural studies, rhetoric, or linguistics, are especially applicable.

- Official, competitive GRE score (the test must have been taken within the last five years).
- Three letters of recommendation, at least two regarding the applicant’s potential for success in the Texts and Technology PhD program and written by academic mentors.
- Research Agenda and Statement of Purpose, in which the applicant outlines a potential course of study and explains why the Texts and Technology program PhD program is well suited to his/her area of interest and research. Competitive students will demonstrate a strong sense of how they will use their graduate study to accomplish their personal and professional goals, as well as provide an overview of their technological skills, knowledge, experience, and abilities. Applicants are encouraged to visit the Texts and Technology PhD website for additional information regarding the program and faculty (<http://www.tandt.cah.ucf.edu>).
- Substantial academic writing sample and an optional digital portfolio illustrating the applicant’s ability to engage in advanced academic work. Acceptable writing samples may include a chapter from a master’s thesis, a conference paper, a term paper for a seminar, or other research project that demonstrates the applicant’s ability to pursue the type of research that could possibly lead to a completed dissertation.
- Résumé or CV.
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is competitive and is based on a comparative evaluation of each applicant’s proficiencies, past performance, recommendations, as well as the match of this program and faculty expertise to the applicant’s career/academic goals, and the applicant’s potential for completing the degree.

## Application Deadlines

Texts and Technology PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jan 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

## CONTACT INFO

### Rudy McDaniel PhD

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## SPECIALIST PROGRAMS

### Education EdS

- Master's + 30 Track
- School Counseling Track

### PROGRAM DESCRIPTION

The Specialist in Education program is designed for practicing educators who wish to gain expertise in a subfield within education, and offers two tracks: School Counseling Track and the Master's + 30 Track. The program builds that expertise from a core of courses curriculum, instruction, learning theory, and research, and then allow students to work with an adviser to develop a program of study to gain expertise. The program is intended for educators who are interested in teaching in a college, university, or community college, or leading curriculum and instructional improvement in a school or school district, higher education, or military or business settings.

The specialist program provides a foundation of advanced graduate course work but is not a "terminal" academic degree. The Education EdS is an advanced graduate program providing opportunities for master's graduates to enhance their professional preparation and/or preparation for the doctorate (either the EdD or the PhD) by completing additional graduate coursework that results in an earned degree.

### APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years for the School Counseling Track only.
- A goal statement detailing the specific subfield of education in which the applicant intends on specializing and explains how the degree will contribute to the applicant's career development

plan. Applicants are strongly encouraged to contact faculty members in the College of Education in their area of specialization before they apply to identify a potential adviser.

- Resumé.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

For the EdS in Education program, admission occurs one term per year, fall semester only. 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 EdS degree, the student may apply for admission to a doctoral program.

### Application Deadlines

Education EdS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jun 20		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

### CONTACT INFO

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 Professor  
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 ED 209D



# Master's + 30 Track

## TRACK DESCRIPTION

The Education EdS, Master's +30 Track is an advanced graduate program for post-master's students. It is designed for professionals who wish to increase their knowledge to prepare for doctoral work, add expertise in their current field of teaching, or add an additional field of expertise. The program prepares educators who are interested in teaching in a college, university or community college, or in leading curriculum and instructional improvement in a school or school district, higher education, or military or business settings.

## CURRICULUM

### Total Hours Required:

**30-33** Credit Hours Minimum beyond the Master's Degree

### Required Courses—30-33 Credit Hours

#### Advanced Foundational Core—13-16 Credit Hours

- EDE 6933 Introductory Seminar\* (1 credit hour) For students with a specialization in Elementary Education or Reading Education
- ESE 6935 Introductory Seminar\* (1 credit hour) For students with other specializations
- EDP 7517 Facilitating Learning, Development and Motivation (3 credit hours)
- EDF 7457 Data, Assessment and Accountability (3 credit hours)
- EDA 7101 Organizational Theory in Education (3 credit hours)
- EDF 6635 Action Research and Inquiry in Teacher Leadership\*\* (3 credit hours) or IDS 6971 Thesis (6 credit hours)

\* Must be taken in the first semester of the program.

\*\* Student completes either a Capstone Research Project or Thesis at the end of the program.

### Capstone—2 Credit Hours

- EDE 6935 Capstone Seminar (2 credit hours) For students with a specialization in Elementary Education or Reading Education
- ESE 6936 Capstone Seminar (2 credit hours) For students with other specializations

### Specialization—15 Credit Hours

For the specialization, students must complete 15 credit hours of specialization courses from one of the following UCF College of Education programs. Courses are selected with approval of the student's adviser.

- One of the tracks in the Teacher Leadership MEd program
- The specialization or electives in another MEd program
- The concentration in the Education EdD program
- One of the tracks in the Education PhD program

### Portfolio

An electronic portfolio will document the reflections, learning experiences and projects that the student has engaged in throughout the program of study. Each course will have milestone assignments in the portfolio. Transitions in the program will be documented in the first semester during the Introductory Seminar (Professional Development Plan), at the completion of the core courses (Synthesis Paper), and with the presentation of the independent learning product and final Professional Development Plan during the Capstone Seminar.

### Independent Learning

The EdS requires a small-scale research study (if co-enrolled in a doctoral program) or completion of a capstone experience such as an internship, research report, or thesis (if this is a "terminal" program for the student).

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- An official GRE score is not required for admission to the Education Ed. S., Master's + 30 Track. However, preference will be given to applicants who submit a competitive score. Note that students who wish to co-enroll for the Ed.D. Program must apply to that program and comply with all admission criteria for that program including an acceptable GRE score.
- A goal statement detailing the specific subfield of education in which the applicant intends for a specialization and explains how the degree will contribute to the applicant's career development plan. Applicants are strongly encouraged to contact faculty members in the College of Education and Human Performance in their area of specialization before they apply to identify a potential advisor.
- Resume
- All applicants must attend an interview session and an orientation to be accepted to the program. These will be held on dates announced on the College of Education and Human Performance website.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

## CONTACT INFO

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Associate Professor

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ED 122-P

## Application Deadlines

Master's + 30 Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 20		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

# School Counseling Track

## TRACK DESCRIPTION

The Specialist in Education (EdS)--School Counseling track in the CACREP accredited Counselor Education program is designed for practicing educators who wish to gain expertise in a subfield within education or a closely related field. The program prepares students to work as professional school counselors in Pre-K through postsecondary school settings and is an NCATE Accredited Program within the Other School Profession (OSP). Students enrolled in the Counselor Education-School Counseling EdS track should remain in close contact with their advisor to keep informed of any programmatic changes implemented to comply with new state requirements.

As part of the program's pragmatic approach to preparing counselors, in addition to classroom studies, all students complete clinical experiences in the UCF Community Counseling Clinic and field-based experiences in the community. The UCF Community Counseling Clinic serves as a hub for training and research in the program, with graduate students providing services to over one thousand individuals a year through child, adult, couples and family counseling.

## CURRICULUM

### Total Hours Required:

**48** Credit Hours Minimum beyond the Master's Degree

The School Counseling track in the Education EdS program prepares students for certification as a professional school counselor. The program requires a minimum of 48 credit hours beyond the master's degree, including 9 credit hours of core courses, 24 credit hours of specialization, 9 credit hours of DOE-required certification courses (if these have not been completed prior to entry), 9 credit hours of professional clinical experiences, and 6 credit hours in either the thesis or nonthesis options.

## Required Courses—33 Credit Hours

### 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)
- MHS 6220 Individual Psychoeducational Testing I (3 credit hours)

### Specialization—24 Credit Hours

- MHS 6400 Theories of Counseling and Personality (3 credit hours)
- MHS 6401 Techniques of Counseling (3 credit hours)
- MHS 6420 Foundations of Multicultural Counseling (3 credit hours)
- MHS 6500 Group Procedures and Theories in Counseling (3 credit hours)
- SPS 6815 Legal and Ethical Issues in Professional School Counseling (3 credit hours)
- SDS 6347 Career Development (3 credit hours)
- SDS 6411 Counseling with Children and Adolescents (3 credit hours)
- SDS 6620 Coordination of Comprehensive Professional School Counseling Programs (3 credit hours)

## Elective Courses/Nonthesis Option—6 Credit Hours

Students must select two electives in their specialization as approved by their adviser.

- Two approved electives (6 credit hours).

## Professional Clinical Experiences—9 Credit Hours

The clinical experiences are comprised of two sections, Practicum and Internship. Both are experiential in nature and are independent learning activities that take place in authentic settings in which students must apply, reflect on, and refine knowledge and skills acquired in the program to work with actual clients and students. The practicum is conducted on campus in the UCF

Community Counseling Clinic and the internship is conducted at various schools around central Florida.

- MHS 6803 Practicum in Counselor Education (3 credit hours)\*
- SDS 6947 Internship in Professional School Counseling (3 credit hours)\*\*
- SDS 6947 Internship in Professional School Counseling (3 credit hours)\*\*

\* Prerequisites for MHS 6803 Practicum in Counselor Education are as follows: MHS 5005, MHS 6400, MHS 6401, MHS 6500, and SPS 6815. A minimum of 27 credit hours are required prior to beginning the practicum.

\*\* The prerequisites for SDS 6947 Internship in Professional School Counseling include SPS 6815 and a “B” or better in MHS 6803.

### Additional Program Requirements

- Achieve at least a GPA of 3.0 in counseling specialization courses.
- EdS students are strongly encouraged to take MHS 5005 during their first semester if not already taken in a Counselor Education master’s program.
- Achieve a “B” or better in MHS 5005, MHS 6401, MHS 6803 and SDS 6947.
- Complete a total of 700 hours of clinical experiences, 100 of which will be in the UCF Community Counseling Clinic and 600 of which are field-based experiences in a school setting.
- Complete a portfolio and receive approval by Counselor Education faculty.
- Complete a professional exit exam.
- DOE Certification - 9 credit hours (EdS students need to have a Master’s in Education (MEd) degree in order to waive the following education courses):
- TSL 5085 Teaching Language to Minority Students in K-12 Classrooms (3 credit hours)
- RED 5147 Developmental Reading (3 credit hours)
- EDG 6415 Principles of Instruction and Classroom Management (3 credit hours)

### Independent Learning

Practica and internships are independent learning activities that take place in authentic settings in which students must apply, reflect on, and refine knowledge and skills acquired in the program. The internship experience provides students with the practical experience of facilitating a comprehensive, professional school counseling program in a school setting (e.g., leading classroom guidance lessons, facilitating group counseling, providing individual counseling services).

### APPLICATION REQUIREMENTS

The School Counseling Track, EdS degree will no longer be accepting applications for summer enrollment. All interviews for candidates will be held with Counselor Education interviews in general, which occur every fall and spring. This change will allow for more consistency in all of the Counselor Education degree programs.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation
- Resumé.
- Goal statement

The Specialist in Education-School Counseling track 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 Specialist in Education-School Counseling track, 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.

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. Attendance at the program orientation session at 4:30 p.m. on the Thursday before classes begin, the semester to which the student applied, is mandatory.

Admission to an Education Specialist program is separate from admission to the Doctoral program. Upon completion of the EdS degree, the student may apply for admission to a Doctoral program.

### Application Deadlines

School Counseling Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Feb 15	Sep 15	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Feb 15	Sep 1	

### CONTACT INFO

**Stacy VanHorn PhD**  
 counsel@ucf.edu  
 Telephone: 407-823-2401  
 ED 322M

# Educational Leadership EdS

## PROGRAM DESCRIPTION

The Education Leadership EdS program is designed for those currently employed in or interested in decision-making positions in educational organizations. The program 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 EdS in Educational Leadership may apply for admission to the doctoral program. The EdS program requires a research report at the completion of studies.

## CURRICULUM

The Educational Leadership EdS program requires a minimum of 36 credit hours beyond the master's degree. Students must complete a research report at the completion of their study, as well as successfully complete the program internship by earning at least a grade of "B".

### Total Hours Required:

**36 Credit Hours** Minimum beyond the Master's Degree

The Educational Leadership EdS program requires a minimum of 36 credit hours beyond the master's degree. The completed program must include 21 credit hours in a specialization area and a minimum 6 credit hours in research and statistics. Students must also complete a research report at the completion of their study, as well as successfully complete the program internship with a grade of "B" or better. Students must earn an overall 3.0 GPA on all graduate work attempted.

### Required Courses—30 Credit Hours

#### 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)

### 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)

### Co-requisite/Elective Courses—6 Credit Hours

EDF 6401 and EDF 6481 are required co-requisites if students have not already completed them in their master's degree. If the courses have been completed, students must take up to 6 credit hours of electives as approved by their adviser.

- EDF 6401 Statistics for Educational Data (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)

OR

- Electives (6 credit hours) as approved by adviser

### Additional Program Requirements

Educational leadership majors must successfully complete:

- 3 credit hour internship
- Pass all applicable section of the Florida Educational Leadership Examination.

### Independent Learning

Students must complete a research report at the conclusion of their studies.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Resumé.
- Three letters of recommendation.

Admission to the EdS in Educational Leadership program is separate from admission to the doctoral program. EdS graduates may apply for admission to the doctoral program.

### Application Deadlines

Educational Leadership EdS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jun 20	Sep 20	Feb 1
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

## CONTACT INFO

### Walter Doherty PhD

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 ED 222F

# School Psychology

## EdS

### PROGRAM DESCRIPTION

**The EdS in School Psychology is a state-approved initial teacher preparation program that is subject to any change in the Florida Administrative Code (State Board of Education Rule 6A-5.066). Students enrolled in this program should remain in close contact with their adviser to keep informed of any program changes implemented to comply with new state requirements.**

The School Psychology EdS program is designed to prepare students in becoming certified School Psychologists. This specialist degree has very specific requirements to meet the respective licensing requirements for school psychologists.

The School Psychology Program 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 and indirect services to children and young adults, and (c) direct and 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 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.

### CURRICULUM

The School Psychology EdS degree requires a minimum of 83 credit hours beyond the bachelor's degree, as well as a portfolio, practicum and research report at the completion of study. Please note that 65 credit hours are completed before internship. The research report and internship courses comprise 18 credit hours that are completed during internship.

#### Total Hours Required:

**83** Credit Hours Minimum beyond the Bachelor's Degree

With the exception of SPS 5605 Building and Improving Relationship and Emotional Intelligence, SPS 5177 Enhancing Individual and Student IQ, and SPS 6700 Advanced Psychoeducation and Data-Based Decision Making, SPS courses are only open to students in the School Psychology Program.

#### Prerequisites or Co-requisites (DOE Certification)

- TSL 5085 Teaching Language Minority Students in K-12 Classrooms (3 credit hours)
- EDG 6415 Principles of Instruction and Classroom Management (3 credit hours) or EDF 6727 Critical Analysis of Social, Ethical, Legal, and Safety Issues Related to Education (3 credit hours)
- RED 5147 Developmental Reading (3 credit hours)

#### Required Courses—59 Credit Hours

##### Core—9 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)

##### Specialization—50 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 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 6700 Advanced Psychoeducation and Data-Based Decision Making (3 credit hours)

Choose two courses from the following list:

- SPS 6703 Child and Adolescent Deviant Behavior and Treatment (3 credit hours)
- SPS 6175 Cultural Diversity and Nonbiased Assessment (3 credit hours)
- SPS 5605 Building and Improving Relationship and Emotional Intelligence (3 credit hours)
- SPS 5177 Enhancing Individual and Student IQ (3 credit hours)

### Research Report—6 Credit Hours

Choose one of the following two sets of courses.

- SPS 6909 Research Report I and II (6 credit hours) or
- SPS 6XXX Applied Prevention and Intervention in Schools I and II (6 credit hours)

### 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 6948 School Psychology Internship I and II (12 credit hours)

### Additional Program Requirements

- Complete an electronic portfolio that documents reflections on study and learning experiences throughout the program and receive approval by the School Psychology faculty.
- Pass a comprehensive exam.
- Pass the Florida Teacher Certification Examination.

### Equipment Fee

Students in the School Psychology EdS program pay a \$90 equipment fee each semester that they are enrolled. A materials fee of \$45 is charged for each of four assessment courses.

### Independent Learning

A practicum and research report are required as the culminating independent learning experience.

## APPLICATION REQUIREMENTS

**Applicants will receive priority consideration for admission by attending an Information Session with program faculty. Call (407) 823-2401 for meeting dates or visit the program website at <http://schpsy.education.ucf.edu/index.cfm>.**

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A baccalaureate degree in Education, Psychology, or related discipline.
- Official, competitive GRE score taken within the last five years.

- Three letters of recommendation (one from a faculty member).
- Resumé.
- A one-page goal statement.
- Receive a favorable recommendation for admission by the School Psychology Review Committee.

In accordance with Florida Statute 1004.4 and State Board of Education Rule 6A-5.066, admission to this graduate-level, state-approved initial teacher preparation program requires: 1) a composite verbal-quantitative GRE score of at least 1000, **or** 2) having previously passed all four parts of the College Level Academic Skills Test (CLAST), **or** 3) passing all four parts of the Florida Teacher Certification Examination/General Knowledge Test (FTCE/GKT). Applicants who do not meet this requirement via option 1 (GRE) or 2 (CLAST), must take and pass the FTCE/GKT for admission.

This program can only accommodate 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 only occur in the fall term. Information concerning specific admissions policies and procedures can be obtained from the program website: <http://schpsy.education.ucf.edu/index.cfm>. All other questions will be answered during the Information Sessions prospective students are required to attend.

### Application Deadlines

School Psychology EdS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Mar 1		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

### CONTACT INFO

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 Education 115G

## MASTER’S PROGRAMS

# Accounting MSA

## PROGRAM DESCRIPTION

The Master of Science in Accounting (MSA) degree program prepares individuals for careers as professional accountants and consultants in public accounting, financial institutions, government, industry, and nonprofit organizations. The MSA degree, along with the appropriate prerequisite work from an undergraduate degree in accounting, satisfies the education requirements to become a licensed CPA in the state of Florida.

## CURRICULUM

The Master of Science in Accounting (MSA) degree is awarded upon satisfactory completion of a minimum of 30 credit hours, and a final written exit exam. In the total program of study a minimum of 21 credit hours of the course work must be completed in accounting/tax courses. Students, with the assistance and approval of the program adviser, may select other courses that reflect their interests and career objectives.

### Total Hours Required:

**30** Credit Hours Minimum beyond the Bachelor’s Degree

Faculty members in the Kenneth G. Dixon School of Accounting emphasize independent learning in various ways in all courses in the MSA program. Cases and research projects that involve independent work outside the classroom are incorporated into all course work. The cases and projects are both individual and team prepared. Students are asked to do research that requires they utilize library, internet and resources other than the material provided by the professor. The results of independent research activity are presented in either a written report or case analysis or oral presentation. Students work to develop and enhance skills and competencies that will support them professionally throughout their careers. The approaches used in our courses encourage students toward life-long learning.

## Foundation Prerequisite Courses

The courses included in the business and accounting foundation core are listed below. An applicant with a recent undergraduate accounting degree should satisfy most of the core foundation requirements. Other recent related business coursework may partially satisfy these core requirements. The business foundation core is designed for students with a nonbusiness undergraduate degree (e.g., psychology, education, or engineering). The accounting foundation core is designed for students with an undergraduate business degree (e.g., finance, marketing, or management). All business and accounting foundation core deficiencies must be satisfied before graduate MSA coursework can be taken. Before taking any foundation courses, please have your undergraduate transcripts reviewed by the MSA Program Adviser.

### Business Foundation Core—21 Credit Hours

- ACG 2021 Financial Accounting (3 credit hours)
- ACG 2071 Managerial Accounting (3 credit hours)
- ECO 2013 Macroeconomics (3 credit hours)
- ECO 2023 Microeconomics (3 credit hours)
- ECO 3401 Quantitative Business Tools I (3 credit hours)
- ECO 3411 Quantitative Business Tools II (3 credit hours)
- FIN 3403 Business Finance (3 credit hours)

### Accounting Foundation Core—22 Credit Hours

- ACG 3131 Intermediate Financial Accounting I (3 credit hours)
- ACG 3141 Intermediate Financial Accounting II (3 credit hours)
- ACG 3361 Cost Accounting I (3 credit hours)
- ACG 4401 Accounting Information Systems (3 credit hours)
- ACG 4651 Auditing (3 credit hours)
- BUL 3130 Legal and Ethical Environment of Business (4 credit hours)

- TAX 4001 Taxation of Business Entities and Transactions (3 credit hours)

## Required Courses—15 Credit Hours

- ACG 6636 Advanced Auditing (3 credit hours)
- ACG 6415 Advanced Accounting Information Systems (3 credit hours)
- ACG 6805 Accounting Theory (3 credit hours)
- ACG 6305 Advanced Managerial Accounting (3 credit hours)
- TAX 5015 Advanced Tax Topics (3 credit hours)

## Elective Courses—15 Credit Hours

### Restricted Accounting Elective Courses—6 Credit Hours

- ACG 6255 International and Multinational Accounting (3 credit hours)
- ACG 6519 Governmental and Nonprofit Accounting (3 credit hours)
- ACG 6685 Fraud Auditing (3 credit hours)
- ACG 6835 Ethics and Professionalism in Accounting and Auditing (3 credit hours)
- ACG 6946 Graduate Accounting Internship (3 credit hours)

### Restricted Elective Courses—9 Credit Hours

MSA students can take additional ACG courses or TAX courses as restricted electives. Most MBA courses or electives other than ACG 6425 and BUL 6444 may be taken as restricted electives.. BUL 5332 Advanced Business Law Topics is required for UCF students with an undergraduate degree in accounting who plan to take the CPA exam. Please note that some of the MBA courses may be restricted to only those students enrolled within a specific MBA track. Up to six hours may be selected from outside the College of Business Administration. Courses outside the College of Business Administration must be selected with the student's area of interest and/or career objectives in mind and with the approval of the program adviser.



## Comprehensive Examination

Satisfactory completion of an end-of-program comprehensive written examination is required. The MSA program does not require a thesis.

## Additional Program Requirements

Any student enrolled in a College of Business Administration master's degree program who earns more than two final course grades below a B- will be dismissed from the program and retention plans will not be supported by the College of Business Administration.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- 3.0 GPA in upper-division accounting and tax courses.
- Official, competitive GMAT score taken within the last five years.
- Résumé.
- A computer-based score of 233 (or 91 internet-based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

## Application Deadlines

Accounting MSA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

## CONTACT INFO

### Charles Kelliher PhD

Associate Professor

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# Aerospace Engineering MSAE

- Accelerated BS to MS Track
- Space Systems Design and Engineering Track
- Thermofluid Aerodynamic Systems Design and Engineering Track

## PROGRAM DESCRIPTION

The Master of Science in Aerospace Engineering (MSAE) is designed to prepare students for careers as engineers in aerospace. Students may choose from three tracks: Accelerated BS to MSAE, Space Systems Design and Engineering, and Thermofluid Aerodynamic Systems Design and Engineering. International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit [www.intl.ucf.edu](http://www.intl.ucf.edu). If you have any questions, please consult the International Services Center at 407-823-2337.

## CURRICULUM

The MSAE is awarded upon completion of a minimum of 30 credit hours. Students of the program must select a thesis or nonthesis 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. At least one-half of the required credits must be taken at the 6000 level. Students should consult the Graduate Director for assistance.

### Total Hours Required:

**30** Credit Hours Minimum beyond the Bachelor's Degree

The program offers three tracks: Space Systems Design and Engineering, Thermofluid Aerodynamic Systems Design and Engineering, and Accelerated BS to MSAE. Students must be pursuing a track within the discipline. The MSAE is awarded upon completion of a minimum of 30 credit hours, which includes 12 credit hours of required courses, 6 credit hours of specialization, 6-9 credit hours of electives and depending on whether a student

selects a thesis or nonthesis option. Thesis option students will be required a minimum of 6 credit hours and nonthesis students will be required to take the course EML 6085 Research Methods in MAE or EML 6918 Directed Research and make a presentation on a chosen topic before a committee of faculty members.

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. At least one-half of the required credits must be taken at the 6000 level. Students should consult the Graduate Director for assistance.

For the Accelerated track, the BSAE is awarded after completion of 71 hours of engineering courses and all other university requirements, and the MSAE 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 engineering major requirements in the Undergraduate Catalog).

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. More information is available at the department website listed above.

## 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 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 College of Engineering and Computer Science requires that all thesis defense announcements are approved by the student's adviser and posted on the college's website and on the Events Calendar of the College of Graduate Studies website at least two weeks before the defense date.

## Nonthesis Option

The nonthesis option is primarily designed to meet the needs of part-time students and requires 30 credit hours of course work, at least one-half of which must be at the 6000 level. In addition,

students pursuing the nonthesis option are required to take EML 6085 Research Methods in MAE as part of their 30-credit-hour course requirement. For students who are not on campus and upon prior approval from the graduate coordinator, EAS 6918 Directed Research (3 credit hours) may be substituted as the student’s independent learning experience. In the case substitution EAS 6918 is approved, a letter must be provided by the member of the faculty supervising the directed research certifying independent learning.

### MAE Department Graduate Seminar Requirement

The MAE Graduate seminar is a zero credit hour course (S/U) that is offered each Fall and Spring academic semesters. All MAE graduate students who are pursuing the MSME are required to register, participate, and receive a satisfactory (S) grade for two semesters of MAE Graduate seminar prior to graduation.

### Equipment Fee

Students in the Aerospace Engineering MSAE program pay a \$90 equipment fee each semester that they are enrolled. Part-time students pay \$45 per semester.

### Independent Learning

The Independent Learning Requirement is met by successful completion of a master’s thesis for the thesis option. The non-thesis option independent learning experience is provided by the required course, EML 6085 Research Methods in MAE (3 credit hours). For students who are not on campus and upon prior approval from the graduate coordinator, EAS 6918 Directed Research (3 credit hours) may be substituted as the student’s independent learning experience. In the case substitution EAS 6918 is approved, a letter must be provided by the member of the faculty supervising the directed research certifying independent learning.

## APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening ([www.cecs.ucf.edu/](http://www.cecs.ucf.edu/)

prescreen) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Bachelor’s degree in Aerospace Engineering or closely related discipline.
- Résumé.
- Statement of educational, research, and professional career objectives.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Additional courses may be required to correct deficiencies. Students should contact the MMAE graduate program director for further information.

### Application Deadlines

Aerospace Engineering MSAE	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	

Aerospace Engineering MSAE	Fall Priority	Fall	Spring	Summer
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

# Accelerated BS to MS Track

## TRACK DESCRIPTION

The Accelerated BS to MS track in the Aerospace Engineering MSAE program allows highly qualified undergraduate students in Aerospace Engineering 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 Science and Master of Science degrees in five instead of six years for students enrolled in full-time course work.

## CONTACT INFO

**Alain Kassab PhD**  
 Professor  
 gradmmae@ucf.edu  
 Telephone: 407-823-5778  
 Engineering 313

## CURRICULUM

### Total Hours Required:

**30** Credit Hours Minimum beyond the Bachelor's Degree

The BSAE is awarded after completion of 128 total undergraduate student credit hours including 71 hours of engineering courses and all other university requirements, and the MSAE 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 engineering major requirements in the Undergraduate Catalog).

Up to 12 credit hours of approved 5000- and 6000-level courses of grades "B" (3.0) or better may be counted toward the BS and MS degrees. Additional notes on the Accelerated Undergraduate and Graduate Program in Aerospace Engineering:

- Students who change degree programs and select this major must adopt the most current catalog.
- Students must earn at least a "B" (3.0) in each undergraduate and graduate engineering course for them to be counted toward the major.

## Undergraduate Requirements

Please see the current edition of the Undergraduate Catalog and the College of Engineering website listed above for additional information about academics and accelerated programs.

## Graduate Requirements

For thesis option students, at least 18 credit hours beyond the 12 credit hours counted toward the undergraduate degree are required and must include 6 credit hours of thesis (EAS 6971); for the nonthesis option, the 18 credit hours need to include either EML 6085 Research Methods in MMAE (3 credit hours) or EML 6918 Directed Research (3 credit hours). The remaining credit hours can be selected from courses from other tracks. Accelerated Aerospace students must declare their interest in either the Space Systems Design and Engineering Track or the Thermofluid Aerodynamic Systems Design and Engineering Track by completing a Program of Study with their adviser.

Additionally, all students pursuing the thesis option must enroll in the following course:

- EML 5936 Mechanical and Aerospace Seminar (0 credit hours)

Students must register for the seminar course a minimum of two times during their graduate career in the master's program (thesis option). The students must also complete the course with a satisfactory (S) grade in both attempts. If the student does not complete the course with a satisfactory grade, the student will be asked to repeat the course to meet program requirements.

## Equipment Fee

Students in the Aerospace Engineering MSAE program pay a \$90 equipment fee each semester that they are enrolled.

## Independent Learning

The Independent Learning Requirement is met by successful completion of a master's thesis or EML 6085 Research Methods in MMAE. The nonthesis option independent learning experience is provided by the required course EML 6085 Research Methods in MMAE (3 credit hours). For students who are not on campus and upon prior approval from the graduate coordinator, EAS 6918 Directed Research (3 credit hours) may be substituted as the student's independent learning experience. In the case substitution EAS 6918 is approved, a letter must be provided by the member of the faculty supervising the directed research certifying independent learning.

## APPLICATION REQUIREMENTS

The **Accelerated BS to MS** program in Aerospace Engineering allows highly qualified University of Central Florida undergraduate majors in Aerospace Engineering 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 accelerated program in either their junior year or senior year. If the student has a degree in the discipline, but were not previously part of this accelerated program, then they should apply to either the **Space Systems Design and Engineering or Thermofluid Aerodynamic Systems Design and Engineering Track** instead. Additional information about this track may be located at: <http://www.cecs.ucf.edu/academics/acceleratedbstomsprograms>.

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening ([www.cecs.ucf.edu/prescreen](http://www.cecs.ucf.edu/prescreen)) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Bachelor's degree in Aerospace Engineering or closely related discipline.
- Résumé.



- Statement of educational, research, and professional career objectives.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Additional courses may be required to correct deficiencies. Students should contact the MMAE graduate program director for further information.

## Application Deadlines

Accelerated BS to MS Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

## CONTACT INFO

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 Engineering 313

# Space Systems Design and Engineering Track

## TRACK DESCRIPTION

The Master of Science in Space Systems Design and Engineering (MSAE) is designed to prepare students for careers as engineers in aerospace. The program includes the fields of controls and dynamics, space environment, instrumentation and communications, structures and materials, thermal analysis, and design.

## CURRICULUM

### Total Hours Required:

**30** Credit Hours Minimum beyond the Bachelor's Degree

All students must identify an adviser and file an official degree program of study prior to the completion of 9 credit hours of study. The program of study must be approved by the department and therefore students should consult with the MMAE Graduate Director for assistance in filling out their program of study.

A student with an undergraduate degree outside of the selected departmental discipline may also be required to satisfy an articulation program. Substitutions to the program of study must meet with the approval of the adviser and the department.

### Prerequisites (or equivalent)

- MAP 2302 Differential Equations
- EML 3034C Modeling Methods in Mechanical and Aerospace Engineering
- EAS 4134 High-Speed Aerodynamics
- EAS 4105 Flight Mechanics or EAS 4400 Spacecraft Attitude Dynamics
- EAS 4200 Flight Structures or EAS 4210 Space Structural Dynamics

## Required Courses—12 Credit Hours

- EML 5060 Mathematical Methods (3 credit hours)
- EML 5271 Intermediate Dynamics (3 credit hours)
- EML 5311 System Control (3 credit hours)

Select one of the following courses:

- EML 5152 Intermediate Heat Transfer (3 credit hours)
- EML 5237 Intermediate Mechanics of Materials (3 credit hours)
- EML 5713 Intermediate Fluid Mechanics (3 credit hours)

## Elective Courses—12 Credit Hours

All students, both thesis and nonthesis, must complete at least 12 credit hours of electives. The following list are suggested electives to be taken in the program of study.

- EAS 6403C Attitude Determination and Control (3 credit hours)
- EAS 6415 Guidance, Navigation and Control (3 credit hours)
- EEL 6616 Adaptive Control (3 credit hours)
- EEL 6621 Nonlinear Control Systems (3 credit hours)
- EML 5152 Intermediate Heat Transfer (3 credit hours)
- EML 5713 Intermediate Fluid Mechanics (3 credit hours)
- EML 6211 Continuum Mechanics (3 credit hours)
- EML 6233 Fundamentals of Fatigue Analysis (3 credit hours)
- EML 5237 Intermediate Mechanics of Materials (3 credit hours)
- EML 6155 Convection Heat Transfer (3 credit hours)
- EML 6157 Radiation Heat Transfer (3 credit hours)
- EAS 6808 Space Environment and Payload Instrumentation (3 credit hours)

- EEL 5432 Satellite Remote Sensing (3 credit hours)
- EEE 5542 Random Processes I (3 credit hours)
- EEL 5881 Software Engineering I (3 credit hours)

## Thesis Option—6 Credit Hours

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.

- EAS 6971 Thesis (6 credit hours)

Additionally, students pursuing the thesis option must enroll in the following course:

- EML 5090 Mechanical and Aerospace Seminar (0 credit hours)

Students must register for the course a minimum of two times during their graduate career in the master's program (thesis option). The students must also complete the course with a satisfactory (S) grade in both attempts. If the student does not complete the course with a satisfactory grade, the student will be asked to repeat the course to meet program requirements.

## Nonthesis Option—6 Credit Hours

The nonthesis option is primarily designed to meet the needs of part-time students and requires 30 credit hours of course work, at least one-half of which must be at the 6000 level. Students pursuing the nonthesis option are required to take one additional elective and take either EML 6085 Research Methods in MMAE (or XXX 6918 Directed Research, with approval)\* as part of their 30-credit-hour course requirement.

- Elective (3 credit hours)
- EML 6085 Research Methods in MMAE (3 credit hours)

\*For students who are not on campus and upon prior approval from the graduate coordinator, XXX 6918 Directed Research (3 credit hours) may be substituted as the student's independent learning experience. If the substitution of XXX 6918 is approved, a letter must be provided by the member

of the faculty supervising the directed research certifying independent learning.

EML 6085 and XXX 6918 fulfill the independent learning requirement and either course is required for nonthesis students.

## Equipment Fee

Students in the Aerospace Engineering MSAE program pay a \$90 equipment fee each semester that they are enrolled.

## Independent Learning

The independent learning requirement is met by successful completion of a master's thesis for the thesis option. The nonthesis option independent learning experience is provided by the required course, EML 6085 Research Methods in MMAE (3 credit hours). For students who are not on campus and upon prior approval from the graduate coordinator, XXX 6918 Directed Research (3 credit hours) may be substituted as the student's independent learning experience. If the substitution of XXX 6918 is approved, a letter must be provided by the member of the faculty supervising the directed research certifying independent learning.

## APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening ([www.cecs.ucf.edu/prescreen](http://www.cecs.ucf.edu/prescreen)) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be

admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Bachelor's degree in Aerospace Engineering or closely related discipline.
- Résumé.
- Statement of educational, research, and professional career objectives.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Additional courses may be required to correct deficiencies. Students should contact the MMAE graduate program director for further information.

## Application Deadlines

Space Systems Design and Engineering Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

## CONTACT INFO

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 Engineering 313

# Thermofluid Aerodynamic Systems Design and Engineering Track

## TRACK DESCRIPTION

The Thermofluid Aerodynamics Systems Design and Engineering track in the Aerospace Engineering MSAE program is designed to prepare students for careers as engineers in aerospace. The program includes the fields of controls and dynamics, aerodynamics, propulsion, thermal analysis, and design.

## CURRICULUM

### Total Hours Required:

**30** Credit Hours Minimum beyond the Bachelor's Degree

All students must identify an adviser and file an official degree program of study prior to the completion of 9 credit hours of study. The program of study must be approved by the department and therefore students should consult with the MMAE Graduate Director for assistance in filling out their program of study. Both thesis and nonthesis options require 30 credit hours of courses and at least half of the credit hours in the program of study must be at the 6000 level.

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.

### Prerequisites (or equivalent)

- MAP 2302 Differential Equations
- EML 3034C Modeling Methods in Mechanical and Aerospace Engineering
- EAS 4134 High-Speed Aerodynamics
- EAS 4300 Aerothermodynamics of Propulsion Systems or EML 4703 Fluid Mechanics II
- EAS 4105 Flight Mechanics

- EML 4142 Heat Transfer

### Required Courses—12 Credit Hours

- EML 5060 Mathematical Methods in Mechanical, Materials and Aerospace Engineering (3 credit hours)
- EML 5152 Intermediate Heat Transfer (3 credit hours)
- EML 5713 Intermediate Fluid Mechanics (3 credit hours)

Select one of the following courses:

- EML 5237 Intermediate Mechanics of Materials (3 credit hours)
- EML 5271 Intermediate Dynamics (3 credit hours)
- EML 5311 System Control (3 credit hours)

### Elective Courses—12 Credit Hours

All students, both thesis and nonthesis, must complete at least 12 hours of electives from the list below after conferring with their adviser.

- EAS 5123 Intermediate Aerodynamics (3 credit hours)
- EAS 6185 Turbulent Flow (3 credit hours)
- EAS 5315 Rocket Propulsion (3 credit hours)
- EML 5713 Intermediate Fluid Mechanics (3 credit hours)
- EML 6131 Combustion Phenomena (3 credit hours)
- EML 6712 Mechanics of Viscous Flow (3 credit hours)
- EML 5402 Turbomachinery (3 credit hours)
- EML 5105 Gas Kinetics and Statistical Thermodynamics (3 credit hours)
- EML 6155 Convection Heat Transfer (3 credit hours)
- EML 6725 Computational Fluid Dynamics and Heat Transfer I (3 credit hours)
- EAS 5302 Direct Energy Conversion (3 credit hours)
- EAS 6807C Aerospace Measurements Instrumentation (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)
- EML 5713 Intermediate Fluid Mechanics (3 credit hours)
- EML 6157 Radiation Heat Transfer (3 credit hours)
- EAS 5123 Intermediate Aerodynamics (3 credit hours)
- EML 6211 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 6547 Engineering Fracture Mechanics in Design (3 credit hours)

### Thesis Option—6 Credit Hours

The thesis option requires 6 credit hours of thesis in addition to the required and elective courses listed above. 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.

- EAS 6971 Thesis (6 credit hours)

Additionally, all students pursuing the thesis option must enroll in the following course:

- EML 5090 Mechanical and Aerospace Seminar (0 credit hours)

Students must register for the seminar course a minimum of two times during their graduate career in the master's program (thesis option). The students must also complete the course with a satisfactory (S) grade in both attempts. If the student does not complete the course with a satisfactory grade, the student will be asked to repeat the course to meet program requirements.

### Nonthesis Option—6 Credit Hours

The nonthesis option is primarily designed to meet the needs of part-time students and requires one

additional elective and EML 6085 Research Methods in MMAE (or XXX 6918 Directed Research, with approval)\* as part of their 30-credit-hour course requirement.

- Elective (3 credit hours)
- EML 6085 Research Methods in MMAE (3 credit hours)

\* For students who are not on campus and upon prior approval from the graduate coordinator, XXX 6918 Directed Research (3 credit hours) may be substituted as the student's independent learning experience. If the substitution of XXX 6918 is approved, a letter must be provided by the member of the faculty supervising the directed research.

EML 6085 (or XXX 6918) fulfills the independent learning requirement for nonthesis students.

### Equipment Fee

Students in the Aerospace Engineering MSAE program pay a \$90 equipment fee each semester that they are enrolled.

### Independent Learning

The independent learning requirement is met by successful completion of a master's thesis for the thesis option. The nonthesis option independent learning experience is provided by the required course EML 6085 Research Methods in MMAE (3 credit hours). For students who are not on campus and upon prior approval from the graduate coordinator, XXX 6918 Directed Research (3 credit hours) may be substituted as the student's independent learning experience. If the substitution of XXX 6918 is approved, a letter must be provided by the member of the faculty supervising the directed research certifying independent learning.

## APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening ([www.cecs.ucf.edu/prescreen](http://www.cecs.ucf.edu/prescreen)) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete



online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Bachelor’s degree in Aerospace Engineering or closely related discipline.
- Résumé.
- Statement of educational, research, and professional career objectives.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Additional courses may be required to correct deficiencies. Students should contact the MMAE graduate program director for further information.

## Application Deadlines

<b>Thermofluid Aerodynamic Systems Design and Engineering Track</b>	<b>Fall Priority</b>	<b>Fall</b>	<b>Spring</b>	<b>Summer</b>
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

## CONTACT INFO

### Alain Kassab PhD

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 Engineering 313

# Anthropology MA

## PROGRAM DESCRIPTION

The Department of Anthropology offers a graduate program leading to the Master of Arts degree in Anthropology. The course work in this program is conceptually four-field, with faculty strengths in archaeology, cultural anthropology, and physical anthropology. A Graduate Certificate in Maya Studies may also be earned. A program of graduate study may be individually developed with any graduate faculty member (see the Faculty Page for the UCF Department of Anthropology for research specializations). Current geographical research areas include Belize, Bolivia, the Caribbean, Egypt, Europe, Mexico, Peru, Philippines, and the U.S.

Degree-seeking students in the Anthropology MA program may elect to follow either a thesis or a nonthesis program of study, both of which require a minimum of 30 credit hours, 15 of which must be at the 6000 level. Students choosing the thesis option must receive a commitment from a faculty adviser for admission into the program. The thesis option is designed for students who plan to enter doctoral programs, while the nonthesis option is more appropriate for students entering or continuing professional careers following the MA degree. Students that focus their studies on archaeology and want to become a Registered Professional Archaeologist cannot pursue the non-thesis option. This registration requires an advanced degree that culminates in either a thesis or dissertation.

## CURRICULUM

Degree-seeking students in the Anthropology MA program may elect to follow either a thesis or a nonthesis program of study.

The thesis option is designed for students who plan to enter doctoral programs, while the nonthesis option is more appropriate for students entering or continuing professional careers following the MA degree. Both options require 30 hours of course work, of which half must be at the 6000 level.

### Total Hours Required:

**30** Credit Hours Minimum beyond the Bachelor's Degree

The MA degree is conferred when students have fulfilled the requirements of either the thesis or nonthesis option. No graduate credit will be given for any grade lower than a B- (2.75), but the grade will be counted toward the GPA. Courses may be retaken to achieve a better grade; however, the unsatisfactory grade will remain on the transcript since there is no grade forgiveness at the graduate level. In order to stay in good academic standing, students must maintain a minimum Graduate Status GPA of 3.0 in all coursework taken since entering graduate status and a 3.0 in their program of study.

Upon acceptance into the program students will be assigned a faculty adviser. Together the students and their advisers will determine the student's preliminary program of study, either in the thesis or nonthesis option. Students should maintain close contact with their faculty adviser in order to develop a viable program of study and avoid graduation delays.

Research studies are required in the required courses, and at the conclusion of all course work, an assessment of students independent research projects and papers is completed. The research study will focus on reviewing and analyzing contemporary research in a particular specialization within anthropology in order to help students acquire knowledge and skills pertaining to research-based best practices in that specialization area.

## Required Courses—12 Credit Hours

These courses provide an in-depth understanding of the epistemological foundations of the discipline. Students are introduced to the theory and practice of anthropology at a level of synthesis that will prepare them for future doctoral study should they wish to pursue it. These courses also establish the foundations of understanding that will prepare students for nonacademic careers that employ anthropological perspectives and knowledge.

- ANG 6110 Archaeological Theory and Method (3 credit hours)
- ANG 6587 Seminar in Biological Anthropology (3 credit hours)
- ANG 6930 Seminar in Cultural Anthropology (3 credit hours)
- ANG 6002 Proseminar in Anthropology (3 credit hours)

## Elective Courses—12 Credit Hours

A minimum of 12 additional credit hours must be selected from the list below in conjunction with the faculty advisor and/or the advisory committee members and approved by the program graduate coordinator. With prior approval, the student may take one elective (3 credit hours) in another department. Additional electives may be selected as they become available.

Under special circumstances, students may enroll in a graduate-level Directed Independent Study course or a Directed Independent Research course to fulfill their non-required 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.

- ANG 5166 Problems in Maya Studies (3 credit hours)
- ANG 5167 Maya Hieroglyphs (3 credit hours)
- ANG 5228 Maya Iconography (3 credit hours)
- ANG 5486 Quantitative Research in Anthropology
- ANG 5742 Problems in Forensic Anthropology (3 credit hours)
- ANG 6520C Advanced Human Osteology (3 credit hours)
- ANG 6740C Advanced Forensic Anthropology (3 credit hours)
- ANG 5822 Field Research in Maya Studies (3 credit hours)
- ANG 5272 Culture, Power, and Development (3 credit hours)
- ANG 5307 Peoples and Cultures of Latin America (3 credit hours)
- ANG 5341 Caribbean Cultures (3 credit hours)
- ANG 5301 Anthropology of Tourism (3 credit hours)
- ANG 5531 Nutritional Anthropology (3 credit hours)
- ANG 5620 Language and Culture (3 credit hours)
- ANG 5622 Language, Culture, and Pedagogy (3 credit hours)

- ANG 5738 Advanced Medical Anthropology (3 credit hours)
- ANG 6168 The Ancient Maya (3 credit hours)
- ANG 6821 Forensic Archaeology Field Methods (3 credit hours)
- ANG 6181C GIS Applications in Anthropology (3 credit hours)
- ANG 6324 Contemporary Maya (3 credit hours)
- ANG 6701 Seminar in Applied Anthropology (3 credit hours)
- ANG 6801 Ethnographic Research Methods (3 credit hours)

## Thesis Option—6 Credit Hours

The thesis and oral defense are the culmination of the course work for those students who have elected the thesis option. Students electing to write a thesis must select a Thesis Advisory Committee. The student's faculty adviser will chair the Thesis Advisory Committee. The committee will consist of three members. All members must be approved graduate faculty as cited in the most current UCF Graduate Catalog. Qualified individuals from outside the Department and also the University of Central Florida may be eligible to serve as the third member of Thesis Advisory Committees. The committee needs to be established prior to enrolling in thesis hours.

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 faculty 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 graduate work beyond the Master of Arts degree.

The completion of the thesis must be followed by an oral defense before the Thesis Advisory Committee. A successful format review, oral defense, and electronic submission of the thesis to the College of Graduate Studies for review completes the program requirements. Students are required to follow all

procedures and timetables specified by the College of Graduate Studies.

- ANG 6971 Thesis (6 credit hours)
- Successful Oral Defense of Thesis

### **Nonthesis Option—6 Credit Hours**

Students selecting the nonthesis option take an additional 6 hours of elective course work for a total of 18 credit hours of electives.

- Electives (6 credit hours)

### **Comprehensive Examination**

At the conclusion of course work, nonthesis students will be given a comprehensive examination. In consultation with the faculty adviser, two additional faculty members shall be selected to serve on the Examination Committee that will be chaired by the faculty adviser. This committee must be selected by the semester prior to the semester in which the student will take the exam. The comprehensive examination will consist of two phases. The first phase requires the student to write three (3) papers to answer a question from each member of their Examination Committee. Each paper will be 7-10 pages in length and will be due one week (7 days) from the date the student is provided the questions. The second phase will be a 90 minute comprehensive oral examination with two formal rounds of questions from the Examination Committee. A successful comprehensive examination completes the requirements for the degree. Students are required to follow all procedures and timetables specified by the College of Graduate Studies. The examination will be based on the course work in the student's program of study. Students must notify the department's graduate program director in writing of their intent to take the exam at least one week before the date fixed for the examination. A committee composed of three faculty members will conduct the 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 must retake the exam. 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 take the exam will be awarded a failing grade.

### **Independent Learning**

Students who choose the thesis option will gain independent learning experiences through their thesis research where they are expected to design and conduct their own research which culminates with the writing and defense of their thesis. Students will also gain this experience through their core course requirements as each course contains an independent research assignment. Students in the nonthesis option will gain independent learning experiences through all of their core courses, all of which contain an independent research component.

## **APPLICATION REQUIREMENTS**

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years. The program's preferred minimum score is 300 on the GRE revised General Test. The program's preferred minimum score is 1000 on the prior format of the GRE General Test which was a 1600 score scale.
- Personal statement of intent that must include the student's research interest, geographical area of interest, faculty they would like to work with, and future career plans (500 words).
- Contact with a potential advisor is recommended prior to application. Advisors are unable to grant admission to applicants prior to all application materials being submitted and reviewed by the department.
- Three letters of recommendation that assess the applicant's potential as a graduate student. These letters should come from the applicant's previous professors and should not be more than 12-months old at the time of application.

The applicant's record will be reviewed on an individual basis and evaluated to assess the applicant's potential for success in the program. Students will be selected for the program on a competitive basis. Supplemental course work may be recommended for students who do not have a degree in anthropology or are missing key undergraduate course work.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program to the applicant's career/academic goals, availability and match to a faculty adviser, and the applicant's potential for completing the degree. There is no automatic connection between acceptance as a non-degree-seeking student and acceptance into this degree-granting program. Please consult the graduate program director whenever questions arise.

### Application Deadlines

Anthropology MA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 1	Feb 15	Nov 1	
International Applicants	Jan 1	Jan 1	Jul 1	
International Transfer Applicants	Jan 1	Feb 15	Sep 1	

### CONTACT INFO

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 HPH RM 309

# Applied Learning and Instruction MA

## PROGRAM DESCRIPTION

The Master of Arts in Applied Learning and Instruction program is designed for students from diverse academic majors who have an interest in the application of psychological theories and research to improving learning, instruction, and training, in a variety of instructional contexts. Graduates of the program will be prepared for a wide range of professional education, government, and industry positions, and for conducting activities such as instruction, training, evaluation, and consulting.

Students are able to tailor the program to meet their particular needs and interests by choosing among a large variety of courses for their concentration, including courses in teaching, instructional design, program evaluation, and psychological foundations. Courses are available in mixed mode (M) or fully online (W). The degree can be completed in the fully online mode.

Specialization and core courses are offered in the areas of the psychology of teaching and learning, motivation, human development, measurement, and research methodology. Both a thesis and a non-thesis option are available. All students will be required to complete a comprehensive examination before completing the program.

Applications are accepted only for Fall or Spring admissions. There are no Summer applicants accepted.

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit [www.intl.ucf.edu](http://www.intl.ucf.edu). If you have any questions, please consult the International Services Center at 407-823-2337.

## CURRICULUM

The Applied Learning and Instruction MA (ALIMA) program requires a minimum of 33 credit hours beyond the bachelor's degree



including 15 credit hours of core courses, 12 credit hours of specialization, and 6 credit hours of a research component. The research component can be completed by choosing the thesis option or a nonthesis option that requires two alternative courses. The program of study can be tailored to meet the specific needs of each student. The degree program can be completed in mixed mode (M) or fully online (W) formats.

### **Total Hours Required:**

**33 Credit Hours** Minimum beyond the Bachelor's Degree

In addition to the course work, students are expected to meet the Continuous Attendance policy for graduate students. Please see the Continuous Attendance and Special Leave of Absence policies in the Graduate Catalog.

### **Required Courses—27 Credit Hours**

#### **Core—15 Credit Hours**

- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- EDP 6213 Applied Learning and Instruction Seminar I (3 credit hours)
- EDP 6217 Applied Learning and Instruction Seminar II (3 credit hours)
- EDF 6216 Motivation in Learning and Performance (3 credit hours)
- EDF 6155 Lifespan Human Development and Learning (3 credit hours)

#### **Specialization—12 Credit Hours**

Students have the choice of taking specialization courses in multiple areas. Specialization courses may be taken within one specialization, or from multiple specializations. The purpose of this choice is to provide course offerings which appeal to student interest, but concurrently facilitate depth of knowledge in a particular discipline.

The student, program director and student advisers together determine a course of study to meet the student's needs while simultaneously developing core knowledge in a specific area with the adviser's approval. In addition, the adviser may approve courses taken as part of a UCF certificate program

for this area of the MA (up to 12 credit hours). The adviser must approve all specialization courses.

#### ***Psychological Foundations\****

- DEP 5057 Developmental Psychology (3 credit hours)
- EDF 6259 Learning Theories Applied to Classroom Instruction and Management (3 credit hours)
- EDF 6141 Human Intelligence (3 credit hours)
- SPS 6225 Behavioral and Observational Analysis of Classroom Interactions in Schools (3 credit hours)
- SPS 6700 Advanced Educational Psychology (3 credit hours)
- EGC 6431 Guiding Human Relations I (3 credit hours)
- EGC 6432 Guiding Human Relations II (3 credit hours)

#### ***Business/Training\****

- INP 6317 Organizational Psychology and Motivation (3 credit hours)
- PSY 6216C Advanced Research Methodology I (3 credit hours)
- MAN 6245 Organizational Behavior and Development (3 credit hours)
- MAN 6285 Change Management (3 credit hours)

#### ***Instructional Design\****

- EME 6607 Planned Change in Instructional Technology (3 credit hours)
- EME 6602 Integrating Technology into Curriculum (3 credit hours)
- EME 6601 Instructional Simulation Design (3 credit hours)
- EME 6457 Distance Education (3 credit hours)
- EME 6507 Multimedia For Learning I (3 credit hours)
- EME 6613 Instructional Systems Design (3 credit hours)
- EME 6405 Application Software (3 credit hours)
- EME 6614 Instructional Game Design (3 credit hours)

- EME 6705 Administration of Instructional Systems (3 credit hours)
- EME 6055 Current Trends in Instructional Technology (3 credit hours)

**Teaching\***

- EDF 6237 Principles of Learning and Introduction to Classroom Assessment (3 credit hours)
- EDF 6727 Critical Analysis of Social, Ethical, Legal, and Safety Issues Related to Education (3 credit hours)
- EDG 6415 Principles of Instruction and Classroom Management (3 credit hours)
- EDF 6233 Analysis of Classroom Teaching (3 credit hours)
- ESE 6217 Curriculum Design (3 credit hours)
- EME 5053 Electronic Resources in Education (3 credit hours)

**Program Evaluation\***

- EDF 6401 Statistics for Educational Data (3 credit hours)
- EDF 6432 Measurement and Evaluation in Education (3 credit hours)
- EDG 6285 Evaluation of School Programs (3 credit hours)
- ESE 6416 Curriculum Evaluation (3 credit hours)

\*Other electives to be determined by adviser with program approval.

**Thesis Option—6 Credit Hours**

- EDF 6971 Thesis (6 credit hours)

**Steps for Completing a Master's Thesis**

1. Submit a 2–3 page thesis prospectus and preliminary bibliography on a topic to their thesis adviser. Prior to enrollment into thesis credit hours, the student will identify a Thesis Committee to be further approved by the College Graduate Dean and the College of Graduate Studies. This committee is chaired by the adviser and includes two or more additional faculty members from the Department of Educational Studies (minimum of 3 committee members required).

2. The formal thesis is initiated by the preparation of a proposal that meets both departmental and university requirements for the thesis. The members of the student's thesis committee review the proposal as the preliminary step to beginning the thesis. Students are responsible for sending their proposal to all committee members at least three weeks before the end of the semester. This committee must approve the Thesis Proposal before academic credit can accrue.
3. Once the proposal is approved by both the committee and the UCF Institutional Review Board, students should begin collecting and analyzing their data. Students should expect to defend their proposal during the semester in which they are enrolled for thesis credits.
4. The thesis is a formal written document. The introduction cites similar, related, and antecedent work. The body explains the purposes of the project, the method of its production, and any evaluation that was performed. The conclusion includes plans for future work. The thesis also includes an archival copy of the resulting creative product. Both the thesis and the creative product must be delivered in digital form, acceptable by the College of Graduate Studies and UCF library according to standards for digital dissertations and theses.

**Nonthesis Option—6 Credit Hours**

Six credit hours of additional courses is required to give the student a foundation in conducting research.

- EDP 6936 Capstone in Applied Learning and Instruction (1-6 credit hours)
- Approved research elective (3 credit hours)

**Scholarly Product Requirement (Review 1)**

Before the end of three years in the ALIMA program, students are required to submit evidence of their ability to conduct a scholarly examination of research in a chosen area in the field of educational psychology. They will demonstrate this ability by producing a scholarly review of literature to present a thorough overview of research surrounding a particular problem involving learning and/or instruction. As part of the review, students

will present a list of research and theory-based potential solutions to the identified problem. This project will be introduced in the Seminar in Applied Learning and Instruction I and completed the following semester in Seminar in Applied Learning and Instruction II.

## Comprehensive Exams (Review II)

The comprehensive exams serve as the culminating experience of the ALIMA program. The comprehensive exam must be completed no later than 30 days before the end of the semester in which the student graduates.

### Nonthesis Option

For students electing not to write a thesis, the comprehensive exam will consist of three questions. The student will have one week to answer the questions in a take-home, extended essay file format. Students must cite all instances where their ideas are directly or indirectly related to outside sources. Students may not consult with other students or use Wikipedia or other online sources to complete their exams. Exams will be graded based on a pass or fail basis. Students who fail the exam marginally may be asked to rewrite specific questions. Students who fail the exam may be requested by their adviser to retake courses in areas of deficiency and will not be eligible to receive their master's degree until the exam is passed.

### Thesis Option

For students electing to submit a thesis, their comprehensive exam will take place as an oral exam no less than 3 weeks after the final version of their thesis is submitted to their committee. During the course of the oral exam, students will be asked to defend their thesis, as well as respond to questions that require them to integrate and synthesize information learned in their core courses.

## Independent Learning

The MA program requires the completion of a research project. Research projects are independent learning activities in which students must apply, reflect upon, and refine knowledge and skills required in the program. By the end of the fourth semester in this program, each student must satisfy a scholarly product requirement (Review I). This requirement can be met in one of two ways: students can submit a research study to

a refereed journal (with faculty assistance), or submit a proposal for a presentation at an annual conference of a national or local organization (from an approved list of resources). The student must be primarily responsible for conceptualizing, carrying out, and reporting the results in both of these options. The student is responsible for obtaining approval of the product from his or her master's committee.

## APPLICATION REQUIREMENTS

In addition to meeting the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- One page statement of professional interests and goals addressing why the applicant is interested in the degree program.
- A scholarly or professional writing sample (preferably an undergraduate academic paper).
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

## Application Deadlines

Applied Learning and Instruction MA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

## CONTACT INFO

**Bobby Hoffman PhD**

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Education 220N

# Biology MS

## PROGRAM DESCRIPTION

The Master of Science in Biology program offers a broad range of training opportunities ranging from the sub-cellular to entire ecosystems. Our program offers broad-based training in a variety of disciplines including Conservation Biology, Ecology, Evolution, Physiology, Genetics and Cell and Developmental Biology.

## CURRICULUM

The Master of Science in Biology program offers a thesis-based degree as research training (plus courses) for students. The thesis degree requires a minimum of 30 credit hours, 15 of which must be at the 6000 level. Students must receive a commitment from a faculty advisor BEFORE admission into the program - please see more information at the Department of Biology's web site.

### Total Hours Required:

**30-40** Credit Hours Minimum beyond the Bachelor's Degree

The Biology MS program is based on a thesis research experience, as well as courses. The degree requires a minimum of 30 credit hours, 15 of which must be at the 6000 level, with a minimum of 24 credit hours of formal course work (excluding thesis credit hours and other research-related credit hour options).

Most graduate courses require reading and critical analysis of the primary literature in biology, and students are required to present both thesis proposals in advance of their thesis work, and a thesis defense and examination with the advisory committee upon completion of that work. Students work with thesis advisors and advisory committee members throughout the planning and conduct of their research, and are expected to meet with their advisory committee at least annually.

### Required Courses—7 Credit Hours

- BSC 6935 Seminar in Biology (2 credit hours; 1 credit hour each of two semesters)

- PCB 6095 Professional Development in Biology I (1 credit hour)
- PCB 6096 Professional Development in Biology II (1 credit hour)
- STA 5175 Biometry (3 credit hours), or a suitable substitute, as approved by the thesis advisory committee

### Elective Courses—17 Credit Hours

All students in both thesis and nonthesis options must take 17 credit hours of electives. The electives must be selected in conjunction with the faculty adviser (thesis option) and advisory committee members and approved by the program graduate coordinator.

A listing of the courses offered by the Department of Biology can be found in the catalog menu at the top of the page under "courses"

### Thesis—6 Credit Hours

- BSC 6971 Thesis (a minimum of 6 credit hours)

### Examinations

A thesis proposal defense is required. The purpose of the proposal defense is to present the planned research and its foundations as a seminar to an interested audience of peers and the advisory committee. The proposal should be distributed to advisory committee members at least two weeks in advance of the defense, and the defense should be advertised (contact the graduate program administrator two weeks in advance). Public attendees typically have an opportunity to ask questions and comment following the seminar, after which the committee meets with the student to further discuss the proposal. The advisory committee must then vote to accept or reject the proposal. The thesis proposal defense must be passed a minimum of one semester preceding the oral thesis defense (i.e., the proposal defense and thesis defense cannot occur in the same semester).

The oral thesis defense is composed similar to the proposal defense. A student must have approval of the thesis advisory committee to defend before the defense is scheduled - meaning that the thesis advisory committee must have received the thesis at least two weeks before that approval. Given that time period plus the two-week notice for the

defense, students should plan a defense four weeks after they have distributed their thesis to committee members for approval.

## **NONTHESIS OPTION—40 CREDIT HOURS**

The non-thesis option is not offered to incoming students, but is available if needed to current PhD or MS students in lieu of a dissertation- or thesis-based degree, respectively, and with advisory committee agreement. Students seeking to enter a non-thesis MS degree in the Department of Biology must apply to the Professional Science Masters program.

### **Required Courses—7 Credit Hours**

- BSC 6935 Seminar in Biology (2 credit hours; 1 credit hour each of two semesters)
- PCB 6095 Professional Development in Biology I (1 credit hour)
- PCB 6096 Professional Development in Biology II (1 credit hour)
- STA 5175 Biometry (3 credit hours), or a suitable substitute, as approved by the thesis advisory committee

### **Restricted Electives—12 Credit Hours**

- Electives (12 credit hours) in at least three of the five areas below.
  - Ecology
  - Evolutionary Biology
  - Genetics
  - Physiology
  - Cell and Developmental Biology

A listing of the courses offered by the Department of Biology can be found in the catalog menu at the top of the page under “courses”.

### **Unrestricted Electives—7 Credit Hours**

Additional, unrestricted electives (7 credit hours) must be approved by the Biology graduate coordinator.

## **Research Report—2 Credit Hours**

- BSC 6909 Research Report (2 credit hours)

### **Examination**

Nonthesis students must take the comprehensive exam no later than the semester preceding that of graduation. 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.

### **Independent Learning**

Nonthesis students are required to complete a research report as their independent learning experience.

## **APPLICATION REQUIREMENTS**

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended
- Official, competitive GRE score taken within the last five years
- Three letters of recommendation that address the applicant’s capabilities and likelihood of success as an M.S. student.
- Résumé
- A written statement of past experience and research, area of interest, and immediate and long-range goals
- A computer-based score of 230 (or 89 internet-based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant’s degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.

Applicants do not need to 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.

Applicants to the thesis option should first identify faculty who match their own research interests, and then contact faculty in advance to inquire about research opportunities in faculty labs and to solicit agreement that a faculty member is interested in serving as the student's dissertation advisor. Applicants to the thesis option who do not have a consenting thesis advisor within the department faculty will not be accepted into the program. Applicants to the non-thesis option or the Conservation Biology PSM need not seek a thesis advisor.

Applicants who do not have a competitive GPA or GRE may occasionally be accepted if there is other convincing evidence of potential for high achievement and success. For U.S. applicants, GRE scores can be self reported prior by the submission deadline if the official score cannot be received in time. Admission will be conditional upon receipt of the official score. Applicants failing to satisfy minimum program criteria should submit a GRE Subject (Advanced) Biology Test score at or above the 50th percentile.

### Application Deadlines

Students applying for summer or spring admission will be considered on an ad hoc basis but must complete their applications by December 1.

Biology MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jan 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

### CONTACT INFO

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BL 401

# Biomedical Sciences MS

## PROGRAM DESCRIPTION

The Department of Molecular Biology and Microbiology offers the Master of Science in Biomedical Sciences, a nonthesis program, for students to further their knowledge in the field and prepare for professional careers in medical fields, higher education, and research.

**Students interested in research and thesis work should apply to the Master of Science in Biotechnology program.**

## CURRICULUM

The Biomedical Sciences nonthesis program requires a minimum of 33 credit hours of courses that includes a capstone experience. The program addresses the need of applicants who wish to pursue a teaching career in secondary schools, two-year and four-year colleges or other careers without an active research role. Nonthesis students are not considered for departmental graduate assistantships or tuition assistance.

### Total Hours Required:

33 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—18 Credit Hours

- BSC 6431 Practice of Biomedical Sciences (3 credit hours)
- BSC 6432 Structure-Function-Relationships of Biomedical Sciences I (5 credit hours)
- BSC 6433 Structure-Function-Relationships of Biomedical Sciences II (5 credit hours)
- BSC 6407C Laboratory Methods in Molecular Biology (3 credit hours)
- MCB 6938 Seminar or IDS 7690 Seminar (1 credit hour, to be repeated by all students)

### Elective Courses—12 Credit Hours

Nonthesis students take 12 credit hours of electives with 6 credit hours from the Biomedical

Specialization and 6 credit hours from the Microbiology Specialization.

### Biomedical Specialization

- MCB 5225 Molecular Biology of Disease (3 credit hours)
- MCB 6226 Molecular Diagnostics (3 credit hours)
- PCB 5238 Immunobiology (3 credit hours)
- PCB 5236 Cancer Biology (3 credit hours)
- PCB 5275 Signal Transduction Mechanisms (3 credit hours)
- PCB 5527 Genetic Engineering and Biotechnology (3 credit hours)
- PCB 5709C Laboratory Virtual Simulations in Physiology (2 credit hours)
- PCB 5815 Molecular Aspects of Obesity, Diabetes, and Metabolism (3 credit hours)
- PCB 5834C Advanced Human Physiology (4 credit hours)
- IDS 5127 Foundation of Bio-Imaging Science (3 credit hours)
- BSC 5418 Tissue Engineering (3 credit hours)
- GEB 5516 Technological Entrepreneurship (3 credit hours)
- Others: If approved by Graduate Committee

### Microbiology Specialization

- MCB 5205 Infectious Processes (3 credit hours)
- MCB 5505 Molecular Virology (3 credit hours)
- MCB 5208 Cellular Microbiology: Host-Pathogen Interactions (3 credit hours)
- MCB 5654 Applied Microbiology (3 credit hours)
- MCB 6417C Microbial Metabolism (3 credit hours)
- MCB 5932 Current Topics in Molecular Biology (3 credit hours)
- MCB 5415 Cellular Metabolism (3 credit hours)
- MCB 5209 Microbial Stress Response (3 credit hours)
- PCB 6595 Regulation of Gene Expression (3 credit hours)

- PCB 5235 Molecular Immunology (3 credit hours)
- Others: If approved by Graduate Committee

### Capstone—3 Credit Hours

- MCB 6026 Capstone Course (3 credit hours minimum)

An in-depth current literature research report on a relevant subject will be required for each student. The student will select a faculty adviser to chair a faculty committee of three members for evaluation of the report.

An oral presentation on the written capstone report will be used as a final examination. A majority of the program faculty must be present for the final examination. Before graduation, the report should be submitted for consideration of publication as a review article in appropriate journals.

### Comprehensive Examination

Nonthesis students must pass an oral comprehensive exam to qualify for the Master of Science degree.

Students must successfully pass an oral comprehensive examination to test the understanding of the basic concepts in the field and relevant applications. The comprehensive examination will be conducted during the capstone defense and will be administered by the capstone committee. Should the student fail this exam, a second opportunity will be provided within 2 weeks of the first attempt. A second failure will result in dismissal from the program.

### Teaching Requirement

Students without significant prior teaching experience, such as, but not limited to, a minimum of a year in secondary schools or colleges, are required to serve as Graduate Teaching Assistants for a minimum of two semesters (one semester in at least one lab section).

### Independent Learning

In the final semester of study, nonthesis students will complete a capstone course that requires an in-depth current literature research report on a relevant subject, which will serve as the independent learning experience. The student will select a

faculty adviser to chair a faculty committee of three members for evaluation of the report.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Biological Sciences or related area.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation.
- A written statement of research experience, area of interest, and immediate and long-range goals.
- 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.

Personal interviews are helpful but not required. Applicants who do not have a competitive GPA or GRE may occasionally be accepted if there is other convincing evidence of potential for high achievement and success.

Applicants who hold a B.S. degree in unrelated fields 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.

## Application Deadlines

Biomedical Sciences MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jan 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

## CONTACT INFO

### Saleh Naser PhD

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 BL 221C

# Biotechnology MS

- Professional Science Master

## PROGRAM DESCRIPTION

The Master of Science in Biotechnology program in the College of Medicine will prepare students to function in the industrial biotechnology environment. This program is designed to give students broad knowledge and training in the scientific and practical aspects of biotechnology.

It involves innovative, hands-on and multidisciplinary learning approaches to educate and train students in scientific aspects of biotechnology. The courses and research training required of all students in this program are designed to develop independent thinking, team work and communication skills, which are highly desirable in the biotechnology industry. Students will be provided an industrial perspective and an understanding of product development at the same time as they are trained in the biotechnology techniques required for such development.

## CURRICULUM

The Master of Science in Biotechnology program consists of a minimum of 30 semester credit hours of graduate courses offered by the College of Medicine that includes 21 credit hours minimum of required courses, 3 credits of restricted electives, and 6 credit hours of thesis research as detailed below.

### Total Hours Required:

**30** Credit Hours Minimum beyond the Bachelor's Degree

What makes this program unique is the focus on practical training offered to graduate students through master's thesis research in molecular biotechnology to perform jobs in laboratory environment that require scientific talent.

### Required Courses—21 Credit Hours Minimum

#### Core—19 Credit Hours Minimum

Students must take the following courses plus at least two credit hours of graduate seminar.

- MCB 5722C Methods in Biotechnology (4 credit hours) or BSC 6407C Laboratory Methods in Molecular Biology (3 credit hours)
- BSC 6432 Structure-Function-Relationships of Biomedical Sciences I (5 credit hours)
- BSC 6433 Structure-Function-Relationships of Biomedical Sciences II (5 credit hours)
- BSC 6431 Practice of Biomedical Sciences (3 credit hours)
- PCB 5527 Genetic Engineering and Biotechnology (3 credit hours) or one of the following: BSC 5418 Tissue Engineering (3 credit hours), MCB 6417C Microbial Metabolism (3 credit hours), PCB 5025 Molecular and Cellular Pharmacology (3 credit hours)

### Graduate Seminars—2 Credit Hours

Students will participate in at least two graduate seminar courses that will prepare them for making professional presentations with emphasis in biotechnology. The courses will involve participation of speakers from the biotechnology industry with emphasis on an industrial perspective on biotechnology applications and product development.

- MCB 5314 Industrial Perspectives Seminar (1 credit hour) or MCB 6938 (1 credit hour, 1 semester only)

### Elective Courses—3 Credit Hours

Students will select three credit hours of restricted electives from the list below.

- BSC 5418 Tissue Engineering (3 credit hours)
- BSC 5436 Biomedical Informatics: Structure Analysis (3 credit hours)
- BSC 6407C Laboratory Methods in Molecular Biology (3 credit hours)
- IDS 5127 Foundation of Bio-Imaging Science (3 credit hours)
- MCB 5205 Infectious Processes (3 credit hours)
- MCB 5208 Cellular Microbiology: Host-Pathogen Interactions (3 credit hours)
- MCB 5209 Microbial Stress Response (3 credit hours)

- MCB 5225 Molecular Biology of Disease (3 credit hours)
- MCB 5415 Cellular Metabolism (3 credit hours)
- MCB 5505 Molecular Virology (3 credit hours)
- MCB 5654 Applied Microbiology (3 credit hours)
- MCB 5722C Methods in Biotechnology (4 credit hours)
- MCB 5932 Current Topics in Molecular Biology (3 credit hours)
- MCB 6226 Molecular Diagnostics (3 credit hours)
- MCB 6417C Microbial Metabolism (3 credit hours)
- PCB 5527 Genetic Engineering and Biotechnology (3 credit hours)
- PCB 5025 Molecular and Cellular Pharmacology (3 credit hours)
- PCB 5236 Tumor Biology (3 credit hours)
- PCB 5238 Immunobiology (3 credit hours)
- PCB 5596 Biomedical Informatics: Sequence Analysis (3 credit hours)
- PCB 5709C Laboratory Virtual Simulations in Physiology (2 credit hours)
- PCB 5834C Advanced Human Physiology (4 credit hours)
- PCB 5937 Special Topics: Human Endocrinology (3 credit hours)
- PCB 6528 Plant Molecular Biology (3 credit hours)
- PCB 6595 Regulation of Gene Expression (3 credit hours)
- PCB 5838 Cellular and Molecular Basis of Brain Functions (3 credit hours)
- PCB 5265 Stem Cell Biology (3 credit hours)
- PCB 5025 Molecular and Cellular Pharmacology (3 credit hours)
- PCB 5815 Molecular Aspects of Obesity, Diabetes and Metabolism (3 credit hours)
- ZOO 5745C Essentials of Neuroanatomy (4 credit hours)
- ZOO 5748C Clinical Neuroanatomy (5 credit hours)

- GEB 5516 Technological Entrepreneurship (3 credit hours)
- Others: If approved by the Graduate Committee

## Thesis—6 Credit Hours

Students will take a minimum of six credits of thesis research (MCB 6971) to complete their research and submit their thesis specializing in biotechnology research. 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 comprised of at least three members. The committee composition must reflect expertise relevant to the student's thesis research and must be approved by the Graduate Committee. Students switching to change the composition of the Thesis Advisory Committee must also obtain approval from the Graduate Committee.

## Thesis Proposal

The thesis proposal defense requirement should be met and passed successfully no later than the end of the summer of the first year in the program. Students will not be allowed to register for courses for the Fall semester of their second year until this requirement is fulfilled. The Thesis Proposal requirement includes: 1) a written 5-page thesis proposal; 2) a thesis proposal defense in front of the thesis committee; and 3) questions by the thesis committee to test the student's understanding of the basic concepts in the field and relevant applications. The student will be evaluated on performance in all three sections. Should the student fail, a second opportunity will be provided within 2 weeks of the first attempt. A second failure will result in dismissal from the program.

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 closed-door examination by the Thesis Advisory Committee and the program faculty present

The thesis should be of significant scope and depth such that the work has made advances in



the area of biotechnology. The MS thesis research must generate sufficient quantity and quality data to support the submission of a minimum of one manuscript. Approval of the final thesis will require consent from the majority of the Program Faculty who choose to review the thesis, inclusive of the Thesis Advisory Committee. Faculty members with dissenting vote on the thesis must provide written justification. Scientific journal review criteria will be used as guidelines by the faculty to evaluate the final thesis for its appropriateness for publication in the target journal.

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 dismissal from the program.

### Comprehensive Examination

Students must pass a comprehensive exam to qualify for the Master of Science degree.

Students must successfully pass an oral comprehensive examination to test the understanding of the basic concepts in the field and relevant applications. The Comprehensive Examination will be conducted during the thesis proposal defense. The exam will be administered by the thesis committee. Should the student fail this exam, a second opportunity will be provided within 2 weeks of the first attempt. A second failure will result in dismissal from the program.

### Independent Learning

The required thesis allows the student to engage in independent learning.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Biotechnology/Biological Sciences or related area.
- Official, competitive GRE score taken in the last five years.
- Three letters of recommendation.

- A written statement of research experience, area of interest, and immediate long range goals.
- 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.

Personal interviews are helpful but not required. Applicants who do not have a competitive GPA or GRE may occasionally be accepted if there is other convincing evidence of potential for high achievement and success.

Applicants who hold a B.S. degree in unrelated fields are expected to have the equivalent of 16 semester hours of credit in the biotechnology/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.

### Application Deadlines

Biotechnology MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jan 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

## CONTACT INFO

**Saleh Naser PhD**  
 Professor  
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 BL 221C

# Professional Science Master

## TRACK DESCRIPTION

The Professional Science Master's in Biotechnology in the College of Medicine will prepare students with practical training through biotechnology laboratory courses and an internship in a laboratory environment that requires understanding of scientific concepts.

The program is designed for individuals who desire to work in health and science-based professions or government careers, where workforce needs are increasing. Students have the option to obtain a Graduate Certificate in Technology Ventures.

## CURRICULUM

### Total Hours Required:

**42** Credit Hours Minimum beyond the Bachelor's Degree

The Professional Science Master's (PSM) track in Biotechnology consists of 42 credit hours of graduate courses offered by the Burnett School of Biomedical Sciences in the College of Medicine, including 15 credit hours of required courses and graduate seminar, 9 credit hours of restricted electives, 12 credit hours of professional content courses, and 6 credit hours of an internship as detailed below.

What makes this program unique is the focus on practical training offered to graduate students through biotechnology laboratory courses and internship in a laboratory environment that requires understanding of scientific concepts. The program is designed for individuals who desire to work in health and science-based professions or government careers, where workforce needs are increasing. Students have the option to obtain a Graduate Certificate in Technology Ventures.

### Required Courses—15 Credit Hours Minimum

#### Core—13 Credit Hours Minimum

- IDS 5127 Foundation of Bio-Imaging Science (3 credit hours)

- BSC 6431 Practice of Biomedical Sciences (3 credit hours)
- MCB 5722C Methods in Biotechnology (4 credit hours)
- PCB 5527 Genetic Engineering and Biotechnology (3 credit hours) or one of the following: BSC 5418 Tissue Engineering (3 credit hours), MCB 6417C Microbial Metabolism (3 credit hours), PCB 5025 Molecular and Cellular Pharmacology (3 credit hour)

### Graduate Seminar—2 Credit Hours

Students will participate in at least two graduate seminar courses. These seminar courses will prepare students for making professional presentations with emphasis in biotechnology and will involve participation of speakers from the biotechnology industry, with emphasis on an industrial perspective on biotechnology applications and product development.

- MCB 5314 Industrial Perspectives Seminar (1 credit hour minimum) or MCB 6938 (1 credit hour, 1 semester only)

### Elective Courses—9 Credit Hours

Students will select 9 credit hours of restricted electives from the list below.

- BSC 5418 Tissue Engineering (3 credit hours)
- BSC 5436 Biomedical Informatics: Structure Analysis (3 credit hours)
- CHS 6535 Forensic Molecular Biology (3 credit hours)
- CHS 6535L Forensic Analysis of Biological Materials (3 credit hours)
- CHS 6536 Forensic Analysis of DNA Data (2 credit hours)
- GEB 5516 Technological Commercialization (3 credit hours)
- MCB 5205 Infectious Processes (3 credit hours)
- MCB 5209 Microbial Stress Response (3 credit hours)
- MCB 5225 Molecular Biology of Disease (3 credit hours)
- MCB 5415 Cellular Metabolism (3 credit hours)

- MCB 5505 Molecular Virology (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 6417C Microbial Metabolism (3 credit hours)
- PCB 5236 Tumor Biology (3 credit hours)
- PCB 5238 Immunobiology (3 credit hours)
- PCB 5275 Signal Transduction Mechanisms (3 credit hours)
- PCB 5527 Genetic Engineering and Biotechnology (3 credit hours)
- PCB 5596 Biomedical Informatics: Sequence Analysis (3 credit hours)
- PCB 5834C Advanced Human Physiology (4 credit hours)
- PCB 5709C Laboratory Virtual Simulations in Physiology (2 credit hours)
- PCB 5937 Special Topics: Human Endocrinology (3 credit hours)
- PCB 6528 Plant Molecular Biology (3 credit hours)
- PCB 5838 Cellular and Molecular Basis of Brain Functions (3 credit hours)
- PCB 5265 Stem Cell Biology (3 credit hours)
- PCB 5025 Molecular and Cellular Pharmacology (3 credit hours)
- PCB 5815 Molecular Aspects of Obesity, Diabetes and Metabolism (3 credit hours)
- ZOO 5745C Essentials of Neuroanatomy (4 credit hours)
- Others: If approved by Graduate Committee
- COM 6145 Organizational Communication (3 credit hours)
- COM 6046 Interpersonal Communication (3 credit hours)
- ENC 5237 Writing for the Business Professional (3 credit hours)
- MAN 6448 Conflict Resolution and Negotiation (3 credit hours)
- MAN 6305 Human Resources Management (3 credit hours)
- MAR 6466 Strategic Supply Chain Management (3 credit hours)
- PAD 6142 Nonprofit Organizations (3 credit hours)
- PAD 6397 Managing Emergencies and Crises (3 credit hours)
- GEB 6115 Entrepreneurship (3 credit hours)
- GEB 5516 Technological Entrepreneurship (3 credit hours) \*
- GEB 6518 Strategic Innovation (3 credit hours) \*
- GEB 6116 Business Plan Formation (3 credit hours) (PR: GEB 6115 or GEB 6518) \*
- Others (Must be approved by Program Coordinator)

Students who successfully complete the three GEB courses designated with an asterisk (\*) are eligible to receive the 9-credit-hour Graduate Certificate in Technology Ventures. These three courses focus on the successful development of the knowledge and skills needed to commercialize science and technology research. Those students interested in business opportunities enabled by scientific and technological innovations will find the coursework involving intellectual property issues, innovation commercialization processes, technology business strategies and business plan formation invaluable to their success. Students desiring to obtain the Graduate Certificate in Technology Ventures **must** apply for the certificate program prior to enrolling in the third GEB course in order to be awarded the graduate certificate.

## Professional Courses—12 Credit Hours

Students are required to take 12 credit hours from the following courses to better equip them to administer the business aspects of biotechnology programs and laboratories.

- COM 6047 Interpersonal Support in the Workplace (3 credit hours)

## Internship— 6 Credit Hours

- MCB 6946 (6 credit hours)

Internship is a key element of the Biotechnology PSM Program. This program is designed to give

students hands-on experience in the Biotechnology industry setting, while making professional connections for the future. There are a variety of internship opportunities for students to be placed with biotechnology companies, state and federal agencies, or nonprofit organizations. Upon the conclusion of the internship, the student must submit a report signed by the Internship Supervisor/ Faculty Adviser. Students will take a minimum of six credits of internship to complete their studies in a biotechnology setting.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Biotechnology/ Biological Sciences or related area.
- Official, competitive GRE score taken in the last five years.
- Three letters of recommendation.
- A written statement of research experience, area of interest, and immediate long range goals.
- 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.

Personal interviews are helpful but not required. Applicants who do not have a competitive GPA or GRE may occasionally be accepted if there is other convincing evidence of potential for high achievement and success.

Applicants who hold a B.S. degree in unrelated fields are expected to have the equivalent of 16 semester hours of credit in the biotechnology/ 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.

## Application Deadlines

Professional Science Master	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jan 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

## CONTACT INFO

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Professor

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BL 221C

# Business Administration MBA

- Lockstep Evening MBA Track
- Executive M.B.A. Track
- 1 Year MBA Foundations Track
- Lockstep MBA Foundations Track
- 1 Year Full-Time MBA Track
- Professional MBA Track (Downtown Orlando and Regional Campuses)

## PROGRAM DESCRIPTION

The College of Business Administration offers a Master of Business Administration (MBA) degree with three options for study: a **part-time** Lockstep Evening MBA; a Professional MBA at regional campuses; and an Executive MBA at the Downtown Campus.

The MBA program allows students to apply advanced theoretical concepts and knowledge from all functional areas of business through an analytical, decision-making process that focuses on solving practical problems. Students in the MBA program also learn to efficiently access, retrieve, and analyze 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.

## CURRICULUM

The total hours required for the Master's in Business Administration are 39 credit hours, of which 30 credit hours are professional core courses and 9 credit hours are electives. Internship options are available.

### Total Hours Required:

**39** Credit Hours Minimum beyond the Bachelor's Degree

The MBA 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.

## Required Courses—30 Credit Hours

The MBA professional core consists of advanced course work that substantially extends and applies knowledge developed in the student's undergraduate degree and career. In addition to the 30 required credit hours, the MBA program also requires the student to take three elective courses (9 credit hours). The MBA program does not require a thesis or comprehensive exam.

### MBA Professional Core I: Decision-Making Tools—18 Credit Hours

- BUL 6444 Law and Ethics (3 credit hours)\* Fall
- ECO 6416 Applied Business Research Tools (3 credit hours) Fall
- MAN 6245 Organizational Behavior and Development (3 credit hours) Fall
- ACG 6425 Managerial Accounting Analysis (3 credit hours)\* Spring
- ECO 6115 Economic Analysis of the Firm (3 credit hours) Spring
- MAR 6466 Strategic Supply Chain Management (3 credit hours) Spring

\* Students who wish to sit for the CPA exam may substitute appropriate coursework for these courses.

### MBA Professional Core II: Decision Applications—12 Credit Hours

*Core I is a prerequisite for Core II courses.*

- MAR 6816 Strategic Marketing Management (3 credit hours) Fall
- FIN 6406 Strategic Financial Management (3 credit hours) Fall
- GEB 6365 International Business Analysis (3 credit hours) Spring
- MAN 6721 Applied Strategy and Business Policy (grade of B- or better is required in this course) (3 credit hours) Spring



## MBA Electives—9 Credit Hours

Unrestricted business electives may include any 5000- and 6000-level business courses. Restricted electives include a maximum of two courses or 6 credit hours taken outside the College of Business Administration **with permission from the Graduate Business Programs Office prior to taking the course.**

Internships of up to a maximum of 6 credit hours may be used as elective credit, if approved by the Graduate Business Programs Office. All internships must be preapproved by the academic business department Internship Coordinator and the Graduate Business Programs Office.

Certain MBA business elective courses may also count toward Business certificate credit, if the student has been admitted to an appropriate certificate program.

## Additional Program Requirements

Any student enrolled in a College of Business Administration master's degree program who earns more than two final course grades below a B- will be dismissed from the program and retention plans will not be supported by the College of Business Administration.

## APPLICATION REQUIREMENTS

Applicants must choose a track in this program. Track(s) may have different requirements.

# Lockstep Evening MBA Track

## TRACK DESCRIPTION

The Lockstep Evening MBA program allows students to apply advanced theoretical concepts and knowledge from all functional areas of business through an analytical, decision-making process that focuses on solving practical problems. Students in this program also learn to efficiently access, retrieve, and analyze 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 Lockstep Evening MBA begins in the fall term only. Program highlights include:

- Guaranteed evening course offerings to accommodate working professionals
- Choice of career path elective options
- Certificate or internship options
- Part-time only

## CURRICULUM

The Lockstep Evening MBA is targeted toward applicants who wish to obtain a MBA degree while continuing in their career path. This program offers evening courses. Students may attend on a part-time basis only, taking 6 credit hours per term.

### Total Hours Required:

**39** Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—30 Credit Hours

The MBA professional core consists of advanced course work that substantially extends and applies knowledge developed in the student's undergraduate degree and career, with decision-making tools courses and decision-application courses. In addition to the 30 required credit hours, the MBA program also requires the student to take three

elective courses (9 credit hours). The MBA program does not require a thesis or comprehensive exam.

### **MBA Professional Core I: Decision-Making Tools—18 Credit Hours**

- BUL 6444 Law and Ethics\* (3 credit hours) Fall
- ECO 6416 Applied Business Research Tools (3 credit hours) Fall
- MAN 6245 Organizational Behavior and Development (3 credit hours) Fall
- ACG 6425 Managerial Accounting Analysis\* (3 credit hours) Spring
- ECO 6115 Economic Analysis of the Firm (3 credit hours) Spring
- MAR 6466 Strategic Supply Chain Management (3 credit hours) Spring

\* Students who wish to sit for the CPA exam may substitute appropriate course work for these courses.

### **MBA Professional Core II: Decision Applications—12 Credit Hours**

*Core I is a prerequisite for Core II courses.*

- MAR 6816 Strategic Marketing Management (3 credit hours) Fall
- FIN 6406 Strategic Financial Management (3 credit hours) Fall
- GEB 6365 International Business Analysis (3 credit hours) Spring
- MAN 6721 Applied Strategy and Business Policy (grade of B- or better is required in this course) (3 credit hours) Spring

### **MBA Electives—9 Credit Hours**

Unrestricted business electives may include any 5000- and 6000-level business courses. Restricted electives include a maximum of two courses or 6 credit hours taken outside the College of Business Administration **with permission from the Graduate Business Programs Office prior to taking the course.**

Internships of up to a maximum of 6 credit hours may be used as elective credit, if approved by the Graduate Business Programs Office. All internships must be preapproved by the academic business department Internship Coordinator and the Graduate Business Programs Office. Certain MBA business

elective courses may also count toward Business certificate credit, if the student has been admitted to an appropriate certificate program.

**Check all elective course prerequisites in the graduate catalog at [www.graduate.ucf.edu](http://www.graduate.ucf.edu).**

### **Additional Program Requirements**

Any student enrolled in a College of Business Administration master's degree program who earns more than two final course grades below a B- will be dismissed from the program and retention plans will not be supported by the College of Business Administration.

### **Part-Time Lockstep MBA Schedule**

Fall: ECO 6416 and MAN 6245  
 Spring: ECO 6115 and ACG 6425  
 Summer: elective  
 Fall: BUL 6444 and elective  
 Spring: MAR 6466 and GEB 6365  
 Fall: MAR 6816 and FIN 6406  
 Spring: MAN 6721 and elective

*Any variance from this course schedule may delay graduation.*

## **APPLICATION REQUIREMENTS**

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- The GMAT is not required; however, it may be in the applicant's interest to include a GMAT score to strengthen their application packet.
- Three professional and/or academic letters of recommendation.
- Prepare a career goal statement outlining your 5 and 10-year objectives, and explain how an MBA will assist you in obtaining these goals.
- Résumé showing a minimum of 2 years of full-time equivalent work experience.
- A computer-based score of 233 (or 91 internet-based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from

a country where English is not the official language, or if an applicant’s degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.

- Applicants applying to this program who have attended a college/university outside the United States must provide a credential evaluation showing an equivalent bachelor’s degree in the U.S. A course-by-course evaluation must be provided, with a GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

### Application Deadlines

Lockstep Evening MBA Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15		
The application deadline for the Fall 2014 semester has been extended to August 1, 2014.				
International Applicants				
International Transfer Applicants				

### CONTACT INFO

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 DTC 201A

# Executive M.B.A. Track

## TRACK DESCRIPTION

The Executive MBA (EMBA) is the Center’s flagship program, designed with middle-and-senior level executives in mind. This program (cohort, five sessions over 19 months) allows participants to continue their full-time careers while earning a fully accredited MBA degree that incorporates the interactions and backgrounds of the participants as an integral part of the learning experience.

- 19-month program offered in Downtown Orlando
- Classes meet one Friday and three Saturdays a month
- Leadership-relevant curriculum includes a ten-day International Residency
- Minimum of five years of work experience required; average is fifteen years
- Personal interview required for admission

The EMBA Program is designed to prepare executives and managers for the challenges they will face as they work and advance in their careers. Each student’s development and education during this program will help them to achieve their full career potential and become an increasingly valuable member of their organization. The program is comprised of an orientation, 39 credit hours of course work, and a ten day international residency. Classes meet from 8:00 am until 5:00 pm one Friday and three Saturdays a month.

This program is a professional program with a market rate tuition, and is considered a full-time program. The tuition is the same for Florida residents and nonresidents. Please visit [www.ucfedc.com/](http://www.ucfedc.com/) for more information.

Courses are intended 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, debating-the-issues activities, and self-assessment exercises are used to enhance the learning experience.

All classes are held at the UCF Executive Development Center in Downtown Orlando. Our

executive classrooms are specifically designed to provide the best in learning environments. The handicap accessible classrooms boast the latest in audio/video equipment and each seat has electrical hookup and wireless Internet access. With newly engineered acoustics, lighting and room design, every seat has an excellent view of the speaker and presentation. The UCF Executive MBA program has created the finest combination of a classroom environment and leading faculty.

## CURRICULUM

### Total Hours Required:

**39** Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—30 Credit Hours

- ECO 6115 Economic Analysis of the Firm (3 credit hours)
- ACG 6425 Managerial Accounting Analysis (3 credit hours)
- ECO 6416 Applied Business Research Tools (3 credit hours)
- FIN 6406 Strategic Financial Management (3 credit hours)
- MAN 6245 Organizational Behavior and Development (3 credit hours)
- MAR 6816 Strategic Marketing Management (3 credit hours)
- MAR 6466 Strategic Supply Chain and Operations Management (3 credit hours)
- BUL 6444 Law and Ethics (3 credit hours)
- GEB 6365 International Business Analysis (3 credit hours)
- MAN 6721 Applied Strategy and Business Policy (3 credit hours)

### Elective Courses—9 Credit Hours

- FIN 6465 Financial Analysis Seminar (3 credit hours)
- MAN 6448 Conflict Resolution and Negotiation (3 credit hours)
- MAN 6296 Executive Leadership (3 credit hours)

## Additional Program Requirements

Any student enrolled in a College of Business Administration master's degree program who earns more than two final course grades below a B- will be dismissed from the program and retention plans will not be supported by the College of Business Administration.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- The GMAT is not required, however, the Admissions Committee may ask for the GMAT to strengthen a candidate's application packet.
- Three professional and/or academic letters of recommendation or three e-mail addresses of recommenders.
- Prepare a career goal statement outlining your short-term and long-term career objectives, and explain how this degree will assist you in obtaining these goals.
- Résumé showing a minimum of 5 years of full-time, progressive, work experience.
- Interview.
- A computer-based score of 233 (or 91 internet-based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.
- Applicants applying to this program whose completed bachelor's degree is from a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Early application tuition discounts are available for this program. To view early application discount deadlines, and for more information, visit the Executive Development Center website at [www.ucfedc.com](http://www.ucfedc.com).

### Application Deadlines

Executive M.B.A. Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15		
The next available term for this program is Fall 2014. Classes will begin in August 2014 and will be held at the UCF Executive Development Center in Downtown Orlando.				
International Applicants		Jan 15		
International Transfer Applicants		Mar 1		

### CONTACT INFO

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 DTC 201B

# 1 Year Full-Time MBA Track

## TRACK DESCRIPTION

NOTE: This track has been suspended and is not accepting applications effective with the Fall 2014 term.

The One-Year Full-Time MBA is a 12-month program designed as a bridge for students with **non-business degrees** to transition into the business world. This program can also be a valuable experience for seasoned professionals to change career paths or enhance their business acumen. The One-Year Full-Time MBA begins in the Fall term only and is taught in a cohort group format. Internships are available as electives.

## CURRICULUM

The One-Year, Full-Time MBA required classes are offered only during the daytime, and students complete the program as a group. Qualified students with a non-business undergraduate degree are accepted in order of application date up to the program limit. Minimum admission requirements for this program include a competitive GMAT score taken within the last five years and a competitive GPA in the student’s undergraduate program.

Program highlights include:

- Full-time, 12-month program
- Cohort group
- Open to non-business undergraduate majors only
- No work experience requirement
- Internship opportunities for experience
- Certificate options
- Choice of career path elective options

### One Year Schedule to Degree—39 Credit Hours

The schedule below contains both 30 credit hours of professional core courses and 9 credit hours of electives. The professional core consists of advanced course work that substantially extends and applies knowledge developed in the foundation core, using both decision-making tools courses and



decision-applications courses. The electives may include Internship and/or course options.

### Fall—15 Credit Hours

- MAR 6466 Strategic Supply Chain Management (3 credit hours)
- ECO 6416 Applied Business Research Tools (3 credit hours)
- ECO 6115 Economic Analysis of the Firm (3 credit hours)
- ACG 6425 Managerial Accounting Analysis (3 credit hours)
- Elective or Internship Course GEB 6946 (3 credit hours)

### Spring—15 Credit Hours

- MAN 6245 Organizational Behavior and Development (3 credit hours)
- MAR 6816 Strategic Marketing Management (3 credit hours)
- FIN 6406 Strategic Financial Management (3 credit hours)
- BUL 6444 Law & Ethics (3 credit hours)
- Elective and/or Internship Course GEB 6946 (3 credit hours)

### Summer—9 Credit Hours

- GEB 6365 International Business Analysis (3 credit hours)
- MAN 6721 Applied Strategy and Business Policy (grade of B- or better is required in this course) (3 credit hours)
- Elective and/or Internship Course GEB 6946 (3 credit hours)

### Electives

Unrestricted business electives include any 5000- and 6000-level business courses, excluding all 6000-level MBA foundation courses. Restricted electives include a maximum of two courses or 6 credit hours taken outside the College of Business Administration with prior approval from the Graduate Business Programs Office. Internships up to a maximum of 6 credit hours may also be used as elective credits. Certain business electives can count toward certificate credit if the student is enrolled in an appropriate certificate program.

### Internship

Begin your internship search immediately following your admission by submitting your resume to the Career Connections Office. Contact the office at (407) 823-JOBS or cc@bus.ucf.edu. To receive 3 credit hours of internship credit (GEB 6946), you must have your internship approved by the Career Connections Office and submit academic paperwork while completing the required 288 work hours per 3-hour credit. For term approval deadlines, please contact the Career Connections Office.

### Job Placement

Full-time job placement is managed out of the Career Connections Office.

### Four Semester Option—9 Credit Hours

Follow the current One Year MBA course schedule for fall, spring and summer and use the following fall term to complete your internship or electives. If you choose this option, you will be able to walk with the One Year MBA students at the summer graduation ceremony, and then receive your diploma after you complete the fall semester.

### Total Hours Required:

**39** Credit Hours Minimum beyond the Bachelor's Degree

### TRACK DESCRIPTION

NOTE: This track has been suspended and is not accepting applications effective with the Fall 2014 term.

The One-Year Full-Time MBA is a 12-month program designed as a bridge for students with **non-business degrees** to transition into the business world. This program can also be a valuable experience for seasoned professionals to change career paths or enhance their business acumen. The One-Year Full-Time MBA begins in the Fall term only and is taught in a cohort group format. Internships are available as electives.

## Application Deadlines

1 Year Full-Time MBA Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15		
The application deadline for the Fall 2014 semester has been extended to August 1, 2014.				
International Applicants				
International Transfer Applicants				

## CONTACT INFO

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DTC 201A

# Professional MBA Track (Downtown Orlando and Regional Campuses)

## TRACK DESCRIPTION

The Professional MBA (PMBA) is the ideal solution for successful working professionals who wish to earn an MBA degree accredited by AACSB International without interrupting their full-time career. The PMBA combines the rigor and depth of a traditional MBA program with the convenient evening schedule, applicability, and cohort experience of a professional program.

- 24-month program with a convenient two evenings per week schedule
- Minimum three years of work experience required; average is nine years
- Small cohort group of working professionals
- Innovative curriculum (consultative and case-based applied approach)
- Personal interview required for admission

The PMBA is a 24-month program offered at the Orlando Downtown Center and regional campus locations on a rotational basis, bringing the utmost convenience to working professionals in Brevard, Orange, Osceola, Seminole and Volusia counties, as well as other counties in the Greater Orlando region. The program allows a limited-size group of professionals from a variety of organizations and industries to come together and challenge their intellect, enhance their capabilities and broaden their perspectives while growing their professional network.

The innovative curriculum equips program participants with the analytical tools, latest business techniques and skills needed to succeed in today's competitive marketplace while honing their business knowledge, teamwork, critical thinking and decision making. The program seamlessly integrates their professional experience allowing them to immediately apply newly-acquired knowledge on the job. The renowned PMBA faculty members who share their expertise and

provide insights on real-world business issues use consultative teaching approaches combining lectures, case studies, discussion forums and presentations to maximize learning. Participants will also find a high level of personal attention from PMBA administrators from the moment they apply.

This program is a professional program with a market rate tuition, and is considered a part-time program. The tuition is the same for Florida residents and nonresidents. Please visit <http://www.ucfedc.com/> for more information.

The UCF Professional MBA provides the perfect business foundation for a rising career in various organizations and industries.

## CURRICULUM

### Total Hours Required:

**39** Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—30 Credit Hours

- ECO 6115 Economic Analysis of the Firm (3 credit hours)
- ACG 6425 Managerial Accounting Analysis (3 credit hours)
- ECO 6416 Applied Business Research Tools (3 credit hours)
- FIN 6406 Strategic Financial Management (3 credit hours)
- MAN 6245 Organizational Behavior and Development (3 credit hours)
- MAR 6816 Strategic Marketing Management (3 credit hours)
- MAR 6466 Strategic Supply Chain and Operations Management (3 credit hours)
- BUL 6444 Law and Ethics (3 credit hours)
- GEB 6365 International Business Analysis (3 credit hours)
- MAN 6721 Applied Strategy and Business Policy (3 credit hours)

### Elective Courses—9 Credit Hours

- FIN 6465 Financial Analysis Seminar (3 credit hours)

- MAN 6448 Conflict Resolution and Negotiation (3 credit hours)
- MAN 6296 Executive Leadership (3 credit hours)

## Additional Program Requirements

Any student enrolled in a College of Business Administration master's degree program who earns more than two final course grades below a B- will be dismissed from the program and retention plans will not be supported by the College of Business Administration.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- The GMAT is not required, however, the Admissions Committee may ask for the GMAT to strengthen a candidate's application packet.
- Three professional and/or academic letters of recommendation or three e-mail addresses of recommenders.
- Prepare a career goal statement outlining your short-term and long-term career objectives, and explain how this degree will assist you in obtaining these goals.
- Résumé showing a minimum of 3 years of full-time, progressive, work experience.
- Interview.
- A computer-based score of 233 (or 91 internet-based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.
- Applicants applying to this program whose completed bachelor's degree is from a college/university outside the United States must provide a course-by-course credential

evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Early application tuition discounts are available for this program. To view early application discount deadlines, and for more information, visit the Executive Development Center website at [www.ucfedc.com](http://www.ucfedc.com).

### Application Deadlines

Professional MBA Track (Downtown Orlando and Regional Campuses)	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15		Mar 15
Two PMBA cohorts are scheduled to begin in the 2014-2015 academic year. Classes for the Fall 2014 term will begin in August 2014 at the UCF Palm Bay Campus in Palm Bay. The deadline for Fall 2014 has been extended to August 1, 2014. Classes for Summer 2015 will begin in April 2015 at the UCF Downtown Campus in Orlando.				
International Applicants				
International Transfer Applicants				

### CONTACT INFO

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 DTC 201B

# Career and Technical Education MA

## PROGRAM DESCRIPTION

The Career and Technical Education MA program is designed for students who have a bachelor’s degree in education or a bachelor’s degree in a discipline or technical area other than education. The program places emphasis on the intellectual growth of each student using research-based effective teaching techniques, scholarly learning, laboratory-field experience, and leadership development.

## CURRICULUM

The Career and Technical Education MA program requires a minimum of 42-45 credit hours beyond the bachelor’s degree, including 9 credit hours of education foundation core courses, 9 credit hours of career education core courses, and 21 credit hours of adviser-approved courses focused on a specialization within the field. The program also requires an internship (6 credit hours) or a research report (3 credit hours).

### Total Hours Required:

**42-45** Credit Hours Minimum beyond the Bachelor’s Degree

A core class in the curriculum, required of all students, is the research methods course where examples are related directly to career education. The internship is an independent learning activity that takes place in face-to-face or web-based authentic settings in which students must apply, reflect upon, and refine knowledge and skills acquired in the program. The internship experience gives students full control of the operational setting where they are placed (e.g., such as primary face-to-face or web classroom teacher while being observed and mentored by a supervising teacher and UCF faculty member).

## Required Courses—18 Credit Hours

### Education Foundation Core—Select 9 Credit Hours

- EDF 6727 Critical Analysis of Social, Ethical, Legal, and Safety Issues Related to Education (3 credit hours)
- IDS 6504 Adult Learning (3 credit hours)
- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- LAE 5337 Literacy Strategies for Middle and Secondary Teaching (3 credit hours)
- TSL 5085 Teaching Language Minority Students in K-12 Classrooms (3 credit hours)
- EDG 6415 Principles of Instruction and Classroom Management (3 credit hours)
- EDF 6237 Principles of Learning and Introduction to Classroom Assessment (3 credit hours)
- EDF 6432 Measurement and Evaluation in Education (3 credit hours) or EDF 6401 Statistics for Educational Data (3 credit hours)
- EDF 6886 Multicultural Education (3 credit hours)
- EDF 6725 Critical Issues in Urban Education (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- EDF 6517 Perspectives on Education (3 credit hours)
- EDG 6329 Quality Teaching Practices (3 credit hours)

### Career Education Core—9 Credit Hours

- ECT 6791 Research in Career Education (3 credit hours)
- ECW 6067 History of Career Education in the United States (3 credit hours)
- ECW 6666 Issues in Career Education (3 credit hours)

## Elective Courses—21 Credit Hours

Students select elective courses in an area of specialization after consultation with their adviser. The areas of specialization

may include: health, technical training, teaching adults, business education, Graduate Certificates or another area approved by the adviser.

## Internship Option—6 Credit Hours

- ECT 6946 Graduate Internship (6 credit hours)

## Research Report Option—3 Credit Hours

- ECT 6909 Research Report (2,1 credit hours)

## Co-requisites

If initial certification is desired, see adviser.

## Independent Learning

The internship is an independent learning activity that takes place in face-to-face or web-based authentic settings in which students must apply, reflect upon, and refine knowledge and skills acquired in the program. The internship experience gives students full control of the operational setting where they are placed (e.g., such as primary face-to-face or web classroom teacher while being observed and mentored by a supervising teacher and UCF faculty member).

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate admission requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.



## Application Deadlines

Career and Technical Education MA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
Late applications will be considered on a space-available basis.				
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

## CONTACT INFO

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 ED 123N

# Chemistry MS

## PROGRAM DESCRIPTION

The Master of Science in Chemistry (MS) program prepares students for careers in the chemical industry or further graduate studies. The curriculum is designed to provide a broad overall perspective of the chemical sciences field while placing the primary emphasis upon chemistry and the application of chemical principles.

## CURRICULUM

The thesis option in the Chemistry MS program requires a minimum of 30 credit hours beyond the bachelor's degree, including 14 credit hours of required courses, at least 6 credit hours of thesis research, and 10 credit hours of electives that must be approved by the student's advisory committee. The nonthesis option requires a minimum of 31 credit hours beyond the bachelor's degree, including 14 credit hours of required courses, 16 credit hours of electives that must be approved by the student's advisory committee, and 1 credit hour of independent study that culminates in a research report.

### Total Hours Required:

**30-31** Credit Hours Minimum beyond the Bachelor's Degree

## Qualifying Examinations

All students must satisfy qualifying (proficiency) requirements in four of the five areas (analytical chemistry, biochemistry, inorganic chemistry, organic chemistry and physical chemistry) during the first year by taking exams in four of these five subjects. Additional course work may be required if one or more of the qualifying exams are not satisfied. Satisfaction of this requirement will help ensure that all students are adequately prepared for the core courses. If students do not satisfy the proficiency exam requirements within the first year, they may be subject to dismissal from the program.

## Required Courses—14 Credit Hours

Students must take four of the following courses. If a student successfully completes all five required

courses, one course will count toward fulfilling the electives requirement.

- CHM 6710 Applied Analytical Chemistry (3 credit hours)
- CHS 6240 Chemical Thermodynamics (3 credit hours)
- CHS 6251 Applied Organic Synthesis (3 credit hours)
- CHM 6440 Kinetics and Catalysis (3 credit hours)
- BCH 6740 Applied Biochemistry (3 credit hours)

In addition, students must complete the following seminar.

- CHM 6936 Graduate Chemistry Seminar (1 credit hour, taken twice)

### **Elective Courses—10 Credit Hours**

All students must take 10 credit hours of electives 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 6134 Advanced Instrumental Analysis (3 credit hours)
- CHM 6711 Chemistry of Materials (3 credit hours)
- CHS 6260 Chemical Unit Operations and Separations (3 credit hours)
- CHS 6261 Chemical Process and Product Development (2 credit hours)
- CHS 6613 Current Topics in Environmental Chemistry (3 credit hours)
- CHM/CHS Special topics courses

### **Thesis Option—6 Credit Hours**

- CHM 6971 Thesis (6 credit hours)

The grounding in scientific research methodology provided by the thesis requirement is a central focus of the thesis option in the Chemistry MS program. Students will conduct research either on site or at the professional laboratories where they work. In either case, a member of the UCF Chemistry Department faculty will act as research adviser and approve the research topic. This research culminates in the writing and presentation of the thesis. The student will present his/her thesis for final examination (oral defense of thesis) by a committee consisting of three members including the research adviser. The committee has to be approved by the Graduate Coordinator of the Chemistry program. The thesis must be judged worthy of publication by the review committee and may not be submitted for examination until so deemed. For nonresident students, the thesis adviser 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.

### **Nonthesis Option—7 Credit Hours**

Nonthesis students take an additional 7 credit hours of courses, including 6 credit hours of electives from the list above and 1 credit hour of independent study, resulting in a required research report of independent learning experience.

- Electives (6 credit hours)
- CHM 6908 Independent Study (1 credit hour)

### **Equipment Fee**

Full-time students in the Chemistry MS program pay a \$90 equipment fee each semester that they are enrolled. Part-time students pay \$45 per semester.

### **Independent Learning**

For the thesis option, the grounding in scientific research methodology is a central focus. This research culminates in the writing and presentation of the thesis. For the nonthesis option, students take an additional 6 credit hours of approved electives and one-credit hour of Independent Study (CHM 6908), which culminates in a required report of the independent study experience.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Two letters of recommendation.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

### Application Deadlines

Chemistry MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

## CONTACT INFO

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## Civil Engineering MS

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

## PROGRAM DESCRIPTION

The Civil Engineering MS degree program reflects the very broad nature of the field, which encompasses the design, construction, and enhancement of the infrastructure of society. The program offers tracks in Structural and Geotechnical Engineering, Transportation Systems Engineering, and Water Resources Engineering. Course work includes structural analysis and design, geotechnical engineering and foundations, transportation planning and operations, traffic engineering, construction engineering, and water resources engineering.

Faculty research interests include geotechnical studies of subsurface conditions, soil testing "superpave" mix design, intelligent transportation systems, traffic safety, structural dynamics, nonlinear structural analysis and software development, reinforced concrete, construction engineering, 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.

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit [www.intl.ucf.edu](http://www.intl.ucf.edu). If you have any questions, please consult the International Services Center at 407-823-2337.

## CURRICULUM

The MS degree offers both thesis and nonthesis options with each requiring 30 credit hours of acceptable graduate work. The thesis option requires a 6 credit hour thesis project and

the nonthesis option requires an additional 6 credit hours of electives and a comprehensive final examination.

Individual, independent research studies may be required in one or more courses. The research study and report will focus on reviewing and analyzing contemporary research in a student's particular specialization within the profession in order to help students acquire knowledge and skills pertaining to research-based best practices in that specialization area. In addition, students may engage in six credit hours of independent study during their studies.

### **Total Hours Required:**

**30** Credit Hours Minimum beyond the Bachelor's Degree

### **Equipment Fee**

Students in the Civil Engineering MS program pay a \$16 equipment fee each semester that they are enrolled. Part-time students pay \$8 per semester.

### **Independent Learning**

A research or design project serves as the independent learning experience for thesis students. Nonthesis students are required to take at least one of the courses marked with an asterisk (\*), denoting an independent learning experience from the program's tracks, and a comprehensive exam.

## **APPLICATION REQUIREMENTS**

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening ([www.cecs.ucf.edu/prescreen](http://www.cecs.ucf.edu/prescreen)) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured

of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A Bachelor of Science degree in civil engineering or another closely related engineering degree.
- Résumé.
- Statement of educational, research, and professional career objectives.
- Three letters of recommendation.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

The GRE is not required, however, taking the GRE is highly recommended for students wishing to pursue a thesis. In order to be considered for any fellowships, a GRE score is required.

The MS degrees in specialized options 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.

## Application Deadlines

Civil Engineering MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

## CONTACT INFO

**David Cooper PhD**  
 Professor  
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 ENG2 227

# Structural and Geotechnical Engineering Track

## TRACK DESCRIPTION

The Structural and Geotechnical Engineering track in the Civil Engineering MS program reflects the very broad nature of the field, which encompasses the design, construction, and enhancement of the infrastructure of society. The program's course work focuses on structural analysis and design, and geotechnical engineering and foundations, but may include electives in transportation planning and operations, traffic engineering, construction engineering, and water resources engineering.

Faculty research interests include geotechnical studies of subsurface conditions, soil testing "superpave" mix design, intelligent transportation systems, traffic safety, structural dynamics, nonlinear structural analysis and software development, reinforced concrete, construction engineering, 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.

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit [www.intl.ucf.edu](http://www.intl.ucf.edu). If you have any questions, please consult the International Services Center at 407-823-2337.

## CURRICULUM

### Total Hours Required:

**30** Credit Hours Minimum beyond the Bachelor's Degree

The department offers a Structural and Geotechnical Engineering track in the Civil Engineering MS program to students with appropriate science or



engineering baccalaureate backgrounds. Both a thesis option and a nonthesis option are available with each requiring 30 credit hours. The thesis option requires 12 credit hours of required courses, 12 credit hours of elective graduate course work (exclusive of thesis and research), and 6 credit hours of thesis. The nonthesis option requires 12 credit hours of required courses and 18 credit hours of elective graduate course work. The nonthesis option also requires 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. At least one-half of the required credits must be taken at the 6000 level.

Research studies or projects are required in one or more courses. The research study or project will focus on reviewing and analyzing contemporary research or engineering issues in a student's particular specialization within the profession in order to help students acquire knowledge and skills pertaining to research-based best practices in that specialization area.

### Prerequisites (Articulation)

- EGN 3310 Engineering Analysis—Statics (3 credit hours)
- EGN 3321 Engineering Analysis—Dynamics (3 credit hours)
- EGN 3331 Mechanics of Materials (3 credit hours)
- CEG 4011C Geotechnical Engineering I (4 credit hours)
- CES 4100 Structural Analysis (4 credit hours)
- CES 4605 Steel Structures (3 credit hours) OR CES 4702 Reinforced Concrete Structures (3 credit hours)

### Required Courses—12 Credit Hours

Both thesis and nonthesis students must choose two courses from each of the two following groups. Courses with asterisks represent those with specific independent learning experiences and all nonthesis students must choose at least one of the courses with an asterisk.

### Geotechnical Engineering

- 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)

### Structural Engineering

- CES 5144 Matrix Methods for Structural Analysis (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 5821 Masonry and Timber Design (3 credit hours)
- CES 6010 Structural Reliability (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 6527 Nonlinear Structural Analysis (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—12 Credit Hours

All students, both thesis and nonthesis, must complete at least 12 credit hours of approved electives (primarily from the above two groups but also from the list below or other courses as

approved by the student's advisor). Please note that Directed Research (XXX 6918) is not permitted in the MS program of study.

### **Construction Engineering and Management**

- CCE 5205 Decision Support for Infrastructure Projects (3 credit hours)
- CCE 5006 Infrastructure Systems Management (3 credit hours)
- CCE 5220 Green Design and Construction (3 credit hours)
- CCE 5937 Construction Contracts (3 credit hours)
- CCE 6036 Advanced Construction Planning and Control\* (3 credit hours)
- CCE 6211 Design and Monitoring of Construction Processes (3 credit hours)
- CCE 6045 Cost Analysis of Sustainable Infrastructure Systems (3 credit hours)

### **Thesis Option—6 Credit Hours**

- XXX 6971 Thesis (6 credit hours)

Successful performance in a final defense of the thesis is required. In addition, the College of Engineering and Computer Science requires that all thesis defense announcements be approved by the student's adviser and posted on the college's website and on the university-wide Events Calendar at the College of Graduate Studies website at least two weeks before the defense date.

### **Nonthesis Option—6 Credit Hours**

Nonthesis students must complete 6 additional credit hours of electives from the lists above or other courses as approved by the student's adviser. Please note that at least one course in the nonthesis program of study must be one of the courses with an asterisk, which denotes that this course provides an independent learning experience for the student.

- Electives (6 credit hours)

### **Equipment Fee**

Students in the Civil Engineering MS program pay a \$16 equipment fee each semester that they are enrolled. Part-time students pay \$8 per semester.

## **Independent Learning**

A research or design project serves as the independent learning experience for thesis students. Nonthesis students are required to take at least one of the courses marked with an asterisk (\*), denoting an independent learning experience.

## **APPLICATION REQUIREMENTS**

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening ([www.cecs.ucf.edu/prescreen](http://www.cecs.ucf.edu/prescreen)) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A Bachelor of Science degree in civil engineering or another closely related engineering degree.
- Résumé.
- Statement of educational, research, and professional career objectives.
- Three letters of recommendation.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation.

Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

The GRE is not required, however, taking the GRE is highly recommended for students wishing to pursue a thesis. In order to be considered for any fellowships, a GRE score is required.

The MS degrees in specialized options 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.

## Application Deadlines

Structural and Geotechnical Engineering Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

## CONTACT INFO

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 Professor  
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 ENG2 227

# Transportation Systems Engineering Track

## TRACK DESCRIPTION

The Transportation Systems Engineering track in the Civil Engineering MS program reflects the very broad nature of the field, which encompasses the design, construction, and enhancement of the infrastructure of society. The program's course work focuses on transportation planning and operations, traffic engineering and construction engineering.

Faculty research interests include intelligent transportation systems, traffic safety, traffic signal design, and construction engineering. 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.

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit [www.intl.ucf.edu](http://www.intl.ucf.edu). If you have any questions, please consult the International Services Center at 407-823-2337.

## CURRICULUM

### Total Hours Required:

**30 Credit Hours** Minimum beyond the Bachelor's Degree

The Transportation Systems Engineering track in the Civil Engineering MS program is for students with appropriate science or engineering baccalaureate backgrounds. Both a thesis option and a nonthesis option are available with each requiring 30 credit hours of graduate courses. The thesis option requires 15 credit hours of required courses, 9 credit hours of elective courses (exclusive of thesis and research), and a thesis (6 credit hours). The nonthesis option requires 15 credit hours of required courses and 15 credit hours of elective graduate course work. The

nonthesis option also requires 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. At least one-half of the required credits must be taken at the 6000 level.

Research studies or projects are required in one or more courses. The research study or project will focus on reviewing and analyzing contemporary research or engineering issues in a student's particular specialization within the profession in order to help students independently acquire knowledge and skills pertaining to best practices in that specialization area.

### Prerequisites

- STA 3032 Probability and Statistics for Engineers (3 credit hours)
- TTE 3810 Transportation Engineering (3 credit hours)

### Required Courses—15 Credit Hours

Both thesis and nonthesis students must choose five of the following courses. Courses with asterisks provide independent learning experiences. These experiences encompass research reports, design projects, and literature studies. Nonthesis students must choose at least one course with an asterisk.

- TTE 5204 Traffic Engineering\* (3 credit hours)
- TTE 6205 Highway Capacity and Traffic Flow Analysis (3 credit hours)
- TTE 5805 Geometric Design of Transportation Systems\* (3 credit hours)
- TTE 5835 Pavement Design (3 credit hours)
- TTE 6256 Traffic Operations\* (3 credit hours)
- TTE 6270 Intelligent Transportation Systems (3 credit hours)
- TTE 6315 Traffic Safety Analysis\* (3 credit hours)
- TTE 6526 Planning and Design of Airports\* (3 credit hours)
- CGN 6655 Regional Planning, Design and Development (3 credit hours)
- ESI 5219 Engineering Statistics or STA 5206 Statistical Analysis (3 credit hours)

### Elective Courses—9 Credit Hours

All students, both thesis and nonthesis, must complete at least 9 credit hours of approved electives from the list above or other courses as approved by the student's adviser. Directed Research (XXX 6918) is not permitted in the MS program of study.

- Electives (9 credit hours)

### Thesis Option—6 Credit Hours

- TTE 6971 Thesis (6 credit hours)

A final defense of the thesis is required. In addition, the College of Engineering and Computer Science requires that all thesis defense announcements be approved by the student's advisor and posted on the college's website and on the university-wide Events Calendar at the College of Graduate Studies website at least two weeks before the defense date.

### Nonthesis Option—6 Credit Hours

For those pursuing the nonthesis option, two additional electives are required, which should preferably come from the above list, although other courses may be chosen with adviser's consent. In addition, students must successfully complete a comprehensive final exam.

- Electives (6 credit hours)

### Equipment Fee

Students in the Civil Engineering MS program pay a \$16 equipment fee each semester that they are enrolled. Part-time students pay \$8 per semester.

### Independent Learning

A research or design project serves as the independent learning experience for thesis students. Nonthesis students are required to take at least one of the courses marked with an asterisk (\*), denoting an independent learning experience, and a comprehensive exam.

## APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening ([www.cecs.ucf.edu/](http://www.cecs.ucf.edu/)

prescreen) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A Bachelor of Science degree in civil engineering or another closely related engineering degree.
- Résumé.
- Statement of educational, research, and professional career objectives.
- Three letters of recommendation.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Faculty members may choose to conduct face-to-face or telephone interviews with applicants before accepting them into their research program.

The GRE is not required, however, taking the GRE is highly recommended for students wishing to pursue a thesis. In order to be considered for any fellowships, a GRE score is required.

The MS degrees in specialized options 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.

## Application Deadlines

Transportation Systems Engineering Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

## CONTACT INFO

**David Cooper PhD**

Professor

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Telephone: 407-823-2388

ENG2 227



# Water Resources Engineering Track

## TRACK DESCRIPTION

The Water Resources Engineering track in the Civil Engineering MS program reflects the very broad nature of the field, which encompasses the design, construction, and enhancement of the infrastructure of society. The program's course work focuses on water resources modeling, hydraulics and hydrology.

Water Resource faculty research interests include ecohydraulic and ecohydrologic modeling, groundwater and surface hydrology, sea level rise and other climate change impact assessments, stormwater management, tide, wind-wave and hurricane storm surge modeling, and environmental water resources 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.

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit [www.intl.ucf.edu](http://www.intl.ucf.edu). If you have any questions, please consult the International Services Center at 407-823-2337.

## CURRICULUM

### Total Hours Required:

**30** Credit Hours Minimum beyond the Bachelor's Degree

The Water Resources Engineering track in the Civil Engineering MS program is for students with appropriate science or engineering baccalaureate backgrounds. Both thesis and non-thesis options are available with each requiring 30 credit hours. The thesis option requires 15 credit hours of required courses, 9 credit hours of elective graduate course work exclusive of thesis and research, and a thesis (6 credit hours). The nonthesis option requires 15 credit hours of required graduate course work

and 15 credit hours of electives. The nonthesis option also requires a comprehensive written 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. At least one-half of the required credits must be taken at the 6000 level.

Research studies or projects are required in one or more courses. The research study or project will focus on reviewing and analyzing contemporary research or engineering issues in a student's particular specialization within the profession in order to help students acquire knowledge and skills pertaining to research-based best practices in that specialization area.

### Prerequisites (Articulation)

- CEG 4011C Geotechnical Engineering I (4 credit hours)
- CWR 4632C Water Resources I (4 credit hours)
- CWR 4633C Water Resources II (3 credit hours)
- EGN 3613 Engineering Economic Analysis (2 credit hours)
- STA 3032 Probability and Statistics for Engineers (3 credit hours)

### Required Courses—15 Credit Hours

Both thesis and nonthesis students must choose five CWR courses from the list below. Courses with an asterisk provide an independent learning experience that involves research and design projects. Nonthesis students are required to take at least one course with an asterisk in order to obtain an independent learning experience.

- CWR 5125 Groundwater Hydrology (3 credit hours)
- CWR 5205 Hydraulic Engineering (3 credit hours)
- CWR 5515 Numerical Methods in Civil and Environmental Engineering (3 credit hours)
- CWR 5545 Water Resources Engineering (3 credit hours)
- CWR 5634 Water Resources in a Changing Environment (3 credit hours)

- CWR 6102 Advanced Hydrology\* (3 credit hours)
- CWR 6126 Groundwater Modeling\* (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 6539 Finite Elements in Surface Water Modeling (3 credit hours)

### Elective Courses—9 Credit Hours

All students, both thesis and nonthesis, are required to take at least 9 credit hours of approved electives. The courses may be from the list above or other courses as approved by the student's adviser. Directed Research (XXX 6918) is not permitted in the MS program of study

- Electives (9 credit hours)

### Thesis Option—6 Credit Hours

- CWR 6971 Thesis (6 credit hours)

A successful defense of the thesis is required. In addition, the College of Engineering and Computer Science requires that all thesis defense announcements be approved by the student's adviser and posted on the college's website and on the university-wide Events Calendar at the College of Graduate Studies website at least two weeks before the defense date.

### Nonthesis Option—6 Credit Hours

Nonthesis students must complete at least 6 additional credit hours of electives from either the list above or other courses as approved by the student's adviser.

- Electives (6 credit hours)

### Equipment Fee

Students in the Civil Engineering MS program pay a \$16 equipment fee each semester that they are enrolled. Part-time students pay \$8 per semester.

### Independent Learning

A research or design project serves as the independent learning experience for thesis students. Nonthesis students are required to take at least one of the courses marked with an asterisk (\*), denoting an independent learning experience and a comprehensive exam.

### APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening ([www.cecs.ucf.edu/prescreen](http://www.cecs.ucf.edu/prescreen)) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A Bachelor of Science degree in civil engineering or another closely related engineering degree.
- Résumé.
- Statement of educational, research, and professional career objectives.
- Three letters of recommendation.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course

credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

The GRE is not required, however, taking the GRE is highly recommended for students wishing to pursue a thesis. In order to be considered for any fellowships, a GRE score is required.

The MS degrees in specialized options 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.

### Application Deadlines

Water Resources Engineering Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

### CONTACT INFO

**David Cooper PhD**  
Professor  
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ENG2 227

# Civil Engineering MSCE

## PROGRAM DESCRIPTION

The Master of Science in Civil Engineering (MSCE) degree is designed for students who have an undergraduate degree in Civil Engineering or another closely related engineering degree. 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 program includes course work in structural analysis and design, geotechnical engineering and foundations, transportation planning and operations, traffic engineering, construction engineering and water resources engineering.

Faculty research interests include geotechnical studies of subsurface conditions, soil testing “superpave” mix design, intelligent transportation systems, traffic safety, structural dynamics, nonlinear structural analysis and software development, reinforced concrete, construction engineering, 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.

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit [www.intl.ucf.edu](http://www.intl.ucf.edu). If you have any questions, please consult the International Services Center at 407-823-2337.

## CURRICULUM

The Civil Engineering MSCE program requires a minimum of 30 credit hours beyond the bachelor’s degree, and both thesis and nonthesis options are available. The thesis option requires 24 credit hours of formal graduate-level course work (including 12 credit hours of required courses and 12 credit hours of electives) and a thesis (6 credit hours). The

nonthesis option requires 30 hours of formal course work (including 12 credit hours of required courses and 18 credit hours of electives). Students in the nonthesis program must also pass a comprehensive examination at the end of the program. It is strongly suggested that part-time students pursue the nonthesis option.

### Total Hours Required:

**30** Credit Hours Minimum beyond the Bachelor's Degree

The Civil Engineering MSCE program requires a minimum of 30 credit hours beyond the bachelor's degree and has both thesis and nonthesis options. The thesis option requires 24 credit hours of core and elective graduate course work exclusive of thesis or research and a thesis (6 credit hours). The nonthesis option requires 30 credit hours of acceptable graduate course work with at least 24 hours of core and elective course work, exclusive of research, and a comprehensive oral and/or written final examination. Students must develop an individual plan of study with a faculty adviser by their second semester of study. At least one-half of the required credits must be taken at the 6000 level.

Research studies are required in one or more courses. The research study and report will focus on reviewing and analyzing contemporary research in a student's particular specialization within the profession in order to help students acquire knowledge and skills pertaining to research-based best practices in that specialization area. In addition, students may engage in directed independent studies, directed research or a research report during their studies.

### Required Courses—12 Credit Hours

Choose four courses (12 credit hours) from among the five groups listed below with only one course being selected from each group. Courses with asterisks represent those with specific independent learning experiences, and all nonthesis students must choose at least one course with an asterisk.

#### *Geotechnical Engineering*

- 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)

#### *Structural Engineering*

- CES 5144 Matrix Methods for Structural Analysis (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 5821 Masonry and Timber Design (3 credit hours)
- CES 6010 Structural Reliability (3 credit hours)
- CES 6116 Finite Element Structural Analysis (3 credit hours)
- CES 6170 Boundary Element Methods in Civil Engineering (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 6527 Nonlinear Structural Analysis (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)

#### *Transportation Engineering*

- TTE 5204 Traffic Engineering (3 credit hours)
- TTE 5805 Geometric Design of Transportation Systems (3 credit hours)
- TTE 5835 Pavement Design (3 credit hours)
- TTE 6205 Highway Capacity (3 credit hours)\*
- TTE 6256 Traffic Operations (3 credit hours)
- TTE 6270 Intelligent Transportation Systems (3 credit hours)\*

- TTE 6315 Traffic Safety Analysis (3 credit hours)\*
- TTE 6526 Planning and Design of Airports (3 credit hours)
- TTE 6625 Mass Transportation Systems (3 credit hours)
- CGN 6655 Regional Planning, Design, and Development (3 credit hours)

### ***Water Resources Engineering***

- CWR 5125 Groundwater Hydrology (3 credit hours)
- CWR 5205 Hydraulic Engineering (3 credit hours)
- CWR 5515 Numerical Methods in Civil and Environmental Engineering (3 credit hours)
- CWR 5545 Water Resources Engineering (3 credit hours)
- CWR 5634 Water Resources in a Changing Environment (3 credit hours)
- CWR 6102 Advanced Hydrology (3 credit hours)\*
- CWR 6126 Groundwater Modeling (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)\*

### ***Construction Engineering and Management***

- CCE 5205 Decision Support for Infrastructure Projects (3 credit hours)
- CCE 5006 Infrastructure Systems Management (3 credit hours)
- CCE 5220 Green Design and Construction (3 credit hours)
- CCE 5937 Construction Contracts (3 credit hours)
- CCE 6036 Advanced Construction Planning and Control (3 credit hours)\*
- CCE 6211 Design and Monitoring of Construction Processes (3 credit hours)\*
- CCE 6045 Cost Analysis of Sustainable Infrastructure Systems (3 credit hours)

## **Elective Courses—12 Credit Hours**

All students, both thesis and nonthesis, must take 12 credit hours of electives (primarily from the list above) as approved by the student's adviser. These 12 credit hours of electives must not include research related courses (e.g., XXX 6908, XXX 6918).

- Electives (12 credit hours)

## **Thesis Option—6 Credit Hours**

For those pursuing a thesis option, students must complete 6 credit hours of thesis and successfully defend the thesis.

- XXX 6971 Thesis (6 credit hours; where XXX may be CGN, CEG, CES, CWR or TTE)

The College of Engineering and Computer Science requires that all thesis defense announcements are approved by the student's adviser and posted on the college's website and on the university-wide Events Calendar at the College of Graduate Studies website at least two weeks before the defense date.

## **Nonthesis Option—6 Credit Hours**

Students in the nonthesis option must take 6 additional credit hours of electives. All totaled, the nonthesis option requires 18 credit hours of electives. Students in the nonthesis program must also pass a comprehensive examination, which will be in a written format at the end of the program.

- Electives (6 credit hours)

## **Equipment Fee**

Students in the Civil Engineering MSCE program pay a \$16 equipment fee each semester that they are enrolled. Part-time students pay \$8 per semester.

## **Independent Learning**

A research or design project serves as the independent learning experience for thesis students. Nonthesis students are required to pass a comprehensive written exam.

## **APPLICATION REQUIREMENTS**

The College of Engineering and Computer Science strongly encourages prospective applicants to



request a free pre-screening ([www.cecs.ucf.edu/prescreen](http://www.cecs.ucf.edu/prescreen)) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A Bachelor of Science degree in civil engineering or another closely related engineering degree.
- Résumé.
- Statement of educational, research, and professional career objectives.
- Three letters of recommendation.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

The GRE is not required, however, taking the GRE is highly recommended for students wishing to pursue a thesis. In order to be considered for any fellowships, a GRE score is required.

## Application Deadlines

Civil Engineering MSCE	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

## CONTACT INFO

### David Cooper PhD

Professor

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ENG2 227

# Clinical Psychology MA

## PROGRAM DESCRIPTION

The Clinical Psychology MA program provides training and preparation for students desiring to deliver clinical services through community agencies and in independent practice. After completing the program and a two-year postgraduate internship, graduates are eligible to become Licensed Mental Health Counselors in the state of Florida (with the possible exception of the research/thesis option as described below).

The MA program 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. The program is offered at the Sanford/Lake Mary Campus (effective Fall 2013).

## CURRICULUM

The Clinical Psychology MA program requires a minimum of 61 credit hours beyond the bachelor's degree, including 43-49 credit hours of required courses, and 12 clinical internship credit hours. The program has two options: Applied Pre-Licensure/Nonthesis and Research/Thesis.

### Total Hours Required:

**61-67** Credit Hours Minimum beyond the Bachelor's Degree

## OPTION 1: APPLIED PRE-LICENSURE/ NONTHESIS

### Required Courses—49 Credit Hours

- CLP 5166 Advanced Abnormal Psychology (3 credit hours)
- CLP 6181 Psychological Theories of Substance Abuse Treatment (3 credit hours)
- CLP 6191 Cross-Cultural Psychotherapy (3 credit hours)
- CLP 6195C Introduction to Psychotherapy (3 credit hours)
- CLP 6321 Psychotherapy in Community Settings (3 credit hours)
- CLP 6441C Individual Psychological Assessment I (3 credit hours)
- CLP 6457C Group Psychotherapy (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 6461 Cognitive Behavior Therapy (3 credit hours)
- CLP 6449C Career and Lifestyle Assessment (3 credit hours)
- CLP 6932 Ethical and Professional Issues in Mental Health Practices (3 credit hours)
- CYP 6942 Practicum in Psychological Counseling (3 credit hours)
- DEP 5057 Developmental Psychology (3 credit hours)
- PSY 6216C Research Methodology (4 credit hours)
- MHS 6430 Family Counseling I (3 credit hours)

### Internship—12 Credit Hours

- CYP 6948C Psychology Internship (12 credit hours)

The purpose of the internship requirement is to provide the MA candidate in Clinical Psychology

with comprehensive, practical-based experiences under the supervision of licensed mental health professionals. 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 ("B" [3.0 grade point average] or better) of the following courses is generally required prior to internship: CLP 5166, CLP 6195C, CLP 6441C, and CYP 6942.

The program director and clinical placement coordinator approve internship placements. Interns are provided with a system for maintaining accurate accounts of their activity during each week of their internship. In addition, both the intern and supervisor(s) complete an Internship Evaluation form each semester.

## **OPTION 2: RESEARCH/ THESIS**

The Research/Thesis option is available only with program approval. Students who choose this option may not be license eligible depending on the restricted electives they select. It is important for students to work closely with their adviser to determine the plan of study that best meets their academic/career goals.

### **Required Courses—19 Credit Hours**

- CLP 5166 Advanced Abnormal Psychology (3 credit hours)
- CLP 6195C Introduction to Psychotherapy (3 credit hours)

- CLP 6441C Individual Psychological Assessment I (3 credit hours)
- CLP 6932 Ethical and Professional Issues in Mental Health Practices (3 credit hours)
- CYP 6942 Practicum in Psychological Counseling (3 credit hours)
- PSY 6216C Research Methodology (4 credit hours)

### **Restricted Electives—24 Credit Hours Required, 6 Credit Hours Optional/Additional**

- 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 6457C Group Psychotherapy (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 6461 Cognitive-Behavioral Therapy (3 credit hours)
- CLP 6449C Career and Lifestyle Assessment (3 credit hours)
- DEP 5057 Developmental Psychology (3 credit hours)
- MHS 6430 Family Counseling I (3 credit hours)

### **Internship—12 Credit Hours Required**

- CYP 6948C Psychology Internship (12 credit hours) - See Option 1 for description.

### **Thesis—6 Credit Hours Required**

- PSY 6971 Thesis (6 credit hours)

### **Additional Program Requirements**

For all students in the Clinical MA program, successful completion requires demonstration of academic and clinical excellence. Students

who receive grades lower than B (including B- and grades of U in courses graded satisfactory/unsatisfactory) in six semester hours or more will be dismissed from the program. It is a program requirement that all course work with a grade lower than B be retaken and completed successfully, although both grades are still calculated in the GPA.

In addition to academic excellence, students are expected to demonstrate clinical skills and personal resources that are up to the demands of clinical work. At the end of each semester, students will receive written feedback from the faculty on the extent to which they are meeting the programs requirements and performance expectations. Student progress will be rated as satisfactory or unsatisfactory. Students who receive an unsatisfactory rating will be asked to complete remedial assignments as determined by the faculty. If the identified problems are not remedied and/or a second unsatisfactory rating is received, the student will be dismissed from the program.

## Summer Enrollment

Summer enrollment is required for all students in the program.

## Comprehensive Exam and Case Presentation

The culminating academic experience for all students in the program (both options) is successful completion of a comprehensive exam and case presentation. All students must complete the comprehensive exam their final semester. The exam covers the core professional knowledge required by state licensing agencies. Students also are required to complete a written and oral clinical case presentation. Criteria for passing the exam and presentation are provided in the program handbook.

## Independent Learning

There are several independent learning experiences built into the program of study that help to individualize the training program. The field experiences require that students, in consultation with the field placement supervisor and participating agencies, select practicum and internship placements, which will give them an opportunity to hone their clinical skills with supervision in an agency where they can work with specific populations of interest. During practicum

and internship students will have the opportunity to present cases that incorporate an integration of assessment data and its interpretation, theoretical conceptualization, treatment planning, course of therapy, and available outcome data. This is done ensuring client confidentiality and the highest ethical standards.

All students engage in independent learning through their individual preparation for the Comprehensive Exam. Students who pursue the thesis option also engage in independent learning through the design and implementation of original research.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- A bachelor's degree in Psychology or a related area. A minimum of 15 semester hours of undergraduate psychology courses are required as a prerequisite for applicants with a degree in a field other than psychology. Competitive applicants with degrees in related areas will have completed courses in the following areas: abnormal psychology, developmental or child psychology, personality theory, learning theory, experimental psychology, and courses in research methods and statistics.
- Resume or Curriculum Vita.
- Personal Statement describing the applicant's experience, interest in psychology, and professional goals.
- Letter of Intent. This should be a brief one or two sentence letter stating that the applicant is applying to the Clinical Psychology MA program for the next admission cycle.
- Three letters of recommendation, with at least two furnished by instructors who are acquainted with the applicant.

Students are admitted to full-time or nondegree-seeking status:

- Full-time students complete the MA program in two calendar years (including summers).
- Students who do not maintain satisfactory progress towards degree completion will be dismissed from the program.
- Community professionals may be admitted to nondegree-seeking status in order to meet job or licensing requirements after consultation with the program director.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

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, and interview performance) 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.

## Application Deadlines

Clinical Psychology MA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 1	Jan 1		
International Applicants	Jan 1	Jan 1		
International Transfer Applicants	Jan 1	Jan 1		

## CONTACT INFO

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PSY 301L

# Communication MA

- Interpersonal Communication
- Mass Communication

## PROGRAM DESCRIPTION

The Master of Arts in Communication offers tracks in Interpersonal Communication and Mass Communication. The curriculum focuses on theoretical and applied perspectives of communication theory and research. 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.

## CURRICULUM

All students must select either the Interpersonal Communication or Mass Communication track. To select or change a track, students should consult the graduate program director at the Nicholson School of Communication.

### Total Hours Required:

33-34 Credit Hours Minimum beyond the Bachelor's Degree

## APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

Application requirements for either track are the same, but applicants must choose a specific track for admission consideration.

## FINANCIALS

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see the College of Graduate Studies Funding website, 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.

## Fellowships

Fellowships are awarded based on academic merit to highly qualified students. They are paid to students through the Office of Student Financial Assistance, based on instructions provided by the College of Graduate Studies. Fellowships are given to support a student's graduate study and do not have a work obligation. For more information, see UCF Graduate Fellowships, which includes descriptions of university fellowships and what you should do to be considered for a fellowship.

## Assistantships

The majority of financial assistance provided by the Nicholson School of Communication graduate program is granted through assistantships. Preference will be given to applicants who complete their application for admission prior to the January 15th priority deadline. It is the applicants' responsibility to ensure they have a complete application on file by the priority deadline. Applicants who have complete applications on file by the priority deadline will be e-mailed a separate application for assistantship. Current Communication MA degree-seeking students will also be given the opportunity to apply for assistantships at that time. Students on assistantship are paid a stipend, receive tuition support, and are eligible for health insurance. For general information regarding assistantships at UCF, refer to the Assistantships ([www.students.graduate.ucf.edu/assistantships](http://www.students.graduate.ucf.edu/assistantships)) section of the Graduate Students website.

The Nicholson School of Communication offers primarily two types of assistantships:

- Graduate Teaching Assistants are assigned to work with faculty members and assist them with their teaching responsibilities. This includes assisting with large lecture classes, grading exams, compiling information for lectures, and working with students, as instructed, to help keep a class operating smoothly.
- Graduate Teaching Associates are graduate students who, after completing eighteen hours of their graduate program of study and the required university and department

training, are assigned to teach their own sections of undergraduate courses. Typically, Graduate Teaching Associates teach SPC 1608 (Fundamentals of Oral Communication) or SPC 1603 (Fundamentals of Technical Presentation).

## CONTACT INFO

### Harry Weger PhD

Associate Professor

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NSC 252

# Interpersonal Communication Track

## TRACK DESCRIPTION

The Interpersonal Communication track of the Communication MA focuses on theoretical and applied perspectives of interpersonal communication theory and research. 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.

## CURRICULUM

### Total Hours Required:

**33-34 Credit Hours Minimum beyond the Bachelor's Degree**

The MA degree program in Interpersonal Communication is a four-semester program for full-time students. Part-time students may take up to seven years to complete the program. Both thesis and nonthesis options are offered and both consist of a minimum of 33 (nonthesis) or 34 (thesis) semester hours of work. By the end of their first 18 hours of course work, students should decide whether to pursue the thesis or nonthesis option. During their first nine hours of study, students are required to complete COM 6008 (Proseminar in Communication) and expected to complete a research course (either qualitative or quantitative research methods).

### Required Courses—18 Credit Hours

All required courses must be completed with a grade of B- or higher.

- COM 6008 Proseminar in Communication (3 credit hours)
- COM 6046 Interpersonal Communication (3 credit hours)
- COM 6303 Qualitative Research Methods in Communication (3 credit hours)

- COM 6304 Quantitative Research Methods in Communication (3 credit hours)
- SPC 6219 Modern Communication Theory (3 credit hours)
- STA 5045 Statistical Analysis of Communication Data (3 credit hours).

### Elective Courses—12 Credit Hours

In addition to the courses listed below, special topics courses, up to 6 credit hours of approved independent studies, directed research, internship, and graduate-level courses taken outside the Nicholson School of Communication may be counted as restricted electives, pending approval by the program director.

- ADV 6209 Advertising and Society (3 credit hours)
- COM 6025 Health Communication (3 credit hours)
- COM 6047 Interpersonal Support in the Workplace (3 credit hours)
- COM 6048 Communication in Close Relationships (3 credit hours)
- COM 6121 Communication Management (3 credit hours)
- COM 6145 Organizational Communication (3 credit hours)
- COM 6425 Symbolism in Terrorism (3 credit hours)
- COM 6463 Studies in Intercultural Communication (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)
- COM 5932 Topics in Communication Theory and Research (3 credit hours)
- MMC 6202 Legal and Ethical Issues for Communication (3 credit hours)
- MMC 6266 Communications Convergence and Media Planning (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 6607 Communication and Society (3 credit hours)
- MMC 6612 Communication and Government (3 credit hours)
- PUR 6005 Theories of Public Relations (3 credit hours)
- PUR 6403 Crisis Public Relations (3 credit hours)
- PUR 6XXX Communicating Corporate Social Responsibility (3 credit hours)
- SPC 6442 Small Group Communication (3 credit hours)

### Thesis Option—4 Credit Hours

On average, students take about two full semesters to complete a thesis project, so students should begin the process about one year from their desired graduation date. Students begin the thesis process by selecting a thesis adviser who will serve as the Chair of the Thesis Advisory Committee. In conjunction with their thesis adviser, students will develop a topic and choose two additional members of the thesis committee. The thesis committee must be approved prior to enrolling in thesis hours. All thesis advisory committees in the Nicholson School of Communication must be chaired by a member of the NSC graduate faculty. At least one semester prior to the thesis defense, students will submit 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. More information about the thesis process is available in the program handbook and the UCF College of Graduate Studies website.

- XXX 6971 Thesis (minimum of 4 credit hours, can be taken individually)

### Nonthesis Option—3 Credit Hours

The nonthesis option requires a comprehensive examination, which is a six-examination requirement that assesses students' coursework competency. Students who choose the nonthesis option must take one additional elective course (three credit hours) and successfully complete the comprehensive examinations. The examinations will cover quantitative research methods, qualitative research methods, interpersonal communication, communication theory (i.e., the program core), and two elective areas selected by the student. In order to fulfill the comprehensive exam requirement the student must pass all exams in the program core and at least one of the elective area exams. Once an exam in an area is passed, the student does not have to sit for that exam area again. Students are allowed three attempts to satisfy the comprehensive exam requirement. Students are expected to refer to the NSC Graduate Program handbook for the comprehensive examination protocol.

- Elective (3 credit hours)
- Comprehensive examination

### Equipment Fees

Full-time students in the Communication MA program pay a \$16 equipment fee each semester that they are enrolled. Part-time students pay \$8 per semester.

### Independent Learning

Students who elect the thesis option engage in independent learning through the design and implementation of original research in the thesis process. Students who pursue the nonthesis option experience independent learning through their individual preparation for each of six comprehensive exams. All students engage in independent learning in every Communication core course. A research paper or project is required in each of these classes. The papers and projects provide independent learning by requiring students to design and carry out research projects and develop analytical papers, some of which are submitted to conferences and/or journals for peer review. Internships and independent studies are also common opportunities for independent learning in the Communication MA program.

## APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

Applicants should adhere to the application requirements outlined below. An application will not be reviewed for admission until it is verified as complete by the UCF College of Graduate Studies.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Written statement outlining the applicant's academic and professional goals.
- Two letters of recommendation attesting to the applicant's potential for academic success.

The following information is required for those who wish to be considered for funding initiated by the Nicholson School of Communication, but is recommended for all applicants:

- Additional letter of recommendation (total of three)
- Resume or Curriculum Vita

## Application Deadlines

Interpersonal Communication	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jun 1	Nov 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	
*Applicants who plan to enroll full time in a degree program and who wish to be considered for university fellowships or assistantships should apply by the Fall Priority date.				

## FINANCIALS

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see the College of Graduate Studies Funding website, 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.

### Fellowships

Fellowships are awarded based on academic merit to highly qualified students. They are paid to students through the Office of Student Financial Assistance, based on instructions provided by the College of Graduate Studies. Fellowships are given to support a student's graduate study and do not have a work obligation. For more information, see UCF Graduate Fellowships, which includes descriptions of university fellowships and what you should do to be considered for a fellowship.

### Assistantships

The majority of financial assistance provided by the Nicholson School of Communication graduate program is granted through assistantships. Preference will be given to applicants who complete their application for admission prior to the January 15th priority deadline. It is the applicants' responsibility to ensure they have a complete application on file by the priority deadline. Applicants who have complete applications on file by the priority deadline will be e-mailed a separate application for assistantship. Current Communication MA degree-seeking students will also be given the opportunity to apply for assistantships at that time. Students on assistantship are paid a stipend, receive tuition support, and

are eligible for health insurance. For general information regarding assistantships at UCF, refer to the Assistantships ([www.students.graduate.ucf.edu/assistantships](http://www.students.graduate.ucf.edu/assistantships)) section of the Graduate Students website.

The Nicholson School of Communication offers primarily two types of assistantships:

- Graduate Teaching Assistants are assigned to work with faculty members and assist them with their teaching responsibilities. This includes assisting with large lecture classes, grading exams, compiling information for lectures, and working with students, as instructed, to help keep a class operating smoothly.
- Graduate Teaching Associates are graduate students who, after completing eighteen hours of their graduate program of study and the required university and department training, are assigned to teach their own sections of undergraduate courses. Typically, Graduate Teaching Associates teach SPC 1608 (Fundamentals of Oral Communication) or SPC 1603 (Fundamentals of Technical Presentation).

## CONTACT INFO

**Harry Weger PhD**  
Associate Professor  
[harry.weger@ucf.edu](mailto:harry.weger@ucf.edu)  
Telephone: 407-823-2859  
NSC 252

# Mass Communication Track

## TRACK DESCRIPTION

The Mass Communication track of the Communication MA focuses on theoretical and applied perspectives of mass communication theory and research. 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.

## CURRICULUM

### Total Hours Required:

**33-34 Credit Hours Minimum beyond the Bachelor's Degree**

The MA degree program in Mass Communication is a four-semester program for full-time students. Part-time students may take up to seven years to complete the program. Both thesis and nonthesis options are offered and both consist of a minimum of 33 (nonthesis) or 34 (thesis) semester hours of work. By the end of their first 18 hours of course work, students should decide whether to pursue the thesis or nonthesis option. During their first nine hours of coursework, students are required to complete COM 6008 (ProSeminar) and expected to complete a research methods class (either qualitative or quantitative research methods).

## Required Courses—15 Credit Hours

All required courses must be completed with a grade of B- or higher.

- COM 6008 Proseminar in Communication (3 credit hours)
- COM 6303 Qualitative Research Methods in Communication (3 credit hours)
- COM 6304 Quantitative Research Methods in Communication (3 credit hours)



- MMC 6402 Mass Communication Theory (3 credit hours)
- STA 5045 Statistical Analysis of Communication Data (3 credit hours)

### **Elective Courses—15 Credit Hours**

In addition to the courses listed below, special topics courses, up to 6 credit hours of approved independent studies, directed research, internship, and graduate-level courses taken outside the Nicholson School of Communication may be counted as restricted electives pending approval by the program director.

- ADV 6209 Advertising and Society (3 credit hours)
- COM 6025 Health Communication (3 credit hours)
- COM 6047 Interpersonal Support in the Workplace (3 credit hours)
- COM 6048 Communication in Close Relationships (3 credit hours)
- COM 6121 Communication Management (3 credit hours)
- COM 6145 Organizational Communication (3 credit hours)
- COM 6425 Symbolism in Terrorism (3 credit hours)
- COM 6463 Studies in Intercultural Communication (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)
- COM 5932 Topics in Communication Theory and Research (3 credit hours)
- MMC 6202 Legal and Ethical Issues for Communication (3 credit hours)
- MMC 6266 Communications Convergence and Media Planning (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 6607 Communication and Society (3 credit hours)
- MMC 6612 Communication and Government (3 credit hours)
- PUR 6005 Theories of Public Relations (3 credit hours)
- PUR 6403 Crisis Public Relations (3 credit hours)
- PUR 6215 Communicating Corporate Social Responsibility (3 credit hours)
- SPC 6442 Small Group Communication (3 credit hours)

### **Thesis Option—4 Credit Hours**

On average, students take about two full semesters to complete a thesis project so students should begin the process about one year from their desired graduation date. Students begin the thesis process by selecting a thesis adviser who will serve as the Chair of the Thesis Advisory Committee. In conjunction with their thesis adviser, students will develop a topic and choose two additional members of the thesis committee. The thesis committee must be approved prior to enrolling in thesis hours. All thesis advisory committees in the Nicholson School of Communication must be chaired by a member of the NSC graduate faculty. At least one semester prior to the thesis defense, students will submit 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. More information about the thesis process is available in the program handbook.

- XXX 6971 Thesis (minimum of 4 credit hours, can be taken individually)

### **Nonthesis Option—3 Credit Hours**

The nonthesis option requires a comprehensive examination, which is a six-examination requirement that assesses students' coursework competency. Students who choose the nonthesis

option must take one additional elective course (three credit hours) and successfully complete the comprehensive examinations. The examinations will cover quantitative research methods, qualitative research methods, communication theory (i.e., the program core), and three elective areas selected by the student. In order to fulfill the comprehensive exam requirement the student must pass all exams in the program core and at least two of the elective area exams. Once an exam in an area is passed, the student does not have to sit for that exam area again. Students are allowed three attempts to satisfy the comprehensive exam requirement. Students are expected to refer to the NSC Graduate Program handbook for the comprehensive examination protocol.

- Elective (3 credit hours)
- Comprehensive examination

### Equipment Fees

Full-time students in the Communication MA program pay a \$16 equipment fee each semester that they are enrolled. Part-time students pay \$8 per semester.

### Independent Learning

Students who elect the thesis option engage in independent learning through the design and implementation of original research in the thesis process. Students who pursue the nonthesis option experience independent learning through their individual preparation for each of six comprehensive exams. All students engage in independent learning in every Communication core course. A research paper or project is required in each of these classes. The papers and projects provide independent learning by requiring students to design and carry out research projects and develop analytical papers, some of which are submitted to conferences and/or journals for peer review. Internships and independent studies are also common opportunities for independent learning in the Communication MA Program.

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apply online. All requested materials must be submitted by the established deadline.

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In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Written statement outlining the applicant’s academic and professional goals.
- Two letters of recommendation attesting to the applicant’s potential for academic success.

The following information is required for those who wish to be considered for funding initiated by the Nicholson School of Communication, but is recommended for all applicants:

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- Graduate Teaching Associates are graduate students who, after completing eighteen hours of their graduate program of study and the required university and department training, are assigned to teach their own sections of undergraduate courses. Typically, Graduate Teaching Associates teach SPC 1608 (Fundamentals of Oral Communication) or SPC 1603 (Fundamentals of Technical Presentation).

## CONTACT INFO

### Harry Weger PhD

Associate Professor

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NSC 252

# Communication Sciences and Disorders MA

- Accelerated BA/BS-MA Track
- Communication Science and Disorders Consortium Track

## PROGRAM DESCRIPTION

The Department of Communication Sciences and Disorders offers three plans of study leading to the Master of Arts degree: the Traditional, Consortium (summers mainly) and Accelerated programs. Each track is intended for those interested in working with children and adults who have communication disorders and is based on the same curriculum and degree requirements but allows students to follow different plans of study. Students enrolled in each track must follow a prescribed sequence of academic and clinical courses.

Each track provides academic and clinical education experiences necessary for certification by the American Speech-Language-Hearing Association (ASHA) and the Florida Department of Education, and licensure by the state of Florida. The Council on Academic Accreditation (CAA) of the ASHA has accredited the Master of Arts Degree in Communication Sciences and Disorders since 1986.

The Communication Sciences and Disorders program strives to educate students to become successful practitioners in the field of speech-language pathology. To that end, the ASHA Code of Ethics is re-enforced throughout the academic curriculum. Students who violate the ASHA Code of Ethics may be subject to academic sanctions or dismissed from the program.

The College of Education also offers the Communication Sciences and Disorders PhD track in Education. For more information, please [click here](#).

The **Traditional** track is a two-year, full-time program (six consecutive semesters, including two summers) for students with undergraduate degrees in communication sciences and disorders or speech-language pathology and audiology. For students with undergraduate degrees in other majors (out-of-

field), the program requires additional prerequisite course work.

The **Consortium** (summers mainly) track is a five-year program, including five consecutive summers of full-time enrollment and occasional enrollment during fall or spring semesters. The goal of this program is to address the critical shortage of public school speech-language pathologists and is a cooperative effort between the UCF Department of Communication Sciences and Disorders and the Central Florida Public School Consortium. Participating school districts in the Central Florida Consortium are: Brevard, Citrus, Flagler, Lake, Marion, Orange, Osceola, Seminole, Sumter, and Volusia.

The **Accelerated** track enables highly qualified current UCF undergraduate majors in communication sciences and disorders to achieve a master's degree in the UCF Department of Communication Sciences and Disorders graduate program in one less semester than students in the Traditional track. This program is a BA/BS to MA program. Students are able to enroll in 16 credit hours of graduate-level courses while completing the bachelor's degree.

## CURRICULUM

The Communication Sciences and Disorders MA program consists of a minimum of 72 credit hours, including 38 credit hours of core academic courses, 9 credit hours of electives, and 25 credit hours of clinical practice. Thesis students take 6 credit hours of Thesis and one elective course (3 credit hours).

### Total Hours Required:

72 Credit Hours Minimum beyond the Bachelor's Degree

### Prerequisites

- To be certified to practice by the American Speech-Language-Hearing Association (ASHA), all students must have undergraduate transcript credit, which could include course work, advanced placement, CLEP, or examination equivalency, for each of the following areas: biological sciences, physical sciences, social/behavioral sciences, physics and mathematics or statistics. Courses may

consist of any number of credits and must be taken outside the discipline.

- All students must complete at least 3 credit hours in statistics with a grade of “C” or better. Undergraduate or graduate course work in statistics is a prerequisite to SPA 6805 Research in Communicative Disorders.
- The Department admits qualified in-field applicants, with an undergraduate degree in communication sciences and disorders or speech-language pathology and audiology, and out-of-field applicants, with undergraduate degrees in other majors. Out-of-field students require an additional 32 to 35 credit hours of prerequisite course work that may be completed in approximately two semesters once admitted.

Out-of-field students must complete the following undergraduate prerequisite courses or their equivalents **once admitted**:

- STA 2014C Principles of Statistics (3 credit hours) or STA 2023 Statistical Methods I (3 credit hours)
- LIN 3713 Language Science (3 credit hours)
- LIN 3716/3716L Language Development (5 credit hours)
- SPA 3101 Physiological Bases of Speech and Hearing (3 credit hours)
- SPA 3104 Neural Bases of Communication (3 credit hours)
- SPA 3112/3112L Basic Phonetics and Lab (4 credit hours)
- SPA 3011/3011L Speech Science I: Production and Lab (4 credit hours)
- SPA 3123/3123L Speech Science II: Perception and Lab (4 credit hours)
- SPA 4032 Audiology (3 credit hours)
- SPA 4326 Hearing Disorders Across the Lifespan (3 credit hours)

### Required Courses—38 Credit Hours

- SPA 6204 Articulation/Phonological Disorders (3 credit hours)
- SPA 6211C Voice Disorders (4 credit hours)
- SPA 6225C Fluency Disorders (4 credit hours)

- SPA 6236 Motor Speech Disorders in Adults and Children (3 credit hours)
- SPA 6327 Aural Habilitation/Rehabilitation (3 credit hours)
- SPA 6410 Aphasia and Related Disorders (3 credit hours)
- SPA 6474 Assessment and Management of Culturally and Linguistically Diverse Populations (3 credit hours)
- SPA 6496 Language Disorders in Children and Adolescents (6 credit hours)
- SPA 6559 Augmentative and Alternative Communication (3 credit hours)
- SPA 6565 Feeding and Swallowing Disorders (3 credit hours)
- SPA 6805 Research in Communicative Disorders (3 credit hours)

### Clinical Practice—25 Credit Hours

Supervised clinical practice is an integral part of the graduate program in communication sciences and 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 complete three clinical practica at the UCF Communication Disorders Clinic and other affiliated facilities, as well as externships in schools, hospitals, rehabilitation centers, skilled nursing facilities, long-term care facilities, community clinics, and private practices. Through these practica and externships, students obtain a minimum of 400 clock hours of supervised clinical experience in accordance with the guidelines outlined by the American Speech-Language-Hearing Association (ASHA). Clinical practica and externships vary in length and do not always coincide with the academic calendar.

- SPA 6551 Foundations of Clinical Practice: Level I (1 credit hour)
- SPA 6503 Foundations of Clinical Practice: Level II (1 credit hour)
- SPA 6503L Foundations of Clinical Practice: Level II Application (1 credit hour, taken twice)
- SPA 6553L Clinical Practice in Differential Diagnosis in Speech and Language Pathology (1 credit hour, taken twice)



- SPA 6942 Foundations of Clinical Practice: Level III (1 credit hour)
- SPA 6942L Foundations of Clinical Practice: Level III Application (1 credit hour, taken twice)
- SPA 6943C Clinical Practice: Level I (3 credit hours)
- SPA 6946 Clinical Practice: Level II (3 credit hours)
- SPA 6946 Clinical Practice: Level III (10 credit hours)

### Thesis Option—9 Credit Hours

- SPA 6971 Thesis (6 credit hours)
- Elective (3 credit hours)

Students who elect this option complete a thesis in Communication Sciences and Disorders for 6 credit hours and select one elective in consultation with a faculty adviser..

Thesis hours cannot be counted toward graduation requirements if students fail to complete or successfully defend their thesis. For additional information, thesis students and their advisory committees should refer to the thesis requirements in the UCF Graduate Catalog.

### Nonthesis Option—9 Credit Hours

- Electives (9 credit hours)

Students who elect this option must select three electives in consultation with a faculty adviser.

### Comprehensive Examination

Passing a Departmental Comprehensive Examination is a requirement for completion of the master's degree in communication sciences and disorders.

### Equipment Fee

Students in the Communication Sciences and Disorders MA Program pay a \$90 equipment fee each semester they are enrolled.

### Additional Program Costs

The program requires students to pay additional, one-time fees for the required background checks,

clinic uniform, and registration for the academic/clinical competencies tracking system.

### Sample Plan of Study for the Traditional Program

The Traditional MA program requires a prescribed sequence of academic and clinical courses which may vary according to the semester of entry. The following is a sample plan of study.

#### Semester 1

- SPA 6204 Articulation/Phonological Disorders (3 credit hours)
- SPA 6211C Voice Disorders (4 credit hours)
- SPA 6496 Language Disorders in Children and Adolescents (6 credit hours)
- SPA 6551 Foundations of Clinical Practice: Level I (1 credit hour)

#### Semester 2

- SPA 6225C Fluency Disorders (4 credit hours)
- SPA 6410 Aphasia and Related Disorders (3 credit hours)
- SPA 6559 Augmentative and Alternative Communication Systems (3 credit hours)
- SPA 6503 Foundations of Clinical Practice: Level II (1 credit hour)
- SPA 6503L Foundations of Clinical Practice: Level II Application (enroll in two 1 credit hour classes)

#### Semester 3

- SPA 6327 Aural Habilitation/Rehabilitation (3 credit hours)
- SPA 6565 Feeding and Swallowing Disorders (3 credit hours)
- SPA 6805 Research in Communicative Disorders (3 credit hours)
- SPA 6942 Foundations of Clinical Practice: Level III (1 credit hour)
- SPA 6942L Foundations of Clinical Practice: Level III Application (enroll in two 1 credit hour classes)
- SPA 6553L Clinical Practice in Differential Diagnosis in Speech and Language Pathology (1 credit hour, taken twice)\*

**Semester 4**

- SPA 6236 Motor Speech Disorders in Adults and Children (3 credit hours)
- SPA 6474 Assessment and Management of Culturally and Linguistically Diverse Populations (3 credit hours)
- SPA 6943C Clinical Practice: Level I (3 credit hours)
- Elective (3 credit hours)

**Semester 5**

- SPA 6946 Clinical Practice: Level II (3 credit hours)
- Elective (3 credit hours)
- Elective (3 credit hours)

**Semester 6**

- SPA 6946 Clinical Practice: Level III (10 credit hours)

\*SPA 6553L must be taken in two semesters during either the third, fourth or fifth semesters.

**Independent Learning**

All students in the Master of Arts in Communication Sciences and Disorders program engage in independent learning through inquiry, dialogue, and practice. Experiences such as client case studies, scholarly reviews, research projects, clinical practica and externships provide students independent learning opportunities to attain knowledge, skills, and professional behaviors. In capstone externships, students bridge university classroom and clinic lessons to real-world educational and health-related settings.

**APPLICATION REQUIREMENTS**

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score (verbal, quantitative, and written) taken within the last five years.

- Three letters of recommendation, preferably two from former professors. Letters of recommendation cannot be one year older than the application deadline.
- A letter of intent describing educational background, professional experiences, future goals, and how you will embody and uphold the ASHA Code of Ethics (<http://www.asha.org/code-of-ethics/>) in your professional career.
- A resume.

The program only accepts one application from each prospective student per application deadline. Applicants must choose to apply to either summer or fall.

Admission to the Communication Sciences and Disorders program is granted on a competitive basis. Thirty-five (35) students are admitted each semester. Meeting the minimum admission requirements does not guarantee admission to the program. The recent class statistics are listed on the Graduate Program Profile webpage. Additionally, t

he program reserves the right to deny admission or dismiss a student after admission to the program if, in the judgment of the faculty, the student fails to demonstrate and/or uphold the ASHA Code of Ethics (<http://www.asha.org/code-of-ethics/>) during coursework and/or practice in the field. A background check is required for all new students during their first semester in the program.

**Application Deadlines**

Communication Sciences and Disorders MA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Feb 1	Oct 1	Feb 1
Traditional Track				
International Applicants	Dec 15	Dec 15	Jul 1	Nov 1
Traditional Track				
International Transfer Applicants	Dec 15	Dec 15	Jul 1	Nov 1
Traditional Track				

**CONTACT INFO**

**Linda I Rosa-Lugo EdD**  
 Associate Professor  
 csdgraduate@ucf.edu  
 Telephone: 407-823-4798  
 HPA2 101

# Accelerated BA/BS- MA Track

## TRACK DESCRIPTION

The Department of Communication Sciences and Disorders offers an Accelerated BA/BS to MA Track for highly qualified UCF undergraduate majors in communication sciences and disorders that enables them to complete a master's degree in one less semester than students in the Traditional Track. The program is intended for those interested in working with children and adults who have communication disorders. Once students complete the BA/BS, they must apply and be admitted to the master's degree program and follow a prescribed sequence of academic and clinical courses.

The Communication Sciences and Disorders program strives to educate students to become successful practitioners in the field of speech-language pathology. To that end, the American Speech-Language-Hearing Association (ASHA) Code of Ethics is re-enforced throughout the academic curriculum. Students who violate the ASHA Code of Ethics may be subject to academic sanctions or dismissed from the program.

The College of Education also offers the Communication Sciences and Disorders track in PhD in Education. For more information, please visit the graduate catalog.

## CURRICULUM

### Total Hours Required:

**72** Credit Hours Minimum beyond the Bachelor's Degree

The Department of Communication Sciences and Disorders offers an Accelerated BA/BS to MA program for highly qualified undergraduate majors in communication sciences and disorders. Undergraduate students enroll in 16 credit hours of graduate-level courses while completing the bachelor's degree. This enables students to achieve a master's degree in the UCF Department of Communication Sciences and Disorders in one less semester.

Up to 16 credit hours of approved 6000-level courses, with grades of "B" (3.0) or better, may be counted toward the BA/BS and MA degrees.

Additional requirements include:

- Adopting the most current catalog for students changing degree programs.
- Earning at least a "B" (3.0) in each undergraduate and graduate course to be counted toward the major.
- Being assessed tuition and fees at the graduate rate for graduate courses.

## Undergraduate Requirements

The Shared Courses below replace:

- SPA 4400 Language Disorders Across the Life Span
- SPA 4476 Speech Disorders Across the Life Span
- SPA 4478 Multicultural Aspects of Communication Disorders and Differences
- SPA 4803 Research Methods in Communication Sciences and Disorders
- SPA 4870 Capstone Course
- one restricted elective in the undergraduate curriculum

## Shared Courses

- SPA 6204 Articulation/Phonological Disorders (3 credit hours)
- SPA 6410 Aphasia and Related Disorders (3 credit hours)
- SPA 6496 Language Disorders in Children and Adolescents (6 credit hours)
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- SPA 6805 Research in Communicative Disorders (3 credit hours)

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### Clinical Practice—25 Credit Hours

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### Thesis Option—9 Credit Hours

- SPA 6971 Thesis (6 credit hours)
- Elective (3 credit hours)

Students who elect this option complete a thesis in Communication Sciences and Disorders for 6 credit hours and select one elective in consultation with a faculty adviser.

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Passing a Departmental Comprehensive Examination is a requirement for completion of the master's degree in communication sciences and disorders.

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### Additional Program Costs

The program requires students to pay additional, one-time fees for the required background checks,

clinic uniform, and registration for the academic/clinical competencies tracking system.

## APPLICATION REQUIREMENTS

The Accelerated B.A./B.S. to M.A. track in Communication Sciences and Disorders allows highly qualified University of Central Florida undergraduate majors in Communication Sciences and Disorders 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 Accelerated Track either in the last semester of their sophomore year or the first semester of their junior year.

Applicants must submit a hard copy (paper) application for the bachelor's program directly to the Department of Communication Sciences and Disorders. Please contact the department for the appropriate application form. An electronic application for admission to the graduate program must be submitted during the senior year of the bachelor's program.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- 3.7 GPA or higher in communication sciences and disorders course work earned at the University of Central Florida.
- Official, highly competitive GRE score taken within the last five years.
- Three letters of recommendation from faculty in the department.
- Résumé.
- A letter of intent describing educational background, professional experiences, future goals, and how you will embody and uphold the ASHA Code of Ethics (<http://www.asha.org/code-of-ethics/>) in your professional career.

A formal admission decision for the master's program will be made following receipt of the bachelor's degree. Successful completion of the bachelor's degree does not guarantee admission to the master's program. The Communication Sciences and Disorders program reserves the right to deny admission or dismiss a student after

admission to the program if, in the judgment of the faculty, the student fails to demonstrate and/or uphold the ASHA Code of Ethics (<http://www.asha.org/code-of-ethics/>) in coursework or practice in the field. A background check is required for all new students during their first semester in the master's program.

## Application Deadlines

Accelerated BA/BS-MA Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Feb 1	Oct 1	Feb 1
International Applicants	Dec 15	Dec 15	Jul 1	Nov 1
International Transfer Applicants	Dec 15	Dec 15	Jul 1	Nov 1

## CONTACT INFO

### Linda I Rosa-Lugo EdD

Associate Professor  
 csdgraduate@ucf.edu  
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 HPA2 101



# Communication Science and Disorders Consortium Track

## TRACK DESCRIPTION

The Consortium track is designed specifically for students with a bachelor's degree in communication sciences and disorders or speech-language pathology and audiology who currently work in participating central Florida public school districts and have been providing speech and language services for at least one semester prior to application.

The goal of this program is to address the critical shortage of public school speech-language pathologists. It represents a cooperative effort between the UCF Department of Communication Sciences and Disorders and the Central Florida Public School Consortium. Participating school districts in the Central Florida Consortium are: Brevard, Citrus, Flagler, Lake, Marion, Orange, Osceola, Seminole, Sumter, and Volusia.

The Communication Sciences and Disorders program strives to educate students to become successful practitioners in the field of speech-language pathology. To that end, the American Speech-Language-Hearing Association (ASHA) Code of Ethics is re-enforced throughout the academic curriculum. Students who violate the ASHA Code of Ethics may be subject to academic sanctions or dismissed from the program.

## CURRICULUM

### Total Hours Required:

72 Credit Hours Minimum beyond the Bachelor's Degree

The Consortium track in the Communication Sciences and Disorders MA program consists of a minimum of 72 credit hours, including 38 credit hours of core academic courses, 9 credit hours of thesis or electives, and 25 credit hours of clinical practice. With regard to requirements for clinical practice, Consortium track students

typically complete the full-time clinical practice externship prior to the part-time externship. The full-time externship must be completed in a school setting that is different from the practitioner's regular assignment.

### Prerequisites

All students must complete at least 3 credit hours in statistics with a grade of "C" or better. Undergraduate course work in statistics is a prerequisite to SPA 6805 Research in Communicative Disorders.

### Required Courses—38 Credit Hours

- SPA 6204 Articulation/Phonological Disorders (3 credit hours)
- SPA 6211C Voice Disorders (4 credit hours)
- SPA 6225C Fluency Disorders (4 credit hours)
- SPA 6236 Motor Speech Disorders in Adults and Children (3 credit hours)
- SPA 6327 Aural Habilitation/Rehabilitation (3 credit hours)
- SPA 6410 Aphasia and Related Disorders (3 credit hours)
- SPA 6474 Assessment and Management of Culturally and Linguistically Diverse Populations (3 credit hours)
- SPA 6496 Language Disorders in Children and Adolescents (6 credit hours)
- SPA 6559 Augmentative and Alternative Communication (3 credit hours)
- SPA 6565 Feeding and Swallowing Disorders (3 credit hours)
- SPA 6805 Research in Communicative Disorders (3 credit hours)

### Clinical Practice—25 Credit Hours

Supervised clinical practice is an integral part of the graduate program in communication sciences and 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 complete three clinical practica at the UCF Communication Disorders Clinic and other affiliated facilities, as well as externships in schools, hospitals,

rehabilitation centers, skilled nursing facilities, long-term care facilities, community clinics, and private practices. Through these practica and externships, students obtain a minimum of 400 clock hours of supervised clinical experience in accordance with the guidelines outlined by the American Speech-Language-Hearing Association (ASHA). Clinical practica and externships vary in length and do not always coincide with the academic calendar.

- SPA 6551 Foundations of Clinical Practice: Level I (1 credit hour)
- SPA 6503 Foundations of Clinical Practice: Level II (1 credit hour)
- SPA 6503C Foundations of Clinical Practice: Level II Application (1 credit hour, taken twice)
- SPA 6553L Clinical Practice in Differential Diagnosis in Speech and Language Pathology (1 credit hour, taken twice)
- SPA 6942 Foundations of Clinical Practice: Level III (1 credit hour)
- SPA 6942L Foundations of Clinical Practice: Level III Application (1 credit hour, taken twice)
- SPA 6943C Clinical Practice: Level I (3 credit hours)
- SPA 6946 Clinical Practice: Level II (3 credit hours)
- SPA 6946 Clinical Practice: Level III (10 credit hours)

### **Thesis Option—9 Credit Hours**

- SPA 6971 Thesis (6 credit hours)
- Elective (3 credit hours)

Students who elect this option complete a thesis in Communication Sciences and Disorders for 6 credit hours and select one elective in consultation with a faculty adviser.

Thesis hours cannot be counted toward graduation requirements if students fail to complete or successfully defend the thesis. For additional information, thesis students and their advisory committees should refer to the thesis requirements in the UCF Graduate Catalog.

### **Nonthesis Option—9 Credit Hours**

- Electives (9 credit hours)

Students who elect this option must select three electives in consultation with a faculty adviser.

### **Comprehensive Examination**

Passing a Departmental Comprehensive Examination is a requirement for completion of the master's degree in communication sciences and disorders.

### **Equipment Fee**

Students in the Communication Sciences and Disorders MA Program pay a \$90 equipment fee each semester that they are enrolled.

### **Additional Program Costs**

The program requires students to pay additional, one-time fees for the required background checks, clinic uniform, and registration for the academic/clinical competencies tracking system.

### **Sample Plan of Study for the Consortium Program with a Nonthesis Option**

The Consortium Track requires a prescribed sequence of academic and clinical courses that may vary. Students must meet with the Master's Program Coordinator and Consortium Coordinator to devise a program of study. The following is a sample plan of study.

#### **Summer Semester 1**

- SPA 6204 Articulation/Phonological Disorders (3 credit hours)
- SPA 6211C Voice Disorders (4 credit hours)
- SPA 6496 Language Disorders in Children and Adolescents (6 credit hours)
- SPA 6551 Foundations of Clinical Practice: Level I (1 credit hour)

#### **Summer Semester 2**

- SPA 6225C Fluency Disorders (4 credit hours)
- SPA 6410 Aphasia and Related Disorders (3 credit hours)
- SPA 6559 Augmentative and Alternative Communication Systems (3 credit hours)
- SPA 6503 Foundations of Clinical Practice: Level II (1 credit hour)

- SPA 6503L Foundations of Clinical Practice: Level II Application (enroll in two 1 credit hour lab classes)

### Summer Semester 3

- SPA 6327 Aural Habilitation/Rehabilitation (3 credit hours)
- SPA 6565 Feeding and Swallowing Disorders (3 credit hours)
- SPA 6805 Research in Communicative Disorders (3 credit hours)
- SPA 6942 Foundations of Clinical Practice: Level III (1 credit hour)
- SPA 6942L Foundations of Clinical Practice: Level III Application (enroll in two 1 credit hour lab classes)
- SPA 6553L Clinical Practice in Differential Diagnosis in Speech and Language Pathology (1 credit hour, taken twice)\*

### Summer Semester 4

- SPA 6236 Motor Speech Disorders in Adults and Children (3 credit hours)
- SPA 6474 Assessment and Management of Culturally and Linguistically Diverse Populations (3 credit hours)
- SPA 6943C Clinical Practice: Level I (3 credit hours)
- Elective (3 credit hours)

### Semester 5 (Fall)

- SPA 6946 Clinical Practice: Level III (10 credit hours)

### Summer Semester 6

- SPA 6946 Clinical Practice: Level II (3 credit hours) Elective (3 credit hours)
- Elective (3 credit hours)

\*SPA 6553L must be taken in two semesters during either the third, fourth, or fifth semesters.

Students in the Consortium Track complete their full-time clinical practice externship in the fall after the fourth summer semester.

Please direct any questions to Dr. Linda I. Rosa-Lugo, UCF Consortium Coordinator, at (407) 823-4798 or [lrosalugo@ucf.edu](mailto:lrosalugo@ucf.edu).

## Independent Learning

All students in the master of arts in communication sciences and disorders program engage in independent learning through inquiry, dialogue, and practice. Experiences such as client case studies, scholarly reviews, research projects, clinical practica and externships provide students independent learning opportunities to attain knowledge, skills and professional behaviors. In capstone externships, students bridge university classroom and clinic lessons to real-world educational and health-related settings

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation. One of the three letters of recommendation must be from the district school administrator or program specialist of the Speech-Language Program of the employing school district, one from the school principal, and one from a former professor. Letters of recommendation cannot be one year older than the application deadline.
- A letter of intent describing educational background, professional experiences, future goals, and how you will embody and uphold the ASHA Code of Ethics in your professional career.
- Résumé.

Admission to the Communication Sciences and Disorders program is granted on a competitive basis. Meeting the minimum admission requirements does not guarantee admission to the program. The recent class statistics are listed on the Graduate Program Profile webpage. A background check is required for all new students during their first semester in the program.

The Communication Sciences and Disorders program reserves the right to deny admission or dismiss a student after admission to the program if, in the judgment of the faculty, the student fails

to demonstrate and/or uphold the ASHA Code of Ethics in coursework or in practice in the field.

### Application Deadlines

The Traditional Track admits students three times per year in the fall, spring, and summer. The Consortium Track admits students once per year in the summer.

Communication Science and Disorders Consortium Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants				Feb 1
Consortium Track candidates may apply for summer admission only.				
International Applicants				Nov 1
Consortium Track candidates may apply for summer admission only.				
International Transfer Applicants				Dec 15
Consortium Track candidates may apply for summer admission only.				

### CONTACT INFO

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 HPA2 101

# Computer Engineering MSCpE

- Accelerated BS to MS Track

## PROGRAM DESCRIPTION

The Computer Engineering MSCpE degree offers programs in a number of technical (research) areas, such as Computer Networks and Computer Security (CNCS), Computer Systems and VLSI Design (CS/VLSI), Intelligent Systems and Machine Learning (ISML), and Software Systems and Algorithms (SSA). All programs offer a thesis option and a nonthesis option, as well as an Accelerated BS to MS program. Students in the program receive a broad background in the various technical areas, while specializing in a research area of their interest.

The specific research areas that each one of the EECS faculty focuses on can be found at the School of EECS website ([www.eecs.ucf.edu](http://www.eecs.ucf.edu)).

## CURRICULUM

The master’s program offers both thesis and nonthesis options in four technical specialization areas. The thesis option requires 30 credit hours of courses that includes 24 credit hours of formal coursework, exclusive of thesis and research, plus 6 credit hours of thesis. The nonthesis option requires 30 credit hours of coursework with at least 24 credit hours of formal coursework and a possibility of 6 credit hours of Independent Study (XXX 6908) based on the availability of interested faculty.

### Total Hours Required:

**30** Credit Hours Minimum beyond the Bachelor’s Degree

The master’s program offers both thesis and nonthesis options in four technical specialization areas. The thesis option requires 30 credit hours of courses that includes 24 credit hours of formal coursework, exclusive of thesis and research, plus 6 credit hours of thesis. The nonthesis option requires 30 credit hours of coursework with at least 24 credit hours of formal coursework and a possibility of

6 credit hours of Independent Study (XXX 6908) based on the availability of interested faculty.

## Articulation Courses

Undergraduate articulation courses are required for students with bachelor's degrees in fields other than Computer Engineering. In general, all students must have completed the following undergraduate courses (or their equivalents in an accredited BSCpE program) before admission to our graduate program. Students who have taken these courses must complete the articulation courses listed below, plus all prerequisites, that they require. Grades of "B" or higher must be obtained in each articulation course. Articulation courses are not eligible for inclusion on a student's Graduate Program of Study.

- EEE 3342C: Digital Systems
- EEL 3801: Computer Organization
- COP 3502: Computer Science I
- COP 3503: Computer Science II

Plus choose ONE of the following:

- COP 4331: Processes for Object-Oriented Development
- EEL 4768C: Computer Architecture
- EEL 4781: Computer Communications Networks

## Elective Courses—24 Credit Hours

There are no required courses within a specialization area. However, all students (thesis and nonthesis) must choose at least 24 credit hours of formal courses, excluding research-related courses and independent study (XXX 6908), which emphasize their specialization area. Courses from outside specialization areas could also be chosen if the student's adviser approves such a Program of Study.

The Program of Study (POS) form must be approved by an adviser in the selected specialization area no later than the end of the second semester after admission. The program of study must meet all the university requirements specified in the graduate catalog and must also receive departmental-level and college-level approval.

## Specialization Areas

The Computer Engineering Program supports a number of specialization areas. These specialization areas are (in alphabetical order): Computer Networks and Computer Security (CNCS), Computer Systems and VLSI Design (CS/VLSI), Intelligent Systems and Machine Learning (ISML), and Software Systems and Algorithms (SSA).

In each one of these areas there is a suggested list of courses. Students are also allowed to take courses from the suggested list of courses in areas other than their specialization area, but the majority of their courses should be chosen from courses in their specialization area.

### *Computer Networks and Computer Security (CNCS)*

- CDA 5106 Advanced Computer Architecture (3 credit hours)
- CDA 5110 Parallel Processing (3 credit hours)
- CDA 6530 Performance Models of Computers and Networks (3 credit hours)
- CGS 5131 Computer Forensics I: Seizure and Examination of Computer Systems (3 credit hours)
- CNT 5008 Computer Communication Network Architecture (3 credit hours)
- CNT 6418 Computer Forensics II: Network Security, Intrusion Detection, and Forensics Analysis (3 credit hours)
- CNT 6519 Wireless Security and Forensics (3 credit hours)
- CNT 6707 Advanced Computer Networks (3 credit hours)
- COP 5537 Network Optimization (3 credit hours)
- COP 5611 Operating Systems (3 credit hours)
- CAP 6133 Advanced Topics in Computer Security and Forensics (3 credit hours)
- CAP 6135 Malware and Software Vulnerability Analysis (3 credit hours)
- COP 6525 Distributive Processing of Digital Evidence (3 credit hours)
- COT 5405 Theory and Analysis of Algorithms (3 credit hours)
- EEE 5542 Random Processes I (3 credit hours)



- EEL 5780 Wireless Networks (3 credit hours)
- EEL 5881 Software Engineering I (3 credit hours)
- EEL 6762 Performance Analysis of Computer and Communication Systems (3 credit hours)
- EEL 6785 Computer Network Design (3 credit hours)
- EEL 6788 Advanced Topics in Wireless Networks (3 credit hours)
- EEL 6883 Software Engineering II (3 credit hours)
- EEL 6897 Software Development for Real-Time Engineering Systems (3 credit hours)

***Computer Systems and Very Large Scale Integration (CS/VLSI)***

- CDA 5106 Advanced Computer Architecture I (3 credit hours)
- CDA 5110 Parallel Architecture and Algorithms (3 credit hours)
- CDA 6107 Parallel Computer Architecture (3 credit hours)
- CDA 6938 Multi-Core Architecture and Programming (3 credit hours)
- COP 5537 Network Optimization (3 credit hours)
- COT 6415 Complexity of Parallel Computation (3 credit hours)
- EEE 5390 Full Custom-VLSI Design (3 credit hours)
- EEL 5704 Computer Aided Logical Design (3 credit hours)
- EEL 5722C Field Programmable Gate Array (FPGA) Design (3 credit hours)
- EEL 6762 Performance Analysis of Computer and Communication Systems (3 credit hours)
- EEE 6327 Design of Video Coding Systems (3 credit hours)
- ECM 6308 Current Topics in Parallel Processing (3 credit hours)

***Intelligent Systems and Machine Learning (ISML)***

- CAP 5055 AI for Game Programming (3 credit hours)

- CAP 5512 Evolutionary Computation (3 credit hours)
- CAP 5610 Machine Learning (3 credit hours)
- CAP 5636 Advanced Artificial Intelligence (3 credit hours)
- CAP 6545 Machine Learning Methods for Bioinformatics (3 credit hours)
- CAP 6616 Neuro-Evolution and Generative Developmental Systems (3 credit hours)
- CAP 6640 Computer Understanding of Natural Language (3 credit hours)
- CAP 6671 Intelligent Systems: Robots, Agents and Humans (3 credit hours)
- CAP 6675 Complex Adaptive Systems (3 credit hours)
- CAP 6676 Knowledge Representation (3 credit hours)
- EEL 5825 Pattern Recognition (3 credit hours)
- EEL 5874 Expert Systems and Knowledge Engineering (3 credit hours)
- EEL 6769 Parallel Knowledge Processing Systems (3 credit hours)
- EEL 6812 Introduction to Neural Networks (3 credit hours)
- EEL 6875 Autonomous Agents (3 credit hours)
- EEL 6876 Current Topics in Artificial Intelligence (3 credit hours)
- EEL 6878 Modeling and Artificial Intelligence (3 credit hours)

***Software Systems and Algorithms (SSA)***

- CAP 6XXX Biological Databases and Bioinformatics Tools (3 credit hours)
- CAP 6515 Algorithms in Computational Biology (3 credit hours)
- CGS 5131 Computer Forensics I (3 credit hours)
- CGS 5131 Computer Forensics I: Seizure and Examination of Computer Systems (3 credit hours)
- CNT 6418 Computer Forensics II: Network Security, Intrusion Detection, and Forensics Analysis (3 credit hours)
- CAP 5510 Bioinformatics (3 credit hours)

- CAP 6133 Advanced Topics in Computer Security and Computer Forensics (3 credit hours)
- CAP 6545 Machine Learning Methods for Bioinformatics (3 credit hours)
- CEN 5016 Software Engineering (3 credit hours)
- CEN 6075 Formal Specification of Software Systems (3 credit hours)
- COP 5021 Program Analysis (3 credit hours)
- COP 5711 Parallel and Distributed Database Systems (3 credit hours)
- COP 6730 Transaction Processing (3 credit hours)
- COP 6731 Advanced Database Systems (3 credit hours)
- COT 5310 Formal Languages and Automata (3 credit hours)
- COT 5405 Design and Analysis of Algorithms (3 credit hours)
- COT 6410 Computational Complexity (3 credits)
- COT 6417 Algorithms on Strings and Sequences (3 credit hours)
- COT 6600 Quantum Computing (3 credit hours)
- COT 6602 Introduction to Quantum Information Theory (3 credit hours)
- EEL 5881 Software Engineering I (3 credit hours)
- EEL 6883 Software Engineering II (3 credit hours)

### Thesis Option—6 Credit Hours

- EEL 6971 Thesis (6 credit hours)

The thesis option requires 24 credit hours of formal coursework in one of the specialization areas and the completion of 6 credit hours of thesis.

Additional requirements are as follows:

- Courses must be chosen from the suggested list of courses for the student's chosen specialization area
- No more than 6 credits of thesis (XXX 6971) will be counted toward the degree requirement
- Fifteen credit hours (including EEL 6971 Thesis) must be 6000-level courses

- Thesis students who are full time must continue to enroll in three credit hours of thesis coursework each semester until the thesis requirement is satisfied, even if they take more than the required 6 credit hours of thesis. However, only 6 credit hours of thesis will count toward the degree requirement.

The College of Engineering and Computer Science requires that all thesis defense announcements are approved by the student's adviser and posted on the college's website and on the university-wide Events Calendar at the College of Graduate Studies website at least two weeks before the defense date.

### Nonthesis Option—6 Credit Hours

The nonthesis option is especially suitable for part-time students. Nonthesis students must complete 6 credit hours of electives in addition to the 24 credit hours of formal coursework described above. If desired by the student and approved by the student's adviser a total of 6 credit hours can be Independent Study (XXX 6908).

- Electives (6 credit hours)

### Portfolio Requirement

Students are required to complete a culminating experience. The culminating experience for nonthesis MS students is submission of their portfolio of activities by the course Withdrawal Date of the semester prior to their intended graduation. The portfolio requirements are listed on the EECS website at [www.eecs.ucf.edu](http://www.eecs.ucf.edu).

### Transfer Credits

Graduate students with a bachelor's degree in Computer Engineering from UCF may transfer up to 9 credit hours of 5000-level or higher coursework, with grades of "B" or higher, toward the MSCpE degree. Alternatively, a maximum of 9 credit hours may be transferred of graduate work conducted elsewhere from an accredited institution.

### Equipment Fee

Students in the Computer Engineering MSCpE program pay a \$23 equipment fee each semester that they are enrolled. Part-time students pay \$11 per semester.

## Independent Learning

The independent learning requirement is met by successful completion of a master’s thesis or an approved portfolio of activities for nonthesis students.

## APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening ([www.cecs.ucf.edu/prescreen](http://www.cecs.ucf.edu/prescreen)) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor’s degree in computer engineering or a closely related discipline.
- Official, competitive GRE score taken within the last five years.
- Two letters of recommendation.
- Résumé.
- Statement of educational, research, and professional career objectives.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting applicants into their research program.

Additional courses may also be required to correct any course deficiencies. Students should contact the graduate program director for further information.

## Application Deadlines

Computer Engineering MSCpE	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

## CONTACT INFO

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 HEC 439B

# Accelerated BS to MS Track

## TRACK DESCRIPTION

The accelerated undergraduate/graduate program in Computer Engineering allows highly qualified undergraduate majors in Computer engineering to begin taking graduate-level courses that will count toward their master's degree while completing their baccalaureate degree program.

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.

## CURRICULUM

### Total Hours Required:

**30** Credit Hours Minimum beyond the Bachelor's Degree

The accelerated undergraduate/graduate program in Computer Engineering allows highly qualified undergraduate majors in Computer Engineering to begin taking graduate-level courses that will count toward their master's degree while completing their baccalaureate degree program. Up to 12 credit hours of approved 5000- and 6000-level courses of grades "B" (3.0) or better may be counted toward the BS and MS degrees.

### Undergraduate Requirements

Application must be made no earlier than the semester after completing 60 credit hours toward the bachelor's degree yet before completing 90 credit hours toward the bachelor's degree. A minimum GPA of 3.5 is required prior to admission.

### Graduate Requirements

A complete application to the master's degree program must be received before admission deadlines of the semester in which the master's enrollment will commence. Students must satisfy all requirements for master's admission in

order to continue in the program once the bachelor's degree is awarded. At the time of application for master's admission, students must specify BSMS-Accelerated as the master's degree track on their graduate admission application for the MSCpE program.

### Equipment Fee

Students in the Computer Engineering MSCpE program pay a \$23 equipment fee each semester that they are enrolled. Part-time students pay \$11 per semester.

### Independent Learning

The independent learning requirement is met by successful completion of a master's thesis or an approved portfolio of activities for nonthesis students.

## APPLICATION REQUIREMENTS

The **Accelerated BS to MS program** in Computer Engineering allows highly qualified University of Central Florida undergraduate majors in Computer Engineering 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 accelerated program in either their junior year or senior year. If the student has a degree in the discipline, but were not previously part of this accelerated program, then they should apply to the **Computer Engineering Program** without a track selection. Additional information about this track may be located at: <http://www.cecs.ucf.edu/academics/acceleratedbstomsprograms>.

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening ([www.cecs.ucf.edu/prescreen](http://www.cecs.ucf.edu/prescreen)) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants

who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in computer engineering or a closely related discipline.
- Official, competitive GRE score taken within the last five years.
- Two letters of recommendation.
- Résumé.
- Statement of educational, research, and professional career objectives.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Additional courses may also be required to correct any course deficiencies. Students should contact the graduate program director for further information.

## Application Deadlines

Accelerated BS to MS Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

## CONTACT INFO

### Kalpathy Sundaram PhD

Professor

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HEC 439B

# Computer Science MS

## PROGRAM DESCRIPTION

The Master of Science in Computer Science program provides students with an in-depth education geared toward meeting the needs of business and industry in Florida and throughout the United States. The program's 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.

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, bioinformatics, computational biology, computational geometry, computer and network security, computer architecture, computer forensics, computer graphics, computer networks, image processing, 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, machine learning, mixed and virtual reality, mobile computing, modeling and simulation, multimedia systems, natural language processing, neural networks, parallel and distributed processing, performance evaluation, programming languages, quantum computing, semantic web, software agents, software engineering, and VLSI systems. The program has a long and respected history, having conferred MS degrees since 1968.

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.

## CURRICULUM

The Computer Science MS program offers both a thesis and nonthesis option with each option requiring a minimum of 30 credit hours beyond the bachelor's degree. At least half of these hours



must be at the 6000 level. Both options require 12 credit hours of required core courses and thesis students must take 12 credit hours of electives and a minimum of 6 credit hours of thesis. Nonthesis students must take 18 credit hours of electives and complete a culminating experience as determined by the program's graduate committee. Students must receive a 3.0 GPA or higher in all courses.

### Total Hours Required:

**30** Credit Hours Minimum beyond the Bachelor's Degree

### Prerequisites

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:

- EEL 4768C Computer Architecture
- COP 4020 Programming Languages I
- COP 4600 Operating Systems
- COT 4210 Discrete Computational Structures

### Required Courses—12 Credit Hours

- CDA 5106 Advanced Computer Architecture I (3 credit hours)
- COT 5405 Design and Analysis of Algorithms (3 credit hours)
- Any approved pair of Computer Science courses from a single research area that includes at least one 6000-level course (6 credit hours)

Examples of approved pairs include (but not limited to):

- Operating Systems (OS) area (COP 5611 and COP 6614)
- Computer Graphics area (CAP 5725 and CAP 6701)
- Machine Learning area (CAP 5610 or CAP 5512 and CAP 6616 or CAP 6545)
- Artificial Intelligence (AI) area (CAP 5636 and CAP 6640 or CAP 6676)
- Computer Vision area (CAP 5415 and CAP 6411 or CAP 6412 or CAP 6419 or CAP 6835)

- Parallel Architecture area (CDA 5110 and CDA 6107)
- Network area (CNT 5008 and CNT 6707)
- Software Engineering area (CEN 5016 and CEN 6081)
- Database area (COP 5711 and COP 6731), etc.

The above list is only meant to provide some examples and is not comprehensive.

### Elective Courses—12 Credit Hours

All students, both thesis and nonthesis, are required to complete 12 credit hours of electives that are selected after consultation with the student's adviser.

- Electives (12 credit hours)

At least half of the credit hours of both thesis and nonthesis students must be at the 6000 level. Furthermore, at least two 6000-level Computer Science formal courses (6 credit hours) must be taught by EECS faculty, exclusive of independent study and directed research and a total of 24 credit hours of formal courses must be earned exclusive of thesis. Approval may be granted for no more than 6 credit hours of electives to be taken outside of Computer Science, and such approval must occur prior to taking these outside courses.

### Thesis Option—6 Credit Hours

- XXX 6971 Thesis (6 credit hours; prefix determined by disciplinary area of your thesis adviser, e.g., CAP, CDA, CEN, COP or COT 6971)

Six credits of thesis are required with the professor who directs the student's thesis. The thesis experience is expected to span two semesters. Thesis students who are full-time must continue to enroll in 3 credit hours of thesis course work until the thesis requirement is satisfied, even if it goes beyond the minimum of 6 credit hours of thesis. Students are required to prepare and defend a formal thesis in accordance with university requirements.

### Nonthesis Option—6 Credit Hours

The nonthesis option requires at least 6 additional credit hours of electives beyond the 12 credit hours of electives described above.

- Electives (6 credit hours)

In addition, nonthesis students are required to engage in a culminating experience as determined by the program's graduate committee. Students in the nonthesis option may not take more than 6 credit hours of independent study (6908) and/or directed research (XXX 6918).

## Equipment Fee

Students in the Computer Science MS program pay a \$75 equipment fee each semester that they are enrolled. Part-time students pay \$37.50 per semester.

## Independent Learning

The Independent Learning Requirement is met by successful completion of a master's thesis or an approved set of research-based classes for nonthesis students.

## APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening ([www.cecs.ucf.edu/prescreen](http://www.cecs.ucf.edu/prescreen)) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.

- Official, competitive GRE score taken within the last five years.
- Resume
- Letters of recommendation (encouraged but not required)

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

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 upper-division undergraduate courses listed under the Articulation Section of the Curriculum Information. Applicants may choose to demonstrate their knowledge of these courses by taking these courses as non-degree seeking and scoring "B" or better in all of them.

## Application Deadlines

Computer Science MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

## CONTACT INFO

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 HEC 212

# Conservation Biology - Professional Science Masters

## PROGRAM DESCRIPTION

The Professional Science Master's (PSM) in Conservation Biology provides students with high-quality training in evaluating, understanding, and providing solutions to society's conservation challenges. The program will teach relevant skills, provide expertise to meet STEM workforce needs, while preparing graduates for careers in the public and private sectors. By producing experts who are able to synthesize research expertise, critical thinking, and leadership in conservation biology, this program has the potential to transform both the professionals who work in the discipline as well as the industry of conservation biology. The PSM in Conservation Biology will combine traditional biological sciences with business, communications, law, politics, urban and regional planning, and environmental engineering. The goal of the program is to produce biologists capable of working within the broader arena of environmental politics, law, and economics, to communicate issues of conservation biology to diverse audiences; and to recommend solutions to policy makers, the general public, and industry.

The degree program will consist of 40 hours of graduate-level instruction, which includes a core of coursework in Conservation Biology and provides an overview of the core disciplines within this interdisciplinary field. A required professional development component involves structured and mentored biology courses that will help students develop presentation skills and provide them with the tools to write effective proposals and enhance their professional abilities. An interdisciplinary selection of professional courses will be enhanced through internship experiences offered by partnering industries, government agencies, and organization.

## CURRICULUM

The Professional Science Master's (PSM) in Conservation Biology is based on courses and an internship (total = 40 credit hours). Courses include a range of subjects in addition to graduate biology courses (e.g., business, economics, law, policy). This broad background plus the internship experience prepares PSM graduates for employment related to conservation biology.

### Total Hours Required:

**40-45** Credit Hours Minimum beyond the Bachelor's Degree

The Conservation Biology Professional Science Master's program consists of 40 credit hours, including at least 16 credit hours of core and restricted elective courses in conservation biology, 14 credit hours of professional development (including courses in communications, mathematics, philosophy, politics, public administration, and business management), and 10 credit hours of internship and research analysis. Students in this program will normally enroll in 18 credit hours (fall/spring) in the first year and 22 credit hours (fall/spring/summer) in the second year. The program is designed to be completed in two years.

With graduate program coordinator approval, a maximum of 6 credit hours of directed research (6918) or independent study (6908) may be used to meet degree requirements.

### Required Courses—9-10 Credit Hours

#### Conservation Biology Core—7-8 Credit Hours

Students must take two of the following courses.

- PCB 5045 Conservation Biology (4 credit hours)
- PCB 6556 Conservation Genetics (3 credit hours)
- PCB 6480C Quantitative Conservation Biology (4 credit hours)

### Professional Development Core—2 Credit Hours

Students must take the following two required courses.

- PCB 6095 Professional Development in Biology I (1 credit hour)
- PCB 6096 Professional Development in Biology II (1 credit hour)

### Electives—21-25 Credit Hours

#### Conservation Biology Restricted Electives—9-13 Credit Hours

Students should select one course from each of the following subject areas.

##### *General Biology*

- ENY 5006C Entomology (4 credit hours)
- PAZ 5235 Zoo and Aquarium Biology Management (3 credit hours)
- PCB 6365 Environmental Physiology (3 credit hours)
- PCB 6727 Comparative Animal Physiology (3 credit hours)
- ZOO 6520 Behavioral Ecology (3 credit hours)
- ZOO 5456C Ichthyology (4 credit hours)
- ZOO 5463C Herpetology (4 credit hours)
- ZOO 5475L Field Ornithology (3 credit hours)
- ZOO 5486 Mammalogy (4 credit hours)

##### *Ecology*

- BOT 6623C Plant Ecology (4 credit hours)
- BSC 5332 Invasion Biology (3 credit hours)
- PCB 5435C Marine Conservation Biology (4 credit hours)
- PCB 6035C Wetland Ecology (4 credit hours)
- PCB 6046 Advanced Ecology (5 credit hours)
- PCB 6053C Restoration Ecology (4 credit hours)
- PCB 6328C Landscape Ecology (4 credit hours)
- PCB 6466 Methods in Experimental Ecology (3 credit hours)

#### *Evolutionary Biology, Applied Mathematics, and Genetics*

- BSC 5824 Biogeography (4 credit hours)
- MAP 5117 Mathematical Modeling (3 credit hours)
- MAP 6938 Mathematical Biology (4 credit hours)
- PCB 6675C Evolutionary Biology (4 credit hours)
- PCB 6677 Molecular Evolution (3 credit hours)

#### Professional Development Restricted Electives—12 Credit Hours

Students should select at least 12 credit hours of courses from the list below or comparable courses as approved by the Biology graduate coordinator.

- COM 6047 Interpersonal Support in the Workplace (3 credit hours)
- EDS 6100 Leadership (3 credit hours)
- INR 6352 Global Environmental Politics (3 credit hours)
- GEB 5516 Technological Entrepreneurship (3 credit hours)
- GEB 6115 Entrepreneurship (3 credit hours)
- GEB 6116 Business Plan Preparation (3 credit hours)
- GEB 6518 Strategic Innovation (3 credit hours)
- MAN 6244 Organizational Behavior (1.5 credit hours)
- MAN 6448 Conflict Resolution and Negotiation (3 credit hours)
- MAN 6305 Human Resources Management (3 credit hours)
- PAD 5041 Ethics and Values in Public Administration (3 credit hours)
- PAD 5336 Introduction to Urban Planning (3 credit hours)
- PAD 5338 Land Use and Planning Law (3 credit hours)
- PAD 5850 Grant and Contract Management (3 credit hours)
- PAD 6142 Nonprofit Organizations (3 credit hours)

- PAD 6353 Environmental Program Management Research (3 credit hours)
- PAD 6397 Managing Emergencies and Crises (3 credit hours)
- PHM 5035 Environmental Philosophy (3 credit hours)
- PUP 6201 Urban Environmental Policy (3 credit hours)
- PUP 6208 Environmental Politics (3 credit hours)
- PUP 6247 Continuing Issues in Environmental Politics (3 credit hours)

### **Internship and Research Report—10 Credit Hours**

- PCB 6946 Internship in Conservation Biology (8 credit hours total)
- BSC 6909 Research Report (2 credit hours)

### **Culminating Experience**

All students will participate in an internship, take an oral examination, and present a final research report. If a student fails the oral examination or the final research report, a minimum of four weeks must pass before re-examination. The comprehensive exam and/or the final research report may be taken a maximum of two times. During their internship, students will play an active role in implementing active adaptive management, including monitoring components, on public and private lands.

A committee of biologists will oversee the oral examination, during which the students will be evaluated on their knowledge of key core concepts in conservation biology. Finally, their understanding, writing, and analytical skills will be evaluated by means of a written research report and departmental presentation that is based on their internship experience and completed in their final semester.

### **Independent Learning**

The internship program and the research report serve as the independent learning experiences for this program.

## **APPLICATION REQUIREMENTS**

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation that address the applicant's capabilities and likelihood of success as an M.S. student.
- Résumé
- A written statement of past experience and research, area of interest, and immediate and long-range goals
- A computer-based score of 230 (or 89 internet-based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.

Applicants do not need to 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.

Applicants who do not have a competitive GPA or GRE may occasionally be accepted if there is other convincing evidence of potential for high achievement and success. For U.S. applicants, GRE scores can be self reported prior by the submission deadline if the official score cannot be received in time. Admission will be conditional upon receipt of the official score. Applicants failing to satisfy minimum program criteria should submit a GRE Subject (Advanced) Biology Test score at or above the 50th percentile.



## Application Deadlines

Conservation Biology - Professional Science Masters	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jan 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

## CONTACT INFO

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BL 401

# Counselor Education MA

- Mental Health Counseling Track
- School Counseling Track

## PROGRAM DESCRIPTION

The College of Education and Human Performance offers CACREP accredited graduate degrees in Counselor Education (with tracks in School Counseling and Mental Health Counseling) and Marriage and Family Therapy. The School Counseling track is designed for the student who plans to seek certification as a professional school counselor in Pre-K through post-secondary school settings. The Mental Health Counseling track prepares students for licensure in mental health counseling and to practice in agencies, private practice, and other settings. The Marriage and Family Therapy program prepares students for licensure in marriage and family therapy and to practice in agencies, private practice, and other settings.

As part of the program's pragmatic approach to preparing counselors, in addition to classroom studies, all students complete clinical experiences in the UCF Community Counseling Clinic and field-based experiences in the community. The UCF Community Counseling Clinic serves as a hub for training and research in the program, with graduate students providing services to over one thousand individuals each year through child, adult, couples, and family counseling.

Because the programs in Counselor Education (Mental Health Counseling and School Counseling Tracks) and Marriage and Family Therapy are CACREP accredited and prepare students for licensure and/or certification as professional counselors, students must be formally admitted to the program in order to take any program area courses. There are three exceptions to this restriction: (1) non-degree seeking students interested in exploring the program prior to admission may take MHS 5005 Introduction to the Counseling Profession, pending available space after admitted students have been placed in the course; (2) individuals who already possess a master's degree (or above) and are taking courses toward a certificate program (e.g., Play Therapy,

Marriage, Couple and Family Therapy, or Career Counseling) may take the necessary courses upon being accepted into the appropriate certificate program, and; (3) individuals who already possess a master's degree (or above) and are taking courses toward Florida licensure in MHC or MFT may take MHS 6070 Diagnosis and Treatment, MHS 6450 Addiction Counseling, and/or MHS 6470 Human Sexuality and Relationships, pending available space after admitted students have been placed in those courses.

The Master of Arts in Counselor Education--School Counseling track is a state-approved initial teacher preparation program that is subject to any change in the Florida Administrative Code (State Board of Education Rule 6A-5.066). Students enrolled in this program should remain in close contact with their adviser to keep informed of any program changes implemented to comply with new state requirements.

**Please note** that Marriage and Family Therapy is a separate degree but still part of the Counselor Education program.

## APPLICATION REQUIREMENTS

Applicants must choose a track (i.e., School Counseling or Mental Health Counseling) in this program. Applicants for the Marriage and Family Therapy program should apply to that program by selecting this program alphabetically from the listing. Tracks may have different requirements.

## CONTACT INFO

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Education 322C

# Mental Health Counseling Track

## TRACK DESCRIPTION

The CACREP Accredited Mental Health Counseling track in the Counselor Education MA program prepares students for licensure in mental health counseling and to practice in agencies, private practice, and other settings.

As part of the program's pragmatic approach to preparing counselors, in addition to classroom studies, all students complete clinical experiences in the UCF Community Counseling Clinic and field-based experiences in the community. The UCF Community Counseling Clinic serves as a hub for training and research in the program, with graduate students providing services to more than 1,000 individuals a year through child, adult, couples, and family counseling.

## CURRICULUM

### Total Hours Required:

**63** Credit Hours Minimum beyond the Bachelor's Degree

The CACREP accredited Mental Health Counseling track in the Counselor Education MA program prepares students for Florida licensure in mental health counseling. As such, students must be formally admitted to the program in order to take program area courses. The program requires a minimum of 63 credit hours beyond the bachelor's degree, including 6 credit hours of core courses, 39 credit hours of specialization, 12 credit hours of professional clinical experiences, and 6 credit hours in either the thesis or nonthesis options.

### Required Courses—45 Credit Hours

#### Core—6 Credit Hours

- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)

**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 Foundations of Multicultural Counseling (3 credit hours)
- MHS 6450 Addictions Counseling (3 credit hours)
- MHS 6470 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 6347 Career Development (3 credit hours)
- Elective approved by adviser (3 credit hours)

**Thesis Option—6 Credit Hours**

- EGC 6971 Thesis (6 credit hours)

**Nonthesis Option—6 Credit Hours**

- Two approved electives (6 credit hours)

**Professional Clinical Experience—12 Credit Hours**

The clinical experiences are comprised of two sections, Practicum and Internship. Both are experiential in nature and are independent learning activities that take place in authentic settings in which students must apply, reflect on, and refine knowledge and skills acquired in the program to their work with actual clients. The practicum is conducted on campus in the UCF Community Counseling Clinic and the Internship is conducted at various clinical sites around central Florida.

- MHS 6803 Practicum in Counselor Education (3 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)\*\*

\* Prerequisites for MHS 6803 Practicum in Counselor Education are the following: MHS 5005, MHS 6070, MHS 6400, MHS 6401, MHS 6500, and MHS 6702. A minimum of 27 credit hours are required prior to beginning the Practicum.

\*\* The prerequisite for MHS 6830 Counseling Internship is a “B” or better in all sections of MHS 6803.

**Additional Program Requirements**

- Achieve at least a GPA of 3.0 in counseling specialization courses.
- Achieve a “B” or better in MHS 5005, MHS 6401, MHS 6803, and MHS 6830.
- Complete a total of 1100 hours of clinical experiences, 200 of which will be in the UCF Community Counseling Clinic and 900 of which are field-based experiences in the community.
- Complete a portfolio and receive approval by Counselor Education faculty.
- Complete a professional exit examination.
- Given the experiential, competency, and performance-based nature of the courses taken by Counselor Education students, students are limited to taking a maximum of three (3) courses per semester. However, if students believe that they can verify a need to take more than three courses, they should consult with their academic advisor for additional guidelines. Students who have not received prior approval and who register for more than three courses per semester will be administratively dropped from any courses over the maximum allowed.

**Independent Learning**

Practica and internships are independent learning activities that take place in authentic settings in which students must apply, reflect on, and refine knowledge and skills acquired in the program. The internship experience provides students with

the practical experience of providing hands-on services for a variety of clients and presenting concerns. Such services may include, but are not limited to, individual, couple, family, and group counseling with children, adolescents, and adults. Client concerns range from developmental and relational concerns to more severe pathology.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken in the last five years.
- Three letters of recommendation.
- Résumé.
- Goal statement.

The Master of Arts in Counselor Education--Mental Health Counseling track 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 and Human Performance 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.

A formal interview is required and will be scheduled after the College of Education and Human Performance admission requirements are met. Interviews are conducted on the second Friday in March and the second Friday in October. Attendance at the program orientation session at 4:30 p.m. on the Thursday before classes begin, in the semester to which the student applied, is mandatory.

## Application Deadlines

Mental Health Counseling Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Feb 15	Sep 15	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Feb 15	Sep 1	

## CONTACT INFO

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ED 322T

# School Counseling Track

## TRACK DESCRIPTION

The CACREP Accredited School Counseling track in the Counselor Education MA program is designed for students who have a bachelor's degree in a discipline other than education and plan to seek certification as a professional school counselor in pre-K through postsecondary school settings.

As part of the program's pragmatic approach to preparing counselors, in addition to classroom studies, all students complete clinical experiences in the UCF Community Counseling Clinic and field-based experiences in the community. The UCF Community Counseling Clinic serves as a hub for training and research in the program, with graduate students providing services to more than 1,000 individuals a year through child, adult, couples and family counseling.

The Master of Arts in Counselor Education-School Counseling track is a state-approved initial teacher preparation program that is subject to any change in the Florida Administrative Code (State Board of Education Rule 6A-5.066). Students enrolled in Counselor Education-School Counseling should remain in close contact with their advisor to keep informed of any programmatic changes implemented to comply with new state requirements.

## CURRICULUM

### Total Hours Required:

**60** Credit Hours Minimum beyond the Bachelor's Degree

The CACREP accredited School Counseling track in the Counselor Education MA program prepares students for certification as a professional school counselor. As such, students must be formally admitted to the program in order to take any program area courses. The program requires a minimum of 60 credit hours beyond the bachelor's degree, including 6 credit hours of core courses, 30 credit hours of specialization, 9 credit hours of DOE required certification courses, 9 credit hours of

professional clinical experiences, and 6 credit hours in either the thesis or nonthesis options.

## Required Courses—45 Credit Hours

### Core—6 Credit Hours

- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)

### 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 Foundations of Multicultural Counseling (3 credit hours)
- MHS 6500 Group Procedures and Theories in Counseling (3 credit hours)
- SPS 6815 Legal and Ethical Issues in Professional School Counseling (3 credit hours)
- SDS 6347 Career Development (3 credit hours)
- SDS 6411 Counseling with Children and Adolescents (3 credit hours)
- SDS 6620 Coordination of Comprehensive Professional School Counseling Programs (3 credit hours)

### DOE Certification—9 Credit Hours

- TSL 5085 Teaching Language to Minority Students in K-12 Classrooms (3 credit hours)
- RED 5147 Developmental Reading (3 credit hours)
- EDG 6415 Principles of Instruction and Classroom Management (3 credit hours)

### Thesis Option—6 Credit Hours

- EGC 6971 Thesis (6 credit hours)

### Nonthesis Option—6 Credit Hours

- Two approved electives (6 credit hours)



## Professional Clinical Experience—9 Credit Hours

The clinical experiences are comprised of two sections, Practicum and Internship. Both are experiential in nature and are independent learning activities that take place in authentic settings in which students must apply, reflect on, and refine knowledge and skills acquired in the program to their work with actual clients and students. The practicum is conducted on campus in the UCF Community Counseling Clinic and the internship is conducted at various schools around central Florida.

- MHS 6803 Practicum in Counselor Education (3 credit hours)\*
- SDS 6947 Internship in Professional School Counseling (3 credit hours)\*\*
- SDS 6947 Internship in Professional School Counseling (3 credit hours)\*\*

\* Prerequisites for MHS 6803 Practicum in Counselor Education are the following: MHS 5005, MHS 6400, MHS 6401, MHS 6500, and SPS 6815. A minimum of 27 credit hours are required prior to beginning the practicum.

\*\* The prerequisites for SDS 6947 Internship in Professional School Counseling include SPS 6815 and a “B” or better in MHS 6803.

## Additional Program Requirements

- Achieve at least a GPA of 3.0 in counseling specialization courses.
- Achieve a “B” or better in MHS 5005, MHS 6401, MHS 6803 and SDS 6947.
- Complete a total of 700 hours of clinical experiences, 100 of which will be in the UCF Community Counseling Clinic and 600 of which are field-based experiences in a school setting.
- Complete a portfolio and receive approval by Counselor Education faculty.
- Complete a professional exit examination.
- Given the experiential, competency, and performance-based nature of the courses taken by Counselor Education students, students are limited to taking a maximum of three (3) courses per semester. However, if students believe that they can verify a need to take more than three courses, they should consult with their advisor for additional guidance. Students

who have not received prior approval and who register for more than three courses per semester will be administratively dropped from any courses over the maximum allowed.

## Independent Learning

Practica and internships are independent learning activities that take place in authentic settings in which students must apply, reflect on, and refine knowledge and skills acquired in the program. The internship experience provides students with the practical experience of facilitating a comprehensive, professional school counseling program in a school setting (e.g., leading classroom guidance lessons, facilitating group counseling, providing individual counseling services).

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken in the last five years.
- Three letters of recommendation.
- Résumé.
- Goal statement.

In accordance with Florida Statute 1004.4 and State Board of Education Rule 6A-5.066, admission to this graduate-level, state-approved initial teacher preparation program also requires: 1) having previously passed all four parts of the College Level Academic Skills Test (CLAST) or 2) passing all four parts of the Florida Teacher Certification Examination/General Knowledge Test (FTCE/GKT). This provision applies to all applicants to the MA program, School Counseling track.

The Master of Arts in Counselor Education-School Counseling track 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 and Human Performance 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.

A formal interview is required and will be scheduled after the College of Education and Human Performance admission requirements are met. Interviews are conducted on the second Friday in March and the second Friday in October. Attendance at the program orientation session at 4:30 p.m. on the Thursday before classes begin, in the semester to which the student applied, is mandatory.

### Application Deadlines

School Counseling Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Feb 15	Sep 15	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Feb 15	Sep 1	

### CONTACT INFO

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 ED 322N

# Counselor Education MEd

- School Counseling Track

## PROGRAM DESCRIPTION

The Counselor Education Master of Education (MEd) program was created for students who have a bachelor's degree in education and have completed course work for teaching certification and plan to seek certification in school counseling.

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.

## APPLICATION REQUIREMENTS

Applicants must choose a track in this program. Track(s) may have different requirements.

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 Education 322C

# School Counseling Track

## TRACK DESCRIPTION

As part of the program's pragmatic approach to preparing counselors, in addition to classroom studies, all students complete clinical experiences in the UCF Community Counseling Clinic and field-based experiences in the community. The UCF Community Counseling Clinic serves as a hub for training and research in the program, with graduate students providing services to over one thousand individuals a year through child, adult, couples and family counseling.

## CURRICULUM

### Total Hours Required:

**51 Credit Hours** Minimum beyond the Bachelor's Degree

The CACREP accredited School Counseling track in the Counselor Education MEd program prepares students for certification as a professional school counselor. As such, students must be formally admitted to the program in order to take any program area courses. The program requires a minimum of 51 credit hours beyond the bachelor's degree, including 6 credit hours of core courses, 30 credit hours of specialization, 9 credit hours of professional clinical or practicum experience, and 6 credit hours in either the thesis or nonthesis options.

### Prerequisite

Students must have or be eligible for the Florida Professional Teaching Certificate in Counselor Education.

### Required Courses—36 Credit Hours

#### Core—6 Credit Hours

- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)

#### 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 Foundations of Multicultural Counseling (3 credit hours)
- MHS 6500 Group Procedures and Theories in Counseling (3 credit hours)
- SPS 6815 Legal and Ethical Issues in Professional School Counseling (3 credit hours)
- SDS 6347 Career Development (3 credit hours)
- SDS 6411 Counseling with Children and Adolescents (3 credit hours)
- SDS 6620 Coordination of Comprehensive Professional School Counseling Programs (3 credit hours)

#### Thesis Option—6 Credit Hours

- EGC 6971 Thesis (6 credit hours)

#### Nonthesis Option—6 Credit Hours

- Two approved electives (6 credit hours)

### Professional Clinical Experience—9 Credit Hours

The clinical experiences are comprised of two sections, Practicum and Internship. Both are experiential in nature and are independent learning activities that take place in authentic settings in which students must apply, reflect on, and refine knowledge and skills acquired in the program to their work with actual clients and students. The practicum is conducted on campus in the UCF Community Counseling Clinic and the internship is conducted at various schools around central Florida.

- MHS 6803 Practicum in Counselor Education (3 credit hours)\*
- SDS 6947 Internship in Professional School Counseling (3 credit hours)\*\*
- SDS 6947 Internship in Professional School Counseling (3 credit hours)\*\*

\*Prerequisites for MHS 6803 Practicum in Counselor Education are the following: MHS 5005, 6400, 6401, 6500, and SPS 6815. A minimum of 27 credit hours are required prior to beginning the practicum.

\*\*The prerequisites for SDS 6947 Internship in Professional School Counseling include SPS 6815 and a “B” or better in MHS 6803.

### Additional Program Requirements

- Achieve at least a GPA of 3.0 in counseling specialization courses.
- Achieve a “B” or better in MHS 5005, MHS 6401, MHS 6803 and SDS 6947.
- Complete a total of 700 hours of clinical experiences, 100 of which will be in the UCF Community Counseling Clinic and 600 of which are field-based experiences in a school setting.
- Complete a portfolio and receive approval by Counselor Education faculty.
- Complete a professional exit examination.
- Given the experiential, competency, and performance-based nature of the courses taken by Counselor Education students, students are limited to taking a maximum of three (3) courses per semester. However, if students believe that they can verify a need to take more than three courses, they should consult with their academic advisor for guidance on the procedure. Students who have not received prior approval and who register for more than three courses per semester will be administratively dropped from any courses over the maximum load.

### Independent Learning

Practica and internships are independent learning activities that take place in authentic settings in which students must apply, reflect on, and refine knowledge and skills acquired in the program. The internship experience provides students with the practical experience of facilitating a comprehensive, professional school counseling program in a school setting (e.g., leading classroom guidance lessons, facilitating group counseling, providing individual counseling services).

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken in the last five years.
- Current Florida Professional Teaching Certificate in Counselor Education or have completed all the requirements for that Professional Teaching Certificate.
- Three letters of recommendation.
- Résumé.
- Goal statement.

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 MEd program at the Counselor Education-School Counseling track (M.Ed.) at the discretion of the program director.

The Master of Education in Counselor Education-School Counseling track 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 and Human Performance 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.

A formal interview is required and will be scheduled after the College of Education and Human Performance admission requirements are met. Interviews are conducted on the second Friday in March and the second Friday in October. Attendance at the program orientation session at 4:30 p.m. on the Thursday before classes begin, in the semester to which the student applied, is mandatory.

## Application Deadlines

School Counseling Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Feb 15	Sep 15	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Feb 15	Sep 1	

## CONTACT INFO

### Glenn Lambie PhD

Associate Professor  
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 ED 322N

# Criminal Justice MS

- Professional Track
- Research Track

## PROGRAM DESCRIPTION

The Master of Science in Criminal Justice offers two plans of study. The first option, a professional track, is designed to meet the needs of students preparing for careers in the field of criminal justice. The curriculum focuses on the traditional issues such as management, administrative and criminal justice theory, as well as basic research methods and descriptive statistics. Other core and elective courses focus on the complex and changing world in which criminal justice systems operate in this country and abroad. This plan of study is designed to equip future criminal justice leaders to be critical consumers of criminal justice research.

The second option, a research track, is designed for students who plan careers as research analysts or who plan to enroll in a PhD program when they complete the master's program. This program of study also focuses on traditional criminal justice issues but places greater emphasis on advanced research design and quantitative methods. This program of study is designed to prepare future analysts and criminal justice scholars who will produce criminal justice research.

The benefits of an advanced graduate degree in criminal justice are self evident and are being increasingly recognized by employers in central Florida and throughout the United States. Federal, state, and local criminal justice agencies benefit from an informed and innovative workforce that is aware of the complex issues and problems faced by the system regardless of geographic locale. Furthermore, graduates of the program are grounded in the latest theories and learn how these theories affect each individual or organization within the system.

## CURRICULUM

The Criminal Justice MS program offers two tracks: Professional MS and Research MS. The Professional MS requires 36 credit hours, including 21 credit hours of core courses, 6 credit hours



of restricted electives, 9 credit hours of general electives, and a final written examination within the Proseminar or capstone course. The Research MS requires 30 credit hours, including 18 credit hours of core courses, 3 credit hours of restricted electives, 9 credit hours of general electives, and completion of a research study within the Advanced Research Methods course.

### **Total Hours Required:**

**30-36** Credit Hours Minimum beyond the Bachelor's Degree

Independent learning is demonstrated throughout the curriculum through the process of inquiry and dialogue. Tangible projects such as advanced research projects, scholarly papers, internships, practicum, and presentations at professional conferences also contribute to the self development of our students. Both curricula focus on reviewing and analyzing contemporary research within the profession in order to help students acquire knowledge and skills pertaining to research-based best practices.

## **APPLICATION REQUIREMENTS**

Applicants must choose a track in this program. Track(s) may have different requirements.

## **CONTACT INFO**

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Telephone: 407-823-2603  
HPA 1, RM 311

# **Professional Track**

## **TRACK DESCRIPTION**

The Professional track of the Master of Science in Criminal Justice program is designed to meet the needs of students preparing for careers in the field of criminal justice. The curriculum focuses on criminal justice research, theory, policy and organizational administration. The 36 credit program of study is designed to prepare future criminal justice organizational leaders to be critical consumers of research and to equip them to summarize and present organizational information.

Students will be exposed to a wide variety of issues and problems within the discipline. They will study crime trends, theories of criminal justice, criminal justice organizations, and regulations governing criminal justice administration. They will analyze the administration of justice within the United States, including critical problems facing law enforcement, courts, and corrections, and develop the ability to summarize and present information relevant to those problems.

The benefits of an advanced graduate degree in criminal justice are self evident and are being increasingly recognized by employers in central Florida and throughout the United States. Federal, state, and local criminal justice agencies benefit from an informed and innovative workforce that is aware of the complex issues and problems faced by the system regardless of geographic locale. Furthermore, graduates of the program are grounded in the latest theories and learn how these theories affect each individual or organization within the system.

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit [www.intl.ucf.edu](http://www.intl.ucf.edu). If you have any questions, please consult the International Services Center at 407-823-2337.

## CURRICULUM

### Total Hours Required:

36 Credit Hours Minimum beyond the Bachelor's Degree

The Criminal Justice Professional MS program requires a minimum of 36 credit hours beyond the bachelor's degree, including a minimum of 21 credit hours of core courses, 6 credit hours from restricted electives and 9 credit hours of unrestricted electives selected in consultation with an adviser.

### Required Courses—21 Credit Hours

#### Core—18 Credit Hours

- CCJ 5015 The Nature of Crime (3 credit hours)
- CCJ 5456 The Administration of Justice (3 credit hours)
- CCJ 6704 Research Methods in Criminal Justice (3 credit hours)
- CCJ 6106 Policy Analysis in Criminal Justice (3 credit hours)
- CCJ 6118 Criminal Justice Organizations (3 credit hours)
- CCJ 6489 Professionalism in Criminal Justice Organization (3 credit hours)

#### Capstone—3 Credit Hours

The Proseminar in Criminal Justice serves as the capstone experience for the program and the culminating learning experience.

- CJE 6718 Proseminar in Criminal Justice (3 credit hours)

Students must achieve a grade of "B" (3.0) or higher in every course listed under core requirements and in the capstone course (CJE 6718).

#### Elective Courses—15 Credit Hours

The combined total of Restricted and Unrestricted 5000 level electives may not exceed 12 credit hours.

#### Restricted—6 Credit Hours

Select two from the following courses.

- CJC 5020 Foundations of Corrections (3 credit hours)

- CJE 5021 Foundations of Law Enforcement (3 credit hours)
- CJJ 6020 Juvenile Justice (3 credit hours)
- CJL 6568 Law and Social Control (3 credit hours)
- CJL 6520 American Criminal Courts (3 credit hours)

#### Unrestricted—9 Credit Hours

- Electives (9 credit hours)

Students should consult with the Criminal Justice advisor for approval of general electives outside of the Criminal Justice program prior to enrolling. Criminal Justice courses at the 5000 or 6000 level, not used toward core or restricted electives, are preapproved general electives.

### Comprehensive Examination

A final exit examination and survey are required of all students completing the Criminal Justice Master's program. These requirements will be completed online in students' last semester.

### Independent Learning

Independent learning is demonstrated throughout the curriculum through the process of inquiry and dialogue. Tangible projects such as research projects, scholarly papers, internships, practicum, and presentations at professional conferences also contribute to the self development of our students. The final culminating experience for those enrolled in the professional track results in students taking and satisfactorily completing the Proseminar in Criminal Justice course (CJE 6718), which serves as the capstone course for the degree program.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Statement of career goals, one or two pages indicating how the Criminal Justice MS degree will enhance the applicant's career goals and expectations of the graduate program.

- Résumé (no longer than two pages).
- Two letters of recommendation. Letters should be from professors or professional references who can attest to the applicant’s ability to succeed in graduate coursework and his or her work ethic.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

**CONTACT INFO**

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 HPA 311

Priority admission consideration will be given to applicants with the strongest credentials. Applicants with a minimum 3.0 GPA who do not provide GRE scores or do not have a competitive GRE score will only be considered on a space available basis.

Students should be aware that admission to any graduate program is granted on a competitive basis. There may be cases where students meeting minimum requirements are denied admission based on such factors as program capacity or academic discretion. Applicants not meeting the minimum 3.0 GPA standards may be considered as candidates for limited and competitive “provisional” admissions. However, only students with complete applications (final transcript, résumé, letters of recommendation and statement of career goals) will be reviewed under this special admission category. GRE scores are required for all applicants pursuing provisional admissions.

**Application Deadlines**

Professional Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

# Research Track

## TRACK DESCRIPTION

The Research track of the Master of Science in Criminal Justice program is designed for students who plan careers as criminal justice research analysts or who plan to enroll in a PhD program when they complete the master's program. The 30 credit hour program of study emphasizes research activity while simultaneously providing essential grounding in criminal justice theory and training in social science research methods. Students completing this program of study will be prepared to produce criminal justice research that contributes improved understanding of crime and justice issues facing communities.

The benefits of an advanced graduate degree in criminal justice are self evident and are being increasingly recognized by employers in central Florida and throughout the United States. Federal, state, and local criminal justice agencies benefit from an informed and innovative workforce that is aware of the complex issues and problems faced by the system regardless of geographic locale. Furthermore, graduates of the program are grounded in the latest theories and learn how these theories affect each individual or organization within the system.

## CURRICULUM

### Total Hours Required:

**30** Credit Hours Minimum beyond the Bachelor's Degree

The Criminal Justice MS program in Research requires a minimum of 30 credit hours beyond the bachelor's degree, including a minimum of 18 credit hours of core courses, 3 credit hours from restricted electives and 9 credit hours of advanced curriculum that is selected in consultation with the graduate adviser.

### Required Courses—18 Credit Hours

- CCJ 5015 The Nature of Crime (3 credit hours)
- CCJ 5456 The Administration of Justice (3 credit hours)

- CCJ 6704 Research Methods in Criminal Justice (3 credit hours)
- CCJ 6702 Advanced Research Methods in Criminal Justice (3 credit hours)
- CCJ 6706 Quantitative Methods and Computer Utilization in Criminal Justice (3 credit hours)
- CCJ 6714 Advanced Quantitative Methods in Criminal Justice (3 credit hours)

Students must achieve a grade of "B" (3.0) or higher in every required course listed above.

### Elective Courses—12 Credit Hours

The combined total of restricted and unrestricted 5000 level electives may not exceed 9 credit hours.

#### Restricted—3 Credit Hours

Select one from the following.

- CJC 5020 Foundations of Corrections (3 credit hours)
- CJE 5021 Foundations of Law Enforcement (3 credit hours)
- CJJ 6020 Juvenile Justice (3 credit hours)
- CJL 6568 Law and Social Control (3 credit hours)
- CJL 6520 American Criminal Courts (3 credit hours)

#### Unrestricted—9 Credit Hours

- Electives (9 credit hours)

Students should consult with the Criminal Justice advisor for approval of general electives outside of the Criminal Justice program prior to enrolling. Criminal Justice courses at the 5000 or 6000 level, not used towards core or restricted electives, are preapproved general electives.

### Comprehensive Examination

A final exit examination and survey are required of all students completing the Criminal Justice Master's program. These requirements will be completed online in students' last semester.

### Independent Learning

Independent learning is demonstrated throughout the curriculum through the process of inquiry

and dialogue. Tangible projects such as research projects, scholarly papers, internships, practicum, and presentations at professional conferences also contribute to the self development of our students.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE scores taken within the last five years in the Verbal, Quantitative and Analytical Writing sections.
- Statement of career goals, one or two pages indicating how the Criminal Justice MS degree will enhance the applicant’s career goals, expectations of the graduate program, and research interests.
- Résumé (no longer than two pages).
- Two letters of recommendation. Letters should be from professors or professional references who can attest to the applicant’s ability to succeed in graduate coursework and his or her work ethic.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Students should be aware that admission to any graduate program is granted on a competitive basis. There may be cases where students meeting minimum requirements are denied admission based on such factors as program capacity or academic discretion. Applicants not meeting the minimum 3.0 GPA standards may be considered as candidates for limited and competitive “provisional” admissions. However, only students with complete applications (final transcript, résumé, letters of recommendation and statement of career goals) will be reviewed under this special admission category. GRE scores are required for all applicants pursuing provisional admissions.

## Application Deadlines

Research Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

## CONTACT INFO

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# Digital Forensics MS

## PROGRAM DESCRIPTION

**The Digital Forensics MS program will consider international applicants only on a case-by-case basis. Please contact the Program Director, Dr. Lang at [slang@ucf.edu](mailto:slang@ucf.edu) to determine eligibility before submitting an official application.**

The Digital Forensics master's degree is a collaborative effort between various UCF academic departments (Electrical Engineering and Computer Science, Forensic Science of Chemistry, Criminal Justice, and Legal Studies) and the National Center for Forensic Science (NCFS). NCFS is both a national center, as part of the National Institute of Justice Forensic Research Network of the Department of Justice, and a state Type II Center. NCFS is based in the UCF College of Sciences as a forensic science research center and is housed in Orlando's Research Park, adjacent to UCF.

The mission of the MSDF degree program is to provide a quality graduate education in science and practices of digital forensics, to prepare the students for digital forensics jobs, and to prepare the students for a lifetime of learning. The objectives of the program include the following:

- To give MSDF graduates the knowledge and skills necessary to participate as an effective team member or team leader in digital evidence investigations
- To prepare MSDF graduates for professional careers in digital forensics examination, forensic tool development, tool verification and validation, security and forensics administration
- To prepare MSDF graduates with the knowledge and skills to pursue advanced studies and research in computer technology or computer crime-related disciplines
- To equip MSDF graduates with the communication skills, both oral and written, to become an effective problem solver as well as an effective communicator as an expert forensic examiner and expert witness

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours

during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit [www.intl.ucf.edu](http://www.intl.ucf.edu). If you have any questions, please consult the International Services Center at 407-823-2337.

## CURRICULUM

The Digital Forensics MS degree is comprised of 30 hours of study beyond the bachelor's degree with required, intensive specialization in topics related to digital forensics. The degree program prepares students, including working professionals, who will pursue the degree on a part-time basis to gain the knowledge and skills required to work as an examiner in the field. The program may also be taken by those who have an interest in scientific applications and research in the field, and who would like to continue to a doctoral degree program or law school after completion.

### Total Hours Required:

**30** Credit Hours Minimum beyond the Bachelor's Degree

The program requires the completion of 30 credit hours beyond the bachelor's degree and offers both a thesis option (6 credit hours) or an opportunity to complete an internship (6 credit hours) in the field. At least one half of the credit hours must be at the 6000 level.

### Articulation

Undergraduate articulation courses may be required for students with BS and/or MS degrees in fields other than a computer-related field. The articulation courses will be determined by the graduate program director. Students without a computer-related degree must be versed in basic computing and networking knowledge and skills, including computer (PC) hardware, computer operating systems, and computer networking. Appropriate job- or training-related experience may be a suitable substitution, the suitability of which will be determined by the admissions committee. Courses taken to correct deficiencies cannot be used to satisfy minimum degree requirements. Some advanced elective courses require a programming background, specifically in C and C++, computer architecture, and parallel programming.

## Required Courses—12 Credit Hours

- CGS 5131 Computer Forensics I: Seizure and Examination of Computer Systems (3 credit hours)
- CHS 5504 Topics in Forensic Science (3 credit hours)
- CIS 6207 The Practice of Digital Forensics (3 credit hours)
- CNT 6418 Computer Forensics II: Network Security, Intrusion Detection and Forensic Analysis (3 credit hours)

## Restricted Elective Courses—12 Credit Hours

### *Computing Specialization*

Select two courses.

- CAP 6133 Advanced Topics in Computer Security and Computer Forensics (3 credit hours)
- CNT 6519 Wireless Security and Forensics (3 credit hours)
- CAP 6135 Malware and Software Vulnerability Analysis (3 credit hours)
- COP 6525 Distributed Processing of Digital Evidence (3 credit hours)
- CIS 6386 OS and File System Forensics (3 credit hours)
- CIS 6395 Incident Response Technologies (3 credit hours)

### *Criminal Justice Specialization*

Select one course.

- CCJ 6074 Investigative and Intelligence Analysis: Theory & Methods (3 credit hours)
- CCJ 6706 Quantitative Methods and Computer Utilization in Criminal Justice or ESI 5219 Engineering Statistics (3 credit hours)
- CJE 6688 Cybercrime and Criminal Justice (3 credit hours)

**Note:** Students can take additional Criminal Justice / Legal Study Courses as they fit into a student's research interest and approved Program of Study.

### *Forensic Science and Legal Studies Specialization*

Select one course.

- CHS 5596 Forensic Expert in the Courtroom (3 credit hours)
- CHS 5518 The Forensic Collection and Examination of Digital Evidence (3 credit hours)
- PLA 5587 Current Issues in Cyberlaw (3 credit hours)

## Thesis Option—6 Credit Hours

- CAP 6971 Thesis (6 credit hours)

The College of Engineering and Computer Science requires that all thesis defense announcements are approved by the student's advisor and posted on the college's website and on the Events Calendar at the College of Graduate Studies website at least two weeks before the defense date.

## Internship—6 Credit Hours

For those who would like real-world experience, an internship and additional elective should be taken to fulfill degree requirements.

- CAP 6946 or CET 6946 Graduate Internship (3 credit hours)
- Elective (3 credit hours; from the courses listed in the Restrictive Electives section above)

## Independent Learning

The Independent Learning Requirement is met by successful completion of a master's thesis or the program's internship/practicum experience.

## APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening ([www.cecs.ucf.edu/prescreen](http://www.cecs.ucf.edu/prescreen)) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Statement of educational, research, and professional career objectives.
- Résumé.
- Three letters of recommendation.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program. The GRE is not required for admission into this program.

## Application Deadlines

Digital Forensics MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants				
International Transfer Applicants				

## CONTACT INFO

### Sheau-Dong Lang PhD

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 HEC 339

# Digital Media MA

- Visual Language and Interactive Media Track

## PROGRAM DESCRIPTION

The Master of Arts in Digital Media—Visual Language and Interactive Media is a more generalist degree, appropriate for students looking to sharpen their skills and increase their understanding of digital media as applied interactive art.

This program teaches students about media theory and creative production using an interdisciplinary research framework drawn from a diverse array of academic disciplines such as art, computer science, english, film, folklore, music and psychology. The curriculum provides the theoretical and practical skills necessary to work both in individual and group settings.

The School of Visual Arts and Design faculty have extensive professional and academic experience in areas spanning film, video, multimedia, interactive and web design, human centered interactive design, exhibition and theme park design, simulation and training, game development, broadcast design and motion graphics, animation, visual language, immersive design environments, database design, e-commerce, and educational technology and community development.

## APPLICATION REQUIREMENTS

Applicants must choose the track in this program.

## CONTACT INFO

### Kelley Rasgaitis

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 Telephone: 407-235-3596  
 Center for Emerging Media, Rm 122C

# Visual Language and Interactive Media Track

## TRACK DESCRIPTION

In the Visual Language and Interactive Media track of the Digital Media MA program students explore new media in creative and research projects that foster a unique contribution characterized as innovative in approach.

This degree program builds on undergraduate knowledge to build a mature set of conceptual, theoretical, design, and technical skills needed to communicate stories and messages in a single discipline or in an interdisciplinary environment. The program has a nonthesis and a thesis option. The thesis option requires completion of a six-hour thesis project. Work on the thesis will extend the capabilities of interfaces and measure the effectiveness of storytelling, training, and communicating in the modern world. Students may be admitted on either a full-time or part-time basis.

This MA track is embedded in a rich environment of digital media work at UCF and in the surrounding community. The following are active areas of work at UCF:

- Digital media in instructional applications
- Experience design
- Interactive performance
- Serious games for training and education
- Information architecture for the World Wide Web
- Social and collaborative media design
- Cultural heritage preservation using new media

The School of Visual Arts and Design faculty have extensive professional and academic experience in areas spanning film, video, multimedia, interactive and web design, simulation and training, game development, broadcast design and motion graphics, animation, visual language, immersive design environments, database design, e-commerce, digital storytelling and educational technology and community development.

## CURRICULUM

### Total Hours Required:

36 Credit Hours Minimum beyond the Bachelor's Degree

During the first academic year, students take required courses as dictated by the student's plan of study and electives suggested by their adviser. The MA graduate program coordinator is the adviser for all nonthesis students. The coordinator is also the adviser for all thesis students until a Digital Media MA faculty mentor agrees to work with the student. The faculty mentor then becomes the student's graduate adviser.

In the second year, students who select the thesis option will complete core and required course work as well as thesis research. Thesis students must be accepted by a faculty member for supervision in order to carry out the required thesis study. Thesis option students are encouraged to begin this process immediately upon entering the program by meeting faculty who work in areas of interest complementary to the student's. Nonthesis option students will complete core, required course work and electives as recommended by the MA program coordinator.

Typically, students entering or continuing professional careers following the MA should select the nonthesis option. Those who plan to enter doctoral programs should select the thesis option.

### Required Courses—21 Credit Hours

- DIG 6647 Science and Technology of Dynamic Media (3 credit hours)
- DIG 5137 Information Architecture (3 credit hours)
- DIG 5487 Principles of Visual Language (3 credit hours)
- DIG 6432 Transmedia Story Creation (3 credit hours)
- DIG 6136 Design for Media (3 credit hours)
- DIG 6546 Previsualization and Concept Development (3 credit hours)
- DIG 6551 Applied Interactive Story (3 credit hours)

### Thesis Option—15 Credit Hours

- DIG 6825 Digital Media Research Methods (3 credit hours)
- DIG 6918 Directed Research (3 credit hours)
- DIG 6605 Physical Computing (3 credit hours)
- DIG 6971 Thesis/Research Report (6 credit hours)

Each candidate for the Master of Arts submits a thesis prospectus and preliminary bibliography on a topic selected in consultation with the adviser. The formal thesis is initiated by the preparation of a proposal that meets both departmental and university requirements for the thesis. Prior to enrollment into thesis credit hours, the adviser, in consultation with the student, designates a Thesis Committee to be further approved by the College Graduate Dean. This committee is chaired by the adviser and includes two or more additional faculty members from the School of Visual Arts and Design.

The members of the student's thesis committee judge the proposal as the preliminary step to beginning the thesis. This committee must approve the Thesis Proposal before academic credit can accrue.

The thesis is a formal written document. The introduction cites similar, related, and antecedent work. The body explains the purposes of the project, the method of its production, and any evaluation that was performed. The conclusion includes plans for future work. The thesis also includes an archival copy of the resulting creative product. Both the thesis and the creative product must be delivered in digital form, acceptable by the UCF library according to its standards for digital dissertations and theses.

### Thesis Defense

In addition to a written thesis, the final step in completing the thesis requirement is an oral defense before the thesis committee. Candidates must present their creative or research work and explain its creation in an oral defense. These presentations are made to the student's committee in a public meeting that other faculty and students may attend.

### Nonthesis Option—15 Credit Hours

Students selecting the nonthesis option are required to complete 6 additional credit hours of required courses and 9 credit hours of electives:

- DIG 6812 Digital Interaction for Informal Learning (3 credit hours)
- DIG 5565C Digital Asset Management (3 credit hours)
- Electives (9 credit hours)

Many graduate-level courses in the College of Arts and Humanities can be used as electives, based on an adviser-approved plan of study. In addition, other graduate courses may be used in place of those listed above, with permission of the adviser. These courses must be selected so as to ensure that at least one-half of the courses in the student's plan of study are taken at the 6000 level.

### Comprehensive Examinations

Digital Media MA students must take a Comprehensive Examination. The process is designed to evaluate both the students' basic knowledge and competencies, and their ability to synthesize and apply what they know in depth—that is, both the breadth and depth of student learning in the Program. It is not intended to test specific course content for which students have already been evaluated and graded. The exam is designed to test the student's ability to respond and substantiate the response in a professional and educated fashion.

The Comprehensive Examination consists of five general categories. Students answer four questions in a total maximum time of four hours. Students will be given the opportunity to select one question from any four of the five categories, i.e., 1. Technology and Theory: development, effects, uses; 2. Media history: New media, cinema, television;

### Independent Learning

Students who elect the thesis option engage in independent learning through the design and implementation of original research in the thesis process. Students who pursue the comprehensive exam option experience independent learning through their individual preparation for comprehensive exams. All students engage in independent learning in every Digital Media core



course. A research paper or project is required in each of these classes. The papers and projects provide independent learning by requiring students to design and carry out research projects and develop analytical papers, some of which are submitted to conferences and/or journals for peer review. Internships and independent studies are also common opportunities for independent learning in the Digital Media MA Program.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor’s degree in a media-related creative or technical field such as art, film, animation, theater, music, digital media, computer science, English or education in the arts.
- Official, competitive GRE score taken within the last five years.
- A written statement (not to exceed 250 words) describing the student’s personal goals, objectives, and research interests in seeking the degree.
- Three letters of recommendation from former professors or employers who can address applicant’s ability to undertake graduate-level courses.

Applicants will be notified if an interview is required.

Desirable background skills for this degree include computer and software literacy. Examples include mastery of Macintosh and PC workstations that are configured with a diverse range of hardware and software for production and editing of images and sound for stories and messages.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant’s abilities, past performance, recommendations, match of this program and faculty expertise to the applicant’s career/academic goals, the applicant’s potential for completing the degree, and the current applicant pool.

## Application Deadlines

Visual Language and Interactive Media Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

## CONTACT INFO

**Kelley Rasgaitis**

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Telephone: 407-235-3596

Center for Emerging Media, Rm 122C

# Educational Leadership MA

- Higher Education/Student Personnel Track
- Higher Education/Community College Education Track

## PROGRAM DESCRIPTION

The Master of Arts in Educational Leadership program is designed to prepare students for PK-12 school leadership positions and other education-related fields, and does not fulfill Florida state certification requirements. Three tracks offer programs of study in Higher Education/Student Personnel, Community College Education, and Student Athlete Support Services, all of which have different program admission and graduation requirements.

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit [www.intl.ucf.edu](http://www.intl.ucf.edu). If you have any questions, please consult the International Services Center at 407-823-2337.

## CURRICULUM

The Educational Leadership MA program requires a minimum of 30 credit hours beyond the bachelor's degree, including 9 credit hours of research and measurement courses and 21 credit hours of administration courses. The courses may be taken in any order the student wishes but the culminating Research Report (EDA 6909) must be taken last.

Students enrolled in the Florida state-approved MEd, EdS, or Modified Core programs in educational leadership may not take these online courses for credit unless approved by their educational leadership faculty adviser.

### Total Hours Required:

**30** Credit Hours Minimum beyond the Bachelor's Degree

The MA program does not fulfill state certification requirements.

### Required Courses—30 Credit Hours

#### Research and Measurement—9 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)
- EDA 6909 Research Report (3 credit hours)

#### Administration—21 Credit Hours

It is recommended that these courses be taken in the following sequence.

- EDA 6061 Organization and Administration of Schools (3 credit hours)
- EDS 6123 Educational Supervisory Practices I (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 6300 Community School Administration (3 credit hours)
- EDA 6931 Contemporary Issues in Educational Leadership (3 credit hours)

### Independent Learning

Students are required to successfully complete a research report. For more information, contact the graduate program director.

### Independent Learning

A research report is required.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Applicants may apply to the online MA or one of the two tracks offered within the MA in Educational Leadership. The track programs are not online programs and may have different requirements.

### Application Deadlines

Educational Leadership MA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

## CONTACT INFO

**Kenneth Murray JD, PhD**  
Associate Professor  
kenneth.murray@ucf.edu  
Telephone: 407-823-1468  
Education 222K

# Higher Education/ Student Personnel Track

## TRACK DESCRIPTION

The Higher Education/Student Personnel track in the Educational Leadership MA program 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. This track considers new applicants during fall and spring semesters only.

## CURRICULUM

### Total Hours Required:

**39** Credit Hours Minimum beyond the Bachelor's Degree

The Higher Education/Student Personnel track in the Educational Leadership MA program requires a minimum of 39 credit hours beyond the bachelor's degree, including six credit hours of core courses, 24 credit hours of specialization, three credit hours of electives, six credit hours of professional field experience, and passing a comprehensive exam at the end of studies.

The MA program does not fulfill state certification requirements.

### Required Courses—30 Credit Hours

#### 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)

#### Specialization—24 Credit Hours

Select 8 courses from the following list.

- EDH 6635 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 College 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)
- EDH 6105 Retention Strategies in Colleges and Universities (3 credit hours)

- Resumé.
- Personal statement explaining your past, present, and future involvement in events or activities related to your development in College Student Personnel.

An individual and group interview may be required. The Higher Education/Student Personnel track admits in fall and spring terms only.

### Application Deadlines

Higher Education/Student Personnel Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

### Elective Courses—3 Credit Hours

- Electives approved by adviser

### Professional Field Experience—6 Credit Hours

- EDH 6946 Higher Education Internship (3 credit hours)
- EDH 6947 Practicum in Student Personnel (3 credit hours)

### Independent Learning

Both an internship and practicum are required for completing the degree, in addition to a capstone seminar.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation, with one being from a staff, administrator, or faculty at a college or university familiar with your involvement or engagement in postsecondary education.

## CONTACT INFO

**Tom Owens PhD**  
 james.owens@ucf.edu  
 Telephone: 407-823-4280  
 Education 320D

# Higher Education/ Community College Education Track

## TRACK DESCRIPTION

The Higher Education/Community College Education track in the Educational Leadership MA program is designed for individuals planning to teach at that level and neither requires state teacher certification for admission nor prepares candidates for state teacher certification. This track considers new applicants during fall and spring semesters only; passing a comprehensive exam at the end of the program is a graduation requirement.

## CURRICULUM

### Total Hours Required:

**42** Credit Hours Minimum beyond the Bachelor's Degree

The Higher Education/Community College Education track in the Educational Leadership MA program is designed for individuals whose goal is to teach at the community college level. Every attempt is made to build the minimum required 18 hours of graduate-level content area 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 grades K-12. Successfully passing a comprehensive exam at the end of the program is a final graduation requirement.

### Required Courses—24 Credit Hours

Students in this track should consult with the Higher Education/Community College Education adviser regarding core requirements prior to registering for core courses.

- EDH 6053 The Community College in America (3 credit hours)
- EDH 6081 Contemporary Problems in the Community College (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 and Community College (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- IDS 6504 Adult Learning (3 credit hours)
- EDF 6401 Statistics for Educational Data (3 credit hours) **or** EDF 6432 Measurement and Evaluation in Education (3 credit hours)

## Elective Courses—18 Credit Hours

Courses must be approved by the student's adviser in one of the following disciplines:

- Art
- English
- Math
- Science
- Social Science

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken in the last five years.

## Application Deadlines

Higher Education/ Community College Education Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	



## CONTACT INFO

**Thomas Cox EdD**  
thomas.cox@ucf.edu  
Telephone: 407-823-6714  
ED 220Q

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# Student Athlete Support Services Track

## TRACK DESCRIPTION

The Student Athlete Support Services (SASS) Track in the Educational Leadership MA program prepares student support personnel for professional career positions working in athletic departments.

## CURRICULUM

**39 Credit Hours** Minimum beyond the Bachelor's Degree

The Student Athlete Support Services track in the Educational Leadership MA program requires a minimum of 39 credit hours beyond the bachelor's degree, including six credit hours of core courses, 27 credit hours of specialization, six credit hours of professional field experience, and passing a comprehensive exam at the end of studies.

The MA program does not fulfill state certification requirements.

## Required Courses - 33 Credit Hours

### 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)

### Specialization - 27 Credit Hours

- EDH 6635 Organization and Administration of Higher Education (3 credit hours)
- EDH 6065 History and Philosophy of 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 6047 Theories of College Student Development (3 credit hours)
- EDH 6XXX Athletics in the American University (3 credit hours)
- EDH 6XXX Academic Success and the Student Athlete (3 credit hours)
- EDH 6XXX The Socio - Historical Context of Adult Education (3 credit hours)

- Three letters of recommendation, with one being from a staff, administrator, or faculty at a college or university familiar with your involvement or engagement in postsecondary education.
- Resumé.
- Personal statement explaining your past, present, and future involvement in events or activities related to your development in Student Athlete Support Services.

An individual and group interview may be required. The Student Athlete Support Services track admits in fall and spring terms only.

### Professional Field Experience - 6 Credit Hours

- EDH 6946 Higher Education Internship (3 credit hours)
- EDH 6947 Practicum in Student Athlete Support Services (3 credit hours)

### Independent Learning

Both an internship and practicum are required for completing the degree, in addition to a capstone seminar.

## APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.

### Application Deadlines

All application materials must be submitted by the appropriate deadline listed below.

Student Athlete Support Services	*Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

\*Applicants who plan to enroll full time in a degree program and who wish to be considered for university fellowships or assistantships should apply by the Fall Priority date.

### CONTACT INFO

**Graduate Program**  
**Brenda Thompson EdD**  
 heps@ucf.edu  
 Telephone: 407-823-4164  
 Education 206E

# Educational Leadership MEd

## PROGRAM DESCRIPTION

The Master of Education in Educational Leadership program is intended for those who wish to work in leadership positions and administrative careers in education. The MEd provides theoretical and conceptual knowledge base and practical application required for principalship and for Florida Level I Educational Leadership certification. Courses required in the program address the Florida Educational Leadership Standards and the Florida Educational Leadership Examination (FELE) competencies and indicators.

This graduate program partners with the Peace Corps Paul D. Coverdell Fellows Program. If you are a returning Peace Corps volunteer, see Peace Corps Coverdell Fellows for more information about attending graduate school at UCF.

## CURRICULUM

The Educational Leadership MEd program requires a minimum of 36 credit hours beyond the bachelor's degree, including 30 credit hours of core courses and 6 credit hours of required administrative internship. Courses may be taken in any sequence with the exception of EDA 6946, which must be taken during the last two semesters.

### Total Hours Required:

**36** Credit Hours Minimum beyond the Bachelor's Degree

The MEd program provides the theoretical and conceptual knowledge base with practical application required for the principalship and for Florida Level I Educational Leadership certification. Courses required in the program address the Florida Educational Leadership Standards and Florida Educational Leadership Examination (FELE) competencies and indicators required by the Florida Department of Education. Students are required to pass the FELE for graduation. An MEd in Educational Leadership or its equivalent, and successful completion of the FELE, are required by the state of Florida for Level I Educational

Leadership certification (Certification is subject to Florida Department of Education approval).

The MEd program requires an administrative internship. The internship is an independent learning activity that takes place in authentic settings in which students must apply, reflect on, and refine knowledge and skills acquired in the program. For more information concerning the Educational Leadership internship, please refer to the Educational Leadership website at: <http://education.ucf.edu/edleadership> (click on Guide to the Administrative Internship).

MEd students in Educational Leadership will document experience with each of the Florida Principal Leadership Standards (FPLS) and Florida Educational Leadership Exam (FELE) competencies during the EDA 6946 Administrative Internship. This documentation and successful completion of the administrative internship (grade of A or B) will serve as the culminating experience required for graduation.

### Modified Leadership Core Program for Those with Graduate Degrees in Other Disciplines

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 seven core courses and Administrative Internship course of the Educational Leadership MEd degree. Request an evaluation of prior graduate course work (required for admission into the program) on the following website: <http://education.ucf.edu/edleadership/>.

### Required Courses—36 Credit Hours

#### Core—30 Credit Hours

The program recommends that students take these courses 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)
- EDA 6XXX Data Based Decision Making for School Leaders (3 credit hours)
- EDS 6123 Educational Supervisory Practices I (3 credit hours)
- EDS 6130 Educational Supervisory Practices II (3 credit hours)
- EDA 6300 Community School Administration (3 credit hours)
- EDA 6502 Organization and Administration of Instructional Programs (3 credit hours)

### Internship—6 Credit Hours

The internship should be completed during or after the last two semesters of coursework listed above.

- EDA 6946 Administrative Graduate Internship (6 credit hours; 2 semesters, 3 hours each of internship)

### Additional Program Requirements

- Complete the Administrative Graduate Internship with a minimum grade of B.
- Pass all applicable sections of the Florida Educational Leadership Examination.

### Equipment Fee

Students in the Educational Leadership MEd program pay a \$32 equipment fee each semester that they are enrolled. Part-time students pay \$16 per semester.

### Independent Learning

The MEd program requires an administrative internship. The administrative internship is an independent learning activity that takes place in authentic settings in which students must apply, reflect on, and refine knowledge and skills acquired in the program. For more information concerning the Educational Leadership internship, please refer to the Educational Leadership website at: <http://education.ucf.edu/edleadership> (click on Internship Guide).

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.
- Evidence of course work approved for the basic state of Florida bachelor’s teaching certificate.

### Application Deadlines

Educational Leadership MEd	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

## CONTACT INFO

**Kenneth Murray JD, PhD**  
 Associate Professor  
[kenneth.murray@ucf.edu](mailto:kenneth.murray@ucf.edu)  
 Telephone: 407-823-1468  
 Education 222K

# Electrical Engineering MSEE

- Accelerated BS to MS Track

## PROGRAM DESCRIPTION

The Department of Electrical Engineering and Computer Science (Electrical Engineering Program) supports a number of technical (research) areas in which a Master of Science student may specialize. These technical areas are: Electromagnetics and Optics (EO), Signal Processing and Systems (SPS), and Micro-Systems and Nano-Systems (MNS). The Micro-Systems and Nano-Systems area covers the typical Electrical Engineering topic areas of Electronics, Power Electronics and Micro-Electronics, while the Signal Processing and Systems area covers the typical electrical topic areas of communications, controls, and signal processing. All MSEE programs offer a thesis and a nonthesis option, as well as an Accelerated BS to MSEE program. Students in the program receive a broad background in the various technical areas, while specializing in a research area of their interest.

The specific research area that each one of the EECS faculty conduct can be found at the Department of EECS website ([www.eecs.ucf.edu](http://www.eecs.ucf.edu)).

## CURRICULUM

The master's program offers both a thesis option and a nonthesis option in a technical specialization area. The thesis option requires 30 credit hours of courses that includes 24 credit hours of formal coursework and 6 credit hours of thesis. The nonthesis option requires 30 credit hours of coursework with 24 credit hours of formal coursework with a possibility of 6 credit hours of Independent Study (e.g., XXX 6908) based on availability of interested faculty.

### Total Hours Required:

**30** Credit Hours Minimum beyond the Bachelor's Degree

### Articulation

Undergraduate articulation courses are required to be completed prior to admission for students who do not hold a Bachelor of Science degree

in Electrical Engineering. In particular, the articulation courses specified below, plus all of the prerequisite string which any of them require, must be completed prior to admission. Grades of "B" or higher must be obtained in each articulation course specified below. Articulation courses are not eligible for inclusion on a graduate Program of Study.

- EEL 3123C Network and Systems
- EEE 3307C Electronics I
- EEL 3470 Electromagnetic Fields
- EEL 3552 Signal Analysis and Communications
- EEE 3350 Semiconductor Devices I

In addition, choose one of the following:

- EEL 3657 Linear Control Systems
- EEE 4309C Electronics II
- EEL 4750 Digital Signal Processing Fundamentals

## Elective Courses—24 Credit Hours

There are no required courses within a specialization area, however, all students (thesis and nonthesis) must choose at least 24 credit hours of formal courses, excluding research-related courses and Independent Study (XXX 6908) that emphasize their specialization area. Courses from outside specialization areas could also be chosen if they are approved by the student's adviser and incorporated into the Program of Study for the student.

The Program of Study (POS) form must be approved by an adviser in the selected specialization area no later than the end of the second semester after admission. The program of study must meet all the university requirements specified in the graduate catalog and must also receive departmental-level and college-level approval.

### Suggested Courses for the MSEE Program

The Electrical Engineering Program supports a number of specialization areas. These technical areas are: Electromagnetics and Optics (EO), Signal Processing and Systems (SPS), and Micro-Systems and Nano-Systems (MNS). The Micro-Systems and Nano-Systems area covers the typical Electrical Engineering topic areas of Electronics, Power Electronics and Micro-Electronics, while the Signal Processing and Systems area covers the typical



electrical topic areas of communications, controls, and signal processing.

For each one of these areas there is a suggested list of courses stated below. Students are also allowed to take courses from other specialization areas, but the majority of their courses should be chosen from courses in their specialization area.

### ***Electromagnetics and Optics (EO)***

- EEE 5542 Random Processes I (3 credit hours)
- EEE 5557 Introduction to Radar Systems (3 credit hours)
- EEL 5437C Microwave Engineering (3 credit hours)
- EEL 5439C RF and Microwave Communications (3 credit hours)
- EEL 5462C Antenna Analysis and Design (3 credit hours)
- EEL 5432 Satellite Remote Sensing (3 credits)
- EEL 6425C RF and Microwave Measurement Techniques (3 credit hours)
- EEL 6463 Antenna Analysis and Design II (3 credit hours)
- EEL 6488 EM Theory II (3 credit hours)
- EEL 6481 Numerical Techniques in Electromagnetics (3 credit hours)
- EEL 6482 Electromagnetic Theory I (3 credit hours)
- EEL 6489 Advanced Topics in Electromagnetics (3 credit hours)
- EEL 6504 Communication System Design (3 credit hours)
- EEL 6530 Communication Theory (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)
- OSE 5041 Introduction to Wave Optics (3 credit hours)
- OSE 5414 Fundamentals of Optoelectronic Devices (3 credit hours)
- OSE 6111 Optical Wave Propagation (3 credit hours)
- OSE 6115 Interference and Diffraction (3 credit hours)
- OSE 6143 Fiber Optics Communications (3 credit hours)
- OSE 6211 Fourier Optics (3 credit hours)
- OSE 6225 Radiometry and Detection (3 credit hours)
- OSE 6421 Integrated Optics (3 credit hours)
- OSE 6432 Fundamentals of Photonics (3 credit hours)
- OSE 6445 High Speed Photonics (3 credit hours)
- OSE 6455C Photonics Laboratory (3 credit hours)
- OSE 6525 Laser Engineering (3 credit hours)
- OSE 6615L Optoelectronic Device Fabrication Laboratory (3 credit hours)
- OSE 6525 Laser Engineering (3 credit hours)

### ***Micro-Systems and Nano-Systems (MNS)***

- BME 5572 Biomedical Nanotechnology (3 credit hours)
- EEL 5245C Power Electronics (3 credit hours)
- EEE 5332C Thin Film Technology (3 credit hours)
- EEE 5352 Semiconductor Materials Characterization (3 credit hours)
- EEE 5353 Semiconductor Device Modeling and Simulation (3 credit hours)
- EEE 5356C Fabrication of Solid-State Devices (3 credit hours)
- EEE 5370 Operational Amplifiers (3 credit hours)
- EEE 5378 CMOS Analog and Digital Circuit Design (3 credit hours)
- EEE 5390 Full Custom VLSI Design (3 credit hours)
- EEE 5555 Surface Acoustic Wave Devices and Systems (3 credit hours)
- EEE 6317 Power Semiconductor Devices and Integrated Circuits (3 credit hours)
- EEE 6358 Advanced Semiconductor Device I (3 credit hours)
- EEL 6246 Power Electronics II (3 credit hours)

- EEE 6326C MEMS Fabrication Laboratory (3 credit hours)
- EEE 6338 Advanced Topics in Microelectronics (3 credit hours)
- EEE 6371 Advanced Electronics I (3 credit hours)
- EEE 6372 Advanced Topics in Electronics (3 credit hours)

### ***Signal Processing and Systems (SPS)***

- EEE 5513 Digital Signal Processing Applications (3 credit hours)
- EEE 5542 Random Processes I (3 credit hours)
- EEE 5557 Introduction to Radar Systems (3 credit hours)
- EEE 6504 Adaptive Digital Signal Processing Applications (3 credit hours)
- EEE 6508 Advanced Topics in Digital Signal Processing (3 credit hours)
- EEL 5820 Image Processing (3 credit hours)
- EEL 5825 Pattern Recognition (3 credit hours)
- EEL 5630 Digital Control Systems (3 credit hours)
- EEL 5173 Linear Systems Theory (3 credit hours)
- EEL 6504 Communication System Design (3 credit hours)
- EEL 6530 Communication Theory (3 credit hours)
- EEL 6590 Advanced Topics in Communications (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)
- EEL 6812 Introduction to Neural Networks (3 credit hours)
- EEL 5630 Digital Control Systems (3 credit hours)
- EEL 5173 Linear Systems Theory (3 credit hours)
- EEL 6619 Nonlinear Robust Control (3 credit hours)
- EEL 6621 Nonlinear Control Systems (3 credit hours)

- EEL 6662 Design of Robot Control Systems (3 credit hours)
- EEL 6667 Planning and Control for Mobile Robotic Systems (3 credit hours)
- EEL 6671 Modern and Optimal Control Systems (3 credit hours)
- EEL 6674 Optimal Estimation for Control (3 credit hours)
- EEL 6616 Adaptive Control (3 credit hours)
- EEL 6680 Advanced Topics in Modern Control Systems (3 credit hours)
- EEL 6683 Cooperative Control of Networked Autonomous Systems (3 credit hours)
- EEL 6812 Introduction to Neural Networks (3 credit hours)
- EEL 6823 Image Processing II (3 credit hours)
- EEL 5669 Autonomous Robotic Systems (3 credit hours)
- EEL 6026 Optimization of Engineering Systems (3 credit hours)
- CAP 5015 Multimedia Compression in the Internet (3 credit hours)
- CAP 5415 Computer Vision (3 credit hours)
- CAP 6411 Computer Vision Systems (3 credit hours)
- CAP 6412 Advanced Computer Vision (3 credit hours)
- CAP 6419 3D Computer Vision (3 credit hours)

### **Thesis Option—6 Credit Hours**

The thesis option requires 6 credit hours of thesis work (EEL 6971) in addition to the 24 credit hours of formal elective courses.

- EEL 6971 Thesis (3 credit hours, taken twice)

Please note the following requirements for this option:

- 24 credit hours of courses must be taken in the student's chosen specialization area.
- No more than 6 credits of thesis (EEL 6971) will be counted toward the degree requirement.
- At least half of the coursework, including Thesis XXX 6971, must be at the 6000-level (typically at least 15 credit hours).

- Thesis students who are full time must continue to enroll in three credit hours of thesis coursework each semester until the thesis requirement is satisfied, beyond the minimum of 6 credit hours of thesis, but only 6 hours total will count toward the degree requirement.

The College of Engineering and Computer Science requires that all thesis defense announcements are approved by the student's adviser and posted on the college's website and on the university-wide Events Calendar at the College of Graduate Studies website at least **two weeks** before the defense date.

### **Nonthesis Option—6 Credit Hours**

The nonthesis option is especially suited for part-time students. Nonthesis students must complete 6 credit hours of electives in addition to the 24 credit hours of formal coursework described above.

- Electives (6 credit hours)

If approved by the student's adviser, the student may include a total of 6 credit hours as an Independent Study (XXX 6908). At least half of the coursework must be at the 6000-level (typically at least 15 credit hours).

### **Portfolio Requirement**

Students are required to complete a culminating experience. The culminating experience for nonthesis MS students is submission of their portfolio of activities by the course withdrawal date of the semester prior to their intended graduation. Portfolio requirements are listed on the EECS website at <http://www.eecs.ucf.edu/>.

### **Transfer Credits**

Graduate students with a bachelor's degree in Electrical Engineering from UCF may transfer up to 9 credit hours of 5000-level or higher coursework, with grades of B or higher, toward the MSEE degree. Alternatively, a maximum of 9 credit hours may be transferred of graduate work conducted elsewhere from an accredited institution.

### **Equipment Fee**

Students in the Electrical Engineering MSEE program pay a \$63 equipment fee each semester that they are enrolled. Part-time students pay \$31 per semester.

## **Independent Learning**

The independent learning requirement is met by successful completion of a master's thesis or an approved portfolio of activities for nonthesis students.

## **APPLICATION REQUIREMENTS**

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening ([www.cecs.ucf.edu/prescreen](http://www.cecs.ucf.edu/prescreen)) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Electrical Engineering or a related discipline.
- Official, competitive GRE score taken within the last five years.
- Two letters of recommendation.
- Résumé.
- Statement of educational, research, and professional career objectives.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Additional courses may also be required to correct any course deficiencies. Students should contact the graduate program director for further information.

## Application Deadlines

Electrical Engineering MSEE	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

## CONTACT INFO

### Kalpathy Sundaram PhD

Professor

eece-grad@eeecs.ucf.edu

Telephone: 407-823-5326

HEC 439B

# Accelerated BS to MS Track

## TRACK DESCRIPTION

The accelerated undergraduate/graduate program in Electrical Engineering allows highly qualified undergraduate majors in Electrical Engineering to begin taking graduate-level courses that will count toward their master's degree while completing their baccalaureate degree program.

Students in the Electrical Engineering degree programs receive a broad background in areas such as communications, controls/robotics, digital signal processing, electromagnetics, power electronics and electronics, electro-optics/photonics, solid state and microelectronics 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, power electronics, 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.

## CURRICULUM

### Total Hours Required:

**30** Credit Hours Minimum beyond the Bachelor's Degree

The accelerated undergraduate/graduate program in Electrical Engineering allows highly qualified undergraduate majors in Electrical Engineering to begin taking graduate-level courses that will count toward their master's degree while completing their

baccalaureate degree program. Up to 12 credit hours of approved 5000- and 6000-level courses of grades "B" (3.0) or better may be counted toward the BS and MS degrees.

## Undergraduate Requirements

Application must be made no earlier than the semester after completing 60 credit hours toward the bachelor's degree yet before completing 90 credit hours. A minimum GPA of 3.5 is required prior to admission.

## Graduate Requirements

A complete application to the master's degree program must be received before admission deadlines of the semester in which the master's enrollment will commence. Students satisfy all requirements for master's admission in order to continue in the program once the bachelor's degree is awarded. At time of application for master's admission, students must specify BSMS-Accelerated as the master's degree track at time of graduate admission application to the MSEE program.

## Equipment Fee

Students in the Electrical Engineering MSEE program pay a \$63 equipment fee each semester that they are enrolled. Part-time students pay \$31 per semester.

## Independent Learning

The Independent Learning Requirement is met by successful completion of a master's thesis or an approved portfolio of activities for nonthesis students.

## APPLICATION REQUIREMENTS

The **Accelerated BS to MS program** in Electrical Engineering allows highly qualified University of Central Florida undergraduate majors in Electrical Engineering 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 accelerated program in either their junior year or senior year. If the student has a degree in the discipline, but were not previously part of this accelerated program, then

they should apply to the **Electrical Engineering MS program** without a track selection.

Additional information about this track may be located at: <http://www.cecs.ucf.edu/academics/acceleratedbstomsprograms>.

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening ([www.cecs.ucf.edu/prescreen](http://www.cecs.ucf.edu/prescreen)) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate admission requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Electrical Engineering or a related discipline.
- Official, competitive GRE score taken within the last five years.
- Two letters of recommendation.
- Résumé.
- Statement of educational, research, and professional career objectives.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting applicants into their research program.

Additional courses may also be required to correct any course deficiencies. Students should contact the graduate program director for further information.



## Application Deadlines

Accelerated BS to MS Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

## CONTACT INFO

### Kalpathy Sundaram PhD

Professor

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Telephone: 407-823-5326

HEC 439B

# Elementary Education MA

## PROGRAM DESCRIPTION

**The Master of Arts in Elementary Education (Grades K-6) ESOL Endorsement/Reading Endorsement is a state-approved initial teacher preparation program that is subject to any change in the Florida Administrative Code (State Board of Education Rule 6A-5.066). Students enrolled in this program should remain in close contact with their adviser to keep informed of any program changes implemented to comply with new state requirements.**

The College of Education and Human Performance offers a Master of Arts in Elementary Education, a state-approved initial teacher certification program designed for individuals who have an undergraduate degree in a field other than Elementary Education (grades K-6) and who wish to become certified to teach in this field. This program is committed to preparing highly qualified Elementary Education teachers with knowledge and skills mated to research-based best practices. Additionally, graduates from this program will have state-approved ESOL Endorsement and Reading Endorsement upon graduation.

## CURRICULUM

The Elementary Education MA requires a minimum of 48 credit hours beyond the bachelor's degree. If the MA program will be providing a student's initial certification, 80 clock hours of field experience must be completed before enrolling in the supervised internship.

### Total Hours Required:

**48** Credit Hours Minimum beyond the Bachelor's Degree

The program requires a portfolio of both reflective practice/analysis of professional development and demonstration of attainment of the pre-professional level of performance for all of the Florida Educator Accomplished Practices. Multiple artifacts and reflective analyses are required for each of the accomplished practices. All portfolio entries are critical components of learning since they are

the primary means of assessing the professional development of students as reflective practitioners. The program also requires an internship.

Students should plan to enroll in EDE 6933 during the first semester (or fall semester if summer is first semester in program). Students should also plan to enroll in TSL 5085 early in the program to learn about infused English Speakers of Other Languages (ESOL) requirements including preparation of the TESOL notebook.

### Co-requisite

Undergraduate courses are not counted in the 48 credit hours of graduate courses that are required for the degree.

- EEX 4070 Teaching Exceptional Students (3 credit hours)

### Required Courses—48 Credit Hours

#### Core—18 Credit Hours

- EDE 6933 Introductory Seminar in Elementary Education (1 credit hour)
- EDG 6415 Principles of Instruction and Classroom Management (3 credit hours)
- EDF 6237 Principles of Learning and Introduction to Classroom Assessment (3 credit hours)
- EDF 6727 Critical Analysis of Social, Ethical, Legal, and Safety Issues Related to Education (3 credit hours)
- TSL 5085 Teaching Language Minority Students in K-12 Classrooms (3 credit hours)
- TSL 6250 Applied Linguistics in ESOL (3 credit hours)
- EDE 6935 Capstone Seminar in Elementary Education (2 credit hours) (Capstone Seminar should be taken in the final semester during Graduate Internship.)

#### Specialization—24 Credit Hours

**Note:** EDE 6933 is a prerequisite or co-requisite for the specialization courses below.

- LAE 5319 Methods of Elementary School Language Arts (3 credit hours)

- LAE 5415 Children's Literature in Elementary Education (3 credit hours)
- MAE 6318 Current Methods in Elementary School Mathematics (3 credit hours)
- SCE 6315 Methods in Elementary School Science (3 credit hours)
- RED 5147 Developmental Reading (3 credit hours)
- RED 5517 Classroom Diagnosis and Development of Reading Proficiencies (Prerequisite: RED 5147) (3 credit hours)
- RED 5948 Practicum in Reading Assessment and Instruction (Prerequisite: RED 5517) (3 credit hours)
- SSE 6115 Methods in Elementary School Social Science (3 credit hours)

### 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.

- EDE 6946 Graduate Internship (6 credit hours)

### Additional Program Requirements

- Complete a portfolio according to program guidelines. This portfolio requires demonstration of professional growth, reflection, and proficiency in all Florida Educator Accomplished Practices.
- Complete a TESOL notebook to address Florida ESOL competencies.
- Pass all applicable sections of the Florida Teacher Certification Examination.

### Independent Learning

A portfolio is required that demonstrates professional growth, reflection, and proficiency in all Florida Educator Accomplished Practices. An internship is also required that demonstrates proficiency in all Florida Educator Accomplished Practices.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

This program does not require GRE for admission, but in accordance with Florida Statute 1004.4 and State Board of Education Rule 6A-5.066, admission to this graduate-level, state-approved initial teacher preparation program requires one of the following: 1) a composite verbal-quantitative GRE score of at least 1000, **or** 2) having previously passed all four parts of the College Level Academic Skills Test (CLAST), **or** 3) passing all four parts of the Florida Teacher Certification Examination/General Knowledge Test (FTCE/GKT). Applicants who do not meet this requirement via option 1 (GRE) or 2 (CLAST), must take and pass the FTCE/GKT for admission. (Please note that FTCE/GKT is a graduation requirement for students who did not take and pass CLAST prior to July 2002; therefore, applicants who have not already taken GRE or CLAST should take and pass the General Knowledge Test (GKT) subtest of Florida Teacher Certification Exam.)

### Application Deadlines

Elementary Education MA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

## CONTACT INFO

**Robert Everett PhD**

Associate Professor

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Education 122R

# Elementary Education MEd

## PROGRAM DESCRIPTION

The College of Education and Human Performance offers a master's program in Elementary Education leading to a Master of Education (MEd) degree. The MEd program 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.

## CURRICULUM

The MEd in Elementary Education requires a minimum of 30 credit hours beyond the bachelor's degree and offers a thesis and nonthesis option. Both options require 9 credit hours of core courses and a minimum of 12 credit hours of elective specialization courses, in addition to the 9 credit hours required in the thesis or nonthesis options.

### Total Hours Required:

**30** Credit Hours Minimum beyond the Bachelor's Degree

The MEd program offers a thesis and nonthesis option. The nonthesis option requires a research study in one or more courses. The research study and final report will focus on reviewing and analyzing contemporary research in a student's particular specialization within the education profession in order to help students acquire knowledge and skills pertaining to research based best practices in that specialization area.

Students should plan to take EDE 6933 Introductory Seminar in Elementary Education during the first semester of enrollment (or fall semester if summer is first semester of enrollment). Students should take EDE 6935, which includes a program culminating experience, during the final semester in the program.

## Required Courses—9 Credit Hours

- EDE 6933 Introductory Seminar in Elementary Education\* (1 credit hour)
- EDE 6935 Capstone Seminar in Elementary Education\* (2 credit hours)
- EDF 6233 Introduction to Action Research and Analysis of Classroom Practice (3 credit hours)
- EME 5050 Fundamentals of Technology for Educators (3 credit hours) or EME 6405 Application Software for Educational Settings (3 credit hours)

**Note:** Courses with an asterisk (\*) require an independent learning experience in the form of research studies.

## Specialization—12 Credit Hours

Choose from one of the following specializations: General Elementary Education, Exceptional Education, Early Childhood Education, Gifted Education, or K-8 Mathematics and Science. Choose at least 12 credit hours from the following specialization courses with the approval of your adviser. The adviser may approve courses taken as part of a UCF graduate certificate program for this area of the MEd (up to 12 credit hours).

### *General Elementary Education Specialization*

- ISC 6146 Environmental Education for Educators (3 credit hours)
- LAE 5295 Writing Workshop (1-3 credit hours)
- LAE 5319 Methods in Elementary School Language Arts (3 credit hours). (Use this course if no previous language arts methods course has been taken.)
- LAE 5415 Children's Literature in Elementary Education (3 credit hours). (Use this course only if no previous children's literature course has been taken.)
- LAE 5495 Assessing Writing (3 credit hours)
- LAE 6296 Advanced Writing Workshop (3 credit hours)
- LAE 6417 Investigation in Children's Literature (3 credit hours)
- LAE 6616 Trends in Language Arts Education (3 credit hours)

- LAE 6936 Seminar in Language Arts Education (3 credit hours)
- MAE 6318 Current Methods in Elementary School Mathematics (3 credit hours). (Use this course if no previous mathematics methods course has been taken.)
- 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 5517 Classroom Diagnosis and Development of Reading Proficiencies (3 credit hours). (Use this course if no previous reading diagnosis course has been taken.)
- RED 6116 Advanced Study in Foundations of Reading (3 credit hours)
- SCE 5836 Space and Physical Science 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 Assessment Issues in TESOL (3 credit hours)
- EEC 6216 Communicative Arts in Early Childhood Education (3 credit hours)
- EEC 6269 Play Development, Intervention, and Assessment (3 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 6606 Global Issues in Early Childhood (3 credit hours)

### ***Exceptional Education Specialization***

- 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 6295 Assessment and Curriculum Prescriptions for the Exceptional Population (3 credit hours)
- EEX 6612 Methods of Behavioral Management (3 credit hours)

### ***Early Childhood Education Specialization***

- EEC 5205 Programs and Trends in Early Childhood Education (3 credit hours)

### ***Gifted Education Specialization***

- 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)
- EGI 6305 Theory and Development of Creativity (3 credit hours)
- EGI 6417 Guidance and Counseling Strategies for Teachers of Gifted and Talented Individuals (3 credit hours)

### ***Mathematics and/or Science Specialization***

- IDS 6937 Teaching Mathematics and Science Using Reform-Based Practices (3 credit hours)
- MAE 6318 Current Methods in Elementary School Mathematics (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)
- MAE 6899 Seminar in Teaching Mathematics (3 credit hours)
- SCE 5836 Space and Physical Science for Educators (3 credit hours)

### **Thesis Option—9 Credit Hours**

Either LAE 6792 or EDF 6481 must be taken in addition to completing a thesis.

- 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)

### Nonthesis Option—9 Credit Hours

A culminating experience is required in this option.

- Electives (9 credit hours) selected with the permission of the adviser

### Independent Learning

The program requires a research study in both the EDE 6933 and EDE 6935 courses. The research study and final report will focus on reviewing and analyzing contemporary research in a student’s particular specialization within the education profession in order to help students acquire knowledge and skills pertaining to research-based best practices in that specialization area.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A current Florida Professional Teaching Certificate in the program’s subject area or have completed all requirements for that Professional Teaching Certificate. 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 MEd program at the discretion of the program director.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

### Application Deadlines

Elementary Education MEd	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

### CONTACT INFO

**Robert Everett PhD**

Associate Professor

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Education 122R

# Engineering Management MSEM

- Professional Engineering Management PSM Track

## PROGRAM DESCRIPTION

The Master of Science in Engineering Management (MSEM) degree in Industrial Engineering focuses on effective decision-making in engineering and technological organizations. The Professional Engineering Management (PEM) track is designated a Professional Science Master's (PSM) degree.

## CURRICULUM

**This program can be taken entirely through the Florida Engineering Educational Delivery System (FEEDS), which provides video-streamed versions of classes over the Internet.**

The Engineering Management MSEM degree requires an undergraduate degree in Engineering or a closely related discipline. Students with undergraduate degrees outside of industrial engineering may be required to take additional prerequisites. An approved program of study must be developed in consultation with the graduate program director. The total number of hours is 30 credit hours.

### Total Hours Required:

**30** Credit Hours Minimum beyond the Bachelor's Degree

### Prerequisites

Mathematics through Calculus II (MAP 2312)

### Required Courses— 12 Credit Hours

- ESI 5219 Engineering Statistics (3 credit hours)
- EIN 5140 Project Engineering (3 credit hours)
- ESI 6551C Systems Engineering (3 credit hours)

- EIN 6357 Advanced Engineering Economics Analysis (3 credit hours)

### Concentration Courses (9 Credit Hours)

- EIN 5108 The Environment of Technical Organizations (3 credit hours)
- EIN 6370 Innovation in Engineering Design (3 credit hours)
- EIN 6182 Engineering Management (3 credit hours)

### Thesis Option—9 Credit Hours

Thesis students must complete an independent research project and then write and successfully defend their thesis. Furthermore, an additional 3 credit hours of electives are required beyond the 21 credit hours of required courses described above. See the List of Electives below.

- EIN 6971 Thesis (6 credit hours)
- Elective (3 credit hours)

### Nonthesis Option—9 Credit Hours

Nonthesis students must take 9 additional credit hours of electives beyond the 21 credit hours of required courses described above.

### Comprehensive Examination

Nonthesis students must successfully pass an oral comprehensive examination to fulfill degree requirements. Please see the program director for further details.

At least one-half of the credit hours of all courses in a master's program of study must be at the 6000 level or higher. Students on assistantships must take 9 credit hours per semester to satisfy the university's requirement for full-time status. Most students working full time take 6 credit hours per semester. At that rate, the program can be completed in 6 semesters or less. However, students with more time available can finish the program in 3 semesters.

### Equipment Fee

Students in the Engineering Management MSEM program pay a \$90 equipment fee each semester that they are enrolled. For part-time students, the equipment fee is \$45 per semester.

## Independent Learning

The Independent Learning Requirement is met by successful completion of the research studies required in individual courses, EIN 6182 Engineering Management, and the capstone project that requires that students integrate material from all the courses in their program.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Engineering or a closely related discipline.
- Two letters of recommendation.
- Résumé.
- Statement of educational, research, and professional career objectives.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

## Application Deadlines

Engineering Management MSEM	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

## CONTACT INFO

**Ahmad Elshennawy PhD**  
 Professor  
 ahmade@ucf.edu  
 Telephone: 407-823-2204  
 Engineering 2, Room 312

# Professional Engineering Management PSM Track

## TRACK DESCRIPTION

The Professional Engineering Management (PEM) track is a cohort-based program where specific cohorts are established periodically based on needs of industry. The program is designed to be a lock-step, cohort-based program that can be completed in approximately 18 to 20 months.

For information about the start of the next cohort, please contact the IEMS Graduate Coordinator Dr. Elshennawy (ahmad.elshennawy@ucf.edu) or the Program Director Dr. Kotnour (timothy.kotnour@ucf.edu).

## CURRICULUM

### Total Hours Required:

**30** Credit Hours Minimum beyond the Bachelor's Degree

The Professional Engineering Management (PEM) track is a cohort-based program where specific cohorts are established periodically based upon needs of industry. The program is designed to be a lock-step, cohort-based program that can be completed in approximately 18-20 months.

For information about the start of the next cohort, please contact the IEMS Graduate Director, Dr. Elshennawy (ahmad.elshennawy@ucf.edu) or the PEM Program Director, Dr. Kotnour (timothy.kotnour@ucf.edu).

The Professional Engineering Management (PEM) track in the Engineering Management MSEM program focuses on effective decision-making and successful project delivery in engineering and technological organizations. The program is tailored to the needs of the experienced, working professional.

The Engineering Management MSEM program requires an undergraduate degree in Engineering

or a closely related discipline. Students with undergraduate degrees outside of industrial engineering may be required to take additional prerequisite courses.

Research studies are required in one or more courses. The research study and report will focus on reviewing and analyzing contemporary research in the profession in order to help students acquire knowledge and skills pertaining to research-based best practices.

### Prerequisites

Mathematics through Calculus II (MAC 2312)

### Master Core Courses—12 Credit Hours

- ESI 5219 Engineering Statistics (3 credit hours)
- EIN 5140 Project Engineering (3 credit hours)
- ESI 6551C Systems Engineering (3 credit hours)
- EIN 6357 Advanced Engineering Economic Analysis (3 credit hours)

### Concentration Courses—9 Credit Hours

- EIN 5108 The Environment of Technical Organizations (3 credit hours)
- EIN 6370 Innovation in Engineering Design (3 credit hours)
- EIN 6182 Engineering Management (3 credit hours)

### Elective Courses—9 Credit Hours

Students take an additional 9 credit hours of electives.

### Independent Learning

The Independent Learning Requirement is met by successful completion of the research studies required in individual courses, EIN 6182 Engineering Management, and the capstone project that requires that students integrate material from all the courses in their program.

### Comprehensive Examination

Students must successfully pass an oral comprehensive examination to fulfill degree requirements. Please see the program director for further details.

### Equipment Fee

Students in the Engineering Management MSEM program pay a \$90 equipment fee each semester that they are enrolled. For part-time students, the equipment fee is \$45 per semester.

### Independent Learning

The Independent Learning Requirement is met by successful completion of the research studies required in individual courses, EIN 6182 Engineering Management, and the capstone project, which requires that students integrate material from all the courses in their program.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Engineering or a closely related discipline.
- Two letters of recommendation.
- Résumé.
- Statement of educational, research, and professional career objectives.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

## Application Deadlines

Professional Engineering Management PSM Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

## CONTACT INFO

### Ahmad Elshennawy PhD

Professor

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Engineering 2, Room 312

### Timothy Kotnour

Professor

Timothy.Kotnour@ucf.edu

Telephone: 407-823-5645

Engineering II Room 416

# Environmental Engineering MS

- Environmental Engineering Sciences Track

## PROGRAM DESCRIPTION

The Environmental Engineering MS degree program is for students with science, math, or a similar background, and usually requires 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 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 with consulting firms; with industry; within federal, state, and local governments; and/or in higher education.

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.

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours



during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit [www.intl.ucf.edu](http://www.intl.ucf.edu). If you have any questions, please consult the International Services Center at 407-823-2337.

## APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening ([www.cecs.ucf.edu/prescreen](http://www.cecs.ucf.edu/prescreen)) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Résumé.
- Statement of educational, research, and professional career objectives.
- Three letters of recommendation.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

The GRE is not required, however, taking the GRE is highly recommended for students wishing to pursue a thesis. In order to be considered for any fellowships, a GRE score is required.

Those applying to the programs without a directly related undergraduate degree should closely check the prerequisites. For students with nontechnical undergraduate degrees, it is recommended that a second undergraduate degree in Environmental Engineering be completed before applying to graduate school.

Final articulation requirements will be determined by the department after students have been admitted and after discussions with their advisers.

## CONTACT INFO

### David Cooper PhD

Professor

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Telephone: 407-823-2388

ENG2 227

# Environmental Engineering Sciences Track

## TRACK DESCRIPTION

The Environmental Engineering Sciences track in the Environmental Engineering MS program is for students with science, math, or a similar background, and usually requires 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 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, environmental water resources, and stormwater management. The program's overall mission is to prepare students for careers in environmental engineering with consulting firms; with industry; within federal, state, and local governments; and/or in higher education.

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.

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit [www.intl.ucf.edu](http://www.intl.ucf.edu). If you have any questions, please consult the International Services Center at 407-823-2337.

## CURRICULUM

### Total Hours Required:

**30** Credit Hours Minimum beyond the Bachelor's Degree

The Environmental Engineering Sciences track offers both thesis and nonthesis options with each requiring 30 credit hours of courses beyond the baccalaureate degree. Students choosing the thesis option must take 12 credit hours of required courses, 12 credit hours of electives, and 6 thesis credit hours. Students choosing the nonthesis option must take 12 credit hours of required courses, 18 credit hours of electives, and pass a comprehensive final examination. Students develop an individualized program of study with a faculty adviser.

At least 24 credit hours of the course work must be exclusive of thesis and research, and Directed Research (XXX 6918) is not permitted in MS program of study.

The thesis option is primarily for students who can devote a full-time effort to their research and is required for all students supported on contracts and grants, as well as any student receiving department financial support. The nonthesis option is strongly recommended for part-time students and requires a comprehensive written examination as a requirement for graduation.

Research studies or projects are required in one or more courses. The research study or project will focus on reviewing and analyzing contemporary research or engineering issues in a student's particular specialization within the profession. They are intended to help students acquire knowledge and skills pertaining to best practices in that specialization area.

## Prerequisites (Articulation)

The completion of prerequisite courses may be required before students can begin the program graduate course work.

The following mathematics prerequisite requirement is for all students.

- Calculus through Differential Equations

The following prerequisites (or equivalent courses) may be required 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 4632 Water Resources I (4 credit hours)
- CWR 4633 Water Resources II (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 4531 Environmental Engineering Operations and Processes I (3 credit hours)

## Required Courses—12 Credit Hours

Students must choose one course from each group.

### *Chemical/ Biological/ Industrial Waste Treatment*

- ENV 6015 Physical/Chemical Treatment Systems in Environmental Engineering (3 credit hours)
- ENV 6016 Biological Treatment Systems in Environmental Engineering (3 credit hours)
- ENV 6558 Industrial Waste Treatment (3 credit hours)

### *Air Quality*

- ENV 6106 Theory and Practice of Atmospheric Dispersion Modeling\* (3 credit hours)

- ENV 6126 Design of Air Pollution Controls\* (3 credit hours)
- ENV 6347 Hazardous Waste Incineration (3 credit hours)

### *Environmental/ Water Quality*

- ENV 6519 Aquatic Chemical Processes (3 credit hours)
- ENV 6616 Receiving Water Impacts (3 credit hours)
- ENV 5410 Water Treatment (3 credit hours)
- EES 5318 Industrial Ecology (3 credit hours)

### *Civil Water Resources*

- Any CWR course at the 5000 or 6000 level (3 credit hours). See course listings in the drop-down catalog menu above.

**Note:** Courses with an asterisk (\*) provide independent learning experiences. Nonthesis students are required to take at least one course with an asterisk.

## Elective Courses—12 Credit Hours

All students, both thesis and nonthesis, must take 12 credit hours of elective courses. The electives should be chosen from courses with ENV or CWR prefixes although other appropriate graduate-level courses (5000 or 6000) may be allowed. All electives must be chosen with the consent of the student's adviser.

- Electives (12 credit hours)

## Thesis Option—6 Credit Hours

The thesis option requires that students conduct an approved research study, write and successfully defend a thesis.

- XXX 6971 Thesis (6 credit hours)

The College of Engineering and Computer Science requires that all thesis defense announcements are approved by the student's adviser and posted on the college's website and on the Events Calendar at the College of Graduate Studies website at least two weeks before the defense date.

## Nonthesis Option—6 Credit Hours

The nonthesis option requires 6 more credit hours of electives in addition to the 12 credit hours

of electives described above. Furthermore, a comprehensive final examination is required for all nonthesis students. Please see the program director for information about this requirement.

- Electives (6 credit hours)

## Equipment Fee

Students in the Environmental Engineering MS program pay a \$16 equipment fee each semester that they are enrolled. Part-time students pay \$8 per semester.

## Independent Learning

A research or design project serves as the independent learning experience for thesis students. Nonthesis students are required to take at least one of the courses marked with an asterisk (\*), denoting an independent learning experience, and a comprehensive exam.

## APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening ([www.cecs.ucf.edu/prescreen](http://www.cecs.ucf.edu/prescreen)) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Résumé.
- Statement of educational, research, and professional career objectives.
- Three letters of recommendation.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their graduate program.

The GRE is not required, however, taking the GRE is highly recommended for students wishing to pursue a thesis. In order to be considered for any fellowships, a GRE score is required.

Those applying to the programs without a directly related undergraduate degree should closely check the prerequisites. For students with nontechnical undergraduate degrees, it is recommended that a second undergraduate degree in Environmental Engineering be completed before applying to graduate school.

Final articulation requirements will be determined by the department after students have been admitted and after discussions with their advisers.

## Application Deadlines

Environmental Engineering Sciences Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

## CONTACT INFO

### David Cooper PhD

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 ENG2 227

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## English MA

- Literary, Cultural, and Textual Studies
- Technical Communication

### PROGRAM DESCRIPTION

The Master of Arts (MA) degree in English offers two tracks: Literary, Cultural, and Textual Studies, and Technical Communication. Each track emphasizes the 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.

### APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

Applicants must choose a track in this program. Track(s) may have different requirements.

### CONTACT INFO

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Colbourn Hall 302E

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## Environmental Engineering MSEnvE

### PROGRAM DESCRIPTION

The Environmental Engineering MSEnvE program was created for students who have an undergraduate degree in environmental engineering or any other closely related degree in engineering. Applicants to the program are expected to be knowledgeable in topics including chemistry, process design, water resources, and air pollution. The 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, environmental water resources, and stormwater management. The program's overall mission is to prepare students for careers in environmental engineering with consulting firms; with industry; within federal, state, and local governments; and/or in higher education.

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.

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely



online format. For a detailed listing of enrollment requirements for international students, please visit [www.intl.ucf.edu](http://www.intl.ucf.edu). If you have any questions, please consult the International Services Center at 407-823-2337.

## CURRICULUM

The Environmental Engineering MSEnvE program offers both thesis and nonthesis options with each requiring 30 credit hours of courses beyond the bachelor's degree. Prerequisites are required depending upon the discipline of a student's bachelor's degree. The thesis option is primarily for those who can devote a full-time effort to their research project and is required for all students supported on contracts and grants, as well as any student receiving department financial support. The nonthesis option is recommended strongly for part-time students and requires a comprehensive final examination as a requirement for graduation.

### Total Hours Required:

**30** Credit Hours Minimum beyond the Bachelor's Degree

The Environmental Engineering MSEnvE program offers both thesis and nonthesis options, with each requiring 30 credit hours beyond the bachelor's degree. Students choosing the thesis option must take 15 credit hours of required courses, 9 credit hours of electives, and 6 thesis credit hours. Students choosing the non-thesis option must take 15 credit hours of required courses, 15 credit hours of electives, and pass a comprehensive final examination before graduating.

Students develop an individualized program of study with a faculty adviser. At least 24 credit hours in the program of study must be earned exclusive of thesis and research courses and Directed Research (XXX 6918) is not permitted in MSEnvE program of study.

The thesis option is primarily for students who can devote a full-time effort to their research and is required for all students supported on contracts and grants, as well as any student receiving department financial support. The nonthesis option is strongly recommended for part-time students and requires a comprehensive final examination as a requirement for graduation.

Research studies or projects are required in one or more courses. The research study or project will focus on reviewing and analyzing contemporary research or engineering issues in a student's particular specialization within the profession in order to help students acquire knowledge and skills pertaining to best practices in that specialization area.

### Prerequisites (Articulation)

The completion of prerequisite courses may be required before students can begin program course work. Please contact the program director to review your background and determine the prerequisites that you may need to take.

The following mathematics prerequisite requirement is for all students.

- Calculus through Differential Equations

The following prerequisites may be required for students with undergraduate degrees in Civil, Mechanical, or Chemical Engineering. Equivalent courses may be acceptable.

- ENV 3001 Introduction to Environmental Engineering (3 credit hours)
- CWR 4632 Water Resources I (4 credit hours)
- ENV 4120 Air Pollution Control (3 credit hours)
- ENV 4531 Environmental Engineering Operations and Processes I (3 credit hours)

The following prerequisites may be required for students with undergraduate degrees in other Engineering disciplines.

- ENV 3001 Introduction to Environmental Engineering (3 credit hours)
- CWR 4632 Water Resources I (4 credit hours)
- CWR 4633 Water Resources II (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 4531 Environmental Engineering and Processes I (3 credit hours)

The following prerequisites may be required 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 4632 Water Resources I (4 credit hours)
- CWR 4633 Water Resources II (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 4531 Environmental Engineering Operations and Processes I (3 credit hours)

### Required Courses—15 Credit Hours

All students are required to take the following two courses and then choose one course from each of the three groupings below.

- ENV 6015 Physical/Chemical Treatment Systems in Environmental Engineering (3 credit hours)
- ENV 6016 Biological Treatment Systems in Environmental Engineering\* (3 credit hours)

### *Waste Treatment/ Water Treatment/ Industrial Waste Treatment*

- ENV 6347 Hazardous Waste Incineration (3 credit hours)
- ENV 6558 Industrial Waste Treatment (3 credit hours)
- ENV 5410 Water Treatment (3 credit hours)
- EES 5318 Industrial Ecology (3 credit hours)

### *Air Quality*

- ENV 6106 Theory and Practice of Atmospheric Dispersion Modeling (3 credit hours)
- ENV 6126 Design of Air Pollution Controls\* (3 credit hours)

### *Water Resources*

- Any CWR course at the 5000 or 6000 level (3 credit hours)

**Note:** Courses with an asterisk (\*) provide an independent learning experience for students, consisting of a research or design project. Nonthesis students are required to take at least one of the courses with an asterisk.

### Elective Courses—9 Credit Hours

All students, both thesis and nonthesis, are required to take 9 credit hours of elective courses. 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 Option—6 Credit Hours

Thesis students are expected to complete an independent research project and then write and successfully defend their thesis.

- XXX 6971 Thesis (6 credit hours)

The College of Engineering and Computer Science requires that all thesis defense announcements be approved by the student's adviser and posted on the college's website and on the Events Calendar and on the College of Graduate Studies website at least two weeks before the defense date.

### Nonthesis Option—6 Credit Hours

Nonthesis students must take 6 more credit hours of electives in addition to the 9 credit hours of electives described above. Furthermore, a comprehensive final examination is required for successful completion of the degree. See the program director for details.

- Electives (6 credit hours)

### Equipment Fee

Students in the Environmental Engineering MSEnvE program pay a \$16 equipment fee each semester that they are enrolled. Part-time students pay \$8 per semester.

### Independent Learning

A research or design project serves as the independent learning experience for thesis students. Non-thesis students are required to take at least one of the courses marked with an asterisk (\*), denoting an independent learning experience, and a comprehensive exam.

## APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening ([www.cecs.ucf.edu/prescreen](http://www.cecs.ucf.edu/prescreen)) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Résumé.
- Statement of educational, research, and professional career objectives.

- Three letters of recommendation.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting applicants into their research programs.

The GRE is not required, however, taking the GRE is highly recommended for students wishing to pursue a thesis. In order to be considered for any fellowships, a GRE score is required.

Those applying to the programs without a directly related undergraduate degree should closely check the prerequisites. Students with nontechnical undergraduate degrees are recommended to complete a second undergraduate degree in Environmental Engineering before applying to graduate school.

Final articulation requirements will be determined by the department after students have been admitted and after discussions with their advisers.

### Application Deadlines

Environmental Engineering MSEnvE	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

## CONTACT INFO

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 Professor  
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 ENG2 227

# Exceptional Student Education K-12 MA

## PROGRAM DESCRIPTION

The Master of Arts in Exceptional Student Education K-12 program is for non-education majors or previously certified teachers in another content area. Graduates must be eligible for certification by the successful completion of the degree program in the area of exceptional student education (ESE) and must pass the Florida certification exams. Graduates will also receive Reading and ESOL endorsements upon successful completion of the program, if not currently endorsed. For additional information, contact [esegrad@ucf.edu](mailto:esegrad@ucf.edu).

This is a state-approved, initial teacher preparation program designed in compliance with Florida Statutes and State Board of Education Rule 6A-5.066. **Degree requirements are subject to change based on state mandates.** Students enrolled in this program should remain in close contact with their adviser to keep informed of any program changes implemented to comply with new state requirements.

Passing scores on ALL three applicable sections of the Florida Teacher Certification Examination (FTCE) are required prior to graduation. See [www.fldoe.org](http://www.fldoe.org) for available test dates and test sites. The exams include:

- FTCE General Knowledge Test (GKT) (If CLAST or GRE was used for admission.)
- FTCE Professional Education Test (PED)
- FTCE Subject Area Exam for Exceptional Student Education K-12
- In order to be “highly qualified”, students must take and pass a subject area examination in a specific content area.

This graduate program partners with the Peace Corps Paul D. Coverdell Fellows Program. If you are a returning Peace Corps volunteer, see Peace Corps Coverdell Fellows for more information about attending graduate school at UCF.

## CURRICULUM

The Master of Arts (MA) in Exceptional Student Education K-12 program requires a minimum of 39 credit hours beyond the bachelor’s degree including 9 credit hours of required core courses, 21 credit hours of specialization courses, and 9 credit hours of Internship and Reading Practicum. Individual learning projects, including research skills and action research, are embedded in the specialization courses and completed in authentic settings. In addition, a culminating Comprehensive Exam will be completed to demonstrate mastery of research, knowledge, skills, and dispositions of standards from accrediting educational agencies. Students entering the MA program without prior related courses and/or appropriate teacher certifications may need to complete courses in the MA Foundation Core/Co-requisite area as prescribed by Florida State Statutes for initial teacher preparation (ITP).

### Total Hours Required:

**39** Credit Hours Minimum beyond the Bachelor’s Degree

### Foundation Core/Co-requisites

These foundation core/co-requisite courses are prescribed by Florida State Statutes for initial teacher preparation (ITP). Students entering the Exceptional Student Education MA program without prior related courses and/or appropriate teacher certifications may need to complete courses in the Foundation Core/Co-requisite area.

If a student has successfully completed equivalent courses in the Foundation Core/Co-requisite area, as prescribed by Florida State Statutes for initial teacher preparation, then course waivers can be requested (see adviser).

- EEX 5051 Exceptional Children in the Schools (3 credit hours). Students are strongly advised to enroll in EEX 5051 early in their graduate program.
- EDF 6727 Critical Analysis of Social, Ethical, Legal, and Safety Issues Related to Education (3 credit hours)
- EDG 6415 Principles of Instruction and Classroom Management (3 credit hours)

- EDF 6237 Principles of Learning and Introduction to Classroom Assessment (3 credit hours)
- RED 5147 Developmental Reading (3 credit hours)
- RED 5517 Classroom Diagnosis (3 credit hours). Please note that RED 5517 is currently not available online.

## Required Courses—30 Credit Hours

### Core—9 Credit Hours

- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- TSL 5085 Teaching Language Minority Students in K-12 Classrooms (3 credit hours)
- TSL 6250 Applied Linguistics in ESOL (3 credit hours)

TSL 5085 and TSL 6250 are required courses leading to ESOL endorsement. Students should see an adviser if they hold a current ESOL endorsement.

### Specialization—21 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 6295 Assessment and Curriculum Prescriptions for the Exceptional Population (3 credit hours)
- EEX 6524 Organization and Collaboration in Special Ed (3 credit hours)
- EEX 6612 Methods of Behavioral Management (3 credit hours)
- EEX 6342 Seminar: Critical Issues in Special Education (3 credit hours)

## Internship and Practicum—9 Credit Hours

- EEX 6946 Graduate Internship: ESE (6 credit hours)
- RED 5948 Practicum in Reading Assessment and Instruction (3 credit hours)

## Additional Graduation Requirements

- Pass all applicable sections of the Florida Teacher Certification Examination. See <http://www.fl.nesinc.com/> or [www.fldoe.org](http://www.fldoe.org) for additional information about test dates and resources.
- Pass Comprehensive Exam.
- Complete a LiveText Professional Portfolio.
- Complete a TESOL Portfolio.
- Compliance with all university and graduate student policies.

## Independent Learning

The Exceptional Student Education K-12 MA program requires the completion of an Action Research Project, Internship, and Reading Practicum. These independent learning activities take place in authentic settings where students must apply, reflect upon, and refine their knowledge, skills, and dispositions acquired in the program.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A copy of current ESOL endorsement, IF applicable.
- A copy of current Reading Endorsement, IF applicable.
- A copy of current professional teaching certificate, IF applicable.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

This program does not require GRE for admission, but in accordance with Florida Statute 1004.4 and State Board of Education Rule 6A-5.066, admission to this graduate-level, state-approved initial teacher



preparation program requires one of the following: 1) a composite verbal-quantitative GRE score of at least 1000, **or** 2) having previously passed all four parts of the College Level Academic Skills Test (CLAST), **or** 3) passing all four parts of the Florida Teacher Certification Examination/General Knowledge Test (FTCE/GKT). Applicants who do not meet this requirement via option 1 (GRE) or 2 (CLAST), must take and pass the FTCE/GKT for admission.

Students may not switch from an MA program to an MEd program, or vice versa, without going through the university's admission process.

## Application Deadlines

Exceptional Student Education K-12 MA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

## CONTACT INFO

**Matthew Marino PhD**  
 matthew.marino@ucf.edu  
 Telephone: 407-823-1227  
 ED 2315L

# Exceptional Student Education MEd

## PROGRAM DESCRIPTION

The Exceptional Student Education MEd program prepares exceptional education teachers to work in programs serving Pre-K-12 students with disabilities. The program is designed for teachers already certified in exceptional student education (or other certification in special education) to enhance their knowledge, skills, and dispositions.

This graduate program partners with the Peace Corps Paul D. Coverdell Fellows Program. If you are a returning Peace Corps volunteer, see Peace Corps Coverdell Fellows for more information about attending graduate school at UCF.

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit [www.intl.ucf.edu](http://www.intl.ucf.edu). If you have any questions, please consult the International Services Center at 407-823-2337.

## CURRICULUM

The Exceptional Student Education Master of Education (MEd) program is designed for teachers already certified in exceptional student education to enhance their knowledge, skills and dispositions. It requires 33 credit hours beyond the bachelor's degree including a 3-credit-hour research course, 24 credit hours of specialization courses and 6 credit hours of either a thesis or electives approved by an adviser. A Comprehensive Examination is also required and serves as the culminating experience in the program. Individual Learning Projects, including research skills and action research in authentic settings, are embedded in the specialization courses.

### Total Hours Required:

**33 Credit Hours Minimum beyond the Bachelor's Degree**

**Required Course—3 Credit Hours**

- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)

Students are strongly encouraged to enroll in this course early in their graduate program.

**Specialization Courses—24 Credit Hours**

The following courses are specialization courses. Please see your adviser for guidance regarding the selection of the courses.

- 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 6295 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 (for completion of the Severe and Profound Endorsement ONLY) or elective approved by adviser (3 credit hours)

\*EEX 6061 recommended to be completed successfully prior to enrollment in EEX 6107.

\*\*EEX 6107 may be taken only AFTER 18 hours of graduate coursework in Exceptional Student Education have been completed successfully.

**Thesis Option—6 Credit Hours**

- EEX 6971 Thesis (6 credit hours)

**Nonthesis Option—6 Credit Hours**

Nonthesis students choose one of the following options:

- EEX 6909 Research Report (6 credit hours) OR

- Two additional electives approved by an adviser (6 credit hours)

Suggested areas of concentration may be taken as approved electives within the MEd program. Please see complete listings of additional courses in Certificate/Endorsement Programs in Exceptional Student Education for possible electives (Autism, Pre-K Disabilities, Severe and Profound, Special Education, Middle Grades Mathematics, etc.). Electives must be approved by an adviser.

**Comprehensive Examination**

The culminating Comprehensive Examination must be successfully completed to demonstrate mastery of research, skills, knowledge and dispositions of standards from accrediting educational agencies prior to graduation.

**Independent Learning**

The MEd program may require a Supervised Teaching Practicum as an elective that is part of the Severe and Profound certificate. Practica are independent learning activities that take place in authentic settings in which students must apply, reflect on and refine knowledge and skills acquired in the program. Please see your adviser for further information.

**APPLICATION REQUIREMENTS**

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Current Florida Professional Teaching Certificate in Exceptional Student Education or have completed all the requirements for that Professional Teaching Certificate.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

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 MED program with approvals from appropriate College and Department committees and advisors.

Students may not switch from an MA program to an MED 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 MED program.

## Application Deadlines

Exceptional Student Education MEd	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

## CONTACT INFO

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 ED 2315L

# Forensic Science MS

- Forensic Analysis Track
- Forensic Biochemistry Track

## PROGRAM DESCRIPTION

The Master of Science in Forensic Science program is designed to service the needs of both practicing professionals and full-time students who desire an advanced program of study in forensic science. The program is comprised of three concentrations: Forensic Analysis, Forensic Biochemistry and Forensic Professional. The Forensic Biochemistry and Forensic Analysis concentrations require the student to perform original research and defend a written thesis. The Forensic Professional concentration is a nonthesis option comprised of course work and an independent study capstone project.

Forensic Science is a highly interdisciplinary science, as reflected in the following programs 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.

## Thesis Options

The grounding in scientific research methodology provided by the thesis requirement is a central focus of the thesis-based concentrations. The Forensic Analysis and Biochemistry concentrations are comprised of 32 credit hours of study beyond the BS degree. 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 adviser and approve the research topic. This research culminates in the writing and presentation of the thesis.

The student's research adviser will select the thesis examination committee, consisting of two UCF faculty members and at least one other acknowledged forensic expert in the field. The student will present his/her thesis for examination by the committee. The thesis must be judged worthy of publication by the review committee and may not be submitted for examination until approved. For students choosing to conduct research at non-

UCF sites, the thesis adviser may visit the student's laboratory where the research is to be performed, before the research begins and on a regular basis until the work is complete.

**Forensic Analysis Concentration:** The Forensic Analysis concentration emphasizes the application of modern chromatographic, spectroscopic and micro-analytical techniques to problems in forensic science. This specialized program option is not designed for international applicants.

**Forensic Biochemistry Concentration:** The Forensic Biochemistry concentration has a strong biochemistry-DNA focus to serve the needs of supervisory personnel in DNA sections of crime laboratories. National DNA standards mandate that such personnel have advanced degrees. This specialized program option is not designed for international applicants.

### Nonthesis Option

The nonthesis concentration is specifically designed for the forensic analyst who currently holds employment in an operational forensic laboratory or has previously worked for a minimum of three years in an operational forensic laboratory. Applicants who do not meet these criteria must apply for one of the thesis-based concentrations. International applicants should apply for the Forensic Professional Concentration.

**Forensic Professional Concentration:** The Forensic Professional concentration is comprised of 34 credit hours of study beyond the bachelor of science degree but does not require an original laboratory-based research project. The Forensic Professional concentration culminates in a one-credit-hour independent study capstone project performed under the direction of one of the faculty members in the program.

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit [www.intl.ucf.edu](http://www.intl.ucf.edu). If you have any questions, please consult the International Services Center at 407-823-2337.

## CURRICULUM

The Forensic Science MS degree is comprised of 32 or 34 credit hours of study beyond the BS degree with intensive specialization in one of three concentrations: Forensic Analysis, Forensic Biochemistry or Forensic Professional. Full-time students should complete the degree in two years of continuous full-time study, while part-time students will generally finish the degree in four years.

The program in Forensic Analysis and Forensic Biochemistry is research-based and requires original and independent research resulting 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. These concentrations require 32 credit hours, including 9 credit hours of required courses, 15 credit hours of concentration courses, and 8 credit hours of Thesis.

The program in Forensic Professional requires 34 credit hours, including 9 credit hours of required courses, 24 credit hours of elective courses and one credit hour of independent study as the capstone experience. This concentration does not require an original laboratory-based research project.

Students with undergraduate degrees in forensic science, chemistry, biochemistry, physics and biology are encouraged to apply.

### Total Hours Required:

**32-34** Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—9 Credit Hours

Students in all concentrations take the following required courses.

- CHS 5504 Topics in Forensic Science (3 credit hours)
- CHS 5596 The Forensic Expert in the Courtroom (3 credit hours)
- CHS 6513 Quality Assurance for Forensic Scientists (3 credit hours)

## Concentration Courses—15-24 Credit Hours

### Forensic Analysis Concentration—15 Credit Hours

Students in the Forensic Analysis concentration take the following courses and complete a thesis.

- STA 5206 Statistical Analysis (3 credit hours) or equivalent course
- CHM 5235 Applied Molecular Spectroscopy (3 credit hours)
- CHM 6492 Atomic Spectroscopy (3 credit hours)
- CHS 6546 Forensic Analysis of Ignitable Liquids (3 credit hours)
- CHS 6545 Forensic Analysis of Explosives (3 credit hours)

### Forensic Biochemistry Concentration—15 Credit Hours

Students in the Forensic Biochemistry concentration take the following courses and complete a thesis.

- STA 5206 Statistical Analysis (3 credit hours) or equivalent course
- CHS 6535L Forensic Analysis of biological Materials (3 credit hours)
- CHS 6535 Forensic Molecular biology (3 credit hours)
- CHS 6536 Population Genetics and Genetic Data Analysis (3 credit hours)
- BCH 6740 Advanced Biochemistry (3 credit hours)

### Forensic Professional Concentration—24 Credit Hours

Students in the Forensic Professional concentration are required to take an additional 24 credit hours of electives with approval of their faculty adviser and complete the Capstone course. Elective courses may be selected from the courses listed below.

- STA 5206 Statistical Analysis (3 credit hours)
- CHM 5235 Applied Molecular Spectroscopy (3 credit hours)
- CHM 6492 Atomic Spectroscopy (3 credit hours)

- CHS 6546 Forensic Analysis of Ignitable Liquids (3 credit hours)
- CHS 6545 Forensic Analysis of Explosives (3 credit hours)
- CHS 6535L Forensic Analysis of Biological Materials (3 credit hours)
- CHS 6535 Forensic Molecular Biology (3 credit hours)
- CHS 6536 Population Genetics and Genetic Data Analysis (3 credit hours)
- BCH 6740 Advanced Biochemistry (3 credit hours)
- CGS 5131 Computer Forensics I (3 credit hours)
- CNT 6418 Computer Forensics II (3 credit hours)
- CHS 5518 Forensic Examination of Digital Evidence (3 credit hours)
- CIS 6207 Practice of Digital Forensics (3 credit hours)
- CAP 6133 Advanced Topics in Computer Security and Computer Forensics (3 credit hours)

## Thesis—8 Credit Hours

The Forensic Analysis and Forensic Biochemistry concentrations require the student to conduct original research and successfully defend a written thesis.

- CHS 6971 Thesis (8 credit hours)

## Capstone—1 Credit Hour

The capstone experience in the Forensic Professional concentration requires one credit hour of Independent Study, which culminates in the submission of a required report on a pre-approved topic. This study will comprise either (1) a review of the current literature on a particular forensic science research topic area, or (2) a holistic case study dealing with a particular criminal case in which forensic evidence played a significant role.

- CHS 6908 Independent Study (1 credit hour)

## Equipment Fee

Full-time students in the Forensic Science MS program pay a \$90 equipment fee each semester



that they are enrolled. Part-time students pay \$45 per semester.

### **Independent Learning**

Students in the Forensic Analysis and Forensic Biochemistry concentrations are required to conduct original research and defend a written thesis. Students in the Forensic Professional concentration complete a capstone experience that requires independent research and a report.

## **APPLICATION REQUIREMENTS**

Applicants must choose a track in this program. Track(s) may have different requirements.

## **CONTACT INFO**

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# **Health Care Informatics MS, Professional Science Masters Program**

## **PROGRAM DESCRIPTION**

The Department of Health Management and Informatics offers a Professional Science Master's Program in Health Care Informatics (MS-HCI), a program designed to meet the growing demand for highly trained health care informatics professionals.

The Health Care Informatics program is unique in that it focuses on providing students with a thorough grounding in the clinical, management and business aspects of the health informatics field. Credits must be taken in health-services management, health care informatics, internship, a database course and a seminar on health care informatics research.

The program is offered online in a distance-learning cohort format to offer access and convenience to working professionals. Applications and admissions are accepted once per year for fall term only. Students with professional experience in health care, new graduates from bachelor's programs in health services and students seeking career changes to the health care industry are all encouraged to apply.

The Health Care Informatics program is entirely online. This program charges an enhanced tuition rate. Please visit Continuing Education for more information on tuition costs. Students on a student visa (F-1, J-1) must contact UCF's International Services Center to ensure they are in compliance with enrollment and visa requirements. These visas have certain restraints on enrolling in an entirely online program.

For state employees (including UCF employees), the tuition waiver will not cover courses in the HCI program.

The program is offered through the Continuing Education Division of UCF. As such, the program charges a fee in lieu of tuition. Students considering reimbursement from their employers, should double

check their employer's reimbursement policies as some organizations may not reimburse for fees.

The successful completion of the MS - HCI degree does NOT qualify graduates to sit for the Registered Health Information Administrator (RHIA) or the Registered Health Information Technician (RHIT) certifications.

However, graduates WITH EXPERIENCE are eligible to sit for the Certified Health Data Analyst (CHDA) certification after the successful completion of your MS - HCI degree.

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit [www.intl.ucf.edu](http://www.intl.ucf.edu). If you have any questions, please consult the International Services Center at 407-823-2337.

## CURRICULUM

The Professional Science Master's Program in Health Care Informatics will be awarded upon completion of 36 credits of prescribed graduate study. Courses are offered all online as a cohort program with all students completing two courses per semester. All students must take the courses in the prescribed sequence, and during the last semester in the program students complete an internship and Capstone course. Visit the program website listed above to see the program cohort schedule.

### Total Hours Required:

**36** Credit Hours Minimum beyond the Bachelor's Degree

### Prerequisites

There are no prerequisites required for the program. However, we strongly suggest taking courses in statistics and a writing course. Also, students without the necessary professional or educational experience are required to take three foundational courses in health services administration, health information management, and medical terminology. These can be completed during your enrollment in the MS - HCI program.

- HIM 6007 Survey of Health Information Management (1 credit hour)
- HIM 6267 Foundation of Health Services Administration (1 credit hour)
- HIM 6477 Medical Terminology for Informatics Professionals (1 credit hour)

### Required Courses—36 Credit Hours

- HIM 5118C Health Care Informatics and Information Technology (4 credit hours)
- HIM 6119C Biostatistics and Decision Analysis (4 credit hours)
- HIM 6122C System Analysis and Design (4 credit hours)
- HIM 6123C Health Informatics Applications—Administrative, Financial and Clinical Project Management (4 credit hours)
- HIM 6124C Health Care Data Architecture and Modeling (4 credit hours)
- HIM 6125 Health Care Informatics Capstone (3 credit hours)
- HIM 6217C Health Care Database Management (4 credit hours)
- HIM 6464C Epidemiology, Analytics and Quality Management (4 credit hours)
- HIM 6935 Seminar on Current Issues in Healthcare (2 credit hours)
- HIM 6947 Health Care Informatics Internship (3 credit hours)

### Cost Per Credit Hour

For the cost of the Health Care Informatics MS program, please visit Continuing Education at [www.ce.ucf.edu/informatics](http://www.ce.ucf.edu/informatics).

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate admission requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Goal statement indicating how the Health Care Informatics MS program will enhance career

goals or why the applicant wants to pursue this degree (at least 1 page, doubled-spaced, 12 pt).

- Résumé (no longer than two pages).
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation and TOEFL scores. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.
- A computer-based score of 220 (or 80 internet-based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant’s degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 6.5.

Admission to the program is competitive, based on evaluation of the applicant’s abilities, past academic performance, work experience, and the match of the program with career goals. The Professional Science Master’s Program in Health Care Informatics accepts the most qualified students. Not all students who apply may be accepted, even if minimum requirements are met. Furthermore, personal phone interviews may be used as part of the evaluation process.

**CONTACT INFO**

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 HPA2 210K

**Application Deadlines**

Health Care Informatics MS, Professional Science Masters Program	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

## Health Sciences MS

- Executive Health Services Administration Track
- Health Services Administration Track

### PROGRAM DESCRIPTION

The College of Health and Public Affairs offers a Master of Science degree in Health Sciences with tracks in Health Services Administration and the Executive Masters of Science in Health Services Administration (e-MSHSA). The track in Health Services Administration is a traditional program and the Executive Masters of Science in Health Services Administration (e-MSHSA) is geared towards professionals with at least three years of Health Management experience.

### APPLICATION REQUIREMENTS

Applicants must choose a track in this program. Track(s) may have different requirements.

### CONTACT INFO

**Kourtney Nieves PhD**  
 kourtney.nieves@ucf.edu  
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 HPA 2, Room 206

## Executive Health Services Administration Track

### TRACK DESCRIPTION

Health care is America's fastest growing service industry. The Department of Health Management and Informatics offers a Master of Science in Health Sciences Executive track in Health Services Administration (e-MSHSA) that focuses on the structure of health care organizations and examines important issues that impact the health care industry. The e-MSHSA program is attractive to working health care professionals due to the online delivery format, which allows students to earn an MSHSA degree from any location and at times convenient to each student.

Students admitted into this program must possess a minimum of three (3) years of relevant health care management experience. Students enroll in the program as a cohort with a maximum of 30 students. The cohort model provides faculty the opportunity to discuss issues in greater detail and allows students the ability to network amongst their peers. The program will be delivered in an online format.

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit [www.intl.ucf.edu](http://www.intl.ucf.edu). If you have any questions, please consult the International Services Center at 407-823-2337.

### CURRICULUM

#### Total Hours Required:

**44 Credit Hours** Minimum beyond the Bachelor's Degree

The Executive Health Services Administration track in the Health Sciences MS program requires a minimum of 44 credit hours beyond the

bachelor's degree. Students must pass the capstone course at the end of their studies as part of HSA 6188 Capstone in HSA. Knowledge of personal computers is required.

This program can be completed completely online with a course sequence that is lock-step and students must follow the required sequence of course work. The term each course is offered is indicated in the course listing below. Students must consult with their academic adviser to develop a plan of study.

## Required Courses—44 Credit Hours

### Core—40 Credit Hours

- HSA 6766 Health Care Statistics and Research (4 credit hours) – Offered first Fall
- HSA 6345 Leadership for Health Care Executives (4 credit hours) – Offered first Fall
- HSA 6179 Financial Accounting for Health Care Managers (4 credit hours) – Offered first Spring
- HSA 6346 Health Care Organizational Behavior and Human Resource Management (4 credit hours) – Offered first Spring
- HSA 6505 Health Care Quality and Risk Management (4 credit hours) – Offered first Summer
- HSA 6178 Financial Management for Health Care Managers (4 credit hours) – Offered first Summer
- HSA 6197C Health Care Informatics for Health Care Leaders (4 credit hours) – Offered second Fall
- HSA 6156 Health Care Economics and Policy (4 credit hours) – Offered second Fall
- HSA 6520 Epidemiology and Health Planning (4 credit hours) – Offered second Spring
- HSA 6555 Health Care Ethics and Law (4 credit hours) – Offered second Spring

### Capstone—4 Credit Hours

A final written examination experience is required of all students in the program. This requirement will be met through successful completion of the capstone course (HSA 6188). To successfully pass this course, students must earn a grade of “A” or

“B.” There is one exception: students who earn no other “C” grades while in the HSA program will be permitted to pass this course with a grade of “C.”

- HSA 6188 Health Care Capstone and Strategic Management (4 credit hours; see description below) – Offered second Summer

## Cost Per Credit Hour

For the Executive Health Services Administration track, the cost per credit hour is \$833.02\*

\*Fee is subject to change

## Additional Program Requirements

Students must maintain a program of study and graduate status GPA of 3.0 or higher and can only graduate with a graduate status GPA of 3.0 or higher.

Additionally, a student may apply a maximum total of six semester credit hours of “C” grades, or the “C” grade credits associated with at most two classes, whichever is greater, to satisfy degree program requirements. Students who earn more than six credit hours or two “C” grades may be dismissed from further study in the major. A student who earns a grade of “D” or below will be dismissed from further study in the Executive HSA program. In any course repeated, a student must earn a grade of “B” or better. The Executive Health Services Administration program generally does not use plus/minus grading.

## Independent Learning

Independent learning is demonstrated throughout the curriculum through the process of inquiry and dialogue. Tangible research projects, scholarly papers, or our capstone experience also contribute to the self-development of our students. The research study and final report will focus on reviewing and analyzing contemporary research in a student's particular specialization within the profession in order to help students acquire knowledge and skills pertaining to research-based best practices in that specialization area.



## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Goal statement indicating how the Health Science MS program will enhance career goals.
- Résumé (no longer than two pages).
- Evidence of a minimum of three (3) years or more off relevant professional experience in healthcare.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation and TOEFL scores. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.
- A computer-based score of 220 (or 80 internet-based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 6.5.

Admission to the program is competitive, based on evaluation of the applicant's abilities, past academic performance, work experience, and the match of the program with career goals. The Executive Health Services Administration track accepts the most qualified students. Not all students who apply may be accepted, even if minimum requirements are met.

Students are admitted to the Executive MSHSA track during the fall semester of each academic year. The program utilizes a cohort model; thus, only full-time enrollment is available (there are no part-time options available).

The program is offered through the Continuing Education Division of UCF. As such, the program charges a fee in lieu of tuition. Students considering reimbursement from their employers should double

check their employer's reimbursement policies as some organizations may not reimburse for fees.

UCF employees and state employees cannot use the tuition waiver for this program.

### Application Deadlines

Executive Health Services Administration Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	July 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

### CONTACT INFO

#### **Bernardo Ramirez MD, MBA**

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# Health Services Administration Track

## TRACK DESCRIPTION

The Department of Health Management and Informatics offers a Master of Science in Health Sciences with a track in Health Services Administration. The HSA track is 51 credit hours beyond the bachelor's degree and is accredited program by the Commission on Accreditation of Healthcare Management Education (CAHME).

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.

The HSA track is attractive to working professionals with its flexibility in course offerings and times. Students will take courses in a variety of formats with the ability to choose from courses that are offered face-to-face, during evening hours, and occasionally online.

Working professionals with 3 or more years of health care management experience may wish to consider the Executive Masters of Science in Health Services Administration (e-MSHSA): [www.cohpa.ucf.edu/hmi/emshsa.cfm](http://www.cohpa.ucf.edu/hmi/emshsa.cfm).

## CURRICULUM

### Total Hours Required:

**51** Credit Hours Minimum beyond the Bachelor's Degree

The Health Services Administration track in the Health Sciences MS program requires a minimum of 51 credit hours beyond the bachelor's degree. This includes 42 credit hours of required courses, including the capstone course, 6 credit hours

of electives, and 3 credit hours of an internship. The degree program also requires 6 credit hours of prerequisite courses, which may be taken after admission into the program. Knowledge of personal computers is also required.

Most required courses alternate between Fall, Spring, and Summer semesters and are not offered every term. The term each course is regularly offered is indicated in the course listing below. Students must meet with their academic adviser to develop a plan of study. A schedule of the program's curriculum can be found at the program website above.

The Master of Science in Health Services Administration program offers courses in both mixed-mode and face-to-face formats. This program cannot be completed online. Students with professional healthcare experience who are interested in an entirely online program can pursue the Executive Health Services Administration track in the Health Sciences MS Program.

## Prerequisites

Students must complete prerequisite course work, including knowledge of finance and economics. Upon admission to the MS-HSA program, students will be required to complete 2 prerequisite assessment tests. Students that receive a passing score of a 70% or higher will be exempt from taking the prerequisite in the respective area. These prerequisite courses may be taken after admission to the program.

- HSA 5177 Foundation of Health Care Finance (3 credit hours)
- HSA 5436 Foundation of Health Care Economics (3 credit hours)

## Required Courses—42 Credit Hours

### Core—39 Credit Hours

- HSA 5198 Health Care Decision Sciences and Knowledge Management (3 credit hours) - offered Spring
- HSA 6119 Health Care Organization and Management I (3 credit hours) - offered Spring
- HSA 6128 Health Care Services Management (3 credit hours) - offered Spring

- HSA 6155 Health Economics and Policy (3 credit hours) - offered Spring
- HSA 6342 Health Care Human Resources Management (3 credit hours) - offered Fall
- HSA 6385 Health Care Quality Management (3 credit hours) - offered Summer
- HSC 6636 Issues and Trends in the Health Professions (3 credit hours) - offered every semester
- HSC 6911 Scientific Inquiry in the Health Professions (3 credit hours) - offered Fall
- PHC 6000 Managerial Epidemiology (3 credit hours) - offered Summer
- PHC 6146 Health Planning and Policy (3 credit hours) - offered Fall
- PHC 6160 Health Care Finance I (3 credit hours) - offered Fall
- PHC 6164 Health Care Finance II (3 credit hours)- offered Spring
- PHC 6420 Case Studies in Health Law (3 credit hours) - offered Spring
- HSA 5509 Health Care Risk Management (3 credit hours)
- PUP 6607 Politics of Health Care (3 credit hours)
- NGR 5660 Health Disparities: Issues and Strategies (3 credit hours)
- ENC 5237 Writing for the Business Professional (3 credit hours)
- GEY 5648 Gerontology: An Interdisciplinary Approach (3 credit hours)
- Or an alternative graduate-level course at the discretion of the Program Director

### Capstone—3 Credit Hours

A final written examination experience is required of all students in the program. This requirement will be met through successful completion of the capstone course (HSA 6925). To successfully pass this course, students must earn a grade of “A” or “B.” There is one exception: students who earn no other “C” grades while in the HSA program will be permitted to pass this course with a grade of “C.”

- HSA 6925 Capstone in HSA (3 credit hours) - offered every semester

### Elective Courses—6 Credit Hours

Choose two courses from the following list:

- HSC 6656 Health Care Ethics (3 credit hours)
- HSA 6112 International Health Care (3 credit hours)
- HSA 6512 Health Care Leadership (3 credit hours)
- HSA 6195 Management and Health Information Systems (3 credit hours)
- HSA 6536 Health and Medical Terminology for Health Administrators (3 credit hours)

### Internship—3 Credit Hours

As a requirement for the Master of Science in Health Services Administration, students must complete an internship within the administrative realm of an actual health care organization. Students will work directly with the Director of Internships to select an organization of interest. Students are required to fulfill 240 contact hours within their selected organization over the course of the semester, or approximately 18-20 hours per week.

Many health care organizations will require that students complete a background check, which may include, but is not be limited to, law enforcement finger printing, state driving records, credit reports, and criminal records check. The cost of the background check is the student’s responsibility. Background checks may take time to complete and, subsequently, could delay the student’s internship placement. It is advised that, in the semester prior to the internship, the student contact the organization directly to obtain further information on the organization’s background check requirements. Students who have potential background issues must contact the Director of Internships to schedule an interview in order to discuss the impact on field placement. The Health Services Administration Program cannot guarantee internship placement or subsequent degree completion for students who do not pass background checks

- HSA 6946 Internship (3 credit hours) - offered every semester

Students with 3 or more years of relevant health care management experience may qualify for a research-based internship option and are advised to contact the Director of Internships.

## Independent Learning

Independent learning is demonstrated throughout the curriculum through the process of inquiry and dialogue. Tangible research projects, scholarly papers, internships, and the capstone experience also contribute to the self-development of our students.

## Additional Program Requirements

Students must maintain a program of study and graduate status GPA of 3.0 or higher and can only graduate with a graduate status GPA of 3.0 or higher.

Additionally, students may not earn more than six credit hours of “C” grades while in the program. Students who receive more than six credit hours of “C” may be dismissed from further study in the major. A student who earns a grade of “D” or below will be dismissed from further study in the HSA program. In any course repeated, a student must earn a grade of “B” or better. The Health Services Administration program generally does not use plus/minus grading.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Goal statement indicating how the Health Sciences MS program will enhance career goals.
- Résumé (no longer than two pages).
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Admission to the program is competitive, based on evaluation of the applicant’s abilities, past academic performance, work experience, and the match of the program with career goals. The Health Services Administration track accepts the most qualified

students. Not all students who apply may be accepted, even if minimum requirements are met. Applicants who do not meet admission criteria are subject to an interview.

Students are admitted to the Health Services Administration track in the fall and spring semesters. Full and part-time plans of study are available for both fall and spring admission cycles.

## Application Deadlines

Health Services Administration Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	July 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

## CONTACT INFO

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 HPA 2, Room 206

# History MA

- Accelerated Graduate Program in History Track
- Public History Track

## PROGRAM 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 PhD, those wishing to improve their proficiency as secondary school teachers, and those who seek to enrich their intellectual lives. The program offers Public History and Accelerated Undergraduate to Graduate tracks.

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, twentieth-century mass movements, Nazism and anti-Semitism in Central Europe, Latin American history, and European history, as well as other areas.

## CURRICULUM

The History MA program requires a minimum of 36 credit hours beyond the bachelor's degree, including 6 credit hours of core courses, 18 credit hours in an area of specialization, and 6 credit hours of electives outside of the area of specialization. 18 hours of the 36 required must be at the 6000 level.

### Total Hours Required:

**36** Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—24 Credit Hours

#### Core—6 Credit Hours

- HIS 6159 Historiography (3 credit hours)
- HIS 6905 History Capstone Class (3 credit hours)

#### Specialization—18 Credit Hours

Students may specialize in one of the two areas below. Specialization courses must be approved by the student's adviser.

#### *Eastern Hemisphere: African, Asian, European, or Middle Eastern*

- AFH 5259 Colloquium in African History (3 credit hours)
- AFH 5806 The Historiography of Slavery in Africa (3 credit hours)
- ASH 5227 The Arab-Israeli Conflict (3 credit hours)
- ASH 5229 History of the Middle East (3 credit hours)
- ASH 5408 Colloquium in Modern China (3 credit hours)
- ASH 5485 U.S. China Relations (3 credit hours)
- ASH 5925 Colloquium in South Asian History (3 credit hours)
- EUH 5247 Colloquium in Europe from 1919-1939 (3 credit hours)
- EUH 5285 Colloquium in Europe Since World War II (3 credit hours)
- EUH 5415 Rome and Early Christianity (3 credit hours)
- EUH 5419 Colloquium in Roman History (3 credit hours)
- EUH 5459 Colloquium in French 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 5905 European Imperialism (3 credit hours)
- EUH 5925 Colloquium in Medieval Europe (3 credit hours)
- EUH 6939 Seminar in European History (3 credit hours)

#### *Western Hemisphere: Caribbean, North American, or South American*

- AMH 5116 Colloquium in U.S. Colonial History (3 credit hours)
- AMH 5137 Colloquium in U.S. Revolutionary Period (3 credit hours)



- AMH 5149 Colloquium in Early U.S. History, 1789-1815 (3 credit hours)
- AMH 5169 Colloquium in Age of Jackson (3 credit hours)
- AMH 5176 Colloquium in Civil War and Reconstruction (3 credit hours)
- AMH 5219 Colloquium in Late 19th Century U.S. (3 credit hours)
- AMH 5296 Colloquium in 20th Century U.S. (3 credit hours)
- AMH 5378 History of Technology (3 credit hours)
- AMH 5391 Colloquium in U.S. Cultural History (3 credit hours)
- AMH 5406 Colloquium in American South (3 credit hours)
- AMH 5446 Colloquium in U.S. Frontier (3 credit hours)
- AMH 5515 Colloquium in U.S. Diplomatic History (3 credit hours)
- AMH 5566 Colloquium: Women in American History (3 credit hours)
- AMH 5925 Colloquium in US Military History (3 credit hours)
- AMH 5937 Special Topics in American History (3 credit hours)
- AMH 6429 Seminar in Community and Local History (3 credit hours)
- AMH 6592 Seminar in Oral History (3 credit hours)
- AMH 6939 Seminar in U.S. History (3 credit hours)
- HIS 6068 Seminar in Documentary Editing (3 credit hours)
- LAH 5713 Colloquium in U.S.-Latin American Relations (3 credit hours)
- LAH 5920 Colloquium in Latin American History (3 credit hours)
- LAH 6936 Seminar in Latin American History (3 credit hours)

### **Elective Courses—6 Credit Hours**

Students will choose history courses outside their area of specialization.

- Electives (6 credit hours)

### **Thesis—6 Credit Hours**

- HIS 6971 Thesis (6 credit hours minimum)

The culminating event of the program is six credit hours at the 6000-level developing and sustaining a historical argument in writing according to the accepted professional and ethical standards of the discipline.

### **Thesis Defense**

The final step in completing the thesis requirement is a one-hour oral defense before the thesis committee.

### **Comprehensive Examinations**

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. Students are provided two attempts at successfully passing the examinations. 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.

### **Foreign Language**

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.

## **APPLICATION REQUIREMENTS**

In addition to the general UCF graduate application requirements, applicants must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in History (or an equivalent).
- A 3.25 GPA in all upper division history courses taken as an undergraduate student.
- Official, competitive GRE score taken in the last five years.

- A written statement describing 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.
- A computer-based score of 233 (or 91 internet-based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant’s degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.

Applicants who hold an undergraduate degree in History but do not have a GPA of 3.0 in all work attempted while registered as an undergraduate student, or while registered as an upper-division undergraduate student (normally based on the last sixty attempted semester hours), or a 3.0 GPA in their history courses, or do not have a competitive score on the combined verbal-quantitative sections of the GRE 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 3.3 GPA or higher in the graduate-level history courses they take under this status.

Generally, 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 3.25 GPA in these courses, 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.

If, in addition, applicants do not meet one of the other requirements for entry, such as a GPA of 3.0 in all work attempted while registered as an undergraduate student, or while registered as an upper-division undergraduate student (normally based on the last sixty attempted semester hours), or a competitive score on the combined verbal/quantitative sections of the GRE and/or on the verbal portion of the GRE, they must complete 12 hours of course work at the 3000 and 4000 level

with GPA of 3.5 before they can be admitted to the graduate program.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant’s abilities, past performance, recommendations, match of this program and faculty expertise to the applicant’s career/academic goals, and the applicant’s potential for completing the degree.

### Application Deadlines

History MA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jun 1	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

### CONTACT INFO

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 Colbourn Hall 537

# Accelerated Graduate Program in History Track

## TRACK DESCRIPTION

The Accelerated Undergraduate/Graduate track in the History MA program 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.

## CURRICULUM

### Total Hours Required:

**36** Credit Hours Minimum beyond the Bachelor's Degree

The History BA is awarded after completion of 36 hours of history courses and all other university requirements, and the History MA 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 work
- 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

The History MA program requires a minimum of 36 credit hours beyond the bachelor's degree, including 12 credit hours of required courses, 18 credit hours in an area of concentration, and six credit hours of electives outside of the area of concentration. Students must pass a foreign language competency test, pass a written examination in two fields, and successfully complete and defend their thesis. No

graduate credit is given for any grade lower than “B-.”

## APPLICATION REQUIREMENTS

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 toward the end of their junior year or after 12 hours of upper-level history course work.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A 3.5 GPA or higher in history courses.
- Official, competitive GRE score taken within the last five years.
- An essay indicating reasons for wishing to complete the combined bachelor’s/master’s program.
- Three letters of recommendation from the History Department faculty.
- A computer-based score of 233 (or 91 internet-based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant’s degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.

Students will be formally admitted to the master’s program following receipt of the bachelor’s degree.

## Application Deadlines

Accelerated Graduate Program in History Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jun 1	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

## CONTACT INFO

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 peter.larson@ucf.edu  
 Telephone: 407-823-6466  
 Colbourn Hall 537

# Public History Track

## TRACK DESCRIPTION

The Public History Track in the History MA program is designed to teach students how to preserve and interpret history while engaging a broad variety of audiences. Students who wish to pursue careers in community and local history, digital history, historic site preservation and administration, museum studies, oral history, heritage tourism, or a variety of other careers that employ applied research will find this degree valuable and rewarding.

Courses in the Public History Track allow students to learn the theories, methods, and technical skills historians use as they put history to work in the world. They build on the foundation of reading colloquia and research seminars that are firmly located in time and space to explicitly focus on the practice of history.

## CURRICULUM

### Total Hours Required:

**36** Credit Hours Minimum beyond the Bachelor's Degree

The Public History track requires a minimum of 36 credit hours beyond the bachelor's degree, including 9 credit hours of required core courses, 15 credit hours in the public history area of concentration, and 6 credit hours of elective courses taken outside of the area of concentration. All students must pass a foreign language competency test, pass a written examination in two fields, and successfully complete and defend their thesis or project. No graduate credit given for any grade lower than "B-."

### Required Courses—24 Credit Hours

#### Core—9 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)

#### Specialization—15 Credit Hours

Students must take 9 credit hours of Public History courses or internships from the following:

- AMH 6346 Seminar in the History of American Automobility (3 credit hours)
- AMH 6429 Seminar in Community and Local History (3 credit hours)
- AMH 6592 Seminar in Oral History (3 credit hours)
- HIS 5083 Cultural Heritage Management (3 credit hours)
- HIS 6068 Seminar in Documentary Editing and New Media (3 credit hours)
- HIS 6096 Seminar in Historic Preservation (3 credit hours)
- HIS 6165 Digital Tools for Historians (3 credit hours)
- HIS 6942 Internship (3 credit hours)

In addition, students must take 6 credit hours from the following Western Hemisphere courses:

#### *Western Hemisphere Courses: Caribbean, North American, or South American*

- AMH 5116 Colloquium in U.S. Colonial History (3 credit hours)
- AMH 5137 Colloquium in U.S. Revolutionary Period (3 credit hours)
- AMH 5149 Colloquium in Early U.S. History, 1789-1815 (3 credit hours)
- AMH 5169 Colloquium in Age of Jackson (3 credit hours)
- AMH 5176 Colloquium in Civil War and Reconstruction (3 credit hours)
- AMH 5219 Colloquium in Late 19th Century U.S. (3 credit hours)
- AMH 5296 Colloquium in 20th Century U.S. (3 credit hours)
- AMH 5378 History of Technology (3 credit hours)
- AMH 5391 Colloquium in U.S. Cultural History (3 credit hours)
- AMH 5406 Colloquium in American South (3 credit hours)



- AMH 5446 Colloquium in U.S. Frontier (3 credit hours)
- AMH 5515 Colloquium in U.S. Diplomatic History (3 credit hours)
- AMH 5566 Colloquium: Women in American History (3 credit hours)
- AMH 5925 Colloquium in U.S. Military History (3 credit hours)
- AMH 6939 Seminar in U.S. History (3 credit hours)
- LAH 5713 Colloquium in U.S.-Latin American Relations (3 credit hours)
- LAH 5920 Colloquium in Latin American History (3 credit hours)
- LAH 6936 Seminar in Latin American 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 5905 European Imperialism (3 credit hours)
- EUH 5925 Colloquium in Medieval Europe (3 credit hours)
- EUH 6939 Seminar in European History (3 credit hours)

### Elective Courses—6 Credit Hours

Students choose 6 hours of electives in the Eastern Hemisphere field, from the following:

#### *Eastern Hemisphere Courses: African, Asian and Middle Eastern, or European*

- AFH 5259 Colloquium in African History (3 credit hours)
- AFH 5806 The Historiography of Slavery in Africa (3 credit hours)
- ASH 5227 The Arab-Israeli Conflict (3 credit hours)
- ASH 5408 Colloquium in Modern China (3 credit hours)
- ASH 5485 U.S. China Relations (3 credit hours)
- ASH 5925 Colloquium in South Asian History (3 credit hours)
- EUH 5247 Colloquium in Europe from 1919-1939 (3 credit hours)
- EUH 5285 Colloquium in Europe Since World War II (3 credit hours)
- EUH 5415 Rome and Early Christianity (3 credit hours)
- EUH 5419 Colloquium in Roman History (3 credit hours)
- EUH 5459 Colloquium in French History (3 credit hours)

### Thesis—6 Credit Hours

- HIS 6971 Thesis (6 credit hours)

The culminating event of the program is six credit hours at the 6000-level developing and sustaining a historical argument in writing according to the accepted professional and ethical standards of the discipline.

### Thesis or Project Defense

The final step in completing the thesis requirement is a one-hour oral defense before the thesis committee.

### Comprehensive Examination

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. Students are provided two attempts at successfully passing the examinations. 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.

### 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.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in History (or an equivalent).
- A 3.25 GPA in all upper division history courses taken as an undergraduate student.
- Official, competitive GRE score taken in the last five years.
- A written statement describing 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.
- A computer-based score of 233 (or 91 internet-based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.

Applicants who hold an undergraduate degree in History but do not have a GPA of 3.0 in all work attempted while registered as an undergraduate student, or while registered as an upper-division undergraduate student (normally based on the last sixty attempted semester hours), or a 3.0 GPA in their history courses, or do not have a competitive score on the combined verbal-quantitative sections of the GRE 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 3.3 GPA or higher in the graduate-level history courses they take under this status.

Generally, 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 3.25 GPA in these courses, 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.

If, in addition, applicants do not meet one of the other requirements for entry, such as a GPA of 3.0 in all work attempted while registered as an undergraduate student, or while registered as an upper-division undergraduate student (normally based on the last sixty attempted semester hours) or a competitive score on the combined verbal/quantitative sections of the GRE and a competitive score on the verbal portion of the GRE, they must complete 12 hours of course work at the 3000 and 4000 level with GPA of 3.5 before they can be admitted to the graduate program.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

### Application Deadlines

Public History Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jun 1	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

### CONTACT INFO

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Colbourn Hall 537

# Hospitality and Tourism Management MS

## PROGRAM DESCRIPTION

The Master of Science in Hospitality and Tourism Management enables students to build on their strengths and interests, broadens their knowledge of the industry; sharpens their management skills; and incorporates their professional and extracurricular experiences. The Rosen College of Hospitality Management candidates are especially attractive hires for hospitality and tourism organizations around the globe.

The typical Hospitality and Tourism candidate:

- Works as a professional for a leading hospitality organization within the central Florida region or beyond.
- Holds an undergraduate degree in hospitality, business management, or a related discipline.
- Realizes that advanced educational training is required to be competitive in this growing and vibrant hospitality and tourism industry.

The program offers thesis and nonthesis 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 nonthesis option is intended for students who anticipate a leadership position in the hospitality and tourism industry. The emphasis of the nonthesis option is on course work, practical experience and real-world insight.

The Rosen College 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 College 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.

## CURRICULUM

The Hospitality and Tourism Management MS program requires a minimum of 33 credit hours for students who choose the thesis option or nonthesis option. For both options, 18 credit hours are required core courses. Students in the thesis option must also take nine credit hours of a restricted elective and six credit hours of thesis work. Students in the nonthesis option must take 15 credit hours of restricted electives.

### Total Hours Required:

**33 Credit Hours** Minimum beyond the Bachelor's Degree

Candidates for the MS degree are constantly challenged with numerous requirements to engage in independent learning throughout the program of study through special projects and papers. For example, the capstone course, HMG 6296 Hospitality/Tourism Strategic Issues requires a critical strategic audit project and a reflective paper. The project demonstrates a range of cross-discipline knowledge and analytical skills to perform an executive level analysis of an enterprise. The reflective paper has guiding questions that are subjective in nature and successful completion requires a thorough, insightful, and well articulated document that describes the learner's value proposition to industry and society.

### Required Courses—18 Credit Hours

- HMG 6245 Managing Hospitality and Guest Services Organizations (3 credit hours)
- HMG 6477 Financial Analysis of Hospitality Enterprises (3 credit hours)
- HMG 6596 Strategic Marketing in Hospitality and Tourism (3 credit hours)
- HMG 6228 Critical Issues in Hospitality Human Resources (3 credit hours)
- HMG 6296 Hospitality/Tourism Strategic Issues (3 credit hours)
- HMG 6585 Data Analysis in Hospitality and Tourism Research (3 credit hours)

### Thesis Option—15 Credit Hours

- HMG 6586 Research Methods in Hospitality and Tourism (3 credit hours)

- HMG 6971 Thesis (research for thesis option only; 6 credit hours)
- Electives chosen from the list below (6 credit hours)

An appropriate culminating academic experience is required of all master's degree candidates. For those students in 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 College of Hospitality Management and the UCF College of Graduate Studies before final acceptance of the thesis in fulfilling degree requirements.

### **Nonthesis Option—15 Credit Hours**

- Electives chosen from the list below (15 credit hours)

An appropriate culminating academic experience is required of all master's degree candidates. For students in the nonthesis option, an appropriate culminating academic experience is the successful completion of HMG 6296 Hospitality/Tourism Strategic Issues, 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.

### **Elective Courses**

A maximum of three credit hours of restricted elective may be taken as an independent study.

- FSS 6365 Management of Food Service Operations (3 credit hours)
- HMG 6251 The Management of Lodging Operations (3 credit hours)
- HMG 6710 International Tourism Management (3 credit hours)
- HMG 6586 Research Methods in Hospitality and Tourism (3 credit hours)

- HMG 6227 Advanced Training and Development in the Hospitality Industry (3 credit hours)
- HMG 6291 Hospitality Entrepreneurship: Concept Creation to Capitalization (3 credit hours)
- HMG 6446 Hospitality/Tourism Information Technology (3 credit hours)
- HMG 6529 Vacation Ownership Resort Sales Management (3 credit hours)
- HMG 6566 Principles of Destination Marketing and Management (3 credit hours)
- HMG 6533 Hospitality/Tourism Industry Brand Management (3 credit hours)
- HMG 6608 Hospitality/Tourism Law and Ethics Seminar (3 credit hours)
- HMG 6476 Feasibility Studies for the Hospitality/Tourism Enterprises (3 credit hours)
- HMG 6319 Convention Center Management (3 credit hours)
- HMG 6636 Hospitality/Tourism Risk Management (3 credit hours)
- HMG 6267 Case Studies in Restaurant Management (3 credit hours)
- HMG 6347 Advanced Vacation Ownership Resort Planning (3 credit hours)
- HMG 6529 Vacation Ownership Resort Sales Management (3 credit hours)
- HMG 6528 Convention and Conference Sales and Services (3 credit hours)
- HMG 6707 Travel and Tourism Economics (3 credit hours)
- HMG 6738 Tourism Industry Analysis (3 credit hours)
- HMG 6756 Mega-Events (3 credit hours)
- HMG 6797 Event Administration (3 credit hours)
- HMG 6247 Organizational Communication in Hospitality/Tourism Enterprises (3 credit hours)

### **Independent Learning**

For students in the nonthesis option, an appropriate culminating academic experience is the successful completion of HMG 6296 Hospitality/Tourism Strategic Issues, 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.

## APPLICATION REQUIREMENTS

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 UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive score on the GRE or GMAT taken within the last five years.
- Goal statement.
- Résumé.
- Three letters of recommendation.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

The Rosen College of Hospitality Management requires a higher level of proof of English language proficiency than the university. If an applicant is from a country where English is not the official language, a score on the Test of English as a Foreign Language (TOEFL) or equivalent test that is acceptable to the university must be submitted by the application deadline regardless of the institution or the country from which their degree(s) was received.

The UCF Rosen College has established a minimum TOEFL score of 83 (iBT), 220 (Computer), or 560 (Paper). Although we prefer the TOEFL,

we will accept IELTS scores of 7.0 or higher as an equivalent.

## 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 3431 Hospitality Industry Managerial Accounting
- HFT 3540 Guest Services Management
- HFT 4295 Strategic Management in Hospitality Industry

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
- HFT 4295 Strategic Management in Hospitality Industry
- HFT 2401 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 Deadlines

Hospitality and Tourism Management MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

## CONTACT INFO

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# Industrial and Organizational Psychology MS

## PROGRAM DESCRIPTION

The Master of Science in Industrial and Organizational Psychology program focuses on the application of psychological principles to organizations and emphasizes the major areas of 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 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.

## CURRICULUM

The MS degree program in Industrial and Organizational Psychology is a four-semester program for full-time students. Both thesis and nonthesis options are offered and both consist of a minimum of 40 semester hours of work.

The MS degree is conferred when students have fulfilled the requirements of either the thesis or nonthesis option. No graduate credit will be given for any grade lower than a B- (2.75), but the grade will be counted toward the GPA. Courses may be retaken to achieve a better grade; however, the unsatisfactory grade will remain on the transcript since there is no grade forgiveness at the graduate level. In order to stay in good academic standing, students must maintain a minimum Graduate Status GPA of 3.0 in all coursework taken since entering graduate status and a 3.0 in their program of study.

### Total Hours Required:

**40** Credit Hours Minimum beyond the Bachelor's Degree

## Required Courses—32 Credit Hours

- INP 6058 Job Analysis and Performance Appraisal (3 credit hours)
- INP 6215 Assessment Centers and Leadership (3 credit hours)
- INP 6317 Work Motivation and Job Attitudes (3 credit hours)
- INP 6605 Training and Team Performance (3 credit hours)
- INP 6080 Ethical, Legal and Professional Issues in Industrial and Organizational Psychology (3 credit hours)
- PSY 6216C Research Methodology (4 credit hours)
- PSY 6308C Psychological Testing (4 credit hours)
- PSY 6318 Recruitment, Placement and Selection (3 credit hours)
- INP 6072 Survey Research Methods and Program Evaluation in Industrial and Organizational Psychology (3 credit hours)
- SOP 5059 Advanced Social Psychology (3 credit hours)

## Thesis Option—8 Credit Hours

- INP 6971 (8 credit hours)

## Nonthesis Option—8 Credit Hours

### Research—5 Credit Hours

- INP 6933 Seminar in Industrial and Organizational Psychology (3 credit hours)
- INP 6908 Directed Independent Studies (2 credit hours)

Students electing the nonthesis option are expected to materially participate in the conduct of research under the supervision of a faculty adviser and in 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—3 Credit Hours

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. Upon completion of the practicum, students are expected to produce a professional portfolio.

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.

- INP 6945C Industrial Psychology Practicum (3 credit hours)

## Independent Learning

Students electing the thesis option are expected to conduct independent research. Students electing the nonthesis option are expected to materially participate in the conduct of research under the supervision of a faculty adviser and in 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 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 Industrial and Organizational Psychology 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.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- 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.
- Résumé.
- Goal statement.
- Three letters of recommendation, with at least two furnished by college or university professors who are acquainted with the applicant.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant’s abilities, past performance, recommendations, match of this program and faculty expertise to the applicant’s career/academic goals, and the applicant’s potential for completing the degree.

Acceptance decisions are made only in the spring semester for admission in the fall of each year.

## Application Deadlines

<b>Industrial and Organizational Psychology MS</b>	<b>Fall Priority</b>	<b>Fall</b>	<b>Spring</b>	<b>Summer</b>
Domestic Applicants	Jan 15	Jan 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

## CONTACT INFO

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# Industrial Engineering MS

- Accelerated BS to MS Track

## PROGRAM DESCRIPTION

The Master of Science programs in Industrial Engineering are designed to produce highly skilled graduates who are prepared to be industrial engineers, engineering managers or technical professionals, or leaders for the global economy, as well as preparing them for further graduate work or independent research.

Industrial Engineering, in its broad nature, 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 Industrial Engineering 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.

In the Industrial Engineering MS programs, students are able to individually craft their programs of study and select their courses to focus in one or more of the following research areas.

### Human Systems Engineering/ Ergonomics

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 assist 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.

Research in the Human Systems Engineering and Ergonomics area provides 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.

### Interactive Simulation and Training Systems

The Interactive Simulation and Training Systems research within the Industrial Engineering MS program focuses on providing a fundamental understanding of significant topics relative to simulation systems and the requirements, design, development, and use of such systems for knowledge transfer in the technical environment. Courses in this area address 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 UCF's Institute for Simulation and Training, industrial organizations involved in simulation in the Central Florida region, military organizations, and other governmental organizations, ISTS research in the MS program provides exposure to both military and commercial interactive simulation and training systems.

The 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. Courses in the interactive simulation and training systems area prepare 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.

### Operations Research

The Operations Research courses in the Industrial Engineering MS program 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. Research in this area is ideal for students who have an undergraduate degree in engineering, mathematics, or science. The knowledge in these courses build on an undergraduate Engineering, Mathematics, or Science degree to develop a strong modeling and analytical capability to improve processes and decision-making.

### Quality Systems Engineering

The Quality Systems Engineering research in the Industrial Engineering MS program focuses on providing the knowledge for improving product and process quality in manufacturing and service industries. Quality Systems 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 Systems Engineering courses builds on an undergraduate degree in industrial engineering 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.

### Simulation Modeling and Analysis

The Simulation Modeling and Analysis research and studies in the Industrial Engineering MS program focus on providing a fundamental understanding of the functional and technical design requirements for simulation in manufacturing and service industries. Research in this area 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 research and coursework prepare 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.

### Systems Engineering

Intelligence is being infused into everyday systems, processes and infrastructure that enable physical goods to be developed, manufactured, bought and sold. These same systems also facilitate the movement and delivery of global products and services that support worldwide markets such as finance, energy resources and healthcare systems.

With these technological advancements, comes a new level of complexity as organizations struggle to integrate systems, processes and data feeds. As a result, the demand for systems engineering and related skills is expected to grow significantly.

Systems engineers design and implement computer systems, software and networks, including defining complex system requirements, and determining system specifications, processes and working parameters.

The Systems Engineering studies and research in the Industrial Engineering MS program are intended for individuals of all engineering disciplines. Research and coursework focus on a systems view of engineering problems related to the management of complex industrial, military, government, and social systems.

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit [www.intl.ucf.edu](http://www.intl.ucf.edu). If you have any questions, please consult the International Services Center at 407-823-2337.

## CURRICULUM

**This program can be taken entirely through the Center for Online and Virtual Education (COVE), which provides video-streamed versions of classes over the Internet. More information about this program can be found at <http://www.cecs.ucf.edu/COVE/> or (407) 823-3814.**

The Industrial Engineering MS program offers both thesis and nonthesis options with each requiring 30 credit hours of courses. The program is flexible to enable students to model their plan of study to suit their needs and future work or career goals. All students must develop a plan of study with



the graduate program director that meets with departmental approval. At least one-half of the courses (including thesis hours) required in the master's program of study must be at the 6000 level or higher. A cumulative grade-point average of B (3.0) must be maintained in the entire program of study.

Students on assistantships must take 9 credit hours per semester (Fall, Spring) to satisfy the university's requirement for full-time status. Most students working full time take 6 credit hours per semester. At that rate, the program can be completed in 6 semesters or less. However, students with more time available and with an early start on a thesis, if applicable, can finish the program in 3 semesters.

### Total Hours Required:

**30 Credit Hours** Minimum beyond the Bachelor's Degree

### Prerequisites

The Industrial Engineering MS program requires an undergraduate degree in engineering, mathematics, computer science, statistics, physics, quantitative management or similar field.

Outstanding students with degrees in other disciplines such as business, economics or computer/information sciences may also be considered on a case-by-case basis, provided they have significant work experience and/or very high academic standing.

Regardless of the undergraduate degree, all applicants must have completed the following prerequisites:

- Mathematics through Calculus II (MAC 2312 or equivalent)
- An undergraduate course in engineering probability and statistics.
- In addition, they are expected to be familiar with at least one programming language (such as C, FORTRAN, Java, Visual BASIC, C++, etc.) and common computer skills and tools such as word processors and spreadsheets.

### Required Courses—12 Credit Hours

- ESI 5219 Engineering Statistics (3 credit hours)
- EIN 5140 Project Engineering (3 credit hours)

- EIN 6357 Advanced Engineering Economic Analysis (3 credit hours)
- ESI 6551C Systems Engineering (3 credit hours)

### Elective Courses—12 Credit Hours

All students, both thesis and nonthesis, must take 12 credit hours of electives after consultation with their adviser.

### Thesis Option—6 Credit Hours

The thesis option requires 6 credit hours of thesis. Thesis students must complete an independent research study and write and successfully defend a thesis according to program guidelines.

- EIN 6971 Thesis (6 credit hours)

The College of Engineering and Computer Science requires that all thesis defense announcements are approved by the student's adviser and posted on the college's website (<http://www.cecs.ucf.edu/graddefense/>) and on the College of Graduate Studies Events Calendar at least two weeks before the defense date.

### Nonthesis Option—6 Credit Hours

- EIN 6XXX Capstone Course in Industrial and Systems Engineering (3 credit hours)
- Elective course (3 credit hours)

The nonthesis option requires a capstone course and an additional nonrestricted elective course that supports the student's area of research and study interests. The capstone course should be completed toward the end of the student's graduate plan of study. As part of the requirements of this course, students will complete an independent capstone project on a topic relevant to the industrial and systems engineering field and approved by the instructor. Students are expected to use and leverage knowledge obtained in the program to complete the project. This course serves as the culminating experience for the students and shows their engagement in independent learning.

### IEMS Electives

The program requirements are flexible enough to allow the students to tailor the coursework according to their desired educational and career goals. With the approval of their adviser and/or the

graduate program director, students may select from the following groups of courses to satisfy the needs of their research goals or career objectives. To assist the students in achieving these goals and objectives, courses are grouped below to suggest focus areas, only as a guide to assist in advising and course selection. They are not intended to restrict elective choices among specialization areas as the intent of the program is to help graduate students maintain an integrated approach to their studies. The listing of these courses does not guarantee that they will be offered by the department in a particular year or semester.

In addition to the courses listed below, students may be allowed to take courses from the following disciplines at UCF, with the approval of the graduate program director, as an elective in their graduate program of study:

- Other Engineering programs
- Computer Science
- Mathematics
- Statistics
- Business Administration or Management

#### ***Human Systems Engineering/Ergonomics***

- EIN 5248C Ergonomics (3 credit hours)
- EIN 5251 Usability Engineering (3 credit hours)
- EIN 6270C Work Physiology (3 credit hours)
- EIN 6258 Human-Computer Interaction (3 credit hours)
- EIN 6279C Biomechanics (3 credit hours)
- EIN 6935 Advanced Ergonomics Topics (3 credit hours)
- EIN 6271 Human Reliability (3 credit hours)

#### ***Quality and Production Systems***

- ESI 6225 Quality Design and Control (3 credit hours)
- ESI 6224 Quality Management (3 credit hours)
- EIN 5392C Manufacturing Systems Engineering (3 credit hours)
- EIN 6336 Production and Inventory Control (3 credit hours)
- EIN 6425 Scheduling and Sequencing (3 credit hours)
- EIN 5356 Cost Engineering (3 credit hours)

- ESI 5227 Total Quality Improvement (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)

#### ***Management Systems***

- EIN 6182 Engineering Management (3 credit hours)
- EIN 5117 Management Information Systems I (3 credit hours)
- EIN 6370 Innovation in Engineering Design (3 credit hours)
- EIN 6339 Operations Engineering (3 credit hours)
- EIN 5108 The Environment of Technical Organizations (3 credit hours)

#### ***Simulation, Optimization and Modeling***

- ESI 6336 Queuing Systems (3 credit hours)
- ESI 5306 Operations Research (3 credit hours)
- ESI 6418 Linear Programming and Extensions (3 credit hours)
- ESI 6532 Object-Oriented Simulation (3 credit hours)
- ESI 5531 Discrete Systems Simulation (3 credit hours)
- EIN 5255C Interactive Simulation (3 credit hours)
- EIN 6528 Simulation Based Life Cycle Engineering (3 credit hours)
- EIN 6645 Real-Time Simulation Agents (3 credit hours)
- EIN 6936 Seminar in Advanced Industrial Engineering (3 credit hours)
- ESI 5419C Engineering Applications of Linear and Nonlinear Optimization (3 credit hours)
- ESI 6217 Statistical Aspects of Digital Simulation (3 credit hours)
- ESI 6529 Advanced Systems Simulation (3 credit hours)
- ESI 6921 Seminar in Advanced Operations Research (3 credit hours)

#### ***Systems Engineering***

- ESI 6358 Decision Analysis (3 credit hours)

- ESI 5359 Risk Assessment and Management (3 credit hours)
- EIN 6215 System Safety Engineering and Management (3 credit hours)
- ESI 5236 Reliability Engineering (3 credit hours)
- EIN 5346 Engineering Logistics (3 credit hours)
- ESI 6891 IEMS Research Methods (3 credit hours)

## Equipment Fee

Full-time students in the Industrial Engineering MSIE program pay a \$58 equipment fee each semester that they are enrolled. Part-time students pay \$29 each semester that they are enrolled.

## Independent Learning

The Independent Learning requirement is met by successful completion of a thesis or the capstone course.

## APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening ([www.cecs.ucf.edu/prescreen](http://www.cecs.ucf.edu/prescreen)) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway. Students with undergraduate

degrees outside of industrial engineering may be required to take additional prerequisites.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended
- Résumé or Curriculum Vita
- Goal statement
  - The goal statement should discuss all relevant professional background and any previous research and/or teaching experience. The statement should explain the motivation behind the pursuit of a Master's degree in Industrial Engineering. Future educational and career goals after the completion of the applicant's master study should be discussed.
  - If the applicant is interested in completing a Master thesis, then the applicant must clearly describe the particular area of research interest. The applicant should identify at least one UCF faculty member who shares a similar research focus and is believed to be best suited to serve as a potential thesis advisor.
  - The goal statement should be between 500 and 1,000 words.
- Two letters of recommendation
  - The letters of recommendation should be from faculty members, university administrators and employers with a supervisory role of the applicant. The letters, which must be current to the application and must not be for another degree program, should address the educational and career goals of applicant. The letter writers should also know the applicant well enough to discuss the applicant's capacity to perform, excel and succeed in a graduate program. Letters for Master's thesis students must discuss the applicant's ability to perform graduate-level research.
  - Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World

Education Services (WES) or Josef Silny and Associates, Inc. only.

Applications are accepted for the fall and spring terms only.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

### Application Deadlines

Industrial Engineering MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

### CONTACT INFO

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# Accelerated BS to MS Track

## TRACK DESCRIPTION

The accelerated undergraduate/graduate program in Industrial Engineering allows highly qualified undergraduate majors in Industrial Engineering to begin taking graduate-level courses that will count toward their master’s degree while completing their baccalaureate program. Participation will enable completion of the Bachelor of Science and Master of Science degrees in Industrial Engineering in five instead of six years for students enrolled in full-time course work.

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 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.

Additional information can be found at [www.iems.ucf.edu](http://www.iems.ucf.edu).

## CURRICULUM

### Total Hours Required:

**30** Credit Hours Minimum beyond the Bachelor’s Degree

The BSIE is awarded after fulfilling all university requirements including completing 128 credit hours of course work and 71 credit hours of engineering courses. The MSIE 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 engineering major requirements in the Undergraduate Catalog).

Up to 12 credit hours of approved 5000-level courses with grades “B” (3.0) or better may be

counted toward both the BS and MS degrees. Additional notes on the Accelerated Undergraduate and Graduate Program in Industrial Engineering are as follows:

- Students who change degree programs and select this major must adopt the most current catalog.
- Students must earn at least a “B” (3.0) in each undergraduate and graduate engineering course for them to be counted toward the major.

## Undergraduate Requirements

Please see the current edition of the Undergraduate Catalog or the academics section of the College of Engineering and Computer Science website, link given above, for additional information about this program

## Graduate Requirements

Please see Industrial Engineering MSIE graduate program for additional requirements.

## Equipment Fee

Students in the Industrial Engineering MS program pay a \$58 equipment fee each semester that they are enrolled. For part-time students, the equipment fee is \$29 per semester.

## Independent Learning

The Independent Learning Requirement is met by successful completion of a master’s thesis. Nonthesis students will complete a comprehensive exam, as specified in the Industrial Engineering MS program requirements.

## APPLICATION REQUIREMENTS

The **Accelerated BS to MS** program in Industrial Engineering allows highly qualified University of Central Florida undergraduate majors in Industrial Engineering 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 accelerated program in either their junior year or senior year. If the student has a degree in the discipline, but were not previously part of this accelerated program, then they should apply to MSIE. Additional information

about this track may be located at: <http://www.cecs.ucf.edu/academics/acceleratedbstomsprograms>.

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening ([www.cecs.ucf.edu/prescreen](http://www.cecs.ucf.edu/prescreen)) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor’s degree in Industrial Engineering or other engineering ONLY.
- Two letters of recommendation from two individual who are familiar with the applicant’s capabilities to enter and succeed into his/her graduate studies and to perform graduate research.
- Curriculum Vitae/resume.
- Statement of educational, research, and professional career objectives. The statement should explain the applicant’s future career and educational goals, reasons behind seeking the degree, and why he/she believes that this degree best suits their interests.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World



Education Services (WES) or Josef Silny and Associates, Inc. only.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

### Application Deadlines

Accelerated BS to MS Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

### CONTACT INFO

#### Ahmad Elshennawy PhD

Professor

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Engineering 2, Room 312

# Industrial Engineering MSIE

## PROGRAM DESCRIPTION

The Department of Industrial Engineering and Management Systems offers a Master of Science in Industrial Engineering (MSIE) degree focusing 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 MSIE curriculum builds on an undergraduate engineering degree to develop a stronger systems focus and analytical capability.

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.

Many of the graduate courses offered by the department or required in the MSIE program are offered through the Florida Engineering Educational Delivery System (FEEDS), which provides video-streamed versions of classes over the Internet.

International students may only take one course per semester in a totally online format while attending UCF on a F-1 visa. Courses in this program can be taken in mixed mode for international students at UCF or fully online for international students who are not on visas. If you have questions, please consult the International Service Center at [www.intl.ucf.edu](http://www.intl.ucf.edu).

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit [www.intl.ucf.edu](http://www.intl.ucf.edu). If you have any questions, please consult the International Services Center at 407-823-2337.

## CURRICULUM

**This program can be taken entirely through the Center for Online and Virtual Education (COVE), which provides video-streamed versions of classes over the Internet. More information about this program can be found at <http://www.cecs.ucf.edu/COVE/> or (407) 823-3814.**

The Industrial Engineering MSIE degree requires an undergraduate degree in Industrial Engineering or any other Engineering degree. Students with undergraduate degrees outside of industrial engineering may be required to take additional prerequisites.

The program offers both thesis and nonthesis options with each requiring 30 credit hours of courses. At least half of the regular coursework must be at the 6000 level. A cumulative grade-point average of B must be maintained in the entire program of study.

### Thesis Option:

The thesis option requires 12 credit hours of required courses, 12 credit hours of electives and 6 thesis credit hours. Students must also write and successfully defend a thesis.

### Nonthesis Option:

The nonthesis option requires 12 credit hours of required courses and 18 credit hours of electives. Research studies are required in one or more courses. The research study and report will focus on reviewing and analyzing contemporary research in the profession in order to help students acquire knowledge and skills pertaining to research-based best practices. In addition, students may engage in directed independent studies, directed research or a research report during their studies.

A program of study must be developed with the graduate program director and meet with departmental approval. At least one-half of the credit hours (including thesis hours) required in a master's program of study must be at the 6000 level or higher.

Students on assistantships must take 9 credit hours per semester to satisfy the university's requirement for full-time status. Most students working full time take 6 credit hours per semester. At that rate, the program can be completed in 6 semesters or less. However, students with more time available and

with an early start on a thesis, if applicable, can finish the program in 3 semesters.

### Total Hours Required:

**30** Credit Hours Minimum beyond the Bachelor's Degree

### Prerequisites

Students with undergraduate degrees in industrial engineering or other engineering degrees are encouraged to apply for admission. Graduates from non-engineering curricula may apply to obtain the MS degree.

All applicants are expected to have completed the following prerequisites during their undergraduate engineering education:

- Computer programming capability. Proficiency with MS Office expected. C++, Visual BASIC, or Java recommended.
- Mathematics through Calculus II (MAC 2312 or equivalent)
- Undergraduate probability and statistics for engineers (STA 3032 or equivalent)

### Required Courses—12 Credit Hours

- ESI 6551C Systems Engineering (3 credit hours)
- ESI 6224 Quality Management (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)

Select one of the following courses:

- ESI 5306 Operations Research (3 credit hours)
- ESI 6418 Linear Programming and Extensions (3 credit hours)

### Elective Courses—12 Credit Hours

All students, both thesis and nonthesis, must take 12 credit hours of electives after consultation with their adviser.

### Thesis Option—6 Credit Hours

The thesis option requires an additional 6 credit hours of thesis. Thesis students must complete an independent research project and write and

successfully defend a thesis describing the project. Students 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.

- EIN 6971 Thesis (6 credit hours)

The College of Engineering and Computer Science requires that all thesis defense announcements are approved by the student's adviser and posted on the college's website (<http://www.cecs.ucf.edu/graddefense/>) and on the College of Graduate Studies Events Calendar at least two weeks before the defense date.

### **Nonthesis Option—6 Credit Hours**

- EIN 6XXX Capstone Course in Industrial and Systems Engineering (3 credit hours)
- Elective course (3 credit hours)

The nonthesis option requires a capstone course and an additional unrestricted elective course that supports the student's area of research and study interests. The capstone course should be completed toward the end of the student's graduate plan of study. As part of the requirements of this courses, students will complete an independent capstone project on a topic relevant to the industrial and systems engineering field and approved by the instructor. Students are expected to use and leverage knowledge obtained in the program to complete the project. This course serves as the culminating experience for students and shows their engagement in independent learning.

### **IEMS Electives**

The program requirements are flexible enough to allow the students to tailor the coursework according to their desired educational and career goals. With the approval of their adviser and/or the graduate program director, students may select from the following groups of courses to satisfy the needs of their research goals or career objectives. To assist the students in achieving these goals and objectives, courses are grouped below to suggest focus areas, only as a guide to assist in advising and course selection. They are not intended to restrict elective choices among specialization areas as the intent of the program is to help graduate students maintain an integrated approach to their studies. The listing of these courses does not guarantee that they will

be offered by the department in a particular year or semester.

In addition to the courses listed below, students may be allowed to take courses from the following disciplines at UCF, with the approval of the graduate program director, as an elective in their graduate program of study:

- Other Engineering programs
- Computer Science
- Mathematics
- Statistics
- Business Administration or Management

### ***Human System Engineering/Ergonomics***

- EIN 5248C Ergonomics (3 credit hours)
- EIN 5251 Usability Engineering (3 credit hours)
- EIN 6270C Work Physiology (3 credit hours)
- EIN 6258 Human-Computer Interaction (3 credit hours)
- EIN 6279C Biomechanics (3 credit hours)
- EIN 6935 Advanced Ergonomics Topics (3 credit hours)
- EIN 6271 Human Reliability (3 credit hours)

### ***Quality and Production Systems***

- ESI 6225 Quality Design and Control (3 credit hours)
- EIN 5392C Manufacturing Systems Engineering (3 credit hours)
- EIN 6336 Production and Inventory Control (3 credit hours)
- EIN 6425 Scheduling and Sequencing (3 credit hours)
- EIN 5356 Cost Engineering (3 credit hours)
- ESI 5227 Total Quality Improvement (3 credit hours)

### ***Management Systems***

- EIN 6182 Engineering Management (3 credit hours)
- EIN 5117 Management Information Systems I (3 credit hours)
- EIN 6370 Innovation in Engineering Design (3 credit hours)

- EIN 6339 Operations Engineering (3 credit hours)
- EIN 5108 The Environment of Technical Organizations (3 credit hours)

### ***Simulation, Optimization and Modeling***

- ESI 6336 Queuing Systems (3 credit hours)
- ESI 6532 Object-Oriented Simulation (3 credit hours)
- ESI 5531 Discrete Systems Simulation (3 credit hours)
- EIN 5255C Interactive Simulation (3 credit hours)
- EIN 6528 Simulation Based Life Cycle Engineering (3 credit hours)
- EIN 6645 Real-Time Simulation Agents (3 credit hours)
- EIN 6936 Seminar in Advanced Industrial Engineering (3 credit hours)
- ESI 5419C Engineering Applications of Linear and Nonlinear Optimization (3 credit hours)
- ESI 6217 Statistical Aspects of Digital Simulation (3 credit hours)
- ESI 6529 Advanced Systems Simulation (3 credit hours)
- ESI 6921 Seminar in Advanced Operations Research (3 credit hours)

### ***Systems Engineering***

- ESI 6358 Decision Analysis (3 credit hours)
- ESI 5359 Risk Assessment and Management (3 credit hours)
- EIN 6215 System Safety Engineering and Management (3 credit hours)
- ESI 5236 Reliability Engineering (3 credit hours)
- EIN 5346 Engineering Logistics (3 credit hours)
- ESI 6891 IEMS Research Methods (3 credit hours)

## **Equipment Fee**

Full-time students in the Industrial Engineering MSIE program pay a \$58 equipment fee each semester that they are enrolled. Part-time students pay \$29 each semester that they are enrolled.

## **Independent Learning**

A research project serves as the independent learning experience for thesis students. Nonthesis students are required to complete the department's capstone course toward the end of their program.

## **APPLICATION REQUIREMENTS**

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening submission ([www.cecs.ucf.edu/prescreen](http://www.cecs.ucf.edu/prescreen)) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended
- Résumé or Curriculum Vita
- Goal statement
  - The goal statement should discuss all relevant professional background and any previous research and/or teaching experience. The statement should explain the motivation behind the pursuit of a Master's degree in Industrial Engineering. Future educational and career goals after the completion of the applicant's master study should be discussed.

- If the applicant is interested in completing a Master thesis, then the applicant must clearly describe the particular area of research interest. The applicant should identify at least one UCF faculty member who shares a similar research focus and is believed to be best suited to serve as a potential thesis advisor.
- The goal statement should be between 500 and 1,000 words.
- Two letters of recommendation
  - The letters of recommendation should be from faculty members, university administrators and employers with a supervisory role of the applicant. The letters, which must be current to the application and must not be for another degree program, should address the educational and career goals of the applicant. The letter writers should also know the applicant well enough to discuss the applicant's capacity to perform, excel and succeed in a graduate program. Letters for Master's thesis students must discuss the applicant's ability to perform graduate-level research.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Applications are accepted for the fall and spring terms only.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

## Application Deadlines

Industrial Engineering MSIE	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

## CONTACT INFO

### Ahmad Elshennawy PhD

Professor

ahmade@ucf.edu

Telephone: 407-823-2204

Engineering 2, Room 312



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# Instructional Design and Technology MA

## PROGRAM DESCRIPTION

International students (F or J visa) are required to enroll in a full - time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit [www.intl.ucf.edu](http://www.intl.ucf.edu). If you have any questions, please consult the International Services Center at 407-823-2337.

## CURRICULUM

All three tracks of the Instructional Design and Technology MA require a minimum of 39 credit hours beyond the bachelor's degree. The Educational Technology MA Curriculum includes 15 credit hours of instructional technology core courses, 15 credit hours of professional specialization, six credit hours of electives, and three credit hours of practicum. The Instructional Systems MA and the e - Learning MA Curriculum include 15 credit hours of instructional technology core courses, 12 credit hours of professional specialization, 9 credit hours of electives, and three credit hours of practicum.

9 Credit Hours Minimum beyond the Bachelor's Degree

## APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

Applicants must choose a track in this program. Track(s) may have different requirements.

Please note: Due to restrictive state regulations, UCF is not permitted to provide online courses or instruction to students in the following states. If you reside in one of these states, you may

not be permitted to enroll in or be admitted to a UCF online program. Please contact your state's higher education regulation authorities or the UCF Graduate Program (see contact information above) for more details.

- Minnesota

## CONTACT INFO

**Richard Hartshorne PhD**  
Associate Professor  
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Telephone: 407-823-1861  
ED 320

# Educational Technology Track

## TRACK DESCRIPTION

International students (F or J visa) are required to enroll in a full - time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit [www.intl.ucf.edu](http://www.intl.ucf.edu). If you have any questions, please consult the International Services Center at 407-823-2337.

## CURRICULUM

**39 Credit Hours** Minimum beyond the Bachelor's Degree

The Educational Technology track in the Instructional Design and Technology MA program requires a minimum of 39 credit hours beyond the bachelor's degree. The Curriculum includes 15 credit hours of instructional technology core courses, 15 credit hours of professional specialization, six credit hours of electives, and three credit hours of practicum.

## Required Courses - 30 Credit Hours

### Core - 15 Credit Hours

- EME 6055 Current Trends in Instructional Technology (3 credit hours)
- EME 6062 Research in Instructional Technology (3 credit hours)
- EDF 6432 Measurement & Evaluation or EDF 6401 Statistics for Educational Data (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- EME 6613 Instructional System Design (3 credit hours)
- 6940 Theory into Practice in Educational Technology (3 credit hours)

## Independent Learning

Practica are independent learning activities that take place in authentic settings in which students must apply, reflect on, and refine knowledge and skills acquired in the program.

## APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Two letters of recommendation.
- Résumé.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course - by - course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

For more information about the MA program, visit the program website at <http://insttech.education.ucf.edu>.

Please note: Due to restrictive state regulations, UCF is not permitted to provide online courses or instruction to students in the following states. If you reside in one of these states, you may not be permitted to enroll in or be admitted to a UCF online program. Please contact your state's higher education regulation authorities or the UCF Graduate Program (see contact information above) for more details.

- Minnesota

## Application Deadlines

Educational Technology	*Fall Priority	Fall	Spring	Summer
<b>Domestic Applicants</b>	Jan 15	Jul 15	Dec 1	Apr 15
<b>International Applicants</b>	Jan 15	Jan 15	Jul 1	Nov 1
<b>International Transfer Applicants</b>	Jan 15	Mar 1	Sep 1	Dec 15
*Applicants who plan to enroll full time in a degree program and who wish to be considered for university fellowships or assistantships should apply by the Fall Priority date.				

## CONTACT INFO

**Glenda Gunter PhD**  
 Associate Professor  
 glenda.gunter@ucf.edu  
 Telephone: 407-823-3502  
 ED 322P

# e - Learning Track

## TRACK DESCRIPTION

International students (F or J visa) are required to enroll in a full - time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit [www.intl.ucf.edu](http://www.intl.ucf.edu). If you have any questions, please consult the International Services Center at 407-823-2337.

## CURRICULUM

**39 Credit Hours Minimum** beyond the Bachelor's Degree

The e - Learning track in the Instructional Design and Technology MA program requires a minimum of 39 credit hours beyond the bachelor's degree. The Curriculum includes 15 credit hours of instructional technology core courses, 12 credit hours of professional specialization, 9 credit hours of electives, and three credit hours of practicum.

## Required Courses - 27 Credit Hours

### Core - 15 Credit Hours

- EME 6055 Current Trends in Instructional Technology (3 credit hours)
- EME 6062 Research in Instructional Technology (3 credit hours)
- EDF 6432 Measurement and Evaluation or EDF 6401 Statistics for Educational Data (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- EME 6613 Instructional System Design (3 credit hours)

### Specialization - 12 Credit Hours

- EME 6507 Multimedia for Education and Training (3 credit hours)
- EME 6457 Distance Education (3 credit hours)
- EME 6417 Interactive Online and Virtual

Teaching Environments (3 credit hours)

- EME 6458 Virtual Teaching and the Digital Educator (3 credit hours)

\*EME 6417 (spring) must be taken before EME 6458 (summer).

### Elective Courses - 9 Credit Hours

Courses not listed below require adviser approval. All ENC courses require approval from the English Department.

- EME 6607 Planned Change in IT (3 credit hours)
- EME 6601 Instructional Simulations Design in Training and Education (3 credit hours)
- EME 6614 Instructional Game Design in Training and Education (3 credit hours)
- DIG 5875C Introduction to Modeling and Simulation (3 credit hours)
- IDS 6503 International Trends in Instructional Systems (3 credit hours)
- IDS 6504 Adult Learning (3 credit hours)
- EIN 5251 Usability Engineering (3 credit hours)
- EIN 5255C Interactive Simulation (3 credit hours)
- EIN 5317 Training System Design (3 credit hours)
- ENC 6216 Editing Professional Writing (3 credit hours)
- ENC 5225 Theory and Practice of Document Usability (3 credit hours)
- ENC 6261 Technical Writing, Theory and Practice (3 credit hours)
- ENC 6296 Computer Documentation (3 credit hours)
- FIL 5165 Visual Storytelling (3 credit hours)
- DIG 6432 Transmedia Story Creation (3 credit hours)
- EDF 6635 Capstone: Action Research in Teacher Leadership (3 credit hours)

- EDF 6884 Education as a Cultural Process (3 credit hours)
- EDF 6886 Multicultural Education (3 credit hours)
- EGI 6051 Understanding the Gifted/Talented Student (3 credit hours)
- ESE 6217 Curriculum Design (3 credit hours)
- TSL 5345 Methods of ESOL Teaching (3 credit hours)

### Practicum - 3 Credit Hours

- EME 6940 Theory into Practice (3 credit hours)

### Independent Learning

Practica are independent learning activities that take place in authentic settings in which students must apply, reflect on, and refine knowledge and skills acquired in the program.

## APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline. In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Two letters of recommendation.
- Résumé.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course - by - course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

For more information about the MA program, visit the program website at <http://insttech.education.ucf.edu>.

**Please note:** Due to restrictive state regulations, UCF is not permitted to provide online courses or instruction to students in the following states. If you reside in one of these states, you may not be permitted to enroll in or be admitted to a UCF online program. Please contact your state's higher education regulation authorities or the UCF Graduate Program (see contact information above) for more details.

- Minnesota

## Application Deadlines

e - Learning	*Fall Priority	Fall	Spring	Summer
<b>Domestic Applicants</b>	Jan 15	Jul 15	Dec 1	Apr 15
<b>International Applicants</b>	Jan 15	Jan 15	Jul 1	Nov 1
<b>International Transfer Applicants</b>	Jan 15	Mar 1	Sep 1	Dec 15

\*Applicants who plan to enroll full time in a degree program and who wish to be considered for university fellowships or assistantships should apply by the Fall Priority date.

## CONTACT INFO

**Glenda Gunter PhD**  
Associate Professor  
glenda.gunter@ucf.edu  
Telephone: 407-823-3502  
ED 322P

# Instructional Systems Track

## TRACK DESCRIPTION

International students (F or J visa) are required to enroll in a full - time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit [www.intl.ucf.edu](http://www.intl.ucf.edu). If you have any questions, please consult the International Services Center at 407-823-2337.

## CURRICULUM

**39 Credit Hours Minimum beyond the Bachelor's Degree**

The Instructional Systems track in the Instructional Design and Technology MA program requires a minimum of 39 credit hours beyond the bachelor's degree. The Curriculum includes 15 credit hours of instructional technology core courses, 12 credit hours of professional specialization, 9 credit hours of electives, three credit hours of practicum, and a comprehensive exam taken during the last semester of course work.

## Required Courses - 27 Credit Hours

### Core - 15 Credit Hours

- EME 6055 Current Trends in Instructional Technology (3 credit hours)
- EME 6062 Research in IT (3 credit hours)
- EDF 6432 Measurement and Evaluation in Education (3 credit hours) or EDF 6401 Statistics for Educational Data (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- EME 6613 Instructional System Design (3 credit hours)

### Professional Specialization Courses - 12 Credit Hours

- EME 6226 Instructional Development and Evaluation (3 credit hours)



- EME 6507 Multimedia for Education and Training (3 credit hours)
- EME 6607 Planned Change in IT (3 credit hours)
- EME 6705 Administration of IS (3 credit hours)

## Elective Courses - 9 Credit Hours

Courses not listed below require adviser approval. All ENC courses require approval from the English department.

- EME 6209 Multimedia IS II (3 credit hours)
- EME 6457 Distance Education: Technology Process Product (3 credit hours)
- EME 6601 Instructional Simulation Design for Training and Education (3 credit hours)
- EME 6614 Instructional Game Design in Training and Education (3 credit hours)
- EME 6646 Learning, Instructional Design, and Cognitive Neuroscience (3 credit hours)
- DIG 5875C Introduction to Modeling and Simulation (3 credit hours)
- IDS 6503 International Trends in Instructional Systems (3 credit hours)
- IDS 6504 Adult Learning (3 credit hours)
- EIN 5251 Usability Engineering (3 credit hours)
- EIN 5255C Interactive Simulation (3 credit hours)
- EIN 5317 Training System Design (3 credit hours)
- EIN 6258 Human Computer Interactions (3 credit hours)
- ENC 6216 Editing Professional Writing (3 credit hours)
- ENC 5225 Theory and Practice of Document Usability (3 credit hours)
- ENC 6261 Technical Writing, Theory and Practice (3 credit hours)
- ENC 6296 Computer Documentation (3 credit hours)
- DIG 6432 Transmedia Story Creation (3 credit

hours)

- DIG 6136 Design for Media (3 credit hours)
- DIG 6551 Applied Interactive Story (3 credit hours)

## Practicum - 3 Credit Hours

Practica are independent learning activities that take place in authentic settings in which students must apply, reflect on, and refine knowledge and skills acquired in the program.

- EME 6946 Practicum/Internship (3 credit hours)

## Independent Learning

Practica are independent learning activities that take place in authentic settings in which students must apply, reflect on, and refine knowledge and skills acquired in the program.

## APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Three letters of recommendation.
- Personal letter of intent stating professional and academic goals and why you want to attend our program.
- Résumé.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course - by - course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

For more information about the MA program, visit the program website at <http://education.ucf.edu/insttech>.

**Please note:** Due to restrictive state regulations, UCF is not permitted to provide online courses or instruction to students in the following states. If you reside in one of these states, you may not be permitted to enroll in or be admitted to a UCF online program. Please contact your state's higher education regulation authorities or the UCF Graduate Program (see contact information above) for more details.

- Minnesota

## Application Deadlines

Instructional Systems	*Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15
*Applicants who plan to enroll full time in a degree program and who wish to be considered for university fellowships or assistantships should apply by the Fall Priority date.				

## CONTACT INFO

**Atsusi Hirumi PhD**  
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ED 320 - F

# Interactive Entertainment MS

## PROGRAM DESCRIPTION

The Master's of Science in Interactive Entertainment at UCF's Florida Interactive Entertainment Academy (FIEA) teaches artists, programmers, and producers the techniques, tools, and skills to succeed in the gaming industry. The program provides specific skills in the area of game design, as well as essential skills such as problem solving, teamwork, and project management. Students are selected for admission into production teams based on the skills they possess and contributions they can make to their production team.

FIEA provides a team-based, industry-oriented education in a world-class facility located at UCF's Center for Emerging Media in downtown Orlando. Student production teams are mentored by industry experts and researchers who provide instruction in game design, creative collaboration, rapid prototyping, 3-D animation and modeling, documentation, software engineering, legal and ethical issues, preproduction, and postmortems. Graduates have access to internship opportunities and job interviews with game and media companies from across the country.

## CURRICULUM

The Interactive Entertainment MS degree requires a minimum of 30 credit hours beyond the bachelor's degree including 12 credit hours of core courses, 9 credit hours of specialization, a practicum and a capstone experience.

### Total Hours Required:

**30** Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—24 Credit Hours

#### Core—12 Credit Hours

The foundation of the degree is the four-course core sequence that focuses on team-based learning.

This sequence is designed to provide declarative, procedural, and strategic knowledge in a variety of issues related to game design. These include creative collaboration, rapid prototyping, 3-D animation and modeling, documentation, software engineering, legal and ethical issues, preproduction, and postmortems.

- DIG 5529C Production for Media (3 credit hours)
- DIG 5548C Rapid Prototype Production I (3 credit hours)
- DIG 5549C Rapid Prototype Production II (3 credit hours)
- DIG 6547C Preproduction and Prototyping (3 credit hours)

### Specialization—9 Credit Hours

Specialization courses help prepare students in their chosen field (Programming, Art or Production) by covering the details of each discipline.

Programming classes focus on software engineering techniques as they apply to interactive entertainment products, while production classes focus on the specifics of game design as well as project management. Art classes help students develop aesthetic and technical skills necessary to create compelling visuals for the entertainment industry.

- DIG 5045C Principles of Interactive Entertainment I (3 credit hours)
- DIG 5046C Principles of Interactive Entertainment II (3 credit hours)
- DIG 6785C Advanced Interactive Entertainment (3 credit hours)

### Capstone—3 Credit Hours

The capstone experience applies the concepts and theories learned to produce a large-scale project. The target deliverable is a playable demonstration of a game that simulates the core experience and demonstrates the key features of the project's vision. The course concludes with a special event premiering the final project to the FIEA community and invited guests.

- DIG 6718C Interactive Entertainment Project (3 credit hours)

### Practicum—6 Credit Hours

The practicum is a supervised experience supplementing theoretical and practical

experiences involving new research developments or partnerships within industry. Students may participate on a research team exploring new ideas in interactive entertainment with industry partners, work on an on-site internship with a game company, or develop their own interests by working with faculty on a personal research area of interest.

- DIG 6944C Game Design Practicum (6 credit hours)

## Independent Learning

Both the capstone course and the practicum provide independent learning experiences. The capstone experience is a project-based class that features a game demonstration. The practicum allows students to work with industry partners, in an internship, or to conduct research.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- A portfolio of prior work as it relates to their area of specialization (art, programming, production, etc.) sent directly to the Florida Interactive Entertainment Academy.
- Applicants must submit 3 personal references with your portfolio. These references should be willing and able to attest to your academic, professional and personal achievements. These references need to include the following info:
  - Reference Name
  - Email address
  - Phone number
  - Relationship to applicant

This program admits students in the fall semesters into production teams. Students will be selected based on the skills they possess and contributions they can make to the production team.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission

is based on evaluation of the applicant’s abilities, past performance, recommendations, match of this program and faculty expertise to the applicant’s career/academic goals, and the applicant’s potential for completing the degree.

Because of the high volume of portfolios received, we regret that we cannot offer individual feedback on the materials that are submitted as part of the application process.

## Application Deadlines

Interactive Entertainment MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

## CONTACT INFO

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 FIEA 115N

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 CEM 115F

# Interdisciplinary Studies MA

## PROGRAM DESCRIPTION

The Master of Arts in Interdisciplinary Studies is an excellent program for a number of endeavors appropriate in the 21st century. It is a unique program that allows students the flexibility to develop an individually tailored plan of study and the choice of thesis or nonthesis option.

The thesis option provides the greatest flexibility in the selection of two areas of study and culminates in a research thesis, which provides excellent preparation for a future doctoral degree or a research-oriented career. The nonthesis option offers more than two dozen concentrations and certificate affiliations and culminates in a comprehensive exam or a project that provides preparation for a career that requires great breadth of knowledge.

As you consider participation in the program, please contact the Interdisciplinary Studies office for assistance in selecting the option and developing a plan of study that will suit your interests and address your goals.

## CURRICULUM

The Interdisciplinary Studies MA program offers both thesis and nonthesis options. Both options require 6 credit hours of core courses and 18 credit hours of electives within a chosen concentration. The thesis option requires 6 credit hours of thesis research and an elective course of the student's choice. The nonthesis option includes an additional required course and 6 credit hours of electives in a chosen area that will culminate in a capstone experience of either a written comprehensive examination or a project.

### Total Hours Required:

**33 Credit Hours** Minimum beyond the Bachelor's Degree

The Master of Arts in the Interdisciplinary Studies program is designed for students interested in an interdisciplinary experience who complete their concentration through courses traditionally associated with MA degrees. Course work must be

selected so that at least 50 percent of credit hours in the program are taken at the 6000 level. Students must earn course grades of "B" or higher to gain credit toward the master's degree.

### Required Courses—6 Credit Hours

- IDS 6669 Interdisciplinary Approaches to Research (3 credit hours)
- IDS 6308 Ways of Knowing (3 credit hours)

### Restricted Elective Courses—18 Credit Hours

The Interdisciplinary Studies MA program allows considerable flexibility in shaping a curriculum in the student's area of interest. Students choosing the thesis option will take at least 9 credit hours of courses in each of two disciplines for a total of 18 credit hours. Students in the nonthesis option will take a minimum of 18 credit hours in a concentration. Course and concentration selections are done in consultation with and with approval of the program director and/or academic coordinator and student's faculty adviser and thesis committee.

- Electives in first discipline (9 credit hours)
- Electives in second discipline (9 credit hours)

### Thesis Option—9 Credit Hours

- Unrestricted elective (3 credit hours)
- IDS 6971 Thesis (6 credit hours)

As early as possible and no later than the end of their second semester in the program, students are required to present a thesis proposal to the Interdisciplinary Studies Graduate Committee. This proposal must cover the thesis topic, plan of approach, and the faculty adviser and two thesis committee members. By the end of their plan of study, students must complete 6 credit hours of thesis and successfully defend their thesis. The thesis consists of a common theme with an introduction and literature review, details of the study, and results and conclusions. The thesis must be prepared in writing as well as being presented and defended orally.

### Nonthesis Option—9 Credit Hours

- IDS 6351 Critical Thinking and Writing (3 credit hours)



- Electives toward capstone experience (6 credit hours)

The nonthesis option requires a capstone written examination or project.

## Independent Learning

The program is designed to provide numerous independent learning opportunities. One core course, IDS 6669, will introduce students to interdisciplinary research methodology that they will apply to independent research work. IDS 6308 will acquaint students with interdisciplinarity through the use of student-driven analyses, discussions, and presentations. IDS 6351 will involve students in verbal and written discussions, analyses, and critiques of work they create and from the published literature.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Goal statement.
- Résumé.
- Three letters of recommendation from academic references.
- Completed academic program of study proposal.
- Interview with the Interdisciplinary Studies Graduate Coordinator.

Applicants should note the minimal requirements for admission to the program, although meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

## Application Deadlines

Interdisciplinary Studies MA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

## CONTACT INFO

**Kevin Jardaneh**  
 said.jardaneh@ucf.edu  
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# Interdisciplinary Studies MS

## PROGRAM DESCRIPTION

The Master of Science in Interdisciplinary Studies is an excellent program for a number of endeavors appropriate in the 21st century. It is a unique program that allows students the flexibility to develop an individually tailored plan of study and the choice of thesis or nonthesis option.

The thesis option provides the greatest flexibility in the selection of two areas of study and culminates in a research thesis, which provides excellent preparation for a future doctoral degree or a research-oriented career. The nonthesis option offers more than two dozen concentrations and certificate affiliations and culminates in a comprehensive exam or a project that provides preparation for a career that requires great breadth of knowledge.

As you consider participation in the program, please contact the Interdisciplinary Studies office for assistance in selecting the option and developing a plan of study that will suit your interests and address your goals.

## CURRICULUM

The Interdisciplinary Studies MS program offers both thesis and nonthesis options. Both options require 6 credit hours of core courses and 18 credit hours of electives within a chosen concentration. The thesis option requires 6 credit hours of thesis research and an elective course of the student's choice. The nonthesis option includes an additional required course and 6 credit hours of electives in a chosen area that will culminate in a capstone experience of either a written comprehensive examination or a project.

### Total Hours Required:

**33 Credit Hours** Minimum beyond the Bachelor's Degree

The Master of Science in the Interdisciplinary Studies program is designed for students interested in an interdisciplinary experience who complete their concentration through courses traditionally associated with MS degrees. Course work must be

selected so that at least 50 percent of credit hours in the program are taken at the 6000 level. Students must earn course grades of "B" or higher to gain credit toward the master's degree.

### Required Courses—6 Credit Hours

- IDS 6669 Interdisciplinary Approaches to Research (3 credit hours)
- IDS 6308 Ways of Knowing (3 credit hours)

### Restricted Elective Courses—18 Credit Hours

The Interdisciplinary Studies MS program allows considerable flexibility in shaping a curriculum in the student's area of interest. Students choosing the thesis option will take at least 9 credit hours of courses in each of two disciplines for a total of 18 credit hours. Students in the nonthesis option will take a minimum of 18 credit hours in a concentration. Course and concentration selections are done in consultation with and with approval of the program director and/or academic coordinator and student's faculty adviser and thesis committee.

- Electives in first discipline (9 credit hours)
- Electives in second discipline (9 credit hours)

### Thesis—9 Credit Hours

- Unrestricted elective (3 credit hours)
- IDS 6971 (6 credit hours)

As early as possible and no later than the end of their second semester in the program, students are required to present a thesis proposal to the Interdisciplinary Studies Graduate Committee. This proposal must cover the thesis topic, plan of approach, and the faculty adviser and two thesis committee members. By the end of their plan of study, students must complete 6 credit hours of thesis and successfully defend their thesis. The thesis consists of a common theme with an introduction and literature review, details of the study, and results and conclusions. The thesis must be prepared in writing as well as being presented and defended orally.

### Nonthesis Option—9 Credit Hours

- IDS 6351 Critical Thinking and Writing (3 credit hours)

- Electives toward capstone experience (6 credit hours)

The nonthesis option requires a capstone written examination or project.

## Independent Learning

The program is designed to provide numerous independent learning opportunities. One core course, IDS 6669, will introduce students to interdisciplinary research methodology that they will apply to independent research work. IDS 6308 will acquaint students with interdisciplinarity through the use of student-driven analyses, discussions, and presentations. IDS 6351 will involve students in oral and written discussions, analyses, and critiques of work they create and from the published literature.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Goal statement.
- Résumé.
- Three letters of recommendation from academic references.
- Completed academic program of study proposal.
- Interview with the Interdisciplinary Studies Graduate Coordinator.

Applicants should note the minimal requirements for admission to the program, although meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals and the applicant's potential for completing the degree.

## Application Deadlines

Interdisciplinary Studies MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

## CONTACT INFO

**Kevin Jardaneh**  
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# K-8 Mathematics and Science Education MEd

## PROGRAM DESCRIPTION

The K-8 Mathematics and Science Education program is offered as a Master of Education (MEd) degree for teachers with at least three years experience who instruct students in mathematics and/or science in the indicated grade levels.

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. 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 program is 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 elementary and middle school mathematics and science education.

## Other K-8 Mathematics and Science Programs

The K-8 Mathematics and Science Education program offers a graduate certificate program that can be transferred in its entirety into the master's program.

The K-8 Mathematics and Science Education program is closely allied with both the EdD and PhD in Education programs. Graduates of the K-8 Mathematics and Science master's program have been very successful in completing the advanced graduate degrees. This graduate program partners with the Peace Corps Paul D. Coverdell Fellows Program. If you are a returning Peace Corps volunteer, see Peace Corps Coverdell Fellows for more information about attending graduate school at UCF.

## CURRICULUM

The K-8 Mathematics and Science Education MEd program requires a minimum of 36 credit hours beyond the bachelor's degree, including 15 credit hours of core courses, 15 credit hours of specialization content pedagogical courses, and six credit hours of thesis work or the nonthesis option, which focuses on either completing and submitting findings of a research project to a refereed journal or developing a portfolio in preparation for National Board Certification for Teachers.

### Total Hours Required:

**36** Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—30 Credit Hours

#### Core—15 Credit Hours

- EDF 6472 Data-Driven Decision-making for Instruction (3 credit hours)
- EEX 6342 Seminar - Critical Issues in Special Education (3 credit hours)
- IDS 6937 Teaching Mathematics and Science Using Reform-based Practices (3 credit hours)
- IDS 6939 Reforming Curriculum in Mathematics and Science Education (3 credit hours)
- IDS 6516 Leadership Development for Mathematics and Science Teachers (3 credit hours)

#### Specialization—15 Credit Hours

The following courses provide the content pedagogical courses for the K-8 Mathematics and Science Education MEd program.

- SCE 5836 Space and Physical Science for Educators (3 credit hours)
- ISC 6146 Environmental Education for Educators (3 credit hours)
- MAE 6899 Seminar in Teaching Mathematics (3 credit hours)
- MAE 6318 Current Methods in Elementary School Mathematics (3 credit hours)
- MAE 6641 Problem Solving and Critical Thinking Skills (3 credit hours)

### Thesis Option—6 Credit Hours

IDS 6971 Thesis

### Nonthesis Option—6 Credit Hours

Some students may choose to complete a nonthesis option, the action research project, through one of two pathways: (1) plan, complete, and submit findings of a research project to a refereed journal; or (2) develop a portfolio according to the guidelines of the National Board for Professional Teaching Standards (NBPTS). The portfolio requires a demonstration of professional growth, reflection, and proficiency and incorporates the concepts of “action research” in a classroom. In addition, all portfolios require a final reflective analysis of students’ overall learning and professional development as the capstone portfolio entry. All portfolio entries are critical components of learning since they are the primary means of accessing the professional development of students as reflective practitioners. Students must submit and defend their portfolio before the program faculty as well as submit it for National Board Certification review.

- IDS 6910 Research in Mathematics and Science Education (3 credit hours)
- EDG 6329 Quality Teaching Practices (3 credit hours)

### Independent Learning

A thesis or action research project is required.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Three years of teaching experience.
- Recommendation letter by a 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).

- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

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 Deadlines

K-8 Mathematics and Science Education MED	Fall Priority	Fall	Spring	Summer
Domestic Applicants				Apr 15
International Applicants				Nov 1
International Transfer Applicants				Dec 15

## CONTACT INFO

**Juli K. Dixon PhD**  
 Professor  
 jkdixon@ucf.edu  
 Telephone: 407-823-4140  
 ED 123F



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## Management MS

- Human Resources/Change Management Track

### APPLICATION REQUIREMENTS

Applicants must choose a track in this program.  
Track(s) may have different requirements.

## Business Analytics Track

### TRACK DESCRIPTION

The Business Analytics track in the Professional Master of Science in Management (PMSM/BA) provides students with the specialized skills necessary to respond to challenges of the new data intensive, decision - making business world of today. Students become business analysts skilled in the collection, management, analysis, interpretation and application of data to aid in more informed and successful business decisions. Skills learned in this degree are applicable across industries and organizations whether they be large or small, for - profit or non - profit. The 30 - hour applied Curriculum teaches students how to acquire and manage data, and how it pertains to business decisions; examines quantitative techniques through case studies; uses statistical software to analyze and present data; and culminates with an applied field project that uses all techniques and skills learned in a business setting.

- 20 month cohort
- Classes meet 2 nights per week in downtown Orlando
- No work experience requirement
- Personal interview required for admission

The PMSM/Business Analytics is a 20 - month cohort program that meets two evenings per week, allowing the busy professional to work full - time while earning this degree. Classes are held at UCF's Executive Development Center located in downtown Orlando. Ideal candidates for this degree are students with an understanding of basic statistics but come from a variety of degree fields such as business, statistics, information systems, engineering and health care, or anyone who wants to enhance the trajectory of their career.

This program is a professional program with a market rate tuition, and is considered a part - time program. The tuition is the same for Florida residents and non - residents. Please visit [www.business.ucf.edu/graduate](http://www.business.ucf.edu/graduate) - programs for more information.

## CURRICULUM

30 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses - 30 Credit Hours

#### Core Courses - 15 Credit Hours

Students take 15 credit hours from the seven courses listed below.

- MAN 6325 Applied Research Tools (3 credit hours)
- MAN 6305 Human Resources Management (3 credit hours)
- MAN 6915 Applied Field Project (6 credit hours)
- MAN 6245 Organizational Behavior and Development (3 credit hours)
- GEB 6895 Business Intelligence (3 credit hours)
- QMB 6755 Models for Business Decisions (3 credit hours)
- MAN 6311 Advanced Topics in Human Resources Management (3 credit hours)

#### Business Analytics Specialization - 15 Credit Hours

- STA 5104 Advanced Computer Processing of Statistical Data (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)
- MAR 6646 Marketing Analytics for Strategic Decision Making (3 credit hours)

### Additional Program Requirements

Any student enrolled in a College of Business Administration master's degree program who earns more than two final course grades below a B - will be dismissed from the program and retention plans

will not be supported by the College of Business Administration.

## APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- The GMAT is not required, however, the Admissions Committee may ask for the GMAT to strengthen a candidate's application packet.
- Three letters of recommendation or three e-mail addresses of recommenders.
- A goal statement of no more than 1000 words addressing the following: *Explain why you want to earn a graduate degree; why you believe this is the right time for you to pursue a graduate degree; and why you selected UCF.*
- Résumé.
- A computer - based score of 233 (or 91 internet - based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.
- Applicants applying to this program whose completed bachelor's degree is from a college/university outside the United States must provide a course - by - course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Early application tuition discounts are available for this program. To view early application discount

deadlines, and for more information, visit the Executive Development Center website at [www.business.ucf.edu/graduate](http://www.business.ucf.edu/graduate) - programs.

**Application Deadlines**

Business Analytics	*Fall Priority	Fall	Spring	Summer
<b>Domestic Applicants</b>	-	-	Dec 1	-
The first available term for this program is Spring 2016. Classes will begin in Jan 2016 and will be held at the UCF Executive Development Center in Downtown Orlando. The early application tuition discount deadline is Sep 15.				
<b>International Applicants</b>	-	-	Jul 1	-
<b>International Transfer Applicants</b>	-	-	Sep 1	-
*Applicants who plan to enroll full time in a degree program and who wish to be considered for university fellowships or assistantships should apply by the Fall Priority date.				

**Graduate Program**

**Robin Hofler**

[mba@bus.ucf.edu](mailto:mba@bus.ucf.edu)

407-235-3913

DTC 201B

# Human Resources/ Change Management Track

## TRACK DESCRIPTION

The Human Resources/Change Management Track in the Professional Master of Science in Management (PMSM) program is designed for students who desire specialized study and the development of a high level of professional proficiency in a functional area of business. The track prepares students to work in organizations in such areas as human resources, strategic planning, organizational effectiveness, staffing, and employee relations.

The PMSM program focuses on management in business at the graduate level. 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 management 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 is a focus on developing practices and methods that align human resources activities with organizational strategies. The second component is designed to 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.

This program is a professional program with a market rate tuition, and is considered a part-time program. The tuition is the same for Florida residents and nonresidents. Please visit [www.ucfedc.com](http://www.ucfedc.com) for more information.

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.

## CURRICULUM

### Total Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—15 Credit Hours

Students take five courses from the courses listed below.

- MAN 6325 Applied Research Tools (3 credit hours)
- MAN 6305 Human Resources Management (3 credit hours)
- MAN 6915 Applied Field Projects (3 credit hours)
- MAN 6245 Organizational Behavior (3 credit hours)
- GEB 6895 Business Intelligence (3 credit hours)
- QMB 6755 Models for Business Decision Making (3 credit hours)
- MAN 6311 Advanced Topics in Human Resources Management (3 credit hours)

### Specialization—15 Credit Hours

Students take five courses from the courses listed below.

- MAN 6385 Strategic Human Resources Management (3 credit hours)
- MAN 6721 Applied Strategy and Business Policy (3 credit hours)
- MAN 6285 Change Management (3 credit hours)
- MAN 6448 Conflict Resolution and Negotiation (3 credit hours)
- MAN 6066 Ethical Leadership (3 credit hours)
- BUL 6444 Law and Ethics (3 credit hours)
- GEB 6518 Strategic Innovation (3 credit hours)

### Additional Program Requirements

Any student enrolled in a College of Business Administration master's degree program who earns more than two final course grades below a B- will

be dismissed from the program and retention plans will not be supported by the College of Business Administration.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- The GMAT is not required, however, the Admissions Committee may ask for the GMAT to strengthen a candidate's application packet.
- Three letters of recommendation or three e-mail addresses of recommenders.
- Prepare a career goal statement outlining your short-term and long-term career objectives, and explain how this degree will assist you in obtaining these goals.
- Résumé showing a minimum of two years of full-time, progressive work experience.
- A computer-based score of 233 (or 91 internet-based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.
- Applicants applying to this program whose completed bachelor's degree is from a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Early application tuition discounts are available for this program. To view early application discount deadlines, and for more information, visit the Executive Development Center website at [www.ucfedc.com](http://www.ucfedc.com).

## Application Deadlines

Human Resources/ Change Management Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15		
The next available term for this program is Fall 2015. Classes will begin in August 2015 at the UCF Executive Development Center in Downtown Orlando.				
International Applicants				
International Transfer Applicants				

## CONTACT INFO

**Robin Hoffer**

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DTC 201B

# Marriage, Couple, and Family Therapy MA

## PROGRAM DESCRIPTION

The CACREP Accredited Marriage, Couple and Family Therapy program prepares students for licensure in marriage and family therapy and practice in agencies, private practice, and other settings.

As part of the program’s pragmatic approach to preparing counselors, in addition to classroom studies, all students complete clinical experiences in the UCF Community Counseling Clinic and field-based experiences in the community. The UCF Community Counseling Clinic serves as a hub for training and research in the program, with graduate students providing services to over one thousand individuals a year through child, adult, couples and family counseling.

## CURRICULUM

The CACREP accredited Marriage, Couple and Family Therapy MA program requires a minimum of 63 credit hours beyond the bachelor’s degree, including six credit hours of core courses, 45 credit hours of specialization courses, and 12 credit hours of professional clinical experience. As such, students must be formally admitted to the program in order to take any program area courses.

### Total Hours Required:

**63** Credit Hours Minimum beyond the Bachelor’s Degree

The CACREP accredited Marriage, Couple and Family Therapy MA program prepares students for Florida licensure in marriage and family therapy. The program requires a minimum of 63 credit hours beyond the bachelor’s degree, including 6 credit hours of core courses, 45 credit hours of specialization, and 12 credit hours of professional clinical experiences.



## Required Courses—51 Credit Hours

### Core—6 Credit Hours

- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)

### Specialization—45 Credit Hours

- MHS 5005 Introduction to the Counseling Profession (3 credit hours)
- MHS 6430 Family Counseling I (3 credit hours)
- MHS 6431 Family Counseling II (3 credit hours)
- MHS 6440 Couples Counseling (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 Foundations of Multicultural Counseling (3 credit hours)
- MHS 6450 Addictions Counseling (3 credit hours)
- MHS 6470 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 6347 Career Development (3 credit hours)
- Elective approved by adviser (3 credit hours)

## Professional Clinical Experience—12 Credit Hours

The clinical experiences are comprised of two sections, Practicum and Internship. Both are experiential in nature and are independent learning activities that take place in authentic settings in which students must apply, reflect on, and refine

knowledge and skills acquired in the program to their work with actual clients. The practicum is conducted on campus in the UCF Community Counseling Clinic and the internship is conducted at various clinical sites around central Florida.

- MHS 6803 Practicum in Counselor Education (3 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)\*\*

\* Prerequisites for MHS 6803 Practicum in Counselor Education are the following: MHS 5005, MHS 6070, MHS 6400, MHS 6401, MHS 6500, and MHS 6702. A minimum of 27 credit hours are required prior to beginning the practicum.

\*\* The prerequisite for MHS 6830 Counseling Internship is a “B” or better in all sections of MHS 6803.

## Additional Program Requirements

- Achieve at least a GPA of 3.0 in counseling specialization courses.
- Achieve a “B” or better in MHS 5005, MHS 6401, MHS 6803, and MHS 6830.
- Complete a total of 1100 hours of clinical experiences, 200 of which will be in the UCF Community Counseling Clinic and 900 of which are field-based experiences in the community.
- Complete a portfolio and receive approval by Counselor Education faculty.
- Complete a professional exit examination.
- Given the experiential, competency, and performance-based nature of the courses taken by Marriage, Couple and Family Therapy students, students are limited to taking a maximum of three (3) courses per semester. However, if students believe they can verify a need to take more than three courses, they should consult with their academic advisor for approval guidelines. Students who have not received prior approval and who register for more than three courses per semester will be administratively dropped from any courses over the maximum load.

## Independent Learning

Practica and internships are independent learning activities that take place in authentic settings in which students must apply, reflect on, and refine knowledge and skills acquired in the program. The internship experience provides students with the practical experience of providing hands-on services for a variety of clients and presenting concerns. Such services may include, but are not limited to, individual, couple, family, and group counseling with children, adolescents, and adults. Client concerns range from developmental and relational concerns to more severe pathology.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation.
- Résumé.
- Goal statement.

The Master of Arts in Marriage, Couple and Family Therapy 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 and Human Performance reserves the right to refuse student entrance or terminate a student after admission to the Counselor Education program, if in the judgement of the faculty the student demonstrates unacceptable personal fitness to work in the counseling field with children, youth, and/or adults.

A formal interview is required and will be scheduled after the College of Education and Human Performance admission requirements are met. Interviews are conducted on the second Friday in March and the second Friday in October. Attendance to the the program orientation session at 4:30 p.m. on the Thursday before classes begin, in the semester to which the student applied, is mandatory.

## Application Deadlines

Marriage and Family Therapy MA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Feb 15	Sep 15	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Feb 15	Sep 1	

## CONTACT INFO

### Mark Young PhD

Professor

counsel@ucf.edu

Telephone: 407-823-2401

ED 322Q

# Materials Science and Engineering

## MSMSE

- Accelerated BS to MS Track

### PROGRAM DESCRIPTION

The Materials Science and Engineering master's degree program (MSMSE), intended primarily for a student with a bachelor's degree in materials science and engineering or a closely related science or engineering discipline obtained from a recognized accredited institution.

Fields of emphasis and research for materials science and engineering include crystal growth, high temperature materials and coatings, multicomponent interdiffusion, material stability and degradation, shape memory alloys, mechanical behavior, magnetic and optical and electronic materials, thin films, solar cells, sensors, ceramics, powder metallurgy, non-equilibrium processing of materials, nanosynthesis and consolidation, nanomaterials including quantum dots nanowires and nanocomposites, biomaterials, and electrochemically active materials.

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit [www.intl.ucf.edu](http://www.intl.ucf.edu). If you have any questions, please consult the International Services Center at 407-823-2337.

### CURRICULUM

The Materials Science and Engineering MSMSE program offers both thesis and nonthesis options with each requiring a minimum of 30 credit hours beyond the bachelor's degree. In general, the program includes 12-15 credit hours of required courses with the remaining courses being electives except for at least six credit hours of thesis work for students in the thesis option.

### Total Hours Required:

**30** Credit Hours Minimum beyond the Bachelor's Degree

The thesis option is primarily for those students who can devote a full-time effort to completing an independent research project that leads to a thesis. 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 nonthesis option is primarily designed for part-time and online students and requires 30 credit hours of course work. In addition, students pursuing the nonthesis option are required to take EML 6085 Research Methods in MAE or EMA 6918 Directed Research as part of their 30-credit-hour course requirement to demonstrate their ability to perform independently in research conditions. See the MSE program director for specific details.

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. All programs of study must consist of at least 24 credit hours of required and elective courses, exclusive of thesis and research. At least half of the credit hours in a program of study must be at the 6000 level. The appropriate program of study form can be found at the program website listed above and students should consult with the MSE program director for assistance in filling out the program of study form and approval. Substitutions to the program of study must meet with the approval of the adviser and the MSE program director.

A student with an undergraduate degree outside of the materials science and engineering discipline is required to satisfy an articulation program and may have to take additional prerequisite courses.

### Prerequisites (or equivalent)

- Mathematics through Differential Equations (MAP 2302 )
- Structure and Properties of Materials (EGN 3365 )
- Mechanics of Materials (EGN 3331) or Thermodynamics (EGN 3343 )
- Experimental Techniques in Mechanics and Materials (EMA 3012C)

## Required Courses—15 Credit Hours

All students must take five required courses unless they hold a materials engineering undergraduate degree, in which case they may substitute an additional elective for EMA 5104.

- EMA 5104 Intermediate Structure and Properties of Materials (3 credit hours)
- EMA 5106 Metallurgical Thermodynamics (3 credit hours)
- EMA 5317 Materials Kinetics (3 credit hours)

All students must take one of the two following pairs of required courses.

- EMA 6126 Physical Metallurgy (3 credit hours)
- EMA 6626 Mechanical Behavior of Materials (3 credit hours)

Or

- EMA 5060 Polymer Science and Engineering (3 credit hours)
- EMA 6319 Colloids and Interface Engineering (3 credit hours)

Students taking the courses in one required pair may also take the courses in the other required pair as electives.

## Elective Courses—9 Credit Hours

All students, both thesis and nonthesis, must take at least 9 credit hours of electives. Additional electives are listed below. Courses should be selected with faculty adviser approval.

- EMA 5108 Surface Science (3 credit hours)
- EMA 5140 Introduction to Ceramic Materials (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 5586 Photovoltaic Solar Energy Materials (3 credit hours)

- EMA 5584 Biomaterials (3 credit hours)
- EMA 6149 Imperfections in Crystals (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)
- EMA 6605 Materials Processing Techniques (3 credit hours)
- EMA 5610 Laser Materials Processing (3 credit hours)
- EMA 5587C Characterization and Reliability of PV Cells (3 credit hours)
- EML 6085 Research Methods in MMAE (3 credit hours)
- EMA 6515 X-ray and Auger Electron Spectroscopic Techniques (3 credit hours)
- EMA 6611 Optoelectronics Materials Processing (3 credit hours)

### *Electives Outside EMA Offerings*

- 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 6711 Materials Chemistry (3 credit hours)
- EEE 5332C Thin Film Technology (3 credit hours)
- EEE 5352 Semiconductor Material and Device Characterization (3 credit hours)
- EEE 6326C MEMS Fabrication Laboratory (3 credit hours)
- EML 5290 Introduction to MEMS and Micromachining (3 credit hours)
- EML 5291 MEMS Materials (3 credit hours)
- OSE 5312 Fundamentals of Optical Science (3 credit hours)
- OSE 6432 Fundamentals of Photonics (3 credit hours)

- PHY 5140C Ion-Solid Interactions (3 credit hours)
- PHY 7423 Physics of Nanostructures (3 credit hours)
- PHZ 5405 Condensed Matter Physics (3 credit hours)

### Thesis Option—6 Credit Hours

Thesis students must complete an independent research project, and write and successfully defend their thesis that describes the project.

- EMA 6971 Thesis (6 credit hours)

The College of Engineering and Computer Science requires that all thesis defense announcements be approved by the student's adviser and posted on the college's website and on the Events Calendar at the College of Graduate Studies website at least two weeks before the defense date.

### Nonthesis Option—6 Credit Hours

Nonthesis students are required to demonstrate their ability to perform independently in research conditions by completing either EML 6085 or EMA/EML 6918. In addition, they must take another elective beyond the 9 credit hours of electives described above.

- EML 6085 Research Methods in MAE (3 credit hours) or EMA 6918 Directed Research (3 credit hours)
- Elective (3 credit hours)

### Independent Learning

The Independent Learning Requirement is met by successful completion of a master's thesis or EML 6085 Research Methods or EMA 6918 Directed Research for nonthesis students.

## APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening ([www.cecs.ucf.edu/prescreen](http://www.cecs.ucf.edu/prescreen)) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete

online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Materials Science and Engineering or a closely related discipline.
- Résumé.
- Statement of educational, research, and professional career objectives.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Additional courses may be required to correct deficiencies. Students should contact the MSE graduate program director for more information.



## Application Deadlines

Materials Science and Engineering MSMSE	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

## CONTACT INFO

### Helge Heinrich PhD

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OTC 304

# Accelerated BS to MS Track

## TRACK DESCRIPTION

The accelerated undergraduate/graduate program in Materials Science and Engineering allows highly qualified undergraduate majors in Mechanical Engineering (Materials Option) 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 Science and Master of Science degrees in five instead of six years for students enrolled in full-time course work.

## CURRICULUM

### Total Hours Required:

**30** Credit Hours Minimum beyond the Bachelor's Degree

The BSME is awarded after completing university requirements for the degree, including 128 total credit hours and completing of 71 credit hours of engineering courses. The MSMSE 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 engineering major requirements in the Undergraduate Catalog).

Up to 12 credit hours of approved graduate-level courses of grades "B" (3.0) or better may be counted toward the BS and MS degrees. Additional notes on the Accelerated Undergraduate and Graduate Program in Materials Science and Engineering are as follows:

- Students who change degree programs and select this major must adopt the most current catalog.
- Students must earn at least a "B" (3.0) in each undergraduate and graduate engineering course for them to be counted toward the major.

## Undergraduate Requirements

Please see the current edition of the Undergraduate Catalog for additional information about this program.

## Graduate Requirements

Please see the Materials Science and Engineering MSME program in the Graduate Catalog for additional information.

## Independent Learning

The Independent Learning Requirement is met by successful completion of a master's thesis or EML 6085 Research Methods or EMA/EML 6918 Directed Research for nonthesis students.

## APPLICATION REQUIREMENTS

The **Accelerated BS to MS Program** in Materials Science and Engineering allows highly qualified University of Central Florida undergraduate majors in Mechanical Engineering 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 accelerated program in either their junior year or senior year. If the student has a degree in the discipline, but were not previously part of this accelerated program, then they should apply to **Materials Science Engineering MS Program** without a track selection. Additional information about this track may be located at: <http://www.cecs.ucf.edu/academics/acceleratedbstomsprograms>.

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening ([www.cecs.ucf.edu/prescreen](http://www.cecs.ucf.edu/prescreen)) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be

admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Materials Science and Engineering or a closely related discipline.
- Résumé.
- Statement of educational, research, and professional career objectives.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Additional courses may be required to correct deficiencies. Students should contact the Materials graduate program director for more information.

## Application Deadlines

Accelerated BS to MS Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

## CONTACT INFO

### Helge Heinrich PhD

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OTC 304

# Mathematical Science MS

- Industrial Mathematics Track

## PROGRAM DESCRIPTION

The Master of Science in Mathematical Science provides 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.

## CURRICULUM

The Mathematical Science MS program requires 30 credit hours minimum beyond the bachelor's degree. There are two options for the master's degree: thesis and nonthesis.

### Total Hours Required:

**30** Credit Hours Minimum beyond the Bachelor's Degree

Thesis and nonthesis options are offered within the program. In both options, after completing the core courses, a student must establish an academic adviser for nonthesis MS option or a thesis adviser for thesis MS option. A program of study must be established by the end of the second semester and presented to the graduate program director for departmental approval. The program of study must include the completion of the core courses and one 2-semester sequence. At least one-half of the program courses in both options must be taken at the 6000 level.

### Required Courses—15 Credit Hours

For thesis or nonthesis option, the master's program requires all students to complete the following five courses.

- MAS 5145 Advanced Linear Algebra and Matrix Theory (3 credit hours)
- MAA 5228 Analysis I (3 credit hours)
- MAA 6229 Analysis II (3 credit hours)
- MAT 5712 Scientific Computing (3 credit hours)
- MAP 6385 Applied Numerical Mathematics (3 credit hours)

### Elective Courses—9 Credit Hours

#### Restricted Electives—3–6 Credit Hours

After the completion of the core courses, the program requires all students to complete one of the following two-semester sequences. The following shows examples of acceptable sequences using current courses. We expect that other sequences will be developed as our program grows. Note that some sequences consist of a core course plus one elective, while others consist of two electives. Thus, the credit hours in this requirement are variable (3 to 6 credit hours).

- MAP 6407 Applied Mathematics I (3 credit hours) / MAP 6408 Applied Mathematics II (3 credit hours)
- MAA 6405 Complex Variables (3 credit hours) / MAA 6404 Complex Analysis (3 credit hours)
- MAD 6309 Advanced Graph Theory I (3 credit hours) / MAD 5205 Combinatorics & Graph Theory II (3 credit hours)
- MAS 5145 Advanced Linear Algebra and Matrix Theory (3 credit hours) / MAS 5311 Abstract Algebra with Applications (3 credit hours)
- MAP 5336 Ordinary Differential Equations and Applications (3 credit hours) / MAP 6356 Partial Differential Equations (3 credit hours)
- MAA 6238 Measure and Probability (3 credit hours) / MAP 6111 Mathematical Statistics (3 credit hours)
- MAA 6306 Real Analysis (3 credit hours) / MAA 6506 Functional Analysis (3 credit hours)

#### Unrestricted Electives—3-6 Credit Hours

Unrestricted 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.

### **Thesis Option—6 Credit Hours**

In this option, the MS degree requires a total of at least 30 credit hours comprised of at least 24 credit hours of course work and 6 credit hours of thesis. This includes the 15 credit hours of the core courses and 3-6 credit hours of a two-course sequence. No more than 6 credit hours of independent study or directed research may be credited toward the degree. It is strongly recommended that the student select a thesis adviser and establish a program of study by the completion of the core courses. With the help of a thesis adviser, the student will form a thesis committee of three members, of which at least two must be from the Department of Mathematics.

It is recommended that the thesis topic have potential for industrial applications. An oral defense of the thesis will be required.

- MAP 6971 Thesis (6 credit hours)

### **Nonthesis Option—6 Credit Hours**

Nonthesis students will take an additional 6 credit hours of electives. The electives should be chosen in consultation with the graduate program director or the student's adviser.

Nonthesis students will receive independent learning experiences by taking one of the two-semester sequences, where they apply mathematical principles to independent projects. Other courses that also have substantial research projects include MAP 5117 Mathematical Modeling, MAT 5712 Scientific Computing and MAP 6111 Mathematical Statistics, and may be taken as electives.

No more than 3 credit hours of independent study may be credited toward the degree. It is strongly recommended that the student select an academic adviser and establish a program of study by the completion of the core courses. In addition, the nonthesis student must pass a comprehensive

written examination (by passing the qualifying/comprehensive examination at or above the MS level) based on the core courses. Two attempts at the examination are permitted.

### **Independent Learning**

In the Mathematical Science MS program, the thesis option provides an independent learning experience through directed research, reading published research papers, and writing and defending the thesis. The nonthesis option requires students to take one of the two-semester sequences, where they apply mathematical principles to independent projects.

## **APPLICATION REQUIREMENTS**

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- 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).

Students who find they are not adequately prepared in one or more of the required mathematical subject 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. Transfer of credits from other programs will be considered on a course-by-course basis.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this

program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

### Application Deadlines

Mathematical Science MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

### CONTACT INFO

#### Joseph Brennan PhD

Professor

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MAP 202G

# Industrial Mathematics Track

## TRACK DESCRIPTION

The Industrial Mathematics track in the Mathematical Science MS program prepares graduate students to pursue careers in industry by providing them with high quality professional training in branches of mathematics valuable to high-technology industries. This track has three components: training in the necessary mathematics to pursue a career in industrial mathematics, professional training to prepare for the environment of the industrial workplace, and a required experiential component.

## CURRICULUM

### Total Hours Required:

**36** Credit Hours Minimum beyond the Bachelor's Degree

The program consists of 36 credit hours of courses and internship. Students will work with an adviser to design a program of study, which will be presented to the program director for approval. If a student has an industrial 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. The capstone requirement for this track is fulfilled by students completing an experiential learning requirement (3 credit hours). At least one-half of the program courses must be taken at the 6000 level.

### Prerequisites

The following courses are required as prerequisites to this track: Calculus with Analytic Geometry I, II, and III; Differential Equations; Linear and Matrix Algebra (or a course equivalent); proficiency in a computer language (C or MatLab); Advanced Calculus and Statistics.

### Required Courses—24 Credit Hours

- MAP 5117 Mathematical Modeling (3 credit hours)



- MAP 6385 Applied Numerical Mathematics (3 credit hours)
- MAP 6111 Mathematical Statistics (3 credit hours)
- MAT 5712 Scientific Computing (3 credit hours)
- MAS 5145 Advanced Linear Algebra and Matrix Theory (3 credit hours)
- MAA 5228 Analysis I (3 credit hours)
- MAP 6207 Optimization Theory (3 credit hours)
- MAA 6508 Hilbert Spaces with Applications (3 credit hours)

### Mathematics Restricted Electives—3 Credit Hours

Student take one of the following courses:

- MAD 5205 Combinatorics and Graph Theory II (3 credit hours)
- MAP 5336 Ordinary Differential Equations and Applications (3 credit hours)
- MAP 6356 Partial Differential Equations (3 credit hours)

### Professional Development Restricted Electives—6 Credit Hours

Students take two of the following courses:

- COM 6047 Interpersonal Support in the Workplace (3 credit hours)
- GEB 5516 Technological Entrepreneurship (3 credit hours)
- GEB 6115 Entrepreneurship (3 credit hours)
- GEB 6116 Business Plan Formation (3 credit hours)
- GEB 6518 Strategic Innovation (3 credit hours)
- MAN 5867 Small Business Consulting (3 credit hours)
- MAN 6245 Organizational Behavior and Development (3 credit hours)

### Experiential Requirement—3 Credit Hours

Students will demonstrate experience in the application of mathematics to industrial problems. This demonstration can be accomplished through the satisfactory completion of an industrial internship (MAP 6946), satisfactory performance at an approved workshop in industrial mathematics (MAP 6946), or through passing with a grade of “B” (3.0 grade point average) or better MAP 6168 Mathematical Modeling II. Students are required as part of the experiential requirement to deliver an oral presentation on the experience. Students are very strongly encouraged to fulfill this requirement through an internship experience.

### APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- 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).

Students who find they are not adequately prepared in one or more of the required mathematical subject 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. Transfer of credits from other programs will be considered on a course-by-course basis.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant’s abilities, past performance, recommendations, match of this program and faculty expertise to the applicant’s

career/academic goals, and the applicant's potential for completing the degree.

### Application Deadlines

Industrial Mathematics Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

### CONTACT INFO

#### Joseph Brennan PhD

Professor

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MAP 202G

# Mechanical Engineering MSME

- Accelerated BS to MS Track
- Mechanical Systems Track
- Thermofluids Track

## PROGRAM DESCRIPTION

The Master of Science degree in Mechanical Engineering is primarily intended for students with a bachelor's degree in Mechanical or Aerospace engineering or a closely related discipline obtained from a recognized accredited institution. The program offers Mechanical Systems, Thermofluids and Accelerated BS to MS tracks.

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit [www.intl.ucf.edu](http://www.intl.ucf.edu). If you have any questions, please consult the International Services Center at 407-823-2337.

## CURRICULUM

The Mechanical Engineering program offers both thesis and nonthesis options in six different tracks: Accelerated BS to MS, Mechanical Systems, and Thermofluids. Each track requires 30 credit hours of courses, of which 24 credit hours must be formal course work, exclusive of thesis and research.

### Total Hours Required:

**30** Credit Hours Minimum beyond the Bachelor's Degree

Students may choose from the following six tracks in the MSME program: Accelerated BS to MS, Mechanical Systems, and Thermofluids. Each track offers both thesis and nonthesis options with the thesis option requiring 24 credit hours of formal courses, and six credit hours of thesis. The nonthesis option requires 30 credit hours of courses.

All students must 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 MAE Graduate Program Director for assistance in filling out their program of study. The program of study must be met with departmental approval.

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. More information is available from the MAE departmental website listed above.

For the Accelerated track, the Mechanical Engineering BS is awarded after completion of 120 university credit hours and 71 hours of engineering courses and all other university requirements, and the Mechanical Engineering MS 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 engineering major requirements in the Undergraduate Catalog).

## Thesis

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 College of Engineering and Computer Science requires that all thesis defense announcements be approved by the student's adviser and posted on the college's website ([www.cecs.ucf.edu](http://www.cecs.ucf.edu)) and on the Events Calendar at the College of Graduate Studies website at least two weeks before the defense date.

At least 24 credit hours of the program of study must be course work, exclusive of thesis and research.

## Nonthesis

The nonthesis option is primarily designed to meet the needs of part-time students and requires 30 credit hours of course work, at least one-half of which must be at the 6000 level. In addition, students pursuing the nonthesis option are required to take EML 6085 Research Methods in MMAE or EML 6918 Directed Research as part of their

30-credit-hour course requirement. At least 24 credit hours of these programs of study must be course work, exclusive of research and thesis credit hours.

## Equipment Fee

Students in the Mechanical Engineering MSME program pay a \$90 equipment fee each semester that they are enrolled. Part-time students pay \$45 per semester.

## Independent Learning

The Independent Learning Requirement is met by successful completion of a master's thesis for the thesis option. The nonthesis option independent learning experience is provided by the required course, EML 6085 Research Methods in MAE (3 credit hours). For students who are not on campus and upon prior approval from the graduate coordinator, EML 6918 Directed Research (3 credit hours) may be substituted as the student's independent learning experience. In the case substitution EML 6918 is approved, a letter must be provided by the member of the faculty supervising the directed research certifying independent learning.

## MAE Department Graduate Seminar Requirement

The MAE Graduate seminar is a zero (0) credit hour (S/U) course that is offered each Fall and Spring academic semesters. All MAE graduate students who are pursuing the MSME are required to register, participate, and receive a satisfactory (S) grade for two (2) semesters of MAE Graduate seminar prior to graduation.

## APPLICATION REQUIREMENTS

Applicants must choose a track in this program.  
Track(s) may have different requirements.

### Application Deadlines

Mechanical Engineering MSME	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

## CONTACT INFO

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Engineering 313

# Accelerated BS to MS Track

## TRACK DESCRIPTION

The Accelerated Undergraduate/Graduate program in Mechanical Engineering allows highly qualified undergraduate majors in Mechanical Engineering 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 Science and Master of Science degrees in five instead of six years for students enrolled in full-time course work.

## CURRICULUM

### Total Hours Required:

**30** Credit Hours Minimum beyond the Bachelor's Degree

The BSME is awarded after completing all university requirements, including 128 total credit hours and 71 credit hours of engineering courses. The MSME 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 engineering major requirements in the Undergraduate Catalog).

Up to 12 credit hours of approved graduate level courses of grades "B" (3.0) or better may be counted towards the BS and MS degrees. Additional notes on the Accelerated Undergraduate and Graduate Program in Mechanical Engineering are as follows:

- Students who change degree programs and select this major must adopt the most current catalog.
- Students must earn at least a "B" (3.0) in each undergraduate and graduate engineering course for them to be counted toward the major.

## Undergraduate Requirements

Please see the current edition of the Undergraduate Catalog for additional information about this program.

## Graduate Requirements

The Mechanical Engineering program requires a minimum of 30 credit hours beyond the bachelor's degree, and offers thesis and nonthesis options in two tracks, Mechanical Systems and Thermofluids. At least 24 credit hours of course work must be taken, exclusive of thesis and research. The thesis options require 24 credit hours of formal courses, and six credit hours of thesis. Accelerated Mechanical Engineering students must declare their interest in either the Mechanical Systems Track or the Thermofluids Track by completing a Program of Study with their adviser.

Additionally, all students pursuing the thesis option must enroll in the following course:

- EML 5936 Mechanical and Aerospace Seminar (0 credit hours)

Students must register for the seminar course a minimum of two times during their graduate career in the master's program (thesis option). The students must also complete the course with a satisfactory (S) grade in both attempts. If the student does not complete the course with a satisfactory grade, the student will be asked to repeat the course to meet program requirements.

The nonthesis options require 30 credit hours of courses, including completion of EML 6085 Research Methods in MMAE. For students who are not on campus and upon prior approval from the graduate coordinator, EML 6918 Directed Research (3 credit hours) may be substituted as the student's independent learning experience. In the case substitution EML 6918 is approved, a letter must be provided by the member of the faculty supervising the directed research.

## Equipment Fee

Students in the Mechanical Engineering MSME program pay a \$90 equipment fee each semester that they are enrolled. Part-time students pay \$45 per semester.

## Independent Learning

The Independent Learning requirement is met by successful completion of a master's thesis for the thesis option. The nonthesis option independent learning experience is provided by the required course, EML 6085 Research Methods in MMAE (3 credit hours). For students who are not on

campus and upon prior approval from the graduate coordinator, EML 6918 Directed Research (3 credit hours) may be substituted as the student's independent learning experience. In the case substitution EML 6918 is approved, a letter must be provided by the member of the faculty supervising the directed research certifying independent learning.

## APPLICATION REQUIREMENTS

The **Accelerated BS to MS** program in Mechanical Engineering allows highly qualified University of Central Florida undergraduate majors in Mechanical Engineering 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 accelerated program in either their junior year or senior year. If the student has a degree in the discipline, but were not previously part of this accelerated program, then they should apply to either the **Mechanical Systems Track or Thermofluids Track**. Additional information about this track may be located at: <http://www.cecs.ucf.edu/academics/acceleratedbstomsprograms>.

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening ([www.cecs.ucf.edu/prescreen](http://www.cecs.ucf.edu/prescreen)) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.



In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Mechanical or Aerospace Engineering, or a closely related discipline.
- Résumé.
- Statement of educational, research, and professional career objectives.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Additional courses may be required to correct deficiencies. Applicants should contact the MMAE graduate program director for more information.

## Application Deadlines

Accelerated BS to MS Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

## CONTACT INFO

### Alain Kassab PhD

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Engineering 313

# Mechanical Systems Track

## TRACK DESCRIPTION

The Master of Science degree in Mechanical Engineering is primarily intended for students with a bachelor's degree in Mechanical or Aerospace engineering or a closely related discipline obtained from a recognized accredited institution. The program offers Mechanical Systems, Thermofluids and Accelerated BS to MS tracks.

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit [www.intl.ucf.edu](http://www.intl.ucf.edu). If you have any questions, please consult the International Services Center at 407-823-2337.

## CURRICULUM

### Total Hours Required:

**30** Credit Hours Minimum beyond the Bachelor's Degree

All students must 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 MMAE Graduate Program Director for assistance in completing the program of study form. The program of study must have departmental approval and must include at least 24 credit hours of formal course work, exclusive of thesis and research. Furthermore, at least half of the credit hours must be from courses at the 6000 level. Substitutions to the program of study must meet with the approval of the adviser and the department.

A student with an undergraduate degree outside of the selected departmental discipline may be required to satisfy an articulation program and take additional prerequisites. More information is available from the MMAE departmental website listed above.

### Prerequisites (or equivalent)

- Differential Equations (MAP 2302)

- Modeling Methods in Mechanical and Aerospace Engineering (EML 3034C)
- Machine Design and Analysis (EML 3500) or Flight and Structures (EAS 4200)
- Vibration Analysis (EML 4220) or Space Structural Dynamics (EAS 4210)
- Experimental Techniques in Mechanics and Materials (EMA 3012C) or Solid Mechanics Lab (EGM 3601L) or Mechanical Systems Experimental Techniques (EML 4221C)
- Feedback Control (EML 4312C)
- 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 6233 Fundamentals of Fatigue Analysis (3 credit hours)
- EML 6547 Engineering Fracture Mechanics in Design (3 credit hours)

### Required Courses—12 Credit Hours

- EML 5060 Mathematical Methods in Mechanical, Materials, and Aerospace Engineering (3 credit hours)
- EML 5237 Intermediate Mechanics of Materials (3 credit hours)
- EML 5271 Intermediate Dynamics (3 credit hours)
- EML 6211 Continuum Mechanics (3 credit hours)

### Elective Courses—12 Credit Hours

All students, both thesis and nonthesis, must take 12 credit hours of electives from the following list or from courses from other tracks. Electives should be chosen in consultation with the student's adviser.

- EML 6305C Experimental Mechanics (3 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 Vibration (3 credit hours)
- EML 5026C Advanced Engineering Design Practice (3 credit hours)
- EML 5066 Computational Methods in Mechanical, Materials and Aerospace Engineering (3 credit hours)
- EML 5228C Modal Analysis (3 credit hours)

### Thesis Option—6 Credit Hours

Thesis students must complete an independent research project, and write and successfully defend a thesis describing the project. Students 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.

- EML 6971 Thesis (6 credit hours)

The College of Engineering and Computer Science requires that all thesis defense announcements be approved by the student's adviser and posted on the college's website and on the Events Calendar at the College of Graduate Studies website at least two weeks before the defense date.

Additionally, all students pursuing the thesis option must enroll in the following course:

- EML 5090 Mechanical and Aerospace Seminar (0 credit hours)

Students must register for the seminar course a minimum of two times during their graduate career in the master's program (thesis option). The students must also complete the course with a satisfactory (S) grade in both attempts. If the student does not complete the course with a satisfactory grade, the student will be asked to repeat the course to meet program requirements.

### Nonthesis Option—6 Credit Hours

Nonthesis students are required to take EML 6085 Research Methods in MMAE (or EML 6918 Directed Research, with approval) as part of their 30-credit-hour course requirement. In addition, nonthesis students must take another elective

beyond the 12 credit hours of electives described above.

- EML 6085 Research Methods in MMAE (3 credit hours)\*
- Elective (3 credit hours)

\* For students who are not on campus and with prior approval from the graduate program director, EML 6918, Directed Research (3 credit hours) may be substituted as the student's independent learning experience. If the substitution of EML 6918 is approved, a letter must be provided by the faculty member agreeing to supervise the directed research and certifying that the experience includes independent learning.

## Equipment Fee

Students in the Mechanical Engineering MSME program pay a \$90 equipment fee each semester that they are enrolled. Part-time students pay \$45 per semester.

## Independent Learning

The Independent Learning requirement is met by successful completion of a master's thesis for the thesis option. The independent learning experience in the nonthesis option is provided by the required course, EML 6085 Research Methods in MMAE (3 credit hours). For students who are not on campus and with prior approval from the graduate program director, EML 6918 Directed Research (3 credit hours) may be substituted as the student's independent learning experience. If the substitution of EML 6918 is approved, a letter must be provided by the faculty member agreeing to supervise the directed research and certifying that the experience includes independent learning.

## APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening ([www.cecs.ucf.edu/prescreen](http://www.cecs.ucf.edu/prescreen)) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Mechanical or Aerospace Engineering, or a closely related discipline.
- Résumé.
- Statement of educational, research, and professional career objectives.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Additional courses may be required to correct deficiencies. Applicants should contact the MMAE graduate program director for more information.

## Application Deadlines

Mechanical Systems Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

## CONTACT INFO

### Alain Kassab PhD

Professor

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Engineering 313

# Thermofluids Track

## TRACK DESCRIPTION

The Master of Science in Mechanical Engineering is primarily intended for students with a bachelor's degree in Mechanical or Aerospace engineering or a closely related discipline obtained from a recognized accredited institution. The program offers Mechanical Systems, Thermofluids and Accelerated BS to MS tracks.

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit [www.intl.ucf.edu](http://www.intl.ucf.edu). If you have any questions, please consult the International Services Center at 407-823-2337.

## CURRICULUM

### Total Hours Required:

**30** Credit Hours Minimum beyond the Bachelor's Degree

All students must identify an adviser and file an official degree program of study prior to the completion of 9 credit hours of study. The program of study must have departmental approval and students should consult with the MMAE Graduate Program Director for assistance in completing their program of study form. At least 24 hours of the program of study must include formal course work, exclusive of thesis and research, and at least half of the credit hours must be from courses at the 6000 level. Substitutions to the program of study must meet with the approval of the adviser and the department.

A student with an undergraduate degree outside of the selected departmental discipline may be required to satisfy an articulation program and take additional prerequisites. More information is available from the MMAE departmental website listed above.

### Prerequisites (or equivalent)

- Differential Equations (MAP 2302)

- Modeling Methods in Mechanical and Aerospace Engineering (EML 3034C)
- Thermodynamics of Mechanical Systems (EML 3101)
- Measurements in Thermal Systems (EML 4304C)
- Fluid Mechanics II (EML 4703) or Propulsion Systems (EAS 4300)
- Heat Transfer (EML 4142)

### Required Courses—12 Credit Hours

- EML 5060 Mathematical Methods in Mechanical, Materials and Aerospace Engineering (3 credit hours)
- EML 5152 Intermediate Heat Transfer (3 credit hours)
- EML 5713 Intermediate Fluid Mechanics (3 credit hours)
- EML 6104 Classical Thermodynamics (3 credit hours)

### Elective Courses—12 Credit Hours

All students, both thesis and nonthesis, must take 12 credit hours of electives from the following list or from courses from other MMAE tracks. Up to 6 credit hours of electives could also be from other graduate courses offered in the College of Engineering and Computer Science. Students should confer with their advisers when choosing electives.

- 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 6131 Combustion Phenomena (3 credit hours)
- EML 6154 Conduction Heat Transfer (3 credit hours)
- EAS 6185 Turbulent Flow (3 credit hours)
- EML 6712 Viscous Flow (3 credit hours)
- EAS 6138 Advanced Gas Dynamics (3 credit hours)

- EAS 5302 Direct Energy Conversion (3 credit hours)
- EAS 5315 Rocket Propulsion (3 credit hours)
- EML 5026C Advanced 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 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)

### Thesis Option—6 Credit Hours

Thesis students must complete an independent research project, and write and defend a thesis describing the project. Students 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.

- EML 6971 Thesis (6 credit hours minimum)

The College of Engineering and Computer Science requires that all thesis defense announcements be approved by the student's adviser and posted on the CECS website and on the Events Calendar at the College of Graduate Studies website at least two weeks before the defense date.

Additionally, all students pursuing the thesis option must enroll in the following course:

- EML 5090 Mechanical and Aerospace Seminar (0 credit hours)

Students must register for the seminar course a minimum of two times during their graduate career in the master's program (thesis option). The students must also complete the course with a satisfactory (S) grade in both attempts. If the student does not complete the course with a satisfactory grade, the student will be asked to repeat the course to meet program requirements.



## Nonthesis Option—6 Credit Hours

Nonthesis students must take EML 6085 Research Methods in MMAE (or EML 6918 Directed Research, with approval) as part of their 30-credit-hour course requirement. Furthermore, they must take an additional elective beyond the 12 credit hours of electives described above.

- EML 6085 Research Methods in MMAE (3 credit hours)\*
- Elective (3 credit hours)

\* For students who are not on campus and with prior approval from the graduate program director, EML 6918, Directed Research (3 credit hours) may be substituted as the student's independent learning experience. If the substitution of EML 6918 is approved, a letter must be provided by the faculty member agreeing to supervise the directed research and certifying that the experience contains independent learning.

## Equipment Fee

Students in the Mechanical Engineering MSME program pay a \$90 equipment fee each semester that they are enrolled. Part-time students pay \$45 per semester.

## Independent Learning

The Independent Learning requirement is met by successful completion of a master's thesis for the thesis option. The independent learning experience in the nonthesis option is provided by the required course, EML 6085 Research Methods in MMAE (3 credit hours). For students who are not on campus and with prior approval from the graduate program director, EML 6918 Directed Research (3 credit hours) may be substituted as the student's independent learning experience. If the substitution of EML 6918 is approved, a letter must be provided by the faculty member agreeing to supervise the directed research and certifying that the experience includes independent learning.

## APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening ([www.cecs.ucf.edu/prescreen](http://www.cecs.ucf.edu/prescreen)) of their qualifications prior to submitting

an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Mechanical or Aerospace Engineering, or a closely related discipline.
- Résumé.
- Statement of educational, research, and professional career objectives.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting applicants into their research program.

Additional courses may be required to correct deficiencies. Applicants should contact the MMAE graduate program director for more information.

## Application Deadlines

Thermofluids Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

## CONTACT INFO

### Alain Kassab PhD

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Engineering 313

# Modeling and Simulation MS

- Professional Science Masters

## PROGRAM DESCRIPTION

Input from industry and government M&S researchers and practitioners has been instrumental in identifying the key competencies for M&S professionals and has been critical to the development of this program. The curriculum is designed to provide a broad overall perspective of the developing simulation industry and an awareness of the economic considerations. Upon completion of the program, graduates will have the diverse training necessary to enable them to work in varied capacities in government agencies, or in the defense, service, entertainment, and manufacturing industries.

Graduates of the Modeling and Simulation MS degree program 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;
- 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; and
- be able to clearly communicate their findings to their peers.

Students in the Modeling and Simulation graduate program have often focused their study and research efforts in one or more of the following research areas:

### *Human Systems*

The Human Systems in M&S research area has attracted 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.

### ***Computer Visualization***

Computer Visualization in M&S is a research area that attracts those who wish to gain expertise in technical aspects of computer graphic systems, virtual environments, and human-centered simulation systems applying the state-of-the-art in computer graphics and other human-interface technologies. Typical courses include Human Computer Interaction, Computer Graphics Systems, Computer Vision, Machine Perception, Human-Virtual Environment Interaction, and Sensation and Perception. Students in this research area typically have an interest in the area of Emerging Media, which focuses on the development of new forms of interactive media and the creation of story-driven content for them such as interactive works of art, electronic games, virtual reality, the Internet, portable devices and mobile applications, wearable computers, etc.

### ***Simulation Modeling and Analysis***

The Simulation Modeling and Analysis research area attracts those who desire to gain expertise in using simulation as a optimization tool for effective design, planning, analysis, and decision-making. The emphasis of this area is on problem definition, model formulation, design of simulation experiments, and model-based analysis. This area attracts those who seek to develop skills in the application of advanced quantitative methods to modeling and simulation. Building on backgrounds in operations research, mathematics or statistics, they should gain experience in modeling and simulation through the application of optimization, mathematical and statistical theory to build multidisciplinary simulation models and conducting rigorous simulation experimentation. 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 Engineering Statistics, Statistical Aspects of Digital Simulation, and Mathematical Modeling, Discrete Systems Simulation, Object-Oriented Simulation, Experimental Design, and Quantitative Aspects of Modeling and Simulation.

### ***Simulation in Healthcare***

Simulation in Healthcare is a fast growing new area in M&S. Issues related to bringing down the cost of healthcare and reducing costly medical errors are generating many new opportunities related to systems analysis, communication between healthcare providers and patients, and simulation-based training, to name a few. Currently a disproportionate amount of the US economy goes to healthcare, at least twice as much as the average of the 25 richest nations, and health outcomes in the US place the country near the bottom of this group of countries. M&S can contribute significantly towards improving this situation. Typical courses include Discrete Systems Simulation, Experimental Design, and Object-Oriented Simulation, Engineering Statistics, Human Computer Interaction.

### ***Interactive Simulation and Intelligent Systems***

Interactive Simulation and Intelligent Systems research attracts those who wish to pursue or are currently pursuing careers in the training simulation/simulator industries. Graduates specializing in this research area typically are interested in creating designs for simulators and simulator-based training systems and to apply expert systems and other intelligent systems in a simulation setting. Typical courses include Training Systems Engineering, Simulation of Real-Time Processes, and Intelligent Simulation.

### ***Simulation Infrastructure***

The research area of Simulation Infrastructure attracts 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 should 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. Simulation Management: Simulation Management research area attracts those who wish to gain expertise in the management of projects related to modeling, simulation, and training (MS&T). Graduates who focus in this

area of study should 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.

### ***Simulation Management***

Simulation Management research area attracts those who wish to gain expertise in the management of projects related to modeling, simulation, and training (MS&T). Graduates who focus in this area of study should 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.

## **CURRICULUM**

The Modeling and Simulation Master of Science program requires a minimum of 30 credit hours beyond the bachelor's degree.

The M&S MS program offers a thesis option and a nonthesis option. Each option requires 12 credit hours of required core courses.

- Students who select the thesis option must take 12 credit hours of unrestricted electives and 6 thesis credit hours.
- Students who select the nonthesis option must take 18 credit hours of unrestricted electives.

The culminating experience for thesis-option students in the MS program is the final thesis document and the oral defense of the thesis research.

The culminating, capstone experience for nonthesis students is a technical project, which requires a written and oral presentation of the work, completed as part of the required core course IDS 6916 Simulation Research Methods and Practicum. This project is reviewed by panel experts.

### **Total Hours Required:**

**30** Credit Hours Minimum beyond the Bachelor's Degree

## **Required Courses—12 Credit Hours**

### **Core—12 Credit Hours**

Core courses provide an interdisciplinary framework for all Modeling and Simulation students. Teams of Modeling and Simulation program faculty teach these core courses. Course descriptions can be found in the Catalog Menu at the top of the page under the heading "Courses."

- IDS 6147 Perspectives on Modeling and Simulation (3 credit hours)
- DIG 5876 Quantitative Aspects of Modeling and Simulation (3 credit hours) or an advanced higher level quantitative course as approved by the Graduate Program Director
- IDS 6148 Human Systems Integration for Modeling and Simulation (3 credit hours) or EIN 6258 Human Computer Interaction (3 credit hours) or EXP 6541 Advanced Human-Computer Interaction (3 credit hours)
- IDS 6916 Simulation Research Methods and Practicum (3 credit hours)

## **Unrestricted Electives—12 Credit Hours**

All Modeling and Simulation MS students must take at least 12 credit hours of unrestricted electives that support the student's area of graduate study. Unrestricted electives must consist of at least 12 credit hours of formal courses, which may include independent study (up to 6 credit hours). The remaining credit may consist of additional thesis (for thesis option students only), directed research, and additional courses as advised appropriately by the faculty adviser and/or program director.

### **Thesis Option—6 Credit Hours**

Thesis students are required to take an additional 6 credit hours of thesis.

- IDS 6971 Thesis (6 credit hours)

### **Nonthesis Option—6 Credit Hours**

Nonthesis students are required to take an additional 6 credit hours of unrestricted electives that support the student's area of graduate study.

## Modeling and Simulation MS Electives

In addition to successfully enrolling and completing the core courses, students are required to carefully select electives with the guidance of a faculty adviser. Elective choices should be made with the intent to strengthen a research interest and/or area of focus in order to meet the individual student's educational goals and objectives.

Listed below are suggested courses in various areas of focus or specialization. These course groupings are mere guides, are not exhaustive and are only meant to assist with advising and course selection in order to meet the individual student's educational goals and objectives. They are not intended to restrict elective choices among focus areas as we strongly encourage Modeling and Simulation students to maintain an interdisciplinary approach to their graduate studies.

If a student identifies another UCF course which may be of value to his/her modeling and simulation research area, but is not already identified in a list below, he/she may request approval from the Graduate Program Director for the course to be used as an elective in the Graduate Plan of Study. All such requests must be made in advance of enrolling in the course.

Those electives categorized as "General" would be appropriate for all students regardless of focus area. The remaining categories are grouped by area of research interest.

### General

- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)
- ESI 6891 IEMS Research Methods (3 credit hours)
- IDS 5907 Independent Study (variable)
- IDS 5917 Directed Research (variable)
- IDS 6908 Independent Study (variable)
- IDS 6918 Directed Research (variable)
- IDS 6946 Internship (variable)
- IDS 7919 Doctoral Research (variable)
- PHI 5340 Research Methods in Cognitive Sciences (3 credit hours)
- PSY 6216C Research Methodology (4 credit hours)
- STA 5205 Experimental Design (3 credit hours)

### Fundamentals of Modeling and Simulation

- EEL 5892 Continuous System Simulation II (3 credit hours)
- EIN 6258 Human Computer Interaction (3 credit hours)
- 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 6247 Experimental Design and Taguchi Methods (3 credit hours)
- ESI 6532 Object-Oriented Simulation (3 credit hours)
- IDS 6146 Modeling and Simulation Systems (3 credit hours)
- IDS 6147 Perspectives on Modeling and Simulation (3 credit hours)

### Human Systems

- CAP 6515 Algorithms in Computational Biology (3 credit hours)
- CAP 6671 Intelligent Systems: Robots, Agents, and Humans (3 credit hours)
- CAP 6676 Knowledge Representation (3 credit hours)
- DIG 6432 Transmedia Story Creation (3 credit hours)
- DIG 6812 Digital Interaction for Informal Learning (3 credit hours)
- EIN 5248C Ergonomics (3 credit hours)
- EIN 5248C Ergonomics (3 credit hours)
- EIN 5317 Training System Design (3 credit hours)
- EIN 6215 System Safety Engineering and Management (3 credit hours)
- EIN 6258 Human Computer Interaction (3 credit hours)
- EIN 6649C Intelligent Tutoring Training System Design (3 credit hours)
- EME 6458 Virtual Teaching and the Digital Educator (3 credit hours)



- EME 6507 Multimedia for Education and Training (3 credit hours)
- EME 6601 Instructional Simulation Design for Training and Education (3 credit hours)
- EME 6614 Instructional Game Design for Training and Education (3 credit hours)
- EXP 5208 Sensation and Perception (3 credit hours)
- EXP 5256 Human Factors I (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)
- IDS 6148 Human Systems Integration for Modeling and Simulation (3 credit hours)
- DIG 6775 Virtual Reality (3 credit hours)
- PHI 5225 Philosophy of Language (3 credit hours)
- PHI 5325 Topics in Philosophy of Mind (3 credit hours)
- PHI 5327 Topics in Cognitive Sciences (3 credit hours)
- PHI 5329 Philosophy of Neuroscience (3 credit hours)
- PSB 5005 Physiological Psychology (3 credit hours)
- TTE 6270 Intelligent Transportation Systems (3 credit hours)
- DIG 6605 Physical Computing (3 credit hours)
- DIG 6647 Science and Technology of Dynamic Media (3 credit hours)
- EEL 5173 Linear Systems Theory (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 5874 Expert Systems and Knowledge Engineering (3 credit hours)
- EEL 6823 Image Processing II (3 credit hours)
- EEL 6843 Machine Perception (3 credit hours)
- EIN 6258 Human Computer Interaction (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)
- DIG 6775 Virtual Reality (3 credit hours)
- MAP 5117 Mathematical Modeling (3 credit hours)
- MAP 6118 Introduction to Nonlinear Dynamics (3 credit hours)

### Computer Visualization

- CAP 5725 Computer Graphics I (3 credit hours)
- CAP 6411 Computer Vision Systems (3 credit hours)
- CAP 6412 Advanced Computer Vision (3 credit hours)
- CAP 6676 Knowledge Representation (3 credit hours)
- CDA 5106 Advanced Computer Architecture (3 credit hours)
- COT 5405 Design and Analysis of Algorithms (3 credit hours)

### Quantitative Methods for Simulation, Modeling and Analysis

- CAP 5512 Evolutionary Computation (3 credit hours)
- CAP 6515 Algorithms in Computational Biology (3 credit hours)
- CDA 6530 Performance Models of Computers and Networks (3 credit hours)
- COT 5405 Design and Analysis of Algorithms (3 credit hours)
- EEL 5173 Linear Systems Theory (3 credit hours)
- EEL 5892 Continuous System Simulation II (3 credit hours)
- EEL 6878 Modeling and Artificial Intelligence (3 credit hours)
- EIN 6528 Simulation Based Life Cycle Engineering (3 credit hours)
- ESI 5306 Operations Research (3 credit hours)
- ESI 5531 Discrete Systems Simulation (3 credit hours)

- ESI 6217 Statistical Aspects of Digital Simulation (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)
- MAP 5117 Mathematical Modeling (3 credit hours)
- MAP 6118 Introduction to Nonlinear Dynamics (3 credit hours)
- MAP 6207 Optimization Theory (3 credit hours)
- MAP 6385 Applied Numerical Mathematics (3 credit hours)
- MAP 6407 Applied Mathematics I (3 credit hours)
- MAP 6408 Applied Mathematics II (3 credit hours)
- MAP 6445 Approximation Techniques (3 credit hours)
- STA 5703 Data Mining Methodology I (3 credit hours)
- STA 5825 Stochastic Processes and Applied Probability Theory (3 credit hours)
- STA 6236 Regression Analysis (3 credit hours)
- STA 6246 Linear Models (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)
- STA 6704 Data Mining Methodology II (3 credit hours)
- STA 6714 Data Preparation (3 credit hours)
- EEL 5820 Image Processing (3 credit hours)
- EEL 6823 Image Processing II (3 credit hours)
- EIN 6645 Real-Time Simulation Agents (3 credit hours)
- ESI 5531 Discrete Systems Simulation (3 credit hours)
- HUM 5802 Applied Contemporary Humanities (3 credit hours)
- DIG 6775 Virtual Reality (3 credit hours)
- PHI 5329 Philosophy of Neuroscience (3 credit hours)
- PSB 5005 Physiological Psychology (3 credit hours)
- SPA 6417 Cognitive/Communicative Disorders (3 credit hours)
- SPA 6451 Theory and Clinical Aspects Cognitive-Comm Disorders in Traumatic Brain Injury (3 credit hours)
- SPA 6452 Assessment of Cognitive-Communication Disorders in Traumatic Brain Injury (3 credit hours)

### **Interactive Simulation and Intelligent Systems**

### **Simulation in Healthcare**

- CAP 5512 Evolutionary Computation (3 credit hours)
- CAP 5610 Machine Learning (3 credit hours)
- CAP 5636 Advanced Artificial Intelligence (3 credit hours)
- CAP 6671 Intelligent Systems: Robots, Agents, and Humans (3 credit hours)
- CAP 6676 Knowledge Representation (3 credit hours)
- DIG 6812 Digital Interaction for Informal Learning (3 credit hours)
- EEL 5771C Engineering Applications of Computer Graphics (3 credit hours)
- EEL 5874 Expert Systems and Knowledge Engineering (3 credit hours)
- EEL 6878 Modeling and Artificial Intelligence (3 credit hours)
- EIN 5251 Usability Engineering (3 credit hours)
- EIN 5255C Interactive Simulation (3 credit hours)
- CAP 6515 Algorithms in Computational Biology (3 credit hours)
- CAP 6671 Intelligent Systems: Robots, Agents, and Humans (3 credit hours)
- CAP 6676 Knowledge Representation (3 credit hours)
- DIG 6647 Science and Technology of Dynamic Media (3 credit hours)
- DIG 6812 Digital Interaction for Informal Learning (3 credit hours)

- EIN 6258 Human Computer Interaction (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)
- EME 6613 Instructional System Design (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)
- DIG 6775 Virtual Reality (3 credit hours)

### Simulation Infrastructure

- CAP 6671 Intelligent Systems: Robots, Agents, and Humans (3 credit hours)
- CAP 6676 Knowledge Representation (3 credit hours)
- CDA 5106 Advanced Computer Architecture (3 credit hours)
- CDA 6107 Parallel Computer Architecture (3 credit hours)
- CDA 6530 Performance Models of Computers and Networks (3 credit hours)
- CNT 5008 Computer Communication Networks Architecture (3 credit hours)
- COT 5405 Design and Analysis of Algorithms (3 credit hours)
- DIG 6605 Physical Computing (3 credit hours)
- EEL 5173 Linear Systems Theory (3 credit hours)
- EEL 5771C Engineering Applications of Computer Graphics (3 credit hours)
- EEL 5892 Continuous System Simulation II (3 credit hours)
- EEL 6762 Performance Analysis of Computer and Communication Systems (3 credit hours)
- EEL 6785 Computer Network Design (3 credit hours)
- EEL 6878 Modeling and Artificial Intelligence (3 credit hours)
- EEL 6883 Software Engineering II (3 credit hours)

- EEL 6885 Software Engineering Quality Assurance Methods (3 credit hours)
- EEL 6887 Software Engineering Life-Cycle Control (3 credit hours)
- ESI 6551C Systems Engineering (3 credit hours)

### Simulation 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 6182 Engineering Management (3 credit hours)
- EIN 6215 System Safety Engineering and Management (3 credit hours)
- EIN 6339 Operations Engineering (3 credit hours)
- EIN 6357 Advanced Engineering Economic Analysis (3 credit hours)
- EIN 6528 Simulation Based Life Cycle Engineering (3 credit hours)
- ESI 5227 Total Quality Improvement (3 credit hours)
- ESI 6224 Quality Management (3 credit hours)
- ESI 6358 Decision Analysis (3 credit hours)
- ESI 6551C Systems Engineering (3 credit hours)
- ISM 6217 Advanced Database Administration (3 credit hours)
- ISM 7027 Systems Support of Organizational Decision Making (3 credit hours)

### Plan of Study

After admission to the Modeling and Simulation MS program, students should file a Graduate Plan of Study (GPS) with the Modeling and Simulation Graduate Program Office.

The purpose of the GPS is to design an appropriate program of coursework to support a student's area of graduate study and to meet the specific educational needs, goals and objectives of that student. The coursework must be selected to form

a unified, cohesive plan of study. The plan of study must have 50 percent of its content composed of 6000-level courses.

For thesis students, the GPS should be developed under the supervision of the thesis adviser(s) and members of the Thesis Advisory Committee, although initially it may be constructed under the supervision of the M&S Graduate Program Office. For nonthesis students, the plan of study should be developed under the supervision of the M&S Graduate Program Office.

Changes in the Graduate Plan of Study can be made (due to course offering deletions, schedule conflicts, etc.) and with the approval of the M&S Graduate Program Office.

Graduate Plans of Study for MS students should be on file with the College of Graduate Studies by the end of the student's second major term (based on full-time enrollment) and must be on file by the end of the term prior to the term of expected graduation.

## Equipment Fee

Full-time students in the Modeling and Simulation MS program pay a \$27 equipment fee each semester that they are enrolled. Part-time students pay a \$13.50 equipment fee each semester that they are enrolled.

## Independent Learning

IDS 6916 Simulation Research Methods and Practicum provides the independent learning experience for the Modeling and Simulation MS program.

## APPLICATION REQUIREMENTS

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, the core course IDS 5719 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 focus areas such as Simulation Infrastructure. IDS 5719 Introduction to Quantitative Aspects of Modeling and Simulation has a math prerequisite of a one semester introductory to calculus course (e.g., MAC 2233 Concepts of Calculus or MAC 2241 Calculus for Life Sciences).

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended
- Résumé or Curriculum Vitae
- Goal statement
  - The goal statement should discuss all relevant professional background and any previous research and/or teaching experience. The statement should explain the motivation behind the pursuit of a Master's degree in Modeling and Simulation. Future educational and career goals after the completion of the applicant's master study should be discussed.
  - If the applicant is interested in completing a Master thesis, then the applicant must clearly describe the particular area of research interest. The applicant should identify at least one UCF faculty member who shares a similar research focus and is believed to be best suited to serve as a potential thesis advisor.
  - The goal statement should be between 500 and 1,000 words.
- Two letters of recommendation
  - The letters of recommendation should be from faculty members, university administrators and employers. The letters, which must be current to the application, should address the educational and career goals of applicant. The letter writers should also know the applicant well enough to

discuss the applicant’s capacity to perform, excel and succeed in a graduate program. Letters for Master’s thesis students must discuss the applicant’s ability to perform graduate-level research.

- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Applications are accepted for the fall and spring terms only.

**Readmission**

Applicants who are reapplying for admission need not resubmit transcripts and GRE scores if the transcripts and scores are previously on file with UCF. However, the following application requirements do need to be current for the new application for readmission:

- Résumé/Curriculum Vitae
- Goal Statement
- Letters of Recommendation

**Prerequisites**

Students who enter the 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/C++, Visual Basic, Java, etc.). Students with undergraduate or graduate degrees in Engineering, Computer Science, or Mathematics will generally have this background.

For students with less technical academic preparation, the core course DIG 5876 Introduction to Quantitative Aspects of Modeling and Simulation, will prepare them for several, but not all, aspects of the program. However, some students may need a number of prerequisite courses in Mathematics, Statistics, and Computer Science in order to pursue one or more areas of study.

**Application Deadlines**

Modeling and Simulation MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

**CONTACT INFO**

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# Professional Science Masters

## TRACK DESCRIPTION

The Professional Science Master's (PSM) track in the Modeling and Simulation (M&S) Master of Science (MS) program is a course of study designed for working professionals and full-time students who wish to expand their knowledge and skills in the growing field of modeling and simulation. This degree can be pursued either full-time or part-time. The track's goal is to fill an important niche for training early- to mid-level technical professionals with interest in the field of modeling and simulation, and to meet strong workforce demands from the Central Florida region, the state of Florida and the nation.

The program of study includes a balanced course offering not only of technical courses in the science of modeling and simulation but it also includes advanced courses in business management and entrepreneurship. Elective offerings incorporate courses that are highly relatable to industries where modeling and simulation can be applied. This curriculum and the required internship should provide students with valuable workplace skills through academic and professional training in order to prepare graduates for career paths in the corporate world.

Courses are taught by an interdisciplinary faculty from the UCF Institute for Simulation and Training and nearly every academic college at UCF. The curriculum of courses is delivered via a mixture of face-to-face, fully online and mixed-mode instruction.

## CURRICULUM

### Total Hours Required:

**36** Credit Hours Minimum beyond the Bachelor's Degree

The curriculum of the Professional Science Master's track in the Modeling and Simulation MS program has been designed in part using valuable input from leaders in various industrial and governmental sectors of the modeling and simulation communities. Students are required

to complete courses in modeling and simulation technical sciences, and business management and/or entrepreneurship. Students may then consider elective courses in highly relatable industries depending upon their career aspirations and graduate program advising.

The PSM track in the Modeling and Simulation MS program requires the completion of 36 credit hours beyond the bachelor's degree. At least 18 credit hours of courses must be at the 6000 level. The capstone requirement for this PSM track is fulfilled by students completing a 3-credit-hour graduate internship.

### Required Courses—24 Credit Hours

#### Required Technical Courses—12 Credit Hours

- IDS 6147 Perspectives on Modeling and Simulation (3 credit hours)
- IDS 6146 Modeling and Simulation Systems (3 credit hours)
- ESI 5531 Discrete Systems Simulation (3 credit hours)
- EIN 5140 Project Engineering (3 credit hours)

#### Required Business Management/ Entrepreneurial Courses—12 Credit Hours

Students may choose any combination of courses between General Business/ Management and Entrepreneurship to fulfill this requirement. Other courses not on the list may be considered for approval by the Graduate Program Director. All such requests must be made in advance of enrolling in the course.

#### *General Business/ Management*

- EIN 5108 The Environment of Technical Organizations (3 credit hours)
- EIN 5356 Cost Engineering (3 credit hours)
- INP 6058 Job Analysis and Performance Appraisal (3 credit hours)
- INP 6317 Work Motivation and Job Attitudes (3 credit hours)
- INP 6605 Training and Team Performance (3 credit hours)

- MAN 6245 Organizational Behavior and Development (3 credit hours)
- MAN 6305 Human Resources Management (3 credit hours)
- MAN 6448 Conflict Resolution and Negotiation (3 credit hours)
- MAR 6466 Strategic Supply Chain and Operations Management (3 credit hours)

### ***Entrepreneurship***

- GEB 5516 Technological Entrepreneurship (3 credit hours)\*
- GEB 6115 Entrepreneurship (3 credit hours)
- GEB 6116 Business Plan Formation (3 credit hours)\*
- GEB 6518 Strategic Innovation (3 credit hours)\*

Students who successfully complete the three GEB courses marked with an asterisk (\*) are eligible to receive the 9-credit-hour Graduate Certificate in Technology Ventures. These three courses focus on the successful development of the knowledge and skills needed to commercialize science and technology research. Those students interested in business opportunities enabled by scientific and technological innovations will find the coursework involving intellectual property issues, innovation commercialization processes, technology business strategies and business plan formation invaluable to their success.

Students desiring to obtain the Graduate Certificate in Technology Ventures must apply for the certificate program prior to enrolling in the third GEB course in order to be awarded the graduate certificate.

### **Elective Courses—9 Credit Hours**

Students should carefully select electives with the guidance of a faculty adviser. Elective choices should be made with the intent to strengthen a professional interest and/or area of focus in order to meet the individual student's educational and professional goals and objectives.

Listed below are suggested courses in various areas of focus or specialization. These course groupings are mere guides, are not exhaustive, and are only meant to assist with advising and course selection in order to meet the individual student's

educational goals and objectives. They are not intended to restrict elective choices among focus areas as we strongly encourage M&S PSM students to maintain an interdisciplinary approach to their graduate studies.

If a student identifies another UCF course that may be of value to his/her M&S interests, but is not already identified in a list below, he/she may request approval from the Graduate Program Director for the course to be used as an elective in the Graduate Plan of Study. All such requests must be made in advance of enrolling in the course.

### ***Government/ Defense Contracting***

- EIN 6528 Simulation Based Life Cycle Engineering (3 credit hours)
- PAD 5850 Grant and Contract Management (3 credit hours)
- ESI 6551C Systems Engineering (3 credit hours)

### ***Instructional Design for Entertainment and Education***

- DIG 5137 Information Architecture (3 credit hours)
- DIG 6836 Design and Development for Texts and Technology (3 credit hours)
- DIG 6647 Science and Technology of Dynamic Media (3 credit hours)
- EME 6614 Instructional Game Design for Training and Education (3 credit hours)
- ENC 6426 Visual Texts and Technology (3 credit hours)

### ***Health Services Systems***

- HSA 6119 Health Care Organization and Management (3 credit hours) - offered Spring
- PHC 6000 Epidemiology (3 credit hours) - offered Summer
- HSC 6636 Issues and Trends in the Health Professions (3 credit hours) - offered every semester

### ***Nonprofit/ Public Policy***

- PAD 6142 Nonprofit Organizations (3 credit hours)
- PAD 5041 Ethics and Values in Public Administration (3 credit hours)

- PAD 5850 Grant and Contract Management (3 credit hours)

### Internship—3 Credit Hours

- IDS 6946 Graduate Internship (3 credit hours)

### Equipment Fee

Students in the Modeling and Simulation MS program pay a \$27 equipment fee each semester that they are enrolled. Part-time students pay \$13.50 per semester.

## APPLICATION REQUIREMENTS

Entering students are expected to have an appropriate technical background in engineering, computer science or other simulation-related disciplines, through academic preparation and/or work experience. Students should have completed the introductory undergraduate calculus course, and have proficiency in both statistics and a higher order programming language such as C++. The Graduate Record Examination (GRE) is not required.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended
- Résumé or Curriculum Vitae
- Goal Statement
  - The goal statement should discuss all relevant professional background and any previous research and/or teaching experience. The statement should explain the motivation behind the pursuit of a Professional Science Master’s degree in Modeling and Simulation. Future career goals after the completion of the applicant’s master study should be discussed.
  - The goal statement should be between 500 and 1,000 words.
- One letter of recommendation
  - The letter of recommendation should be from a faculty member, administrator or employer. The letter, which must be current to the application, should address

the educational and career goals of applicant. The letter writer should also know the applicant well enough to discuss the applicant’s capacity to perform, excel and succeed in a graduate program.

- Interview with Program Director and/or Associate Program Director
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

### Readmission

Applicants who are reapplying for admission need not resubmit transcripts if the transcripts are previously on file with UCF. However, the following application requirements do need to be current for the new application for readmission:

- Résumé/Curriculum Vitae
- Goal Statement
- Letters of Recommendation

### Application Deadlines

Professional Science Masters	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

## CONTACT INFO

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# Music MA

## PROGRAM DESCRIPTION

The Master of Arts in Music program is intended to provide additional study and training in music to individuals who already hold a bachelor's degree in music or the equivalent. The general nature of this degree allows students to pursue a variety of interests within music, such as performance, conducting, jazz studies, music education, and composition. The philosophy of this program is to provide graduate students with the advanced education, skills, and credentials to enhance their professional abilities and opportunities.

## CURRICULUM

The Music MA program requires a minimum of 30-34 credit hours beyond the bachelor's degree. Students must take 11 credit hours of required music courses and 17 credit hours of elective courses. Both thesis and nonthesis options are available and students planning on pursuing a doctoral degree are encouraged to select the thesis option. Nonthesis students must take a Recital or Graduate Project course (2 credit hours) in addition to the 28 credit hours of coursework described above and thesis students must complete a thesis project (6 credit hours).

### Total Hours Required:

**30-34** Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—11 Credit Hours

Note: The designation MUN 5XXX means that any 5000-level ensemble course will fulfill this requirement; similarly, MVX 5XXX means that any 5000-level applied music course in performance will fulfill this requirement.

- MUH 6916 Bibliography and Research Methods (3 credit hours)
- MUH 6935 Music History Seminar (3 credit hours)
- MUT 6621 Techniques and Concepts of Musical Analysis (3 credit hours)

- MUN 5XXX Ensemble Performance (two semesters, audition, 2 credit hours) or MVX 5XXX Performance (one semester; audition, 2 credit hours).

### Elective Courses—17 Credit Hours

#### Restricted Electives in Music—9 Credit Hours

Course selections in this area will be in a cognate or area of emphasis with approval by program adviser (Performance, Conducting, Composition, Music History, Music Theory, Music Education, Jazz Studies, etc.). Students may not take non-repeatable graduate courses that are similar to courses taken at the undergraduate level.

- MUH 6935 Music History Seminar (3 credit hours)
- MUE 5348C K-12 Music Methods (4 credit hours)
- MUE 6175 Teaching Music Performance (3 credit hours)
- MUE 6349 Advanced General Music (3 credit hours)
- MUG 6106 Advanced Conducting I (3 credit hours)
- MUG 6306 Conducting VI (audition required) (2 credit hours)
- MVX 5XXX Performance V (audition required) (2 credit hours)
- MVX 6XXX Performance VI (audition required) (2 credit hours)
- MUC 5112 Composition V (portfolio required) (2 credit hours)
- MUC 6251 Composition VI (portfolio required) (2 credit hours)
- MUS 5677 Wellness for the Performing Musician (3 credit hours)
- MUT 5936 Music Theory Seminar (3 credit hours)
- MUH 5326 Medieval/Renaissance Music (3 credit hours)
- MUH 5345 Music of the Baroque (3 credit hours)
- MUH 5356 Eighteenth-Century Music (3 credit hours)

- MUH 5365 Nineteenth-Century Music (3 credit hours)
- MUH 5375 Music Since 1900 (3 credit hours)
- MUH 5816 Jazz Styles and Analysis (3 credit hours)
- MUS 5365 Music and Technology (3 credit hours)
- MUT 5381 Arranging and Composing Music (3 credit hours)
- MUM 5806 Performing Arts Management (3 credit hours)
- MUN 5478L Early Music Ensemble (1 credit hour). May be used in the degree program a maximum of five times.
- MUN 5368L Graduate Madrigal Singers (1 credit hour). May be used in the degree program a maximum of five times.
- MUN 5385L Graduate University Chorus (1 credit hour). May be used in the degree program a maximum of five times.
- MUN 5325 Graduate Women's Chorus (1 credit hour). May be used in the degree program a maximum of four times.
- MUN 5465L Graduate Chamber Music (1 credit hour). May be used in the degree program a maximum of five times.
- MUN 5145 Wind Ensemble (1 credit hour). May be used in the degree program a maximum of four times.
- MUN 5215 Symphony Orchestra (1 credit hour). May be used in the degree program a maximum of four times.
- MUN 5125 Concert Band (1 credit hour). May be used in the degree program a maximum of four times.
- MUN 5445 Percussion Ensemble (1 credit hour). May be used in the degree program a maximum of four times.
- MUN 5715L Jazz Ensemble (1 credit hour). May be used in the degree program a maximum of four times.
- MUN 5716L Jazz Chamber Group (1 credit hour). May be used in the degree program a maximum of four times.
- MUO 5505L Graduate Opera Workshop (1 credit hour). May be used in the degree program a maximum of five times.

### **Restricted Elective Studies in Supportive Areas—8 Credit Hours**

- 5000- or 6000-level music courses or non-music courses with approval of adviser; may include any new or repeatable courses from the sections above. Students may not take non-repeatable graduate courses that are similar to courses taken at the undergraduate level.
- MVO 5250 Advanced Secondary Instruction (1 credit hour)
- MUS 6908 Independent Study (1–3 credit hours)

### **Thesis Option—6 Credit Hours**

Students planning to pursue a doctoral degree (in areas such as music theory, music education, or music history) are strongly encouraged to select the thesis option.

- MUS 6971 Thesis (6 credit hours)

### **Nonthesis Option—2 Credit Hours**

The culminating experience may be a recital in performance, composition, or conducting (Graduate Recital); or a written project of smaller scope than a thesis; e.g., a portfolio or research paper (Graduate Project).

- MUS 6976L Graduate Recital (2 credit hours) or MUS 6975L Graduate Project (2 credit hours).

### **Additional Program Requirements**

- Performance V and VI, Conducting VI, and ensembles all require an audition.
- Composition V and VI requires submission of a portfolio.
- No more than 6 credit hours of MUN courses may be counted toward the degree.
- A minimum of 15 credit hours applied to the degree must be at the 6000 level.

### **Equipment Fee**

Students in the Master of Arts in Music Program pay a \$90 equipment fee each semester that they are enrolled.



## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor’s degree in music from a NASM accredited school or the equivalent.
- Two letters of recommendation.
- A formal writing sample of at least 1000 words, which should represent the applicant’s best scholarly work. The topic should be on a musical subject.
- The MA Supplemental Application, which can be found on the department website or mailed at the applicant’s request.
- An Admission Examination with a faculty committee. This examination will consist of an interview or audition or portfolio review as appropriate according to the applicant’s goals. The applicant will consult with the Graduate Coordinator in advance to prepare for presentation in appropriate areas of interest to the candidate, such as performance, conducting, composition, music history, etc. It is highly recommended to attend this examination in person, although the use of audio and/or video recordings is possible, with the permission of the Graduate Coordinator. The faculty committee will evaluate the candidate and make a recommendation regarding admission to the Music Department Chair, who will make the final decision.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant’s abilities, past performance, recommendations, match of this program and faculty expertise to the applicant’s career/academic goals and the applicant’s potential for completing the degree.

Applicants may be given conditional admission, conditional to the imminent completion of the bachelor’s degree and submission of a final transcript.

After acceptance and at the beginning of course work, students will take a diagnostic exam in Music Theory. If remedial course work is required in the case of deficiencies, this will not count toward the total hours for the degree.

Students may transfer up to nine hours of graduate credit from another accredited institution, subject to approval of adviser.

### Application Deadlines

Music MA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

## CONTACT INFO

### Keith Koons PhD

Professor  
 keith.koons@ucf.edu  
 Telephone: 407-823-5116  
 PAC M208

# Nonprofit Management MNM

- Out of State MNM Cohort Track
- Public Administration Dual Degree MPA Track

## PROGRAM DESCRIPTION

The nonprofit sector is the fastest growing area of the economy, and the completely online Master of Nonprofit Management MNM program prepares students for careers in this dynamic field. The degree program provides opportunities for students to prepare for employment or to advance their careers as administrators in nonprofit organizations. The program is intended to produce graduates equipped with the management skills and analytical skills needed for successful careers in the nonprofit sector.

An Out of State Master in Nonprofit Management Cohort Track is available for students who are not Florida residents and who reside outside the state of Florida. The admission standards and degree requirements are the same as the traditional program. Students interested in the out-of-state Master of Nonprofit Management cohort should refer to that track for more information.

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit [www.intl.ucf.edu](http://www.intl.ucf.edu). If you have any questions, please consult the International Services Center at 407-823-2337.

## CURRICULUM

The Nonprofit Management MNM program requires a minimum of 36 credit hours beyond the bachelor's degree and offers a Nonprofit Leadership Alliance option. The program requires 27 credit hours of core courses, 3 credit hours of a restricted elective course, and 6 credit hours of electives or 6 credit hours in the Nonprofit Leadership Alliance option.

### Total Hours Required:

36 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—27 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 6142 Nonprofit Organizations (3 credit hours)
- PAD 6149 Nonprofit Administration (3 credit hours)
- PAD 6208 Nonprofit Financial Management (3 credit hours)
- PAD 6335 Strategic Planning and Management (3 credit hours)
- PAD 6417 Human Resource Management (3 credit hours)
- PAD 6327 Public Program Evaluation Techniques (3 credit hours)

### Restricted Elective—3 Credit Hours

This elective must be a UCF Public Administration 6000-level course that is chosen after consultation with the student's academic adviser.

- PAD 6000-level elective course (3 credit hours)

### Electives Option—6 Credit Hours

- Electives (6 credit hours)

Students take two elective courses in addition to the restricted elective (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, social work or the arts. The MNM program does not accept 4000-level courses.

## National Nonprofit Leadership Certification Option—6 Credit Hours

### National Nonprofit Leadership

Certification: The Nonprofit Leadership Alliance represents the achievements of national academic and experiential standards in nonprofit management. Students pursuing the Nonprofit Leadership Certification must meet the Nonprofit Leadership Alliance mandated requirements. Contact the Director of the Nonprofit Leadership Alliance program for further information.

- Internship (3 credit hours)\*
- Elective (3 credit hours)

\* An internship is required for students with less than 300 hours of nonprofit sector experience. Students who provide documentation of at least 300 hours of experience in the nonprofit sector may have their internship requirement waived, but must take an approved elective (3 credit hours) in place of the internship. Work experience does not count toward credit for the MNM program

### Additional Program Requirements

Students must achieve a grade of “B” (3.0) or better in every course listed under required courses. Students must maintain a program of study GPA of 3.0 or higher and will not be allowed to graduate without a graduate status GPA of 3.0.

### Independent Learning

Independent learning is demonstrated throughout the curriculum through the process of inquiry, dialogue and service learning. Tangible projects such as strategic plans, grant proposals, and volunteer management case studies along with research projects, scholarly papers, internships, and presentations at professional conferences also contribute to the self development of our students. The final culminating experience for those enrolled in the Master of Nonprofit Management results in students taking and satisfactorily completing the Program Evaluation course (PAD 6327).

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Three letters of recommendation. Recommendation letters must specifically address the prospective student’s ability to do academic work at the graduate level. Recommendation letters from professors are preferred.
- Résumé.
- Statement of goals, demonstrating writing ability.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

All requested material must be submitted by the established deadline date. Material received after the established deadline may not be considered. Admission to this master program is competitive; applicants meeting the minimum admission requirements are not guaranteed admission to this program.

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 and computer internet access are necessary to take the courses.

A limited number of students who do not meet these requirements may be admitted on a provisional basis. These students must demonstrate proven nonprofit sector leadership experience, present strong recommendations from either academic or professional advisers, and provide a clear statement of educational goals. More specific information on provisional admissions may be obtained from the department. Provisional admissions are limited and competitive. Students who are interested in these spots should contact the department as early as possible for consideration.

## INTERNATIONAL STUDENTS:

The School of Public Administration accepts scores from Test of English as a Foreign Language (TOEFL) only. Test scores from the International English Language Testing System (IELTS) are not used in consideration of admission to this program.

All International students must submit TOEFL scores regardless of language in which the undergraduate program was completed.

### Application Deadlines

Nonprofit Management MNM	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

### CONTACT INFO

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Health and Public Affairs II 238

## Out of State MNM Cohort Track

### TRACK DESCRIPTION

The degree program provides opportunities for students to prepare for employment or to advance their careers as administrators in nonprofit organizations. The program is intended to produce graduates equipped with the management skills and analytical skills needed for successful careers in the nonprofit sector.

The Master in Nonprofit Management Cohort Track is designed specifically for students who are not Florida residents who reside outside the state of Florida. The admission standards and degree requirements are the same as the traditional program. Students interested in the out-of-state Master of Nonprofit Management cohort should contact the Nonprofit Management program director or advisor at the School of Public Administration at (407) 823-2604.

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit [www.intl.ucf.edu](http://www.intl.ucf.edu). If you have any questions, please consult the International Services Center at 407-823-2337.

### CURRICULUM

#### Total Hours Required:

36 Credit Hours Minimum beyond the Bachelor's Degree

#### For Non-Florida Residents, Out-of-State Students

The Cohort track in the Master in Nonprofit Management is designed specifically for students who are not Florida residents. The admission standards and degree requirements are the same as the traditional program. Students interested in the out-of-state Master of Nonprofit Management cohort should contact the School of Public Administration.

## Required Courses—27 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 6142 Nonprofit Organizations (3 credit hours)
- PAD 6149 Nonprofit Administration (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)
- PAD 6327 Public Program Evaluation Techniques (3 credit hours)

## Restricted Elective—3 Credit Hours

All students must take a PAD 6000-level elective after consultation with their adviser.

- UCF PAD 6000-level elective course (3 credit hours)

## Electives—6 Credit Hours

- Electives (6 credit hours)

Students take two elective courses (three hours each) in addition to the restricted elective 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, social work or the arts. The MNM program does not accept undergraduate-level courses.

**NOTE:** Students in the MNM Out of State Cohort track pursuing the Graduate Certificate in Fundraising simultaneously must use PAD 6235 and PAD 6237 as two of the electives.

## National Nonprofit Leadership Certificate Option—6 Credit Hours

National Nonprofit Leadership Certificate: The Nonprofit Leadership Alliance represents the achievements of national academic and experiential standards in nonprofit management.

Students pursuing National Nonprofit Leadership Certification must meet the Nonprofit Leadership Alliance mandated requirements. For more information, contact the Director of the Nonprofit Leadership Alliance program.

- Internship\*
- Elective

\* An internship is required for students with less than 300 hours of nonprofit sector experience. Students who provide documentation of at least 300 hours of experience in the nonprofit sector may have their internship waived, but must complete an approved elective (3 credit hours) in place of the internship. Work experience does not count for credit toward the MNM program.

## Additional Program Requirements

Students must achieve a grade of “B” (3.0) or better in every course listed under required courses. Students must maintain a program of study and graduate status GPA of 3.0 or higher and can only graduate with a graduate status GPA of 3.0 or higher.

## Cost Per Credit Hour

The current fee per credit hour is \$500.95 for out-of-state students. Tuition is subject to change.

## Independent Learning

Independent learning is demonstrated throughout the curriculum through the process of inquiry, dialogue and service learning. Tangible projects such as strategic plans, grant proposals, and volunteer management case studies along with research projects, scholarly papers, internships, and presentations at professional conferences also contribute to the self development of our students. The final culminating experience for those enrolled in the Master of Nonprofit Management results in



students taking and satisfactorily completing the Program Evaluation course (PAD 6327).

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Three letters of recommendation. Recommendation letters must specifically address the prospective student’s ability to do academic work at the graduate level. Recommendation letters from professors are preferred.
- Résumé.
- Statement of goals, demonstrating writing ability
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

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 and computer internet access are necessary to take the courses.

A limited number of students who do not meet these requirements may be admitted on a provisional basis. These students must demonstrate proven nonprofit sector leadership experience, present strong recommendations from either academic or professional advisers, and provide a clear statement of educational goals. More specific information on provisional admissions may be obtained from the School. Provisional admissions are limited and competitive. Students who are interested in these spots should contact the department as early as possible for consideration.

Applicants meeting the minimum admission requirements are not guaranteed admission to this program.

### INTERNATIONAL STUDENTS:

The School of Public Administration accepts scores from Test of English as a Foreign Language (TOEFL) only. Test scores from the International English Language Testing System (IELTS) are not used in consideration of admission to this program.

All International students must submit TOEFL scores regardless of language in which the undergraduate program was completed.

### Application Deadlines

Out of State MNM Cohort Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

## CONTACT INFO

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 Associate Professor  
 mfeldhei@ucf.edu  
 Telephone: 407-823-2604  
 Health and Public Affairs II 238

# Public Administration Dual Degree MPA Track

## TRACK DESCRIPTION

The Nonprofit Management MNM - Public Administration MPA Dual Degree Track provides the opportunity for students to earn graduate degrees from two academic programs, the Master of Nonprofit Management and the Master of Public Administration, concurrently. Students successfully completing this MNM/MPA Dual Degree program will have the skills and analytical techniques for successful careers in both the public and nonprofit sectors. After successful completion of the MNM/MPA Dual Degree program, students will receive two diplomas - one for the Nonprofit Management MNM and one for the Public Administration MPA degree.

Students seeking admission to the MNM/MPA Dual Degree program should apply directly to the Dual Degree track of either the Nonprofit Management MNM program or the Public Administration MPA program. Only one application will be required. If admitted, student will be active in the Dual Degree tracks of both the Nonprofit Management MNM and the Public Administration MPA programs.

Students previously admitted to the Nonprofit Management MNM or the Public Administration MPA program should consult with their advisor prior to completing 18 credit hours if interested in the MNM/MPA Dual Degree program.

## CURRICULUM

### Total Hours Required:

**66** Credit Hours Minimum beyond the Master's Degree

The dual degree track (Master of Public Administration/Master of Nonprofit Management) consists of 66 credit hours. Each student completes a core of 16 courses (48 credit hours), an advanced curriculum of five electives (15 credit hours) that are 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 be counted toward the MPA/MNM track, except for Senior Scholar students who, with the permission of the MPA/MNM program director, may use up to 9 credit hours of graduate course work in both their undergraduate degree and the dual degree program. No undergraduate-level courses will be accepted in the MPA/MNM dual degree track.

## Required Courses—51 Credit Hours

### Core—48 Credit Hours

- 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 6207 Public Financial Management (3 credit hours)
- PAD 6227 Public Budgeting (3 credit hours)
- PAD 6335 Strategic Planning and Management (3 credit hours)
- PAD 6417 Human Resource Management (3 credit hours)
- PAD 6700 Research Methods for Public Administration (3 credit hours)
- PAD 6701 Analytic Techniques for Public Administration (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 6142 Nonprofit Organizations (3 credit hours)
- PAD 6149 Nonprofit Administration (3 credit hours)
- PAD 6327 Public Program Evaluation (3 credit hours)
- PAD 6208 Nonprofit Financial Management (3 credit hours)

**Capstone—3 Credit Hours**

- PAD 6062 Advanced Concepts and Applications in Public Administration (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.

**Elective Courses—15 Credit Hours**

Elective courses offered within the Dual Degree track provide an emphasis on state and local government and nonprofit management; however, other emphases may be developed in consultation with the adviser. With prior approval from the program director, up to 6 credit hours of elective course work may be taken from outside the department. Students must show that elective courses taken outside of the department directly support a career in public administration or nonprofit management.

- Electives (15 credit hours)

Students without practical administrative experience in the public sector are strongly advised to complete an internship as part of their electives.

- PAD 6946 Internship (3 credit hours)

**Additional Program Requirements**

Students must achieve a grade of “B” (3.0) or higher in every course listed under core requirements and in the Capstone Experience (PAD 6062). Students must maintain a program of study and graduate status GPA of 3.0 or higher and can only graduate with a graduate status GPA of 3.0 or higher.

**Independent Learning**

Independent learning is demonstrated throughout the curriculum, through the process of inquiry and dialogue. Tangible projects, such as research scholarly papers, internships, and the capstone experience also contribute to the self-development of MPA students. The research study and final report in the Capstone Experience will focus on reviewing and analyzing contemporary research in a student’s particular specialization within the profession in order to help students acquire knowledge and skills

pertaining to research-based best practices in that specialization area. PAD 6062, the capstone course, provides the independent learning experience.

**APPLICATION REQUIREMENTS**

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Three letters of recommendation. Recommendation letters must specifically address the prospective student’s ability to do academic work at the graduate level. Recommendation letters from professors are preferred.
- Résumé.
- Statement of goals, demonstrating writing ability.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

All requested material must be submitted by the established deadline date. Material received after the established deadline may not be considered. Admission to this master program is competitive; applicants meeting the minimum admission requirements are not guaranteed admission to this program.

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.

**INTERNATIONAL STUDENTS:**

The School of Public Administration accepts scores from Test of English as a Foreign Language (TOEFL) only. Test scores from the International English Language Testing System (IELTS) are not used in consideration of admission to this program.

All International students must submit TOEFL scores regardless of language in which the undergraduate program was completed.

## Application Deadlines

Public Administration Dual Degree MPA Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

## CONTACT INFO

### Mary Ann Feldheim PhD

Associate Professor

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Health and Public Affairs II 238

## Nursing MSN

- Family Nurse Practitioner Track
- Leadership and Management Track
- Adult/Gerontology Nurse Practitioner Track
- Nurse Educator Track
- Pediatric Nurse Practitioner Track

## PROGRAM DESCRIPTION

The Master of Science in Nursing (MSN) programs build upon the student's baccalaureate nursing education and professional experience. The Master of Science in Nursing program is accredited by the Commission on Collegiate Nursing Education (CCNE).

The College of Nursing also offers admission to its master degree programs in nursing to Registered Nurses who have bachelor degrees in fields other than nursing. These students will need to take 9 credits of undergraduate upper division course work as prerequisite for graduate study in nursing. Please contact [gradnurse@ucf.edu](mailto:gradnurse@ucf.edu) for more information.

The goal of the Master of Science in Nursing program is to prepare advanced practice nurses, nurse educators, and nursing leaders and managers to assume leadership positions in a variety of health care settings. Graduates of these programs are eligible to sit for national certification examinations in their respective specialties.

### Program Objectives

The programs prepare 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, 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.

The College also offers an RN to MSN plan of study that provides an accelerated program for RNs (registered nurses) who do not hold a baccalaureate degree but have met general educational requirements. Students admitted under this plan of study will complete requirements for both the BSN and MSN programs. See RN to MSN program below for more information. A separate application to the graduate program will be required upon completion of the BSN degree. Admission to the MSN program is competitive and not guaranteed.

## CURRICULUM

Depending on the track, students must complete a minimum of 36-46 credit hours of graduate-level course work. Details about this program are located in the Nursing MSN Handbook.

- Nursing Leadership and Management—36 Credit Hours
- Nurse Educator—38 Credit Hours
- Family Nurse Practitioner—46 Credit Hours
- Adult-Gerontology Nurse Practitioner—42 Credit Hours

### Total Hours Required:

**36-46** Credit Hours Minimum beyond the Bachelor's Degree

An independent scholarly work is a requirement for the Master of Science in Nursing degree. The scholarly work consists of an evidence-based nursing project. The scholarly project that is required in NGR 6813 Evidence Based Nursing Practice (completed in the final semester of study) is an evidence-based scholarly clinical paper. The evidence-based project should reflect the latest evidence for the student's MSN track. This is a formal paper that must adhere to published guidelines in the syllabus and must be presented in a public forum.

## Unsatisfactory Grade in MSN Courses

All MSN coursework must be completed with a B or higher to progress in the program. Students that receive a grade below B are subject to dismissal. All grades below B must be reviewed by the Master's Admissions, Progression and Graduation (APG) Committee for continuation in the MSN program.

## College of Nursing Master's Program Handbook

All master's students are required to read the College of Nursing Master's Program Handbook regarding policies for each program and for academic progression. Information about each program particularly clinical placements and forms for appeals to the Master's APG Committee are located in the the Nursing MSN Handbook. .

## Equipment Fee

Students in the Master of Science in Nursing programs pay a \$90 equipment fee each semester that they are enrolled.

## RN to MSN Program

*See also the Undergraduate Catalog: Nursing - R.N. to B.S.N. Program (B.S.N.).*

The RN to MSN program is for RNs who do not yet hold a baccalaureate degree in Nursing (BSN) or any other discipline. Students will meet both the BSN and MSN objectives after separate applications to both degree programs are accepted and the programs are successfully completed.

The program is designed to allow undergraduate students who have met undergraduate general education requirements and have demonstrated above-average performance in prior undergraduate course work (minimum of 3.0 grade point average) to take up to 9 credit hours of graduate coursework during the last terms of the undergraduate program and prior to official admission to the graduate program. PLEASE NOTE: Two applications are required. One application is required for the BSN through Undergraduate Admissions and another application for the MSN through the College of Graduate Studies is made towards the end of the BSN program.



This program is available for two MSN tracks: Nursing Leadership and Management Track and Nurse Educator Track. Up to 9 credit hours of graduate course work taken while in the BSN program can be applied to the Nursing Leadership and Management Track and Nurse Educator Track in the MSN program.

### Courses Taken Toward BSN

As part of the undergraduate curriculum leading to the BSN and in preparation for the MSN:

- NUR 3805 Dimensions of Professional Nursing Practice (3 credit hours)
- NUR 3165 Nursing Research (3 credit hours)
- NUR 3634 Community Health Nursing (3 credit hours)
- NUR 4637 Public Health Nursing (2 credit hours)
- NUR 4604L Practicum in Community and Public Health Nursing for RNs (4 credit hours)
- NUR 4837 Health Care Issues, Policy, and Economics (3 credit hours)

Students in the Leadership and Management Track take:

- NUR 4827 Leadership and Management Principles (3 credit hours)

Students in Nurse Educator Track take:

- NUR 3065 and 3065L Health Assessment (3 credit hours)

### Courses Shared BSN/MSN

An individualized plan of study is developed for each student admitted to the RN to BSN option by an undergraduate adviser to include graduate coursework. Students intending to pursue the MSN in the Nursing Leadership and Management track must take the following courses:

- NGR 5720 Organizational Dynamics (3 credit hours)
- NGR 5871 Health Care Informatics (3 credit hours) (for undergraduate elective)
- NGR 5800 Theory for APN (3 credit hours) or NGR/HSA graduate elective in area of concentration (e.g., nursing, health services administration for nursing elective) OR NGR 6722 Financial Management and Resource Development (Summer only).

Students intending to pursue the MSN in the Nurse Educator track must take the following courses:

- NGR 5003 Advanced Health Assessment and Diagnostic Reasoning (2 credit hours)
- NGR 5003L Advanced Health Assessment and Diagnostic Reasoning Lab (1 credit hour)
- NGR 5141 Pathophysiological Bases for Advanced Nursing Practice (for undergraduate nursing elective and prerequisite for NGR 5003 and 5003L) (3 credit hours)
- NGR 5800 Theory for APN (3 credit hours)
- 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. Grades below B will not be accepted for the MSN degree requirements.

### Courses Taken Toward MSN

Students will follow the degree requirements of the selected MSN track upon application through the College of Graduate Studies and formal acceptance into the program. Students must apply online to the UCF College of 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. The MSN tracks require students to complete a different number of hours depending upon the track:

- Nursing Leadership and Management—36 Credit Hours
- Nurse Educator—38 Credit Hours

### Non-Nursing Baccalaureate Program

In addition to the MSN for students holding a baccalaureate nursing degree, the College of Nursing also offers admission to its master's degree programs in nursing to Registered Nurses who have bachelor's degrees in fields other than nursing. These students will need to take 9 credits of undergraduate upper division course work that is prerequisite for graduate study in nursing. An undergraduate statistics course will also be required if not completed in the bachelor's degree. Please contact [gradnurse@ucf.edu](mailto:gradnurse@ucf.edu) for more information on how to apply.

The undergraduate courses required prior to graduate course work are:

- NUR 3165 Nursing Research (3 credit hours)
- NUR 3805 Dimensions of Professional Nursing Practice (3 credit hours)
- NUR 4637 Public Health Nursing (3 credit hours)

## Independent Learning

An independent scholarly work is a requirement for the Master of Science in Nursing degree. The scholarly work consists of an evidence-based nursing project. The scholarly project that is required in NGR 6813 (completed in the final semester of study) is an evidence-based scholarly clinical paper. The evidence-based project should reflect the latest evidence for the students MSN track. This is a formal paper that must adhere to published guidelines in the syllabus and must be presented in a public forum.

## APPLICATION REQUIREMENTS

**Students must choose a track to apply for the MSN program. All tracks contain the same admission requirements listed below.**

The following application information is provided for applicants who have completed a bachelor's degree. For application requirements for the RN to MSN option, without an undergraduate degree, please refer to the "RN to MSN Program." In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- BSN degree from an accredited institution.\*
- Undergraduate Statistics course.
- Florida license required for all students who will be taking clinical and practice courses in Florida health care agencies and institutions. For those students at a distance, a license is required in the state or country in which they practice.
- Address the following 3 items in a written essay. Total word count for all (not each) answers should be 500 words or less, double

spaced, 12 point Times New Roman font, and 1 inch margins:

- Describe how your professional experiences have prepared you for future education in the role which is the focus of your desired track.
- Describe your plans to alter your work, professional and/ or personal obligations in order to have the time needed for graduate course and clinical practice work.
- Identify one significant contemporary issue/ problem in the US Health care system and explore how members of the nursing profession can help address that issue or solve that problem.
- Curriculum Vitae which reflects prior education, recent clinical accomplishments, any recent scholarly work (publications and presentations), awards, additional certifications and activities with professional organizations. For recent graduates this can include accomplishments as a student.
- Two professional recommendations describing your ability to be successful in an MSN program. Include at least one clinical reference preferably from an Advanced Practice Nurse/ supervisor and one academic reference preferably from a nursing faculty member from a graduate program evaluating potential for graduate study.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Before submitting your application, it is recommended that applicants call the College of Nursing Graduate Office (407-823-2744) to speak with an MSN adviser to discuss your goals for graduate study. It is advantageous to discuss the program before writing the required essay because the essay must address your goals for Master's-level preparation for advanced nursing practice. Students are admitted to the program in the fall for the program of study; however, spring admissions are possible for a revised plan of study.

\*For Students with a Bachelor's degree in a discipline other than nursing, please contact the

advisement office at [gradnurse@ucf.edu](mailto:gradnurse@ucf.edu) or 407-823-2744 for additional options.

Admission to the program is competitive, based on evaluation of the applicant's abilities, past performance, recommendations, VECHS/FDLE/FBI finger printing and certified background checks, and the match of UCF's master's programs with career goals. The College 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.

Admission to the program is competitive, based on evaluation of the applicant's abilities, past performance, recommendations, VECHS/FDLE/FBI finger printing, certified background check, drug testing and the match of UCF's master's programs with career goals. The College 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 nondegree-seeking, postbaccalaureate student on a space-available basis. Students must designate on their application that they are applying to the College of Nursing in order to facilitate processing of files. Successful completion of postbaccalaureate courses does not guarantee admission to the graduate program. Students may only take nonclinical courses. Prior to applying as a nondegree student, please contact the main nursing advising office for deadlines and nondegree options at [gradnurse@ucf.edu](mailto:gradnurse@ucf.edu).

## CONTACT INFO

### Susan Chase EdD

Associate Dean  
[gradnurse@ucf.edu](mailto:gradnurse@ucf.edu)  
 Telephone: 407-823-2744  
 Suite 300

# Family Nurse Practitioner Track

## TRACK DESCRIPTION

The Master of Science in Nursing (MSN) program in the Family Nurse Practitioner Track prepares nurses for advanced primary care practice in the current healthcare environment based on a strong scientific foundation for practice, flexibility, and emphasis on evidence-based practice and leadership.

The MSN Family Nurse Practitioner Track allows students to sit for certification examinations when they have completed the list of courses required. Certification authorizes them to function in the advanced role. Enrolling in the DNP program is an option after completion of the MSN. The program can be completed in 6 semesters as a full time student or 8 semesters as a part time student.

### Program Objectives

The program prepare 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, 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.

The College of Nursing also offers admission to its master degree programs in nursing to Registered Nurses who have bachelor degrees in fields other than nursing. These students will need to take 9 credits of undergraduate upper division course work as prerequisite for graduate study in nursing. Please contact [gradnurse@ucf.edu](mailto:gradnurse@ucf.edu) for more information.

The College also offers an RN to MSN plan of study that provides an accelerated program for RNs who do not hold a baccalaureate degree but have met general educational requirements. Students admitted under this plan of study will complete requirements for both the BSN and MSN programs. See RN to MSN program below for more information. A separate application to the graduate program will be required upon completion of the BSN degree. Admission to the MSN program is competitive and not guaranteed.

## CURRICULUM

### Total Hours Required:

**46 Credit Hours** Minimum beyond the Bachelor's Degree

The MSN Family Nurse Practitioner Track requires a minimum of 46 credit hours beyond the baccalaureate degree with 720 hours of clinical practicum. The part-time plan of study for the MSN can be completed in 6 semesters and the full-time plan of study in 4 semesters.

### Required Courses for the MSN— 46 Credit Hours

#### Core Courses—24 Credit Hours

- NGR 5003 Advanced Health Assessment and Diagnostic Reasoning (2 credit hours)
- NGR 5003L Advanced Health Assessment and Diagnostic Reasoning Lab (1 credit hour; 60 clinical hours)
- NGR 5141 Pathophysiological Bases for Advanced Nursing Practice (3 credit hours)
- NGR 5638 Health Promotion (3 credit hours)
- NGR 5800 Theory for Advanced Practice Nursing (3 credit hours)
- NGR 5884 Legal and Professional Behavior in Advanced Practice Nursing (3 credit hours)

- NGR 6172 Pharmacology for Advanced Nursing Practice (3 credit hours)
- NGR 6801 Research Methods (3 credit hours)
- NGR 6813 Evidence-Based Nursing Practice (3 credit hours)

#### Specialty Courses: Family Nurse Practitioner—22 Credit Hours

- NGR 6334 Women's Health for APNs (2 credit hours)
- NGR 6201 Adult I Primary Care (3 credit hours)
- NGR 6240L Adult I Primary Care Clinical (3 credit hours; 180 clinical hours)
- NGR 6263 Gerontologic Care for APNs (3 credit hours)
- NGR 6263L Gerontologic Care Clinical for NPs (2 credit hours; 120 clinical hours)
- NGR 6305 Pediatric Primary Care (3 credit hours)
- NGR 6305L Pediatric Primary Care Clinical (2 credit hours; 120 clinical hours)
- NGR 6342L Women's Health for Advanced Practice Nurses Clinical (1 credit hour; 60 clinical hours)
- NGR 6248 Advanced Practice Practicum (3 credit hours; 180 clinical hours)

### Progress to Degree

Students are required to maintain a 3.0 grade point average. Students who receive a grade of below B in any course will be reviewed by the MSN/DNP Admissions, Profession and Graduation Committee for continuation in the program. Grades of below B are not acceptable in the doctoral program in the College of Nursing. Students who do not maintain a 3.0 GPA will be put on probation or dismissed from the program.

### Graduation Requirements

- All course work completed with a minimum grade of "B"
- clinical performance evaluated at a satisfactory level
- A professional portfolio



## College of Nursing Master's Program Handbook

All students completing the master's along the way are required to read the College of Nursing Master's Program Handbook regarding policies for each program and for academic progression. Information about each program, particularly clinical placements and forms for appeals to the Master's APG Committee are located in the Nursing

MSN Handbook.

### Equipment Fee

Students in all Master of Science in Nursing Programs pay a \$90 equipment fee each semester that they are enrolled.

### Independent Learning

An independent scholarly work is a requirement for the Master of Science in Nursing degree. The scholarly work consists of an evidence-based nursing project. The scholarly project that is required in NGR 6813 (completed in the final semester of study) is an evidence-based scholarly clinical paper. The evidence-based project should reflect the latest evidence for the students MSN track. This is a formal paper that must adhere to published guidelines in the syllabus and must be presented in a public forum.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- BSN degree from an accredited institution.\*
- Undergraduate Statistics course.
- Official, competitive GRE score taken within the last five years.
- Licensure as a registered nurse in the State of Florida. (Out of state applicants must be eligible for licensure in Florida and must achieve RN licensure to begin clinical courses.)
- Address the following 3 items in a written essay. Total word count for all (not each)

answers should be 500 words or less, double spaced, 12 point Times New Roman font, and 1 inch margins:

- Describe how your professional experiences have prepared you for future education in the role which is the focus of your desired track.
- Describe your plans to alter your work, professional and/ or personal obligations in order to have the time needed for graduate course and clinical practice work.
- Identify one significant contemporary issue/ problem in the US Health care system and explore how members of the nursing profession can help address that issue or solve that problem.
- Curriculum Vitae which reflects prior education, recent clinical accomplishments, any recent scholarly work (publications and presentations), awards, additional certifications, and activities with professional organizations. For recent graduates this can include accomplishments as a student.
- An interview with faculty may also be required.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

\*For Students with a Bachelor's degree in a discipline other than nursing, please contact the College of Nursing at [gradnurse@ucf.edu](mailto:gradnurse@ucf.edu) or 407-823-2744 for additional options.

Before submitting your application, it is recommended that applicants call the College of Nursing Graduate Office (407-823-2744) to speak with an adviser to discuss your goals for doctoral study. It is advantageous to discuss the program before writing the required essay because the



essay must address your goals for doctoral-level preparation for advanced nursing practice. Students are admitted to the program in the fall for the program of study; however, spring admissions are possible for a revised plan of study.

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 College of Nursing accepts most qualified students.

Students may take classes as a nursing nondegree-seeking, postbaccalaureate student on a space-available basis. Students must designate on their application that they are applying to the College of Nursing in order to facilitate processing of files. Successful completion of postbaccalaureate courses does not guarantee admission to the graduate program. Students may only take nonclinical courses. Prior to applying as a nondegree student, please contact the main nursing advising office for deadlines and nondegree options at [gradnurse@ucf.edu](mailto:gradnurse@ucf.edu).

### Application Deadlines

Family Nurse Practitioner Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Feb 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

### CONTACT INFO

**Susan Chase EdD**  
 Associate Dean  
[gradnurse@ucf.edu](mailto:gradnurse@ucf.edu)  
 Telephone: 407-823-2744  
 Suite 300

# Leadership and Management Track

## TRACK 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 in Nursing programs are accredited by the Commission on Collegiate Nursing Education (CCNE).

### Program Objectives

The program prepare 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, 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.

In addition to the MSN for students holding a baccalaureate nursing degree, the College of Nursing also offers admission to its master degree programs in nursing to Registered Nurses who have bachelor degrees in fields other than nursing. These students will need to take 15 credits of undergraduate upper division course work that is prerequisite for graduate study in nursing. Please

contact [gradnurse@ucf.edu](mailto:gradnurse@ucf.edu) for more information on this option.

The College also offers an RN to MSN plan of study that provides an accelerated program for RNs (registered nurses) who do not hold a baccalaureate degree, but have met general educational requirements. Students admitted under this plan of study will complete requirements for both the BSN and MSN programs. A separate application to the MSN program will be required upon completion of the BSN Degree.

The goal of the Master of Science in Nursing program is to prepare advanced practice nurses, nurse educators, and nursing leaders and managers to assume leadership positions in a variety of health care settings. Graduates of these programs are eligible to sit for national certification examinations in their respective specialties.

**NOTE FOR INTERNATIONAL STUDENTS:**  
Please contact the College of Nursing at [gradnurse@ucf.edu](mailto:gradnurse@ucf.edu) or 407-823-2744 prior to applying to this online program.

## CURRICULUM

### Total Hours Required:

36 Credit Hours Minimum beyond the Bachelor's Degree

The Leadership and Management track of the MSN is designed to equip nurses with the managerial and leadership skills necessary to become administrative leaders in the health care industry.

### Required Courses—36 Credit Hours

- NGR 5800 Theory for Advanced Practice Nursing (3 credit hours)
- NGR 5884 Legal and Professional Behavior in Advanced Nursing Practice (3 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 (3 credit hours; 135 clinical hours)
- NGR 6801 Research Methodology for Advanced Practice Nursing (3 credit hours)
- NGR 6813 Evidenced Based Practice (Research Scholarly Work) (3 credit hours)
- NGR 6874 Nursing Environment Management (3 credit hours)
- NGR 6772L Nursing and Leadership Management Internship (3 credit hours, 180 clinical hours)
- Graduate Elective (3 credit hours)

## College of Nursing Master's Program Handbook

All master's students are required to read the College of Nursing Master's Program Handbook regarding policies for each program and for academic progression. Information about each program particularly clinical placements and forms for appeals to the Master's APG Committee are located in the Nursing MSN Handbook.

### Equipment Fee

Students in all Master of Science in Nursing programs pay a \$90 equipment fee each semester that they are enrolled.

### Independent Learning

An independent scholarly work is a requirement for the Master of Science in Nursing degree. The scholarly work consists of an evidence-based nursing project. The scholarly project that is required in NGR 6813 (completed in the final semester of study) is an evidence-based scholarly clinical paper. The evidence-based project should reflect the latest evidence for the students MSN track. This is a formal paper that must adhere to published guidelines in the syllabus and must be presented in a public forum.

## APPLICATION REQUIREMENTS

Students are admitted to the programs in fall and spring semesters. To study full-time, applicants to the leadership/management track should apply

for fall admission. Part-time plans of study are available for both fall and spring admission cycles. Applicants with a non-nursing bachelor's degree are required to take upper-division nursing courses that are prerequisites for graduate study in nursing.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- BSN degree from an accredited institution.\*
- Undergraduate Statistics course.
- Florida license required for all students who will be taking clinical and practice courses in Florida health care agencies and institutions. For those students at a distance, a license is required in the state or country in which they practice.
- Address the following 3 items in a written essay. Total word count for all (not each) answers should be 500 words or less, double spaced, 12 point Times New Roman font, and 1 inch margins:
  - Describe how your professional experiences have prepared you for future education in the role which is the focus of your desired track.
  - Describe your plans to alter your work, professional and/ or personal obligations in order to have the time needed for graduate course and clinical practice work.
  - Identify one significant contemporary issue/ problem in the US Health care system and explore how members of the nursing profession can help address that issue or solve that problem.
- Curriculum Vitae which reflects prior education, recent clinical accomplishments, any recent scholarly work (publications and presentations), awards, additional certifications and activities with professional organizations. For recent graduates this can include accomplishments as a student.
- Two professional recommendations describing your ability to be successful in an MSN program. Include at least one clinical reference preferably from an Advanced Practice Nurse/ Supervisor and one academic reference preferably from a nursing faculty member from

a graduate program evaluating potential for graduate study.

- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

\*For Students with a Bachelor's degree in a discipline other than nursing, please contact the advisement office at [gradnurse@ucf.edu](mailto:gradnurse@ucf.edu) or 407-823-2744 for additional options.

Admission to the program is competitive, based on evaluation of the applicant's abilities, past performance, recommendations, VECHS/FDLE/FBI finger printing and certified background check, drug testing and the match of UCF's master's programs with career goals. The College 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 nondegree-seeking, postbaccalaureate student on a space-available basis. Students must designate on their application that they are applying to the College of Nursing in order to facilitate processing of files. Successful completion of postbaccalaureate courses does not guarantee admission to the graduate program. Students may only take nonclinical courses. Prior to applying as a nondegree student, please contact the main nursing advising office for deadlines and nondegree options at [gradnurse@ucf.edu](mailto:gradnurse@ucf.edu).

## Application Deadlines

Leadership and Management Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Feb 15	Sep 15	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

## CONTACT INFO

**Diane Andrews PhD**  
 Assistant Professor  
[andrews@ucf.edu](mailto:andrews@ucf.edu)  
 Telephone: 407-823-2744  
 Suite 300

# Adult/Gerontology Nurse Practitioner Track

## TRACK DESCRIPTION

The Master of Science in Nursing (MSN) program in the Adult/Gerontology Nurse Practitioner Track prepares nurses for advanced primary care practice in the current health care environment based on a strong scientific foundation for practice; flexibility and emphasis on evidence-based practice, and leadership.

The MSN Adult/Gerontology Nurse Practitioner Track allows students to sit for certification examinations when they have completed the list of courses required. Certification authorizes them to function in the advanced role. Enrolling in the DNP program is an option after completion of the MSN.

### Program Objectives

The programs prepare 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, 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.

The College of Nursing also offers admission to its master degree programs in nursing to Registered Nurses who have bachelor degrees in fields other than nursing. These students will need to take 9 credits of undergraduate upper division course work as prerequisite for graduate study in nursing. Please contact [gradnurse@ucf.edu](mailto:gradnurse@ucf.edu) for more information.

The College also offers an RN to MSN plan of study that provides an accelerated program for RNs who do not hold a baccalaureate degree but have met general educational requirements. Students admitted under this plan of study will complete requirements for both the BSN and MSN programs. See RN to MSN program below for more information. A separate application to the graduate program will be required upon completion of the BSN degree. Admission to the MSN program is competitive and not guaranteed.

## CURRICULUM

### Total Hours Required:

**42 Credit Hours** Minimum beyond the Bachelor's Degree

The MSN Adult/Gerontology Nurse Practitioner Track requires a minimum of 42 credit hours beyond the baccalaureate degree with 660 clinical practice hours. The part-time plan of study for the MSN can be completed in 8 semesters and the full-time plan of study in 5 semesters.

### Required Courses—42 Credit Hours

#### Core Courses—24 Credit Hours

- NGR 5003 Advanced Health Assessment and Diagnostic Reasoning (2 credit hours)
- NGR 5003L Advanced Health Assessment and Diagnostic Reasoning Lab (1 credit hour; 60 clinical hours)
- NGR 5141 Pathophysiological Bases for Advanced Nursing Practice (3 credit hours)
- NGR 5638 Health Promotion (3 credit hours)
- NGR 5800 Theory for Advanced Practice Nursing (3 credit hours)
- NGR 5884 Legal and Professional Behavior in Advanced Practice Nursing (3 credit hours)

- NGR 6172 Pharmacology for Advanced Nursing Practice (3 credit hours)
- NGR 6801 Research Methods (3 credit hours)
- NGR 6813 Evidence-Based Nursing Practice (3 credit hours)

### Specialty Courses: Adult/Gerontology Nurse Practitioner—18 Credit Hours

- NGR 6334 Women's Health for APNs (2 credit hours)
- NGR 6201 Adult I Primary Care (3 credit hours)
- NGR 6240L Adult I Primary Care Clinical (3 credit hours; 180 clinical hours)
- NGR 6202L Adult II Clinical for APNs (2 credit hours; 120 clinical hours)
- NGR 6263 Gerontologic Care for APNs (3 credit hours)
- NGR 6263L Gerontologic Care Clinical for NPs (2 credit hours; 120 clinical hours)
- NGR 6248 Advanced Practice Practicum (3 credit hours; 180 clinical hours)

### Progress to Degree

Students are required to maintain a 3.0 grade point average. Students who receive a grade of below B in any course will be reviewed by the MSN/DNP Admissions, Progression and Graduation Committee for continuation in the program. Grades of below B are not acceptable in the doctoral program in the College of Nursing. Students who do not maintain a 3.0 GPA will be put on probation or dismissed from the program.

### Graduation Requirements

- All course work completed with a minimum grade of "B"
- Clinical performance evaluated at a satisfactory level
- A professional portfolio

### College of Nursing Master's Program Handbook

All master's students are required to read the College of Nursing Master's Program Handbook regarding policies for each program and for academic progression. Information about each

program, particularly clinical placements and forms for appeals to the Master's APG Committee, are located in the Nursing MSN Handbook.

### Equipment Fee

Students in all Master of Science in Nursing Programs pay a \$90 equipment fee each semester that they are enrolled.

### Independent Learning

An independent scholarly work is a requirement for the Master of Science in Nursing degree. The scholarly work consists of an evidence-based nursing project. The scholarly project that is required in NGR 6813 (completed in the final semester of study) is an evidence-based scholarly clinical paper. The evidence-based project should reflect the latest evidence for the student's MSN track. This is a formal paper that must adhere to published guidelines in the syllabus and must be presented in a public forum.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- BSN degree from an accredited institution.\*
- Undergraduate Statistics course.
- Official, competitive GRE score taken within the last five years.
- Licensure as a registered nurse in the State of Florida. (Out of state applicants must be eligible for licensure in Florida and must achieve RN licensure to begin clinical courses.)
- Address the following 3 items in a written essay. Total word count for all (not each) answers should be 500 words or less, double spaced, 12 point Times New Roman font, and 1 inch margins:
  - Describe how your professional experiences have prepared you for future education in the role which is the focus of your desired track.



- Describe your plans to alter your work, professional and/ or personal obligations in order to have the time needed for graduate course and clinical practice work.
- Identify one significant contemporary issue/ problem in the US Health care system and explore how members of the nursing profession can help address that issue or solve that problem.
- Curriculum Vitae which reflects prior education, recent clinical accomplishments, any recent scholarly work (publications and presentations), awards, additional certifications, and activities with professional organizations. For recent graduates this can include accomplishments as a student.
- An interview with faculty may also be required.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.
- Applicants to this program are strongly encouraged to complete the necessary information requested for the ETS PPI (Personal Potential Index) report that is available during the GRE examination. All official PPI reports must be submitted directly to the UCF College of Graduate Studies (use UCF Institution Code: 5233).

\*For Students with a Bachelor’s degree in a discipline other than nursing, please contact the College of Nursing at [gradnurse@ucf.edu](mailto:gradnurse@ucf.edu) or 407-823-2744 for additional options.

Before submitting your application, it is recommended that applicants call the College of Nursing Graduate Office (407-823-2744) to speak with an adviser to discuss your goals for doctoral study. It is advantageous to discuss the program before writing the required essay because the essay must address your goals for doctoral-level preparation for advanced nursing practice. Students are admitted to the program in the fall for the program of study; however, spring admissions are possible for a revised plan of study.

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 College of Nursing accepts most qualified students.

Students may take classes as a nursing nondegree-seeking, postbaccalaureate student on a space-available basis. Students must designate on their application that they are applying to the College of Nursing in order to facilitate processing of files. Successful completion of postbaccalaureate courses does not guarantee admission to the graduate program. Students may only take nonclinical courses. Prior to applying as a nondegree student, please contact the main nursing advising office for deadlines and nondegree options at [gradnurse@ucf.edu](mailto:gradnurse@ucf.edu).

### Application Deadlines

Adult/Gerontology Nurse Practitioner Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Feb 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

### CONTACT INFO

**Christopher Blackwell PhD**  
 Associate Professor  
[christopher.blackwell@ucf.edu](mailto:christopher.blackwell@ucf.edu)  
 Telephone: 407-823-2744  
 UTWR 453

# Nurse Educator Track

## TRACK DESCRIPTION

The Master of Science in Nursing (MSN) programs build upon the student's baccalaureate nursing education and professional experience. The Master of Science in Nursing program is accredited by the Commission on Collegiate Nursing Education (CCNE). The Nurse Educator track is delivered online with some required campus activities. It prepares nurse educators for teaching positions in colleges and universities, as well as practice settings.

### Program Objectives

The programs prepare 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, 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.

In addition to the MSN for students holding a baccalaureate nursing degree, the College of Nursing also offers admission to its master degree programs in nursing to Registered Nurses who have bachelor degrees in fields other than nursing.

These students will need to take 15 credits of undergraduate upper division course work that is prerequisite for graduate study in nursing. Please contact [gradnurse@ucf.edu](mailto:gradnurse@ucf.edu) for more information on this option.

The College also offers an RN to MSN plan of study that provides an accelerated program for RNs (registered nurses) who do not hold a baccalaureate degree, but have met general educational requirements. Students admitted under this plan of study will complete requirements for both the BSN and MSN programs. A separate application to the MSN program will be required upon completion of the BSN Degree.

The goal of the Master of Science in Nursing program is to prepare advanced practice nurses, nurse educators, and nursing leaders and managers to assume leadership positions in a variety of health care settings. Graduates of these programs are eligible to sit for national certification examinations in their respective specialties.

## CURRICULUM

### Total Hours Required:

**38** Credit Hours Minimum beyond the Bachelor's Degree

An independent scholarly work is a requirement for the Master of Science in Nursing degree. The scholarly work consists of an evidence-based nursing project. The scholarly project that is required in NGR 6813 Evidence-Based Nursing Practice (completed in the last or next to last semester of study) is an evidence-based scholarly clinical paper. The evidence-based project should reflect the latest evidence for the student's MSN track. This is a formal paper that must adhere to published guidelines in the syllabus and must be presented in a public forum.

### Required Nursing Courses—18 Credit Hours

- NGR 5003 Advanced Health Assessment and Diagnostic Reasoning (2 credit hours)
- NGR 5003L Advanced Health Assessment and Diagnostic Reasoning Lab (1 credit hour)
- NGR 5141 Pathophysiological Bases for ANP (3 credit hours)

- NGR 5800 Theory for Advanced Practice Nursing (3 credit hours)
- NGR 5884 Legal and Professional Behaviors in ANP (3 credit hours)
- NGR 6801 Research Methods (3 credit hours)
- NGR 6813 Evidence-Based Nursing Practice (Scholarly Project) (3 credit hours)

### Required Education Courses—17 Credit Hours

- NGR 6713 Curriculum Development in Nursing Education (3 credit hours)
- NGR 6715 Application of Instructional Technology for Nursing Education (3 credit hours)
- NGR 6791 Teaching Strategies for Nurse Educators (3 credit hours)
- NGR 6718 Evaluation in Nursing Education (3 credit hours)
- NGR 6942C Internship/Residency in Nursing Education (4 credit hours, 300 credit hours)
- NGR 6945L Clinical Specialty Practicum (Family, Adult or Community) for Nurse Education (1 credit hour, 60 clinical hours)

### Advanced Nurse Specialty Restricted Elective—3 Credit Hours

Choose one of the following courses:

- NGR 6249 Management of Common Health Problems of the Adult Patient (3 credit hours)
- NGR 6351 Nursing Care of Children and Childbearing Women (3 credit hours)
- NGR 6627 Management of Common Health Problems of Communities (3 credit hours)

### College of Nursing Master's Program Handbook

All master's students are required to read the College of Nursing Master's Program Handbook regarding policies for each program and for academic progression. Information about each program, particularly clinical placements and forms for appeals to the Master's APG Committee, are located in the Nursing

MSN Handbook.

### Equipment Fee

Students in all Master of Science in Nursing programs pay a \$90 equipment fee each semester that they are enrolled.

### Independent Learning

An independent scholarly work is a requirement for the Master of Science in Nursing degree. The scholarly work consists of an evidence-based nursing project. The scholarly project that is required in NGR 6813 (completed in the last or next to last semester of study) is an evidence-based scholarly clinical paper. The evidence-based project should reflect the latest evidence for the students MSN track. This is a formal paper that must adhere to published guidelines in the syllabus and must be presented in a public forum.

## APPLICATION REQUIREMENTS

The following application information is provided for applicants who have completed a bachelor's degree. For application requirements for the RN to MSN option, without an undergraduate degree, please refer to the "RN to MSN Program." Applicants with a non-nursing bachelor's degree are required to take upper-division nursing courses that are prerequisites for graduate study in nursing.

Students are admitted to the programs in fall and spring semesters. To study full-time, applicants to the nurse educator track should apply for fall admission. However, additional electives will be needed in some semesters. Part-time plans of study are available for both fall and spring admission cycles.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- BSN degree from an accredited institution.\*
- Undergraduate Statistics course.
- Florida license required for all students who will be taking clinical and practice courses in Florida health care agencies and institutions. For those students at a distance, a license

is required in the state or country in which they practice.

- Address the following 3 items in a written essay. Total word count for all (not each) answers should be 500 words or less, double spaced, 12 point Times New Roman font, and 1 inch margins:
  - Describe how your professional experiences have prepared you for future education in the role which is the focus of your desired track.
  - Describe your plans to alter your work, professional and/ or personal obligations in order to have the time needed for graduate course and clinical practice work.
  - Identify one significant contemporary issue/ problem in the US Health care system and explore how members of the nursing profession can help address that issue or solve that problem.
- Curriculum Vitae which reflects prior education, recent clinical accomplishments, any recent scholarly work (publications and presentations), awards, additional certifications and activities with professional organizations. For recent graduates this can include accomplishments as a student.
- Two professional recommendations describing your ability to be successful in an MSN program. Include at least one clinical reference preferably from an Advanced Practice Nurse/ Supervisor and one academic reference preferably from a nursing faculty member from a graduate program evaluating potential for graduate study.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

\*For Students with a Bachelor’s degree in a discipline other than nursing, please contact the advisement office at [gradnurse@ucf.edu](mailto:gradnurse@ucf.edu) or 407-823-2744 for additional options.

Admission to the program is competitive, based on evaluation of the applicant’s abilities, past performance, recommendations, VECHS/FDLE/FBI

finger printing, certified background check, drug testing and the match of UCF’s master’s programs with career goals. The College 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 nondegree-seeking, postbaccalaureate student on a space-available basis. Students must designate on their application that they are applying to the College of Nursing in order to facilitate processing of files. Successful completion of postbaccalaureate courses does not guarantee admission to the graduate program. Students may only take nonclinical courses. Prior to applying as a nondegree student, please contact the main nursing advising office for deadlines and nondegree options at [gradnurse@ucf.edu](mailto:gradnurse@ucf.edu).

### Application Deadlines

Nurse Educator Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Feb 15	Sep 15	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

### CONTACT INFO

**Diane Wink EdD**  
 Professor  
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 Telephone: 407-823-5440  
 UTWR 473

# Optics and Photonics MS

- International Track
- Optics Track
- Photonics Track

## PROGRAM DESCRIPTION

The College of Optics and Photonics offers an interdisciplinary graduate program in optical science and engineering leading to a Master of Science in Optics and Photonics. The college has grown rapidly and now has 55 faculty members and faculty with joint appointments, 41 research scientists and 148 graduate students with research activities covering all aspects of optics, photonics, and lasers. Research expenditures are over \$10 million annually, with over 20 percent of the funding coming from industrial partners, illustrating the effectiveness of the commitment to partnerships that is a foundational value of the COP.

Research activities cover all aspects of optics, photonics, and lasers, and the Center for Research and Education in Optics and Lasers (CREOL), the Florida Photonics Center of Excellence (FPCE), and the Townes Laser Institute (TLI) are integral parts of the College. Current research areas include: linear and nonlinear guided-wave optics and devices, high speed photonic telecommunications, fiber optic fabrication, fiber optic communications, solid state laser development, nonlinear optics, laser-induced damage, quantum-well optoelectronics, quantum optics, 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 MS program is intended for students with a bachelor's degree in optics, electrical engineering, physics, or closely related fields. 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

## CURRICULUM

The Optics and Photonics MS program requires a minimum of 30 credit hours beyond the bachelor's degree. The program offers a thesis and nonthesis option. Students are allowed considerable freedom in planning their study programs, although some foundation Optics courses are strongly recommended as core courses and two research methods/laboratory courses are required.

### Total Hours Required:

**30** Credit Hours Minimum beyond the Bachelor's Degree

Additional notes on the curriculum:

- A minimum of 24 credit hours of formal graduate courses is required in the thesis option of which at least 12 credit hours must be formal Optics (prefix OSE) courses. A minimum of 27 credit hours of formal graduate courses is required in the nonthesis option of which at least 18 credit hours must be formal Optics (prefix OSE) courses. The remaining credit hours can be thesis or other elective and research courses as permitted in the option.
- At least 6 credit hours of approved optics or related science and engineering research methods/laboratory courses are required in both options. At least one must be in Optics or approved as an Optics substitute.
- Up to nine credit hours of appropriate graduate courses from accredited universities may be transferred with approval from the College of Optics and Photonics. Only courses with grades of "B" or better can be transferred.

## Required Courses—15 Credit Hours

### Core—9 Credit Hours

The following foundation courses are strongly recommended for all students unless they can demonstrate knowledge sufficient to waive the course in which case they will take an additional elective.

- OSE 5041 Introduction to Wave Optics\* (3 credit hours)



And two of the following three courses:

- OSE 5203 Geometrical Optics and Imaging Systems (3 credit hours)
- OSE 6432 Guided Waves and Optoelectronics (3 credit hours)
- OSE 6525 Laser Engineering (3 credit hours)

\* Note that OSE 5041 may be substituted by the student taking both OSE 6111 Optical Wave Propagation and OSE 6115 Interference and Diffraction.

### Research Methods/Laboratory—6 Credit Hours

At least 6 credit hours of approved Optics and related science/engineering research methods/laboratory courses are required from the list below. At least one must be in Optics (OSE). One required laboratory may be waived if the student can demonstrate an equivalent hands-on proficiency in that laboratory specialization. These research methods/laboratory courses count toward the formal graduate course work requirement.

- OSE 6234C Applied Optics Laboratory (3 credit hours)
- OSE 6455C Photonics Laboratory (3 credit hours)
- OSE 6526C Laser Engineering Laboratory (3 credit hours)
- OSE 6615L Optoelectronic Device Fabrication Laboratory (3 credit hours)
- Other graduate-related science and engineering methodology labs may be taken with approval by the College of Optics and Photonics.

### Elective Courses—9 Credit Hours

All students are required to take a minimum of 9 credit hours of electives. If students substitute OSE 6111 and OSE 6115 for OSE 5041, then the number of elective hours is reduced to 6 credit hours.

Any graduate course with an OSE prefix may be an elective with the approval of the adviser. In addition, the following courses are also accepted toward meeting the Optics (OSE) course work requirement.

- EMA 5610 Laser Materials Processing (3 credit hours)

- PHY 5455 Modern X-Ray Science (3 credit hours)
- PHZ 5505 Plasma Physics (3 credit hours)
- Other appropriate engineering and science courses may be taken with approval by the College of Optics and Photonics.

A listing and description of courses offered by the College of Optics and Photonics is found in the “Courses” section of the Graduate Catalog Menu at the top of the page.

### Thesis Option—6 Credit Hours

The thesis option requires at least 6 credit hours of thesis research.

- OSE 6971 Thesis (6 credit hours)

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 MS thesis committee consists of three members, with at least two regular graduate faculty members from the College of Optics and Photonics. Students are required to write a thesis and pass an oral exam based primarily on the topics of the thesis and course work.

### Nonthesis Option—6 Credit Hours

The nonthesis option requires an additional 6 credit hours of electives.

- Electives (6 credit hours)

Up to 3 credit hours of directed research (OSE 6918) or research report (OSE 6909) may be included as electives with prior approval of the College of Optics and Photonics although they are not counted toward the required 27 credit hours of formal course work. 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.

The nonthesis master’s requires a minimum of two methods/laboratory courses as described above. These laboratory courses involve a substantial

amount of independent learning on the part of the student. For example, laboratory reports must include sections on the theoretical and historical background behind the phenomena explored in laboratory experiments, and students are expected to obtain this background information on their own by researching the scientific literature. One required Optics laboratory may be waived if the student can demonstrate an equivalent hands-on proficiency in that laboratory specialization. These methodology/laboratory courses count toward the formal course work requirement.

## Independent Learning

All students must take a minimum of two graduate methodology/laboratory courses in Optics or a closely related field that include experiments, research and laboratory reports. Nonthesis students also engage in directed research or research report. Thesis students enroll in 6 hours of thesis credits during the completion of their research study.

## APPLICATION REQUIREMENTS

**Before completing general UCF graduate application requirements, all applicants for programs in the College of Optics and Photonics are recommended to complete the pre-application process. The pre-application is located at <http://www.creol.ucf.edu/Academics/Prospective/PreApplication.aspx>.**

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Optics, Electrical Engineering, Physics, or closely related fields.
- Official, competitive GRE score taken within the last five years.
- Goal Statement: Please choose the Personal Statement option. Your Personal statement should describe your career goals. Please include why you want to come to CREOL and how the MS will help you achieve your ultimate career goals.
- Three letters of recommendation.
- Résumé.

Students with degrees in related fields may be required to take undergraduate articulation courses determined by the program director on a case-by-case basis.

## Application Deadlines

Optics MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

## CONTACT INFO

**David Hagan PhD**

Associate Dean

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CROL 231

# Optics and Photonics MS - International Track

## TRACK DESCRIPTION

The International track in the Optics and Photonics MS program is intended for those students involved in an international exchange program with particular programs in other countries as approved by the university and the College of Optics and Photonics. The requirements for this track are the same as the general MS program.

## CURRICULUM

**30 Credit Hours** Minimum beyond the Bachelor's Degree

The Optics and Photonics MS program requires a minimum of 30 credit hours beyond the bachelor's degree. The program offers a thesis and nonthesis option. Students are allowed considerable freedom in planning their study programs, although some foundation Optics courses are strongly recommended as core courses and two research methods/laboratory courses are required.

Additional notes on the Curriculum:

- A minimum of 24 credit hours of formal graduate courses is required in the thesis option of which at least 12 credit hours must be formal Optics (prefix OSE) courses. A minimum of 27 credit hours of formal graduate courses is required in the nonthesis option of which at least 18 credit hours must be formal Optics (prefix OSE) courses. The remaining credit hours can be thesis or other elective and research courses as permitted in the option.
- In addition the following requirements must be satisfied:
  - For this track, 18 credit hours must be taken at UCF and 12 credit hours of course work must be taken at the partner university. These hours must be taken from an approved list maintained by the college and made available on the college web site. Courses other than those on the list must be approved by the College of

Optics and Photonics Curriculum Committee. If the thesis option is selected, the thesis hours must be taken at UCF.

- At least 6 credit hours of approved optics or related science and engineering research methods/laboratory courses are required in both options. At least one must be in Optics or an approved Optics substitute.
- Language requirements. Students must demonstrate competency in the primary language of the partner university or else must take at least 6 hours of appropriate undergraduate language courses prior to traveling to the partner university.

## Required Courses - 15 Credit Hours

### Core Courses - 9 Credit Hours

The following foundation courses are strongly recommended for all students unless they can demonstrate knowledge sufficient to waive the course in which case they will take an additional elective.

- OSE 5041 Introduction to Wave Optics\* (3 credit hours)

And two of the following three courses:

- OSE 5203 Geometrical Optics and Imaging Systems (3 credit hours)
- OSE 6432 Guided Waves and Optoelectronics (3 credit hours)
- OSE 6525 Laser Engineering (3 credit hours)

\* Note that OSE 5041 may be substituted by the student taking both OSE 6111 Optical Wave Propagation and OSE 6115 Interference and Diffraction.

### Research Methods/Laboratory - 6 Credit Hours

At least 6 credit hours of approved Optics and related science/engineering research methods/laboratory courses are required from the list below. At least one must be in Optics (OSE). One required laboratory may be waived if the student can

demonstrate an equivalent hands - on proficiency in that laboratory specialization. These research methods/laboratory courses count toward the formal graduate course work requirement.

- OSE 6234C Applied Optics Laboratory (3 credit hours)
- OSE 6455C Photonics Laboratory (3 credit hours)
- OSE 6526C Laser Engineering Laboratory (3 credit hours)
- OSE 6615L Optoelectronic Device Fabrication Laboratory (3 credit hours)
- Other graduate - related science and engineering methodology labs may be taken with approval by the College of Optics and Photonics.

### Elective Courses - 9 Credit Hours

All students are required to take a minimum of 9 credit hours of electives. If students substitute OSE 6111 and OSE 6115 for OSE 5041, then the number of elective hours is reduced to 6 credit hours.

Any graduate course with an OSE prefix may be an elective with the approval of the adviser. In addition, the following courses are also accepted toward the Optics (OSE) course work requirement.

- EMA 5610 Laser Materials Processing (3 credit hours)
- PHY 5455 Modern X - Ray Science (3 credit hours)
- PHZ 5505 Plasma Physics (3 credit hours)
- Other appropriate engineering and science courses may be taken with approval by the College of Optics and Photonics.

A listing and description of courses offered by the College of Optics and Photonics is found in the "Courses" section of the Graduate Catalog Menu at the top of the page.

### Thesis Option - 6 Credit Hours

The thesis option requires at least 6 credit hours of thesis research.

- OSE 6971 Thesis (6 credit hours)

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 MS thesis committee consists of three members, with at least two regular graduate faculty members from the College of Optics and Photonics. Students are required to write a thesis and pass an oral exam based primarily on the topics of the thesis and course work.

### Nonthesis Option - 6 Credit Hours

The nonthesis option requires an additional 6 credit hours of electives.

- Electives (6 credit hours)

Up to 3 credit hours of directed research (OSE 6918) or research report (OSE 6909) may be included with prior approval of the College of Optics and Photonics although they are not counted toward the formal course work requirement. 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.

The nonthesis master's requires a minimum of two methods/laboratory courses as described above. These laboratory courses involve a substantial amount of independent learning on the part of the student. For example, laboratory reports must include sections on the theoretical and historical background behind the phenomena explored in laboratory experiments, and students are expected to obtain this background information on their own by researching the scientific literature. One required Optics laboratory may be waived if the student can demonstrate an equivalent hands - on proficiency in that laboratory specialization. These methodology/ laboratory courses count toward the formal course work requirement.

## Independent Learning

All students must take a minimum of two graduate methodology/laboratory courses in Optics or a closely related field that include experiments, research and laboratory reports. Nonthesis students also engage in directed research or research report. Thesis students enroll in 6 hours of thesis credits during the completion of their research study.

## APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

Before completing general UCF graduate application requirements, all applicants for programs in the College of Optics and Photonics are recommended to complete the pre - application process. The pre - application is located at <http://www.creol.ucf.edu/Academics/Prospective/PreApplication.aspx>. Students with degrees in related fields may be required to take undergraduate articulation courses determined by the program director on a case - by - case basis.

**Graduate Program**  
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 CROL 231

# Optics Track

## TRACK DESCRIPTION

The Optics Track in the Master of Science in Optics and Photonics program is intended for students with a bachelor's degree in optics, electrical engineering, physics, or closely related fields. The program is interdisciplinary and combines optical science and engineering.

## CURRICULUM

**30 Credit Hours Minimum** beyond the Bachelor's Degree

The Optics Track in the Optics and Photonics MS program requires a minimum of 30 credit hours beyond the bachelor's degree. The program offers thesis and nonthesis options. Students are allowed some freedom in planning their study programs, although some foundation Optics courses are strongly recommended as core courses and one research methods/laboratory course is required.

### Additional notes on the Curriculum:

- A minimum of 24 credit hours of formal graduate courses is required in the thesis option, of which at least 12 credit hours must be formal Optics (prefix OSE) courses. A minimum of 27 credit hours of formal graduate courses is required in the nonthesis option, of which at least 18 credit hours must be formal Optics (prefix OSE) courses. The remaining credit hours can be thesis or other elective and research courses as permitted in the option.
- At least 3 credit hours of an approved optics methods/laboratory course is required in both options.
- An OSE 6909 Research Report of 3 credit hours is required in the nonthesis option.
- Up to 9 credit hours of appropriate graduate courses from accredited universities may be transferred with approval from the College of Optics and Photonics. Only courses with grades of "B" or better can be transferred.



## Required Courses - 18 Credit Hours

### Core - 15 Credit Hours

The following foundation courses are strongly recommended for all students unless they can demonstrate knowledge sufficient to waive the course, in which case they will take an additional elective.

- OSE 5041 Introduction to Wave Optics\* (3 credit hours)

And the following four courses:

- OSE 5203 Geometrical Optics and Imaging Systems (3 credit hours)
- OSE 6525 Laser Engineering (3 credit hours)
- OSE 6211 Fourier Optics (3 credit hours)
- OSE 6265 Optical Systems Design (3 credit hours)

\* Note that OSE 5041 may be substituted by the student taking both OSE 6111 Optical Wave Propagation and OSE 6115 Interference and Diffraction.

### Research Methods/Laboratory - 3 Credit Hours

At least 3 credit hours of approved Optics and related science/engineering research methods/laboratory courses is required from the list below. These research methods/laboratory courses count toward the formal graduate course work requirement.

- OSE 6234C Applied Optics Laboratory (3 credit hours)
- OSE 6526C Laser Engineering Laboratory (3 credit hours)
- Other graduate - related science and engineering methodology labs may be taken with approval by the College of Optics and Photonics.

### Elective Courses - 6 Credit Hours

All students are required to take a minimum of 6 credit hours of electives. If students substitute OSE 6111 and OSE 6115 for OSE 5041, then the number of elective hours is reduced to 3 credit hours.

Any graduate course with an OSE prefix may be an elective with the approval of the adviser. In addition, the following courses are also accepted toward meeting the Optics (OSE) coursework requirement.

- EMA 5610 Laser Materials Processing (3 credit hours)
- PHY 5455 Modern X - Ray Science (3 credit hours)
- PHZ 5505 Plasma Physics (3 credit hours)
- Other appropriate engineering and science courses may be taken with approval by the College of Optics and Photonics.

A listing and description of courses offered by the College of Optics and Photonics is found in the "Courses" section of the Graduate Catalog Menu at the top of the page.

### Thesis Option - 6 Credit Hours

The thesis option requires at least 6 credit hours of thesis research.

- OSE 6971 Thesis (6 credit hours)

Independent study and directed research credit hours are not allowed toward the degree requirements. The student must prepare an approved plan of study and form a thesis committee upon completion of 9 credit hours. The MS thesis committee consists of three members, with at least two regular graduate faculty members from the College of Optics and Photonics. Students are required to write a thesis and pass an oral exam based primarily on the topics of the thesis and course work.

### Nonthesis Option - 6 Credit Hours

The nonthesis option requires an additional 6 credit hours of courses or electives.

- OSE 6909 Research Report (3 credit hours)
- Elective course (3 credit hours)

Up to 3 credit hours of Research Report (OSE 6909) will be included. Students must select an adviser from the College of Optics Faculty to serve on their Research Report. Students must prepare an approved plan of study upon completion of 9 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.

## Independent Learning

Students must demonstrate independent learning by either writing a thesis or a research report. Additionally, all students must take a minimum of one graduate methodology/laboratory course in Optics or a closely related field that includes experiments, research and laboratory reports.

## APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

**Before completing general UCF graduate application requirements, all applicants for programs in the College of Optics and Photonics are recommended to complete the pre - application process. The pre - application is located at <http://www.creol.ucf.edu/Academics/Prospective/PreApplication.aspx>.**

Students with degrees in related fields may be required to take undergraduate articulation courses determined by the program director on a case - by - case basis.

## Application Deadlines

Optics	*Fall Priority	Fall	Spring	Summer
<b>Domestic Applicants</b>	Jan 15	Jul 15	Dec 1	Apr 15
<b>International Applicants</b>	Jan 15	Jan 15	Jul 1	Nov 1
<b>International Transfer Applicants</b>	Jan 15	Mar 1	Sep 1	Dec 15
*Applicants who plan to enroll full time in a degree program and who wish to be considered for university fellowships or assistantships should apply by the Fall Priority date.				

## CONTACT INFO

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CROL 231

# Photonics Track

## TRACK DESCRIPTION

The Photonics Track in the Optics and Photonics MS program is intended for students with a bachelor's degree in optics, electrical engineering, physics, or closely related fields. The program is interdisciplinary and combines optical science and engineering.

## CURRICULUM

**30 Credit Hours** Minimum beyond the Bachelor's Degree

The Photonics Track in the Optics and Photonics MS program requires a minimum of 30 credit hours beyond the bachelor's degree. The program offers thesis and nonthesis options. Students are allowed some freedom in planning their study programs, although some foundation Optics courses are strongly recommended as core courses and one research methods/laboratory course is required.

Additional notes on the Curriculum:

- A minimum of 24 credit hours of formal graduate courses is required in the thesis option, of which at least 12 credit hours must be formal Optics (prefix OSE) courses. A minimum of 27 credit hours of formal graduate courses is required in the nonthesis option, of which at least 18 credit hours must be formal Optics (prefix OSE) courses. The remaining credit hours can be thesis or other elective and research courses as permitted in the option.
- At least 3 credit hours of an approved optics methods/laboratory course is required in both options.
- An OSE 6909 Research Report of 3 credit hours is required in the nonthesis option.
- Up to 9 credit hours of appropriate graduate courses from accredited universities may be transferred with approval from the College of Optics and Photonics. Only courses with grades of "B" or better can be transferred.

## Required Courses - 18 Credit Hours

### Core - 15 Credit Hours

The following foundation courses are strongly recommended for all students unless they can demonstrate knowledge sufficient to waive the course, in which case they will take an additional elective.

- OSE 5041 Introduction to Wave Optics\* (3 credit hours)

And the following four courses:

- OSE 5414 Fundamentals of Optoelectronic Devices (3 credit hours)
- OSE 6525 Laser Engineering (3 credit hours)
- OSE 6421 Integrated Photonics (3 credit hours)
- OSE 6XXX Optical Communication Systems (3 credit hours)

\* Note that OSE 5041 may be substituted by the student taking both OSE 6111 Optical Wave Propagation and OSE 6115 Interference and Diffraction.

### Research Methods/Laboratory - 3 Credit Hours

At least 3 credit hours of approved Optics and related science/engineering research methods/laboratory courses is required from the list below. These research methods/laboratory courses count toward the formal graduate course work requirement.

- OSE 6455C Photonics Laboratory (3 credit hours)
- OSE 6615L Optoelectronic Device Fabrication Laboratory (3 credit hours)
- Other graduate - related science and engineering methodology labs may be taken with approval by the College of Optics and Photonics.

### Elective Courses - 6 Credit Hours

All students are required to take a minimum of 6 credit hours of electives. If students substitute OSE 6111 and OSE 6115 for OSE 5041, then the number of elective hours is reduced to 3 credit hours.

Any graduate course with an OSE prefix may be an elective with the approval of the adviser. In addition, the following courses are also accepted toward meeting the Optics (OSE) coursework requirement.

- EMA 5610 Laser Materials Processing (3 credit hours)
- PHY 5455 Modern X - Ray Science (3 credit hours)
- PHZ 5505 Plasma Physics (3 credit hours)
- Other appropriate engineering and science courses may be taken with approval by the College of Optics and Photonics.

A listing and description of courses offered by the College of Optics and Photonics is found in the "Courses" section of the Graduate Catalog Menu at the top of the page.

### Thesis Option - 6 Credit Hours

The thesis option requires at least 6 credit hours of thesis research.

- OSE 6971 Thesis (6 credit hours)

Independent study and directed research credit hours are not allowed toward the degree requirements. The student must prepare an approved plan of study and form a thesis committee upon completion of 9 credit hours. The MS thesis committee consists of three members, with at least two regular graduate faculty members from the College of Optics and Photonics. Students are required to write a thesis and pass an oral exam based primarily on the topics of the thesis and course work.

### Nonthesis Option - 6 Credit Hours

The nonthesis option requires an additional 6 credit hours of courses or electives.

- OSE 6909 Research Report (3 credit hours)
- Elective course (3 credit hours)

Up to 3 credit hours of Research Report (OSE 6909) will be included. Students must select an adviser from the College of Optics and Photonics Faculty to serve on their Research Report. Students must prepare an approved plan of study upon completion of 9 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.

### Independent Learning

Students must demonstrate independent learning by either writing a thesis or a research report. Additionally, all students must take a minimum of one graduate methodology/laboratory course in Photonics or a closely related field that includes experiments, research and laboratory reports.

## APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

**Before completing general UCF graduate application requirements, all applicants for programs in the College of Optics and Photonics are recommended to complete the pre - application process. The pre - application is located at <http://www.creol.ucf.edu/Academics/Prospective/PreApplication.aspx>.**

Students with degrees in related fields may be required to take undergraduate articulation courses determined by the program director on a case - by - case basis.

## Application Deadlines

Photonics	*Fall Priority	Fall	Spring	Summer
<b>Domestic Applicants</b>	Jan 15	Jul 15	Dec 1	Apr 15
<b>International Applicants</b>	Jan 15	Jan 15	Jul 1	Nov 1
<b>International Transfer Applicants</b>	Jan 15	Mar 1	Sep 1	Dec 15

\*Applicants who plan to enroll full time in a degree program and who wish to be considered for university fellowships or assistantships should apply by the Fall Priority date.

## CONTACT INFO

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CROL 231

## Physics MS

- Planetary Sciences Track

## PROGRAM DESCRIPTION

The University of Central Florida offers a Master of Science 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.

## CURRICULUM

The Physics MS program requires a minimum of 30 credit hours beyond the bachelor's degree, and offers students a thesis and nonthesis option. All students take 12 credit hours of core courses, and then the remaining 18 credit hours consist of both electives and thesis or directed research according to the option chosen.

### Total Hours Required:

**30** Credit Hours Minimum beyond the Bachelor's Degree

The Master of Science in Physics program is flexibly designed in order to prepare students for the widest possible range of industrial careers or for further study at the doctoral level. Courses must be selected so that at least one-half of the required courses are taken at the 6000 level.

Students pursuing a nonthesis master's degree must take at least one directed research course as part of their elective work. In this course, students will work on a research project under the supervision of a faculty member and present a final report.

### Required Courses—12 Credit Hours

- PHY 5606 Quantum Mechanics I (3 credit hours)
- PHY 5346 Electrodynamics I (3 credit hours)
- PHY 5524 Statistical Physics (3 credit hours)
- PHY 6246 Classical Mechanics (3 credit hours)



## Elective Courses—18 Credit Hours

Both thesis and nonthesis students take electives in consultation with their advisers. Out of the 18 elective credit hours at least 12 credit hours of formal course work are required and not more than 6 credit hours of 5000-level elective courses are counted toward the degree. At least 6 credit hours of thesis or 3 credit hours of directed research for the nonthesis option are required. Otherwise, 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 adviser approval.

### Materials Physics Specialization

- PHY 6624 Quantum Mechanics II (3 credit hours)
- PHY 6347 Electrodynamics II (3 credit hours)
- PHZ 6426 Condensed Matter Physics I (3 credit hours)
- PHZ 6428 Condensed Matter Physics II (3 credit hours)
- PHZ 5505 Plasma Physics (3 credit hours)
- PHZ 5437 Nanoscale Surface in Physics (3 credit hours)
- PHY 5933 Selected Topics in Biophysics of Macromolecules (3 credit hours)
- PHZ 5425C Electron Solid Interactions (3 credit hours)
- PHY 5140C Ion-Solid Interactions (3 credit hours)
- PHY 5455 Modern X-ray Science (3 credit hours)
- PHZ 6420 First Principles Computational Methods in Condensed Matter Physics and Materials Science (3 credit hours)
- PHY 5933 Selected Topics in Biophysics of Macromolecules (3 credit hours)
- PHZ 5432 Introduction to Soft Condensed Matter Physics (3 credit hours)
- PHY 6938 Theory and Computation of Molecular Wave Functions (3 credit hours)
- PHY 6938 Selected Topics in Scattering Theory (3 credit hours)
- EEE 5356C Fabrications of Solid-State Devices (4 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)
- PHY 6938 Theory and Computation of Molecular Wave Functions (3 credit hours)
- OSE 6111 Optical Wave Propagation (3 credit hours)
- OSE 6115 Interference and Diffraction (3 credit hours)
- OSE 6526C Laser Engineering Laboratory (3 credit hours)
- OSE 6455C Photonics Laboratory (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)
- 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 6624 Quantum Mechanics II (3 credit hours)
- PHY 6347 Electrodynamics II (3 credit hours)
- PHZ 6420 First Principles Computational Methods in Condensed Matter Physics and Materials Science (3 credit hours)
- PHY 6938 Theory and Computation of Molecular Wave Functions (3 credit hours)
- PHY 6938 Selected Topics in Scattering Theory (3 credit hours)
- PHY 5650 Introduction to Quantum Computation (3 credit hours)
- PHY 6667 Advanced Quantum Mechanics (3 credit hours)
- PHZ 6426 Condensed Matter Physics I (3 credit hours)
- PHZ 6428 Condensed Matter Physics II (3 credit hours)
- PHY 6667 Quantum Field Theory I (3 credit hours)
- PHY 7669 Quantum Field Theory 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**

Students who choose the thesis option are 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.

- PHY 6971 Thesis (6 credit hours)

### **Nonthesis Option—3 Credit Hours**

Nonthesis students will take 15 credit hours of electives from the list of elective specializations shown above. In addition, they must take 3 credit hours of directed research as well as a written comprehensive exit examination. In the directed research course, students work on a research project under the supervision of a faculty member and are required to present a final report.

- PHY 6918 Directed Research (3 credit hours)

### **Independent Learning**

Students pursuing a nonthesis master's degree must take at least one directed research course as part of their elective work. In this course, students will work on a research project under the supervision of a faculty member and present a final report.

## **APPLICATION REQUIREMENTS**

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- The GRE Physics Subject Test is recommended but not required.
- Résumé.
- Goal statement.
- Three letters of recommendation.
- Students entering the Physics 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 and statistical physics, and quantum mechanics.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

## Application Deadlines

Physics MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jun 15	Nov 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

## CONTACT INFO

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# Planetary Sciences Track

## TRACK DESCRIPTION

UCF has rapidly grown to become a center for research and teaching in the planetary sciences. Our goal is to create a vibrant planetary science research environment that can attract top students, researchers, and faculty and contribute significantly to the exploration of space. The Planetary Sciences track in the Physics MS program is designed to prepare students to be competitive in the global planetary sciences research community.

## CURRICULUM

### Total Hours Required:

**33** Credit Hours Minimum beyond the Bachelor's Degree

The Planetary Sciences track in the Physics MS program requires a minimum 33 hours of graduate course work as directed by the student's supervisory committee. This must include at least 15 credit hours of required courses, 6 hours of thesis preparation with the remainder being elective courses and directed research chosen in consultation with the supervisory committee. At least half of the total credits must be at the 6000 level. No more than 6 hours of independent study may be credited toward the master's degree. The master's degree in Planetary Sciences includes a thesis and its defense. There is no nonthesis master's degree in the Planetary Sciences track.

## Required Courses—15 Credit Hours

The core is designed to give students a broad foundation in the planetary sciences and a rapid training in the data analysis techniques that will be necessary for a successful research and publications. Students choose 5 out of the 6 core courses listed below:

- PHY 5524 Statistical Physics (3 credit hours)
- PHY 6246 Classical Mechanics (3 credit hours)
- PHZ 5156 Computational Physics (3 credit hours) or AST 5765C Advanced Astronomical Data Analysis (3 credit hours)

- AST 5154 Advanced Planetary Geophysics (3 credit hours)
- AST 5263 Advanced Observational Astronomy (3 credit hours)
- AST 5165 Planetary Atmospheres (3 credit hours)

### Elective Courses—12 Credit Hours

- AST 6XXX Planetary Astronomy Seminar (3 credit hours)
- AST 6112 Origins of Solar Systems (3 credit hours)
- AST 5334 Extrasolar Planets and Brown Dwarfs (3 credit hours)
- PHY 5937 Astrobiology (3 credit hours)

### Other Electives

- PHZ 5505 Plasma Physics (3 credit hours)
- PHY 5346 Electrodynamics I (3 credit hours)
- PHY 6347 Electrodynamics II (3 credit hours)
- PHY 5606 Quantum Mechanics I (3 credit hours)
- PHY 6624 Quantum Mechanics II (3 credit hours)
- OSE 5041 Introduction to Wave Optics (3 credit hours)
- EEL 5820 Image Processing (3 credit hours)
- OSE 5312 Fundamentals of Optical Science (3 credit hours)

### Thesis—6 Credit Hours

- PHY 6971 Thesis (6 credit hours)

### Supervisory Committee

Within the first half-semester of admission to the planetary sciences graduate track, each student must select, by mutual agreement, a faculty adviser and two other faculty members to serve on his or her Supervisory Committee. One of the faculty members who is not the adviser must be from an area in the department other than Planetary Sciences. UCF faculty and self-funded research scientists are eligible to serve on supervisory committees. Changes in the membership of a Supervisory Committee must be approved by the Planetary Sciences Graduate Committee. The adviser is expected to meet regularly with the

student. The full committee shall meet with the student at least once per semester to review and make recommendations regarding the student's academic progress.

### Master's Defense

The written thesis and oral defense is the final requirement for the master's degree. The thesis is a journal-level research paper. The oral defense is two parts: (1) A public presentation of the research contained in the paper; and (2) private questioning on the detail of the presented research as well as the topics covered in the student's preparation and course work. The written and oral components will be administered by the student's Supervisory Committee.

### Independent Learning

A thesis is required in this program.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in physics, astronomy, geology, geophysics, geochemistry, atmospheric sciences, or planetary sciences.
- Official, competitive GRE score taken within the last five years.
- The Physics Subject Test of the GRE is recommended, but not required.
- Three letters of recommendation.
- Statement of goals.
- Résumé.

Additional courses may also be required to correct any course deficiencies for those applicants without full preparation in physics and astronomy. Students entering the Physics 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 and statistical physics, and quantum mechanics. Students should contact the graduate program director for further information.

Current students in the existing Physics graduate program wishing to switch to the Planetary Sciences track must submit a letter to the Planetary Science Graduate Committee addressed to Dr. Dan Britt. The letter should include the request to join the planetary sciences track, the students degree goal (Masters), the name of the students planetary sciences adviser, and a brief description of their expected area of research. Upon departmental approval, a Graduate Status Change Form will be submitted to the College of Graduate Studies.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

### Application Deadlines

Planetary Sciences Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jun 15	Nov 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

### CONTACT INFO

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# Political Science MA

## PROGRAM DESCRIPTION

The Master of Arts in Political Science program is designed to accommodate a range of professional and intellectual needs. The program prepares students to enter positions in government and the private sector in which the ability to comprehend, influence, and respond to government policy is critical and prepares interested students for pursuit of a PhD degree in Political Science or International Relations at other institutions. The program also provides a well-rounded substantive curriculum for secondary school teachers seeking higher degrees and for teachers in community colleges.

## CURRICULUM

A Program of Study in the Master of Arts in Political Science consists of the following course work. Students have the option of either completing a thesis or a nonthesis option with more coursework.

### Total Hours Required:

33 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—33 Credit Hours

#### Core—15 Credit Hours

- POS 6736 Conduct of Political Inquiry (3 credit hours)
- POS 6746 Quantitative Methods in Political Research (3 credit hours)

Choose two of the following courses.

- POS 6045 Seminar in American Politics (3 credit hours)
- INR 6007 Seminar in International Politics (3 credit hours)
- CPO 6091 Seminar in Comparative Politics (3 credit hours)

Choose one of the following courses.



- INR 6607 Seminar in International Relations Theory (3 credit hours)
- POT 6007 Seminar in Political Theory (3 credit hours)

### **Elective Courses—12 Credit Hours**

- PUP 6015 Comparative Public Policy (3 credit hours)
- CPO 6036 Political Development (3 credit hours)
- CPO 6058 Revolution and Political Violence (3 credit hours)
- CPO 6067 Comparative Courts (3 credit hours)
- CPO 6075 Comparative Political Economy (3 credit hours)
- CPO 6091 Seminar in Comparative Politics (3 credit hours)
- CPO 6446 Comparative Political Parties (3 credit hours)
- CPO 6785 Political and Economic Inequality in Comparative Perspective (3 credit hours)
- CPO 6938 Special Topics: Comparative Politics (3 credit hours)
- INR 6007 Seminar in International Politics (3 credit hours)
- INR 6039 International Political Economy (3 credit hours)
- INR 6071 Seminar in Weapons of Mass Destruction (3 credit hours)
- INR 6086 International Public Policy (3 credit hours)
- INR 6108 Seminar in American Foreign Policy (3 credit hours)
- INR 6136 Seminar in American Security Policy (3 credit hours)
- INR 6228 International Politics of the Caspian Sea (3 credit hours)
- INR 6275 International Politics of the Middle East (3 credit hours)
- INR 6346 Politics of International Terrorism (3 credit hours)
- INR 6365 Seminar on Intelligence (3 credit hours)
- INR 6507 International Organization (3 credit hours)

- INR 6405 International Environmental Law (3 credit hours)
- INR 6716 Politics of International Trade Policy (3 credit hours)
- INR 6938 Special Topics: International Relations (3 credit hours)
- POS 6127 State Politics (3 credit hours)
- POS 6174 Seminar in Southern Politics (3 credit hours)
- POS 6207 Political Behavior (3 credit hours)
- POS 6639 Seminar in Public Law and Judicial Politics (3 credit hours)
- POS 6938 Special Topics: Political Analysis (3 credit hours)
- PUP 6007 Public Policy Analysis (3 credit hours)
- PUP 6208 Environmental Politics (3 credit hours)
- PUP 6324 Women and Public Policy (3 credit hours)
- PUP 6607 Politics of Health (3 credit hours)
- PUP 6938 Special Topics/Public Policy (3 credit hours)

### **Thesis—6 Credit Hours**

All MA students are automatically placed in the nonthesis option. Students wishing to write a thesis must get approval to do so.

- POS 6971 Thesis (6 credit hours)

After completion of the required course work and passing of comprehensive exams, the student must have a thesis advisory committee approved by the department and Graduate Studies. The thesis committee consists of a chair and two other faculty members from the Political Science department. On the approval of the thesis chair and Graduate Program Director, one of the committee members (but not the chair) may come from outside the Political Science Department.

When a thesis topic has been selected, students, in conjunction with their thesis committee, will develop a thesis proposal. Copies of the proposal will be sent to members of their thesis committee and a proposal hearing scheduled in the first semester the student enrolls for thesis hours. All

students must pass a proposal hearing as well as a final oral defense of their thesis.

Once enrolled in thesis hours, students should maintain continuous enrollment (3 credit hours) each semester up to and including the semester in which they defend the thesis.

In addition to department guidelines for the thesis, students should also become familiar with the university's requirements and deadlines for organizing and submitting the thesis.

### **Nonthesis Option—6 Credit Hours**

The student must complete 6 additional credit hours of course electives in their respective areas. Thesis hours, if already taken, will not count for course credit for the 6 additional credit hours of coursework.

- Electives (6 credit hours)
- Complete an independent research project/paper

The student must complete an approved article-length independent research paper (minimum 8,000 words inclusive or 25 pages). The project/paper must have a component of original, independent research; it cannot be a literature review or research design only. The project/paper can be a product of a graduate research seminar and/or independent study paper. The student will present their research publically at a department research colloquium or other public academic forum such as paper presentation at an academic conference. The project/paper must be evaluated by and receive formal confirmation of completion from the Graduate Committee, the graduate coordinator, and the department chair.

### **Comprehensive Examination**

All candidates for the MA degree must take a comprehensive written examination. The examination will be administered after satisfactory completion of the required course work, and must be taken prior to enrollment in thesis hours.

The exam is designed to demonstrate proficiency in research methods and will consist of two parts. Part I will involve the critique of an article from a political science journal. The article will be assigned by the department's Graduate Methods Committee in consultation with the student and

where possible will be based on the student's substantive areas of interest. Part II will involve questions based on data analysis using either SPSS or STATA.

The examination will be offered once semester. Dates will be set by the department. Students must register to take the exam **at least six weeks prior** to its scheduled date.

Students not passing any part of the examination may take this part a second time within one calendar year on the dates that comprehensive exams are regularly scheduled. However, no student will be allowed to take the examination more than twice.

### **Equipment Fee**

Full-time students in the Political Science MA program pay a \$39 equipment fee each semester that they are enrolled. Part-time students pay \$19.50 per semester.

## **APPLICATION REQUIREMENTS**

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken in the last five years.
- Three letters of recommendation, attesting to the applicant's ability to think analytically and to communicate clearly.
- A personal statement of 500 words identifying areas of research interest in political science, faculty with whom they would like to work, and describing the applicant's academic and professional experiences and future career goals.

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.

Meeting minimum UCF or departmental admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, and the applicant's potential for completing the degree.

### Application Deadlines

Political Science MA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

### CONTACT INFO

#### Roger Handberg

Professor

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PH 308

# Public Administration MPA

- Nonprofit Management Dual Degree Track

## PROGRAM DESCRIPTION

The Master of Public Administration MPA program prepares students for employment or advances their careers as public administrators. The program is designed to produce graduates equipped with management and analytical skills needed for successful careers in governmental or nonprofit organizations, and closely related business fields.

## CURRICULUM

The Master of Public Administration (MPA) program consists of 42 credit hours. Each student completes a core of nine courses (27 credit hours), an advanced curriculum of four electives (12 credit hours) that are selected in consultation with the Program Director and Academic Adviser, and a capstone experience equivalent to one course (3 credit hours). Courses and credit hours used for undergraduate degrees cannot also be counted toward the MPA degree, except for Senior Scholar students who, with the permission of the MPA program director, may use up to 9 credit hours of graduate course work that was used in their undergraduate degree program as credit in the MPA program. However no undergraduate-level courses will be accepted in the MPA program.

### Total Hours Required:

42 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—30 Credit Hours

#### Core—27 Credit Hours

- 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 6207 Public Financial Management (3 credit hours)
- PAD 6227 Public Budgeting (3 credit hours)
- PAD 6335 Strategic Planning and Management (3 credit hours)
- PAD 6417 Human Resource Management (3 credit hours)
- PAD 6700 Research Methods for Public Administration (3 credit hours)
- PAD 6701 Analytic Techniques for Public Administration (3 credit hours)

### Capstone—3 Credit Hours

- PAD 6062 Advanced Concepts and Applications in Public Administration (3 credit hours)

Students will engage in a capstone experience that builds upon the knowledge and skills gained from completing the core courses in the MPA program. Students will complete this requirement through enrollment in PAD 6062 Advanced Concepts and Applications in Public Administration.

### Elective Courses—12 Credit Hours

Elective courses offered within the School of Public Administration provide an emphasis on state and local government; however, other emphases may be developed in consultation with the Program Director and Academic Adviser. With prior approval from the MPA Program Director, up to 6 credit hours of elective course work may be taken from outside the school. Students must show that elective courses taken outside of the school directly support a career in public administration. The MPA program of study does not accept undergraduate-level courses.

- Electives (12 credit hours)

Students without practical administrative experience in the public sector are strongly advised to complete an internship (3 credit hours) as part of their electives.

- PAD 6946 Internship (3 credit hours)

### Additional Program Requirements

Students must achieve a grade of “B” (3.0) or higher in every course listed under core requirements and in the Capstone Experience (PAD 6062).

Students must maintain a program of study and graduate status GPA of 3.0 or higher and can only graduate with a graduate status GPA of 3.0 or higher.

### Independent Learning

Independent learning is demonstrated throughout the curriculum, through the process of inquiry and dialogue. Tangible projects, such as scholarly research, papers, internships, and the capstone experience also contribute to the self-development of MPA students. The research paper and Learning and Professional Development Portfolio in the Capstone Experience focus on reviewing and analyzing contemporary issues in the context of real world applications.

## APPLICATION REQUIREMENTS

In addition to meeting general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Three letters of recommendation. Recommendation letters must specifically address the prospective student’s ability to do academic work at the graduate level. Recommendation letters from professors are preferred.
- Résumé.
- Statement of goals, demonstrating writing ability.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

All requested material must be submitted by the established deadline date. Material received after the established deadline may not be considered.

Admission to this master program is competitive; applicants meeting the minimum admission requirements are not guaranteed admission to this program.

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.

A limited number of students who do not meet these requirements 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. Provisional admissions are limited and competitive. Students who are interested in these spots should contact the School of Public Administration as early as possible for consideration.

**INTERNATIONAL STUDENTS:**

The School of Public Administration accepts scores from Test of English as a Foreign Language (TOEFL) only. Test scores from the International English Language Testing System (IELTS) are not used in consideration of admission to this program.

All International students must meet university minimum TOEFL score requirements regardless of language in which the undergraduate program was completed.

**Application Deadlines**

Public Administration MPA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

**CONTACT INFO**

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 HPA2 238M

**Nonprofit Management Dual Degree Track**

**TRACK DESCRIPTION**

The Public Administration MPA – Nonprofit Management MNM Dual Degree Track provides the opportunity for students to earn graduate degrees from two academic programs, the Master of Public Administration and the Master of Nonprofit Management, concurrently. Students successfully completing this MNM/MPA Dual Degree program will have the skills and analytical techniques for successful careers in both the public and nonprofit sectors. After successful completion of the MNM/MPA Dual Degree program, students will receive two diplomas - one for the Public Administration MPA and one for the Nonprofit Management MNM degree.

Students seeking admission to the MNM/MPA Dual Degree program should apply directly to the Dual Degree track of either the Public Administration MPA program or the Nonprofit Management MNM program. Only one application will be required. If admitted, student will be active in the Dual Degree tracks of both the Public Administration MPA and the Nonprofit Management MNM programs.

Students previously admitted to the Public Administration MPA or the Nonprofit Management MNM program should consult with their advisor prior to completing 18 credit hours if interested in the MNM/MPA Dual Degree program.

**CURRICULUM**

**Total Hours Required:**

**66** Credit Hours Minimum beyond the Bachelor’s Degree

The dual degree track (Master of Public Administration/Master of Nonprofit Management) consists of 66 credit hours. Each student completes a core of 16 courses (48 credit hours), an advanced curriculum of five electives (15 credit hours) that are 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 be counted toward the MPA/MNM track, except for Senior Scholar students who, with the permission of the MPA/MNM program director, may use up to 9 credit hours of graduate course work that was used in their undergraduate degree toward credit in the dual degree program. However no undergraduate-level courses will be accepted in the MPA/MNM dual degree track.

## Required Courses—51 Credit Hours

### Core—48 Credit Hours

- 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 6207 Public Financial Management (3 credit hours)
- PAD 6227 Public Budgeting (3 credit hours)
- PAD 6335 Strategic Planning and Management (3 credit hours)
- PAD 6417 Human Resource Management (3 credit hours)
- PAD 6700 Research Methods in Public Administration (3 credit hours)
- PAD 6701 Analytic Techniques for Public Administration (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 6142 Nonprofit Organizations (3 credit hours)
- PAD 6149 Nonprofit Administration (3 credit hours)
- PAD 6327 Public Program Evaluation (3 credit hours)
- PAD 6208 Nonprofit Financial Management (3 credit hours)

### Capstone—3 Credit Hours

- PAD 6062 Advanced Concepts and Applications in Public Administration (3 credit hours)

Students will engage in a capstone experience that builds upon the knowledge and skills gained from completing the core courses. Students will complete this requirement through enrollment in PAD 6062 Advanced Concepts and Applications in Public Administration.

### Elective Courses—15 Credit Hours

Elective courses offered within the dual degree track provide an emphasis on state and local government and nonprofit management; however, other emphases may be developed in consultation with the adviser. With prior approval from the program director, up to 6 credit hours of elective course work may be taken from outside the department. Students must show that elective courses taken outside of the department directly support a career in public administration or nonprofit management.

- Electives (15 credit hours)

Students without practical administrative experience in the public sector are strongly advised to complete an internship as part of their electives.

- PAD 6946 Internship (3 credit hours)

### Additional Program Requirements

Students must achieve a grade of “B” (3.0) or higher in every course listed under core requirements and in the Capstone Experience (PAD 6062).

Students must achieve a grade of “B” (3.0) or higher in every course listed under core requirements and in the Capstone Experience (PAD 6062). Students must maintain a program of study and graduate status GPA of 3.0 or higher and can only graduate with a graduate status GPA of 3.0 or higher.

### Independent Learning

Independent learning is demonstrated throughout the curriculum, through the process of inquiry and dialogue. Tangible projects, such as scholarly research, papers, internships, and the capstone experience also contribute to the self-development of students. The research paper and Learning and Professional Development portfolio in the Capstone Experience focus on reviewing and

analyzing contemporary issues in order to help students acquire knowledge and skills pertaining to research-based best practices. PAD 6062, the capstone course, provides the independent learning experience.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Three letters of recommendation. Recommendation letters must specifically address the prospective student’s ability to do academic work at the graduate level. Recommendation letters from professors are preferred.
- Résumé.
- Statement of goals, demonstrating writing ability.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

All requested material must be submitted by the established deadline date. Material received after the established deadline may not be considered. Admission to this master program is competitive; applicants meeting the minimum admission requirements are not guaranteed admission to this program.

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.

### INTERNATIONAL STUDENTS:

The School of Public Administration accepts scores from Test of English as a Foreign Language (TOEFL) only. Test scores from the International English Language Testing System (IELTS) are not used in consideration of admission to this program.

All International students must submit TOEFL scores regardless of language in which the undergraduate program was completed.

## Application Deadlines

Nonprofit Management Dual Degree Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

## CONTACT INFO

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 HPA2 238M

# Reading Education

## MEd

### PROGRAM DESCRIPTION

**The Master of Education in Reading Education is a state-approved initial teacher preparation program that is subject to any change in the Florida Administrative Code (State Board of Education Rule 6A-5.066). Students enrolled in this program should remain in close contact with their adviser to keep informed of any program changes implemented to comply with new state requirements.**

The College of Education and Human Performance offers a Master of Education degree in Reading Education. The program prepares teachers for certification as reading specialists (e.g., reading coach, reading expert, reading resource teacher, reading/language arts supervisor) in grades K-12 in public schools and private reading clinics. Assessment (screening, diagnosis, monitoring), instruction and intervention, reading in the content fields, management of reading programs, reading trends and research, and dimensions of the language arts other than reading are included among the curriculum. There is considerable emphasis on practica with diverse readers from early childhood to adult levels. Professionals currently certified as Florida teachers are eligible to pursue a degree in the program.

### CURRICULUM

The Master of Education in Reading Education program requires a minimum of 36 credit hours beyond the bachelor's degree, including 9 credit hours of core courses, 15 credit hours of specialization courses, and 6 credit hours of a practicum. In addition students choose among a thesis option, a research report option, and a restricted electives option. Students who do not currently hold a Florida ESOL Endorsement must select the restricted electives option and select the specified Teaching English to Speakers of Other Languages courses. All students must pass a final comprehensive exam, complete a portfolio according to program guidelines, and pass the Reading K-12 Subject Area Exam of the Florida Teacher Certification Examination.

### Total Hours Required:

36 Credit Hours Minimum beyond the Bachelor's Degree

### Prerequisites

The following courses meet state certification requirements or as support for the degree program.

- RED 5147 Developmental Reading (3 credit hours) OR
- RED 3012 Basic Foundations of Reading (3 credit hours)
- RED 5517 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)

### Required Courses—24 Credit Hours

#### 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)
- EDF 6886 Multicultural Education (3 credit hours)

#### Specialization—15 Credit Hours

- RED 6116 Advanced Study in Foundations of Reading (3 credit hours)
- RED 6336 Reading in the Content Areas (3 credit hours)
- RED 6337 Reading in the Secondary School (Prerequisite: RED 6336, Basic Teacher

Certification, or Consent of Instructor) (3 credit hours)

- RED 6746 Management of Reading Programs (3 credit hours)
- RED 6845 Advanced Evaluation and Instruction in Reading (3 credit hours)

### **Practicum—6 Credit Hours**

The MEd program requires a practicum experience. Practica are independent learning activities that take place in authentic settings in which students must apply, reflect on, and refine knowledge and skills acquired in the program.

- RED 6846 Reading Practicum (Prerequisite: RED 6845 or Consent of Instructor) (6 credit hours)

### **Thesis Option—6 Credit Hours**

Students who do not currently hold a Florida ESOL Endorsement must select Teaching English to Speakers of Other Languages rather than choosing an option.

- EDF 6401 Statistics for Educational Data (3 credit hours)
- RED 6971 Thesis (2,1 credit hours)

### **Research Report Option—6 Credit Hours**

Students who do not currently hold a Florida ESOL Endorsement must select Teaching English to Speakers of Other Languages rather than choosing an option.

- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- RED 6909 Research Report (2,1 credit hours)

### **Restricted Electives Option—6 Credit Hours**

Students who are not ESOL Endorsed must select the following TSL courses:

- TSL 5085 Teaching Language Minority Students in K-12 Classrooms (3 credit hours)
- TSL 6250 Applied Linguistics in ESOL (3 credit hours)

Students who are ESOL Endorsed may take other program-related courses as electives with adviser approval.

### **Additional Graduation Requirements**

- All students must complete a comprehensive examination.
- 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 Reading K-12 Subject Area Exam of the Florida Teacher Certification Examination.

### **Independent Learning**

The MEd program also requires a practicum experience. Practica are independent learning activities that take place in authentic settings in which students must apply, reflect on, and refine knowledge and skills acquired in the program.

## **APPLICATION REQUIREMENTS**

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Possess or be fully eligible for a professional teaching certificate in one or more other teacher certification specializations in Florida.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

## Application Deadlines

Reading Education MEd	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

## CONTACT INFO

### Karri Williams PhD

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 Telephone: 321-433-7922  
 UCF Cocoa (BC 357)

# Real Estate MS

## PROGRAM DESCRIPTION

The Professional Master of Science in Real Estate (PMRE) program is a 20-month evening program, designed by the Dr. P. Phillips School of Real Estate as a flagship graduate program that will prepare students for senior-level positions in real estate and related industries. Students advance through all courses together as a cohort using their professional experience as an important addition to the learning process. Students earn Argus Software Certification, and are eligible for the fast track to a CCIM designation upon graduation. Graduates of the professional PMRE program will be equipped with highly applicable knowledge of real estate disciplines that will enable them to grow their careers in a variety of organizations.

- 20-month program offered in Downtown Orlando
- Classes meet 2 evenings per week
- Personal interview required for admission

This program is a professional program with a market rate tuition, and is considered a part-time program. The tuition is the same for Florida residents and nonresidents. Please visit [www.ucfedc.com](http://www.ucfedc.com) for more information.

## CURRICULUM

### Total Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—30 Credit Hours

#### Finance Core—15 Credit Hours

- FIN 6406 Strategic Financial Management (3 credit hours)
- FIN 6465 Financial Analysis Seminar (3 credit hours)
- FIN 6515 Analysis of Investment Opportunities (3 credit hours)
- MAR 6816 Strategic Marketing Management (3 credit hours)



- ACG 6425 Managerial Accounting Analysis (3 credit hours)

**Real Estate Core—15 Credit Hours**

- REE 6006 Real Estate Markets and Institutions (3 credit hours)
- REE 6455 Real Estate Law (3 credit hours)
- REE 6209 Real Estate Finance and Investment Analysis (3 credit hours)
- REE 6147 Real Estate Market Analysis and Appraisal (3 credit hours)
- REE 6737 Real Estate Development (3 credit hours)

**Additional Program Requirements**

Any student enrolled in a College of Business Administration master’s degree program who earns more than two final course grades below a B- will be dismissed from the program and retention plans will not be supported by the College of Business Administration.

**Independent Learning**

The PMRE will have a capstone course (REE 6737) Real Estate Development required by all students to use what they have learned in the entire program. Students will create a comprehensive development project that covers the real estate development process, regulatory considerations, financial and market feasibility, management and control, and environmental aspects of real estate development.

**APPLICATION REQUIREMENTS**

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- The GMAT is not required, however, the Admissions Committee may ask for the GMAT to strengthen a candidate’s application packet.
- Three letters of recommendation or three e-mail addresses of recommenders.
- Prepare a career goal statement outlining your short-term and long-term career objectives,

and explain how this degree will assist you in obtaining these goals.

- Résumé.
- Interview.
- A computer-based score of 233 (or 91 internet-based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant’s degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.
- Applicants applying to this program whose completed bachelor’s degree is from a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Early application tuition discounts are available for this program. To view early application discount deadlines, and for more information, visit the Executive Development Center website at [www.ucfedc.com](http://www.ucfedc.com).

**Application Deadlines**

Real Estate MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15		
The next available term for this program is Fall 2015. Classes will begin in August 2015 at the UCF Executive Development Center in Downtown Orlando.				
International Applicants				
International Transfer Applicants				

**CONTACT INFO**

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 DTC 201B

# Research Administration MRA

## PROGRAM DESCRIPTION

The Master in Research Administration provides the professional skills and management theories and techniques to prepare individuals to practice as highly trained and ethical research administrators. The completely online program builds a solid foundation in research administration and leadership that enables graduates to work in a variety of research organizations such as universities, hospitals and medical centers, industry, and research institutes and centers.

Graduates of the program will be able to: integrate the history and values of the profession into a professional identity; apply organizational development theories in leadership and human resource management; demonstrate knowledge of and compliance with the legal, ethical and regulatory framework that governs research; apply sound financial management concepts in proposal development and funded sponsored projects; negotiate and monitor sponsored contracts and subcontracts; write and evaluate grant proposals; apply the law in regards to intellectual property, technology transfer and commercialization; identify new areas for collaborative grant opportunities; and respond to financial and non-financial audits of research grants and contracts.

## CURRICULUM

The Master in Research Administration program requires a minimum of 36 credit hours beyond the bachelor's degree. The program is offered completely online in a lock-step and cohort-based model. Students take two courses each semester and complete the degree program in two years (six semesters). In the final course students complete an evaluation project as a culminating activity that engages them in the application of theory, research policy, regulatory frameworks, ethics, and professional standards and practices within their area of focus.

## Total Hours Required:

36 Credit Hours Minimum beyond the Bachelor's Degree

## Required Courses—36 Credit Hours

- PAD 6742 Introduction to Research Administration (3 credit hours)
- PAD 6748 Governance and Regulatory Issues for Sponsored Programs (3 credit hours)
- PAD 5850 Grant and Contact Management (3 credit hours)
- PAD 6743 Leadership and Organization Models in Research Administration (3 credit hours)
- PAD 6744 Financial Management in Research Administration (3 credit hours)
- PAD 6417 Human Resource Management (3 credit hours)
- PAD 6745 Contracting for Sponsored Programs (3 credit hours)
- PAD 6335 Strategic Planning and Management (3 credit hours)
- PAD 6746 Intellectual Property, Technology Transfer and Commercialization (3 credit hours)
- PAD 6747 Audits in Research Administration (3 credit hours)
- PAD 6741 Research Integrity for Research Administrators (3 credit hours)
- PAD 6327 Public Program Evaluation Techniques (3 credit hours)

## Additional Program Requirements

Students must achieve a grade of "B" (3.0) or better in all courses.

## Independent Learning

Independent learning is demonstrated throughout the curriculum through the process of inquiry, dialogue and service learning. Tangible projects such as strategic plans, grant proposals, and case studies along with research projects, scholarly papers, internships, and presentations at professional conferences also contribute to the self development of our students.

## APPLICATION REQUIREMENTS

The Master in Research Administration is a highly competitive program that admits one cohort annually in the fall semester. Applicants are encouraged to apply early to this program because once the cohort reaches capacity for an entering class, admissions will be closed for that academic year.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Three letters of recommendation: Letters of recommendation should be from professors, researchers, or professional research administrators who can attest to the applicant’s ability to succeed in graduate coursework and his or her work ethic.
- Résumé: The most current, professional resume should be provided.
- Statement of goals: The goal statement is a key component of the admission review process and serves as an example of the applicant’s ability to express him or herself in writing. The goal statement must be single-spaced, one-inch margins, and no longer than two pages (500-800 words). Applicant must address each item listed below when completing the goal statement:
  - What is your reason for pursuing graduate study in research administration, including your future goals and plans?
  - What topics or areas of special interest do you have in research administration?
  - What are your expectations of the graduate program?
  - What will you bring to the program that would make you a special candidate for admission to this limited access program?
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

- Admission to this program is limited. This program does not accept State Employee Waivers.

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 and computer internet access are necessary to take the courses.

A limited number of students who do not meet these requirements may be admitted on a provisional basis. These students must demonstrate proven research leadership experience, present strong recommendations from either academic or professional advisers, and provide a clear statement of educational goals. More specific information on provisional admissions may be obtained from the department. Provisional admissions are limited and competitive. Students who are interested in these spots should contact the School of Public Administration as early as possible for consideration.

Applicants meeting the minimum admission requirements are not guaranteed admission to this program.

### INTERNATIONAL STUDENTS:

The School of Public Administration accepts scores on the Test of English as a Foreign Language (TOEFL) only. Test scores from the International English Language Testing System (IELTS) are not used in consideration of admission to this program.

All International students must meet university minimum TOEFL requirements regardless of language in which the undergraduate program was completed.

### Application Deadlines

Research Administration MRA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

## CONTACT INFO

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## Social Work MSW

- Online Part-Time Track
- Orlando Full-Time Advanced Standing Track
- Orlando Full-Time Track
- Orlando Part-Time Track
- Osceola Regional Campus Track

## PROGRAM DESCRIPTION

The Master 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 MSW program is accredited by the Council on Social Work Education (CSWE).

The program offers multiple tracks to allow students to progress through the required MSW curriculum on either a full-time or part-time plan of study. The Orlando Full-Time Track and Orlando Part-Time Track are available for students who do not have a BSW degree. The Orlando Full-Time Advanced Standing Track is available for students who have completed a BSW degree from a CSWE-accredited program within the last six years. More information on the plans of study and requirements for each track is given in the individual track descriptions.

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 strives to education students to become successful practitioners in the field of clinical social work. To that end, the National Association of Social Workers (NASW) Code of Ethics is re-enforced throughout the academic curriculum. Students who violate the NASW Code of Ethics may be subject to academic sanctions or dismissed from the program.

## APPLICATION REQUIREMENTS

The Master of Social Work Program offers several options to students including full-time study, advanced standing admission, as well as mixed mode and online classes to support part-time study. Applicants must choose a track in this program. Track(s) may have different requirements.

## CONTACT INFO

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### **Shawn Lawrence PhD, LCSW**

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## Online Part-Time Track

### TRACK DESCRIPTION

The Online Master of Social Work (MSW) Part-Time Track allows students who do not have a BSW degree to complete the MSW required curriculum online over the course of three years.

Students who apply for admission into the Online Part-Time Track will not be permitted to switch to the on campus, face to face track due to the strict cohort model the track follows.

Please note: This program may be completed online, although not all elective options or program prerequisites may be offered online. Newly admitted students choosing to complete this program exclusively via UCF online classes may enroll with a reduction in campus-based fees. See <http://ucf.edu/online> for more information.

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit [www.international.ucf.edu](http://www.international.ucf.edu). If you have questions, please consult International Affairs and Global Strategies at 407-823-2337.

UCF is not authorized to provide online courses or instruction to students in some states. Refer to State Restrictions for current information

## CURRICULUM

### **Total Hours Required:**

**62** Credit Hours Minimum beyond the Bachelor's Degree

The MSW program requires 62 credit hours, including 39 credit hours of required core and advanced clinical specialization courses. In addition, students complete 9 credit hours of electives and 14 credit hours of field experience. Students in the program must include at least 31 credit hours of course work at the 6000 level in their program of study.



Educational standards for all social work programs are established by the Council on Social Work Education (CSWE), the national accreditation body for professional social work education. Curriculum direction and content is regulated by the CSWE through its accreditation standards. The MSW program at UCF is fully accredited through CSWE

## Prerequisites

Introductory three-credit college-level courses in the following areas or equivalents with a grade of C or better are required for admission into the program from the following areas: Biology with human content, English or Communication, Introduction to Psychology, Statistics, Introduction to Sociology, and Cultural Diversity.

## Required Courses—39 Credit Hours

### Core—21 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 5305 Social Work Practice I: Generalist Practice (3 credit hours)
- SOW 5306 Social Work Practice II: Intervention Approaches (3 credit hours)
- SOW 5404 Social Work Research (3 credit hours)

### Clinical Specialization—18 Credit Hours

- SOW 6123 Psychosocial Pathology (3 credit hours)
- SOW 6246 Policy Analysis and Social Change (3 credit hours)
- SOW 6324 Clinical Practice with Groups (3 credit hours)
- SOW 6348 Clinical Practice with Individuals (3 credit hours)
- SOW 6612 Clinical Practice with Families (3 credit hours)

- SOW 6424 Theories for Evidence-Based Clinical Practice in Social Work (3 credit hours)

### Electives—9 Credit Hours

One elective is required as a component of the foundation curriculum and two clinical electives are required as components of the clinical specialization. Students in the online track will take clinical electives for all three required MSW electives.

Approved electives:

- SOW 6603 Clinical Social Work Practice in Health Settings (Clinical)
- SOW 6604 Medications in Social Work Practice (Advanced Clinical)
- SOW 6806 Behavioral Health Skills in Social Work (Clinical)
- SOW 6652 Children Services in Social Work (Clinical)
- SOW 6655 Child Abuse: Treatment and Prevention (Clinical)

### Field Experience—14 Credit Hours

- Generalist Field Education and Seminars (6 credit hours)
- Clinical field Education and Seminars (8 credit hours)

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 Director. Only agency sites approved by the School of Social Work may be used for field instruction. Generalist MSW students complete a minimum of 400 hours in the field; clinical MSW students complete a minimum of 600 clock hours in the field. Field education includes a field seminar.

Please be aware, evening (after 5pm) and weekend placements are extremely limited. The School of Social Work is under no obligation to provide such placements. Consequently, field placements cannot be guaranteed to students who require evening and weekend placements. Students must complete at least 50% of their field hours during the agency's normal business hours.

**Required Sequence of Curriculum*****First Semester***

- Term 1.1 - SOW 5105 Human Behavior I: Individual
- Term 1.2 - SOW 5132 Diverse Client Populations

***Second Semester***

- Term 2.1 - SOW 5106 Human Behavior II: Systems
- Term 2.2 - SOW 5235 Social Welfare Policies

***Third Semester***

- Term 3.1 - SOW 5305 Social Work Practice I
- Term 3.2 - SOW Clinical Elective

***Fourth Semester***

- Full semester - SOW 5565 PT MSW Generalist Field/Seminar I
- Term 4.1 - SOW 5306 Social Work Practice II
- Term 4.2 - SOW 5404 Social Work Research

***Fifth Semester***

- Full semester - SOW 5566 PT MSW Generalist Field/Seminar II
- Term 5.1 - SOW Clinical Elective
- Term 5.2 - SOW 6246 Policy Analysis Social Change

***Sixth Semester***

- Full semester - SOW 5567 PT MSW Generalist Field/Seminar III
- Term 6.1 - SOW 6123 Psychosocial Pathology
- Term 6.2 - SOW 6424 Theories for Evidence-based Clinical Social Work Practice

***Seventh Semester***

- Full semester - SOW 6561 PT MSW Clinical Field/Seminar I
- Term 7.1 - SOW 6348 Practice with Individuals
- Term 7.2 - SOW 6612 Practice with Families

***Eighth Semester***

- Full semester - SOW 6563 PT MSW Clinical Field/Seminar III
- Term 8.1 - SOW 6324 Practice with Groups

- Term 8.2 - SOW Clinical Elective

***Ninth Semester***

- Full semester - SOW 6562 PT MSW Clinical Field/Seminar II

**Transfer Credit**

Academic credit for life experience and previous work experience shall not be given, in whole or in part, in lieu of Social Work courses required to fulfill degree requirements.

Due to the cohort nature of the track, transfer credits will not be accepted for the Online MSW track.

**Equipment Fee**

Full-time students in the MSW program pay a \$35 equipment fee each semester that they are enrolled. Part-time students pay \$17.50 per semester.

**Cost Per Credit Hour**

For the Online Part-Time Social Work track in the Social Work MSW program, the cost per credit hour is \$529.78.\*

\*Includes all university fees, which may be subject to change.

**Independent Learning**

Independent learning is demonstrated throughout the curriculum through the process of inquiry and dialogue. Projects such as research studies, clinical assessments and treatment plans, papers and internships also contribute to the self-development of our students. The field experiences and practice electives provide substantial opportunities for students to learn independently and practically about social work practice.

**APPLICATION REQUIREMENTS**

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

Applicants will be granted admission to the MSW program based on a majority approval from the Admissions Review Sub-committee.

In addition, to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- One completed college-level course with a C or better in each of the following six areas: Biology with human content, English or Communication, Cultural Diversity (this can be accomplished through a variety of courses that addresses cultural differences), Statistics, Introduction to Psychology, and Introduction to Sociology.
- Up to date Résumé.
- Three current letters of recommendation (within the past year). Applicants must provide a letter of recommendation from each of the following (letters from co-workers, colleagues, mentors, friends, family members, etc. will not be considered):
  - Academic: A professor from a previously attended college/university who taught you in a course. Recommendations from full-time faculty are strongly encouraged. For applicants who have been out of college for five or more years, the applicant may substitute an employment based recommendation. Letters from advisors will not be considered unless indicated that they also taught you as a student.
  - Employment: Either volunteer or paid employment immediate supervisor.
  - Third recommendation: A second academic or employment based recommendation should be submitted for the third recommendation.
- A professional statement. Applicants must answer the following questions within 3-6 pages. Please use headings for each question.
  1. Without disclosing personal information, what are the reasons and experiences that led you to choose social work as a profession?
  2. What are your social work career interests?
  3. What are your personal strengths that you can bring to this profession? How have

these strengths been demonstrated in the past?

4. Where do you see yourself 10 years from now in the field of social work?
  5. What major social issue do you think that professional social workers should be concerned with? What is the role of social work in relation to this issue?
  6. As a social worker, you will be expected to practice ethically according to the National Association of Social Workers (NASW) Code of Ethics <https://www.socialworkers.org/pubs/code/code.asp>. This includes working with diverse populations and clients whose values and beliefs may differ from your own. How you will incorporate and uphold the NASW Code of Ethics into your work with diverse populations?
  7. The MSW program requires students to complete a generalist (400 hours) internship and a clinical (600 hours) internship concurrent with their coursework. Evening (after 5 p.m.) and weekend placements are extremely limited. The School of Social Work is under no obligation to provide such placements. Given the above considerations, please tell us how you plan to balance your internship hours with your coursework and personal obligations. Tell us about any challenges you may have and how you plan to overcome them.
- Writing sample. Applicants must submit a research paper or literature review written for any class in their undergraduate studies, preferably one that is related to social work. The paper should be 5-10 pages in length, contain citations, and a reference list in APA format, and will be used to evaluate the applicant's ability to write professionally. Interviews, book reviews, movie reviews, case notes, client assessments, and case studies will not be considered. If the applicant does not have an academic paper, then he/she must write a 5-10 page paper in APA format that addresses any social issue related to social work.
  - Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation.

Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Please note: The MSW program only accepts one application from each prospective student per academic year. Applicants must choose to apply to one track and one semester only.

The Master of Social Work program can accommodate only a limited number of students; therefore there is a possibility of being denied admission even when all criteria are met.

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.

The School of Social Work reserves the right to refuse student entrance or dismiss a student after admission to the MSW program if, in the judgment of the faculty, the student demonstrates behaviors incongruent to working in the field of social work and/or violates the National Association of Social Workers (NASW) Code of Ethics

### Application Deadlines

Online Part-Time	Fall Priority	Fall	Spring	Summer
Domestic Applicants		May 1	Dec 1	Mar 1
International Applicants				
International Transfer Applicants				

### CONTACT INFO

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 Associate Professor  
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 HPA 1 Suite 204

# Orlando Full-Time Advanced Standing Track

## TRACK DESCRIPTION

The Master of Social Work (MSW) Program, Orlando Full-Time Advanced Standing Track provides students with baccalaureate degrees in Social Work from a CSWE-accredited school/ programs who demonstrate the academic potential and professional maturity to have adequate preparation for MSW practice after one year of graduate study. 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. The Orlando Full-Time Advanced Standing Track is offered at the main campus and may be completed in three semesters (summer, fall and spring).

The MSW program strives to education students to become successful practitioners in the field of clinical social work. To that end, the National Association of Social Workers (NASW) Code of Ethics ([www.socialworkers.org/pubs/code/code.asp](http://www.socialworkers.org/pubs/code/code.asp)) is re-enforced throughout the academic curriculum. Students who violate the NASW Code of Ethics may be subject to academic sanctions or dismissed from the program.

## CURRICULUM

### Total Hours Required:

**32 Credit Hours** Minimum beyond the Bachelor’s Degree

The 32-hour MSW program is composed of 18 credit hours of required core and advanced clinical specialization courses. In addition, students complete 6 credit hours of electives and 8 credit hours of field experience. Independent learning is demonstrated throughout the curriculum through the process of inquiry and dialogue. Projects such as research studies, clinical assessments and treatment plans, papers and internships also contribute to the self-development of our students.

Previous baccalaureate course work that received at least a “B-” will be reviewed to ensure content

equivalency. In advanced standing admission, a maximum of 30 foundation-level credits may be waived based on the content equivalency 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.

## Prerequisites

Introductory three-credit college-level courses with a grade of “C” or better in the following areas or equivalents are required for admission into the program from the following areas: Biology with human content, English or Communication, Introduction of Psychology, Statistics, Introduction of Sociology and Cultural Diversity.

## Required Courses—18 Credit Hours

### Clinical Specialization—18 Credit Hours

- SOW 6123 Psychosocial Pathology (3 credit hours)
- SOW 6246 Policy Analysis and Social Change (3 credit hours)
- SOW 6324 Clinical Practice with Groups (3 credit hours)
- SOW 6348 Clinical Practice with Individuals (3 credit hours)
- SOW 6612 Clinical Practice with Families (3 credit hours)
- SOW 6424 Theories for Evidence-Based Clinical Practice in Social Work (3 credit hours)

### Electives—6 Credit Hours

Two clinical electives are required as components of the clinical specialization. They are selected in consultation with adviser and MSW graduate program director.

- Clinical elective (3 credit hours)
- Clinical elective (3 credit hours)

Approved clinical electives:

- SOW 5432 Evaluating Social Work (Clinical)
- SOW 5642 Aging in Social Situations (Clinical)

- SOW 6109 Violence Against Women: A Global Perspective (Clinical)
- SOW 6155 Human Sexuality in Social Work Practice (Clinical)
- SOW 6373 Clinical Supervision (Clinical)
- SOW 6603 Clinical Social Work Practice in Health Settings (Clinical)
- SOW 6604 Medications in Social Work Practice (Clinical)
- SOW 6608 Understanding and Managing Combat Related Behavioral and Mental Health Disorders (Clinical)
- SOW 6610 Clinical Practice with Military and Veteran Families (Clinical)
- SOW 6635 Social Work Practice in Schools (Clinical)
- SOW 6644 Interventions with Older Adults and Their Families (Clinical)
- SOW 6652 Children Services in Social Work (Clinical)
- SOW 6655 Child Abuse: Treatment and Prevention (Clinical)
- SOW 6656 Clinical Practice with Children and Adolescents (Clinical)
- SOW 6670 Gay and Lesbian Experience in American Society (Clinical)
- SOW 6689 Sex Therapy (Clinical)
- SOW 6712 Interventions with Substance Abusers (Clinical)
- SOW 6713 Prevention and Treatment of Adolescent Substance Abuse (Clinical)
- SOW 6726 Social Work Practice with Children from Birth to Age Five and Their Families (Clinical)
- SOW 6727 Core Concepts of Child and Adolescent Trauma (Clinical)
- SOW 6735 Documentation Skills for Helping Professionals (Clinical)
- SOW 6756 Forensic Social Work (Clinical)
- SOW 6846 Spirituality in Clinical Social Work Practice (Clinical)

### Field Experience—8 Credit Hours

- Clinical Field Education and Seminars (8 credit hours)



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 Director. Only agency sites approved by the School of Social Work may be used for field instruction. Clinical MSW students complete a minimum of 600 clock hours in the field. Field education includes a field seminar.

Students must complete at least 50% of their field hours during the agency's normal business hours. Evening (after 5 p.m.) and weekend placements are extremely limited. The School of Social Work is under no obligation to provide such placements. Consequently, field placements cannot be guaranteed to students who require evening and weekend placements.

## Required Sequence of Curriculum

### *First Semester (Summer)*

- SOW 6123 Psychosocial Pathology
- SOW 6424 Theories for Evidence-Based Clinical Social Work Practice

### *Second Semester (Fall)*

- SOW 6348 Practice with Individuals
- SOW 6612 Practice with Families
- SOW 6324 Practice with Groups
- SOW 6531 FT MSW Clinical Field/Seminar I

### *Third Semester (Spring)*

- SOW 6246 Policy Analysis and Social Change
- SOW Clinical elective
- SOW Clinical elective
- SOW 6536 FT MSW Clinical Field/Seminar II

## Transfer Credit

Students who have completed academic course work in an accredited MSW program may transfer up to 9 credit hours toward the 32 credit hours of the degree. Students must have received a grade of "B-" or higher in these courses. Courses must be evaluated on a course-by-course basis by the MSW Coordinator.

## Equipment Fee

Students in the MSW program pay a \$35 equipment fee each semester that they are enrolled.

## Independent Learning

Independent learning is demonstrated throughout the curriculum through the process of inquiry and dialogue. Projects such as research studies, clinical assessments and treatment plans, papers and internships also contribute to the self-development of our students.

The field experiences and practice electives provide substantial opportunities for students to learn independently and practically about social work practice.

## APPLICATION REQUIREMENTS

Applicants will be granted admission to the MSW program based on a majority approval from the Admissions Review Sub-committee.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- One completed college-level course with a C or better in each of the following six areas: Biology with human content, English or Communication, Cultural Diversity (this can be accomplished through a variety of courses that addresses cultural differences), Statistics, Introduction to Psychology, and Introduction to Sociology.
- Up to date Résumé.
- Three current letters of recommendation (within the past year). Applicants must provide a letter of recommendation from each of the following:
  - Academic: A professor from a previously attended college/university. For applicants who have been out of college for five or more years, the applicant may substitute an employment based recommendation.
  - Employment: Either volunteer or paid employment immediate supervisor.

- Field: A field faculty/seminar instructor or a task supervisor who has directly supervised the applicant in a social work field internship setting or field seminar class.
- A professional statement. Applicants must answer the following questions within 3 - 6 pages. Please use headings for each questions.
  1. What are the reasons and experiences that led you to choose social work as a profession?
  2. What are your social work career interests?
  3. What are your personal strengths that you can bring to this profession? How have these strengths been demonstrated in the past?
  4. Where do you see yourself 10 years from now in the field of social work?
  5. What major issue do you think that professional social workers should be concerned with? What is the role of social work in relation to this issue?
  6. As a social worker, you will be expected to practice ethically according to the National Association of Social Workers (NASW) Code of Ethics <https://www.socialworkers.org/pubs/code/code.asp>. This includes working with diverse populations and clients whose values and beliefs may differ from your own. How you will incorporate and uphold the NASW Code of Ethics into your work with diverse populations?
- Writing sample. Applicants must submit a research paper or literature review written for any class in their undergraduate studies, preferably one that is related to social work. The paper should be 5-10 pages in length, contain citations, and will be used to evaluate the applicant's ability to write professionally. If the applicant does not have an academic paper, then he/she must write a 5-10 page paper in APA format that addresses any social issue related to social work.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation.

Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

The Master of Social Work program can accommodate only a limited number of students; therefore there is a possibility of being denied admission even when all criteria are met.

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.

The School of Social Work reserves the right to refuse student entrance or dismiss a student after admission to the MSW program if, in the judgment of the faculty, the student demonstrates behaviors incongruent to working in the field social work and/or violates the National Association of Social Workers (NASW) Code of Ethics.

### **Advanced Standing**

To be considered for advanced standing admission, applicants must have a baccalaureate degree in Social Work from a CSWE-accredited program and demonstrate the academic potential and professional maturity to meet the demands of the program with a 3.3 GPA in their last 60 credits. Previous baccalaureate course work that received at least a "B-" will be reviewed to ensure content equivalency. In advanced standing admission, a maximum of 30 foundation level credits may be waived based on the content equivalency 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.

## Application Deadlines

Orlando Full-Time Advanced Standing Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants				Feb 1
International Applicants				Nov 1
International Transfer Applicants				Dec 15

## CONTACT INFO

### Shawn Lawrence PhD, LCSW

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# Orlando Full-Time Track

## TRACK DESCRIPTION

The Master of Social Work (MSW), Orlando Full-Time Track allows students who do not have a BSW degree to complete the MSW required curriculum in two years of full-time study at the main Orlando campus. 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 24 credit hours in class work and 8 credit hours in the field.

The MSW program strives to education students to become successful practitioners in the field of clinical social work. To that end, the National Association of Social Workers (NASW) Code of Ethics is re-enforced throughout the academic curriculum. Students who violate the NASW Code of Ethics may be subject to academic sanctions or dismissed from the program.

## CURRICULUM

### Total Hours Required:

**62** Credit Hours Minimum beyond the Bachelor's Degree

The 62-hour MSW program is composed of 39 credit hours of required core and advanced clinical specialization courses. In addition, students complete 9 credit hours of electives and 14 credit hours of field experience. Independent learning is demonstrated throughout the curriculum through the process of inquiry and dialogue. Projects such as research studies, clinical assessments and treatment plans, papers and internships also contribute to the self-development of our students. Students in the 62-hour program must include at least 31 hours of course work at the 6000 level in their program of study.

### Prerequisites

Introductory three-credit college-level courses with a grade of "C" or better in the following areas or equivalents are required for admission into the program from the following areas: Biology with human content, English or Communication,

Introduction of Psychology, Statistics, Introduction of Sociology, and Cultural Diversity.

## Required Courses—39 Credit Hours

### Core—21 Credit Hours

The core provides the foundation curriculum for the generalist Social Work practice.

- 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 5305 Social Work Practice I: Generalist Practice (3 credit hours)
- SOW 5306 Social Work Practice II: Intervention Approaches (3 credit hours)
- SOW 5404 Social Work Research (3 credit hours)

### Clinical Specialization—18 Credit Hours

- SOW 6123 Psychosocial Pathology (3 credit hours)
- SOW 6246 Policy Analysis and Social Change (3 credit hours)
- SOW 6324 Clinical Practice with Groups (3 credit hours)
- SOW 6348 Clinical Practice with Individuals (3 credit hours)
- SOW 6612 Clinical Practice with Families (3 credit hours)
- SOW 6424 Theories for Evidence-Based Clinical Practice in Social Work (3 credit hours)

### Electives—9 Credit Hours

One elective is required as a component of the foundation curriculum and two clinical electives are required as components of the clinical specialization.

- Elective (3 credit hours)
- Clinical elective (3 credit hours)

- Clinical elective (3 credit hours)

Approved electives:

- SOW 5149 Military and Veteran Culture with Historical Framework (Non Clinical)
- SOW 5387 Nonprofit Resource Development (Non Clinical)
- SOW 5432 Evaluating Social Work (Clinical)
- SOW 5642 Aging in Social Situations (Clinical)
- SOW 6109 Violence Against Women: A Global Perspective (Clinical)
- SOW 6155 Human Sexuality in Social Work Practice (Clinical)
- SOW 6373 Clinical Supervision (Clinical)
- SOW 6383 Social Work Administration (Non Clinical)
- SOW 6384 Administrative Supervision in Social Work (Non Clinical)
- SOW 6386 Seminar on Social Welfare Planning and Implementation (Non Clinical)
- SOW 6399 Advanced Administration in Social Welfare (Non Clinical)
- SOW 6603 Clinical Social Work Practice in Health Settings (Clinical)
- SOW 6604 Medications in Social Work Practice (Clinical)
- SOW 6608 Understanding and Managing Combat Related Behavioral and Mental Health Disorders (Clinical)
- SOW 6610 Clinical Practice with Military and Veteran Families (Clinical)
- SOW 6635 Social Work Practice in Schools (Clinical)
- SOW 6644 Interventions with Older Adults and Their Families (Clinical)
- SOW 6652 Children Services in Social Work (Clinical)
- SOW 6655 Child Abuse: Treatment and Prevention (Clinical)
- SOW 6656 Clinical Practice with Children and Adolescents (Clinical)
- SOW 6670 Gay and Lesbian Experience in American Society (Clinical)
- SOW 6689 Sex Therapy (Clinical)

- SOW 6712 Interventions with Substance Abusers (Clinical)
- SOW 6713 Prevention and Treatment of Adolescent Substance Abuse (Clinical)
- SOW 6726 Social Work Practice with Children from Birth to Age Five and Their Families (Clinical)
- SOW 6727 Core Concepts of Child and Adolescent Trauma (Clinical)
- SOW 6735 Documentation Skills for Helping Professionals (Clinical)
- SOW 6756 Forensic Social Work (Clinical)
- SOW 6846 Spirituality in Clinical Social Work Practice (Clinical)
- SOW 6914 Integrative Research Project in Clinical Practice (Non Clinical)

### **Field Experience—14 Credit Hours**

- Generalist Field Education and Seminars (6 credit hours)
- Clinical Field Education and Seminars (8 credit hours)

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 Director. Only agency sites approved by the School of Social Work may be used for field instruction. Generalist MSW students complete a minimum of 400 hours in the field; clinical MSW students complete a minimum of 600 clock hours in the field. Field education includes a field seminar.

Students must complete at least 50% of their field hours during the agency's normal business hours. Evening (after 5 p.m.) and weekend placements are extremely limited. The School of Social Work is under no obligation to provide such placements. Consequently, field placements cannot be guaranteed to students who require evening and weekend placements.

### **Required Sequence of Curriculum**

#### ***First Semester (Fall)***

- SOW 5305 Social Work Practice I

- SOW 5105 Human Behavior I: Individual
- SOW 5404 Social Work Research
- SOW 5235 Social Welfare Policies
- SOW 5538 FT MSW Generalist Field/Seminar I

#### ***Second Semester (Spring)***

- SOW 5306 Social Work Practice II
- SOW 5106 Human Behavior II: Systems
- SOW 5132 Diverse Client Populations
- SOW Elective
- SOW 5539 FT MSW Generalist Field/Seminar II

#### ***Third Semester (Summer)***

- SOW 6123 Psychosocial Pathology
- SOW 6424 Theories for Evidence-based Clinical Social Work Practice

#### ***Fourth Semester (Fall)***

- SOW 6348 Practice with Individual
- SOW 6612 Practice with Families
- SOW 6324 Practice with Groups
- SOW 6531 FT MSW Clinical Field/Seminar

#### ***Fifth Semester (Spring)***

- SOW 6246 Policy Analysis Social Change
- SOW Clinical elective
- SOW Clinical elective
- SOW 6536 FT MSW Clinical Field/Seminar II

### **Transfer Credit**

Students who have completed course work in an accredited MSW program may transfer up to 30 credit hours toward the 62 credit hours of the degree. Students must have received a grade of "B-" or higher in these courses. Courses will be evaluated on a course-by-course basis by the MSW Coordinator. Field courses will be evaluated by the Coordinator for Field Education.

### **Equipment Fee**

Students in the MSW program pay a \$35 equipment fee each semester that they are enrolled.



## Independent Learning

Independent learning is demonstrated throughout the curriculum through the process of inquiry and dialogue. Projects such as research studies, clinical assessments and treatment plans, papers and internships also contribute to the self-development of our students.

The field experiences and practice electives provide substantial opportunities for students to learn independently and practically about social work practice.

## APPLICATION REQUIREMENTS

Applicants will be granted admission to the MSW program based on a majority approval from the Admissions Review Sub-committee.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- One completed college-level course with a C or better in each of the following six areas: Biology with human content, English or Communication, Cultural Diversity (this can be accomplished through a variety of courses that addresses cultural differences), Statistics, Introduction to Psychology, and Introduction to Sociology.
- Up to date Résumé.
- Three current letters of recommendation (within the past year). Applicants must provide a letter of recommendation from each of the following:
  - Academic: A professor from a previously attended college/university. For applicants who have been out of college for five or more years, applicants may substitute an employment based recommendation.
  - Employment: Either volunteer or paid employment immediate supervisor.
  - Third Recommendation: A second academic or employment based recommendation should be submitted for the third recommendation.
- A professional statement. Applicants must answer the following questions within 3-6 pages. Please use headings for each question.
  1. What are the reasons and experiences that led you to choose social work as a profession?
  2. What are your social work career interests?
  3. What are your personal strengths that you can bring to this profession? How have these strengths been demonstrated in the past?
  4. Where do you see yourself 10 years from now in the field of social work?
  5. What major social issue do you think that professional social workers should be concerned with? What is the role of social work in relation to this issue?
  6. As a social worker, you will be expected to practice ethically according to the National Association of Social Workers (NASW) Code of Ethics <https://www.socialworkers.org/pubs/code/code.asp>. This includes working with diverse populations and clients whose values and beliefs may differ from your own. How you will incorporate and uphold the NASW Code of Ethics into your work with diverse populations?
- Writing sample. Applicants must submit a research paper or literature review written for any class in their undergraduate studies, preferably one that is related to social work. The paper should be 5-10 pages in length, contain citations, and will be used to evaluate the applicant's ability to write professionally. If the applicant does not have an academic paper, then he/she must write a 5-10 page paper in APA format that addresses any social issue related to social work.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

The Master of Social Work program can accommodate only a limited number of students;

therefore there is a possibility of being denied admission even when all criteria are met.

Students are admitted and can begin course work in fall semesters only. 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.

The School of Social Work reserves the right to refuse student entrance or dismiss a student after admission to the MSW program if, in the judgment of the faculty, the student demonstrates behaviors incongruent to working in the field social work and/or violates the National Association of Social Workers (NASW) Code of Ethics.

MSW graduates from CSWE accredited programs outside of UCF who need to complete a field placement for Florida licensure (LCSW) must apply to the MSW program as a full-time or part-time second year clinical student.

### Application Deadlines

Orlando Full-Time Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Mar 1		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

### CONTACT INFO

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 HPA 1 Suite 204

# Orlando Part-Time Track

## TRACK DESCRIPTION

In addition to the Orlando part-time program, **pending approval**, we will be offering a fully online part-time MSW program beginning in 2015. Please continue to check our website for updates.

The Master of Social Work (MSW) Program, Orlando Part-Time Track allows students who do not have a BSW degree to complete the MSW required curriculum at the main Orlando Campus. The first year of study includes 18 credit hours in class work. The second year of study include 18 credit hours in class work and 6 credit hours in the field. The third year of study include 12 credit hours in class work and 8 credit hours in the field.

The MSW program strives to education students to become successful practitioners in the field of clinical social work. To that end, the National Association of Social Workers (NASW) Code of Ethics (<https://www.socialworkers.org/pubs/code/code.asp>) is re-enforced throughout the academic curriculum. Students who violate the NASW Code of Ethics may be subject to academic sanctions or dismissed from the program.

## CURRICULUM

### Total Hours Required:

**62** Credit Hours Minimum beyond the Bachelor’s Degree

The 62-hour MSW program is composed of 39 credit hours of required core and advanced clinical specialization courses. In addition, students complete 9 credit hours of electives and 14 credit hours of field experience. Independent learning is demonstrated throughout the curriculum through the process of inquiry and dialogue. Projects such as research studies, clinical assessments and treatment plans, papers and internships also contribute to the self-development of our students. Students in the 62-hour program must include at least 31 hours of course work at the 6000 level in their program of study.

## Prerequisites

Introductory three-credit college-level courses with a grade of “C” or better in the following areas or equivalents are required for admission into the program from the following areas: Biology with human content, English or Communication, Introduction of Psychology, Statistics, Introduction of Sociology/Social Concepts/Social Problems, and Diversity.

## Required Courses—39 Credit Hours

### Core—21 Credit Hours

The core provides the foundation curriculum for the generalist Social Work practice.

- 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 5305 Social Work Practice I: Generalist Practice (3 credit hours)
- SOW 5306 Social Work Practice II: Intervention Approaches (3 credit hours)
- SOW 5404 Social Work Research (3 credit hours)

### Clinical Specialization—18 Credit Hours

- SOW 6123 Psychosocial Pathology (3 credit hours)
- SOW 6246 Policy Analysis and Social Change (3 credit hours)
- SOW 6324 Clinical Practice with Groups (3 credit hours)
- SOW 6348 Clinical Practice with Individuals (3 credit hours)
- SOW 6612 Clinical Practice with Families (3 credit hours)
- SOW 6424 Theories for Evidence-Based Clinical Practice in Social Work (3 credit hours)

## Electives—9 Credit Hours

One elective is required as a component of the foundation curriculum and two clinical electives are required as components of the clinical specialization.

- Elective (3 credit hours)
- Clinical elective (3 credit hours)
- Clinical elective (3 credit hours)

Approved electives:

- SOW 5149 Military and Veteran Culture with Historical Framework (Non Clinical)
- SOW 5387 Nonprofit Resource Development (Non Clinical)
- SOW 5432 Evaluating Social Work (Clinical)
- SOW 5642 Aging in Social Situations (Clinical)
- SOW 6109 Violence Against Women: A Global Perspective (Clinical)
- SOW 6155 Human Sexuality in Social Work Practice (Clinical)
- SOW 6373 Clinical Supervision (Clinical)
- SOW 6383 Social Work Administration (Non Clinical)
- SOW 6384 Administrative Supervision in Social Work (Non Clinical)
- SOW 6386 Seminar on Social Welfare Planning and Implementation (Non Clinical)
- SOW 6399 Advanced Administration in Social Welfare (Non Clinical)
- SOW 6603 Clinical Social Work Practice in Health Settings (Clinical)
- SOW 6604 Medications in Social Work Practice (Clinical)
- SOW 6608 Understanding and Managing Combat Related Behavioral and Mental Health Disorders (Clinical)
- SOW 6610 Clinical Practice with Military and Veteran Families (Clinical)
- SOW 6635 Social Work Practice in Schools (Clinical)
- SOW 6644 Interventions with Older Adults and Their Families (Clinical)
- SOW 6652 Children Services in Social Work (Clinical)

- SOW 6655 Child Abuse: Treatment and Prevention (Clinical)
- SOW 6656 Clinical Practice with Children and Adolescents (Clinical)
- SOW 6670 Gay and Lesbian Experience in American Society (Clinical)
- SOW 6689 Sex Therapy (Clinical)
- SOW 6712 Interventions with Substance Abusers (Clinical)
- SOW 6713 Prevention and Treatment of Adolescent Substance Abuse (Clinical)
- SOW 6726 Social Work Practice with Children from Birth to Age Five and Their Families (Clinical)
- SOW 6727 Core Concepts of Child and Adolescent Trauma (Clinical)
- SOW 6735 Documentation Skills for Helping Professionals (Clinical)
- SOW 6756 Forensic Social Work (Clinical)
- SOW 6846 Spirituality in Clinical Social Work Practice (Clinical)
- SOW 6914 Integrative Research Project in Clinical Practice (Non Clinical)

### Field Experience—14 Credit Hours

- Generalist Field Education and Seminars (6 credit hours)
- Clinical Field Education and Seminars (8 credit hours)

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 Director. Only agency sites approved by the School of Social Work may be used for field instruction. Generalist MSW students complete a minimum of 400 hours in the field; clinical MSW students complete a minimum of 600 clock hours in the field. Field education includes a field seminar.

Students must complete at least 50% of their field hours during the agency's normal business hours. Evening (after 5 p.m.) and weekend placements are extremely limited. The School of Social Work is under no obligation to provide such

placements. Consequently, field placements cannot be guaranteed to students who require evening and weekend placements.

## Required Sequence of Curriculum

### *First Semester (Fall)*

- SOW 5105 Human Behavior I: Individual
- SOW 5235 Social Welfare Policies

### *Second Semester (Spring)*

- SOW 5106 Human Behavior II: Systems
- SOW 5132 Diverse Client Populations

### *Third Semester (Summer)*

- SOW 5305 Social Work Practice I
- SOW Elective

### *Fourth Semester (Fall)*

- SOW 5306 Social Work Practice II
- SOW 5404 Social Work Research
- SOW 5565 PT MSW Generalist Field/Seminar I

### *Fifth Semester (Spring)*

- SOW 5566 PT MSW Generalist Field/Seminar II
- SOW 6246 Policy Analysis Social Change
- SOW Clinical elective

### *Sixth Semester (Summer)*

- SOW 5567 PT MSW Generalist Field/Seminar III
- SOW 6424 Theories for Evidence-based Clinical Social Work Practice
- SOW 6123 Psychosocial Pathology

### *Seventh Semester (Fall)*

- SOW 6348 Practice with Individual
- SOW 6612 Practice with Families
- SOW 6561 PT MSW Clinical Field/Seminar I

### *Eighth Semester (Spring)*

- SOW 6562 PT MSW Clinical Field/Seminar II
- SOW 6324 Practice with Groups
- SOW Clinical elective

***Ninth Semester (Summer)***

- SOW 6563 PT MSW Clinical Field/Seminar III

**Transfer Credit**

Students who have completed course work in an accredited MSW program may transfer up to 30 credit hours toward the 62 credit hours of the degree. Students must have received a grade of “B-” or higher in these courses. Courses must be evaluated on a course-by-course basis by the MSW Coordinator. Field courses will be evaluated by the Coordinator for Field Education.

**Equipment Fee**

Students in the MSW program pay a \$35 equipment fee each semester that they are enrolled. Part-time students pay \$17.50 per semester.

**Independent Learning**

Independent learning is demonstrated throughout the curriculum through the process of inquiry and dialogue. Projects such as research studies, clinical assessments and treatment plans, papers and internships also contribute to the self-development of our students.

The field experiences and practice electives provide substantial opportunities for students to learn independently and practically about social work practice.

**APPLICATION REQUIREMENTS**

Applicants will be granted admission to the MSW program based on a majority approval from the Admissions Review Sub-committee.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- One completed college-level course with a C or better in each of the following six areas: Biology with human content, English or Communication, Cultural Diversity (this can be accomplished through a variety of courses that addresses cultural differences), Statistics,

Introduction to Psychology, and Introduction to Sociology.

- Up to date Résumé.
- Three current letters of recommendation (within the past year). Applicants must provide a letter of recommendation from each of the following:
  - Academic: A professor from a previously attended college/university. For applicants who have been out of college for five or more years, the applicant may substitute an employment based recommendation.
  - Employment: Either volunteer or paid employment immediate supervisor.
  - Third recommendation: A second academic or employment based recommendation should be submitted for the third recommendation.
- A professional statement. Applicants must answer the following questions within 3-6 pages. Please use headings for each question.
  1. What are the reasons and experiences that led you to choose social work as a profession?
  2. What are your social work career interests?
  3. What are your personal strengths that you can bring to this profession? How have these strengths been demonstrated in the past?
  4. Where do you see yourself 10 years from now in the field of social work?
  5. What major social issue do you think that professional social workers should be concerned with? What is the role of social work in relation to this issue?
  6. As a social worker, you will be expected to practice ethically according to the National Association of Social Workers (NASW) Code of Ethics <https://www.socialworkers.org/pubs/code/code.asp>. This includes working with diverse populations and clients whose values and beliefs may differ from your own. How you will incorporate and uphold the NASW Code of Ethics into your work with diverse populations?



- Writing sample. Applicants must submit a research paper or literature review written for any class in their undergraduate studies, preferably one that is related to social work. The paper should be 5-10 pages in length, contain citations, and will be used to evaluate the applicant's ability to write professionally. If the applicant does not have an academic paper, then he/she must write a 5-10 page paper in APA format that addresses any social issue related to social work.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

The Master of Social Work program can accommodate only a limited number of students; therefore there is a possibility of being denied admission even when all criteria are met.

Students are admitted and can begin course work in fall semesters only. 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.

The School of Social Work reserves the right to refuse student entrance or dismiss a student after admission to the MSW program if, in the judgment of the faculty, the student demonstrates behaviors incongruent to working in the field social work and/or violates the National Association of Social Workers (NASW) Code of Ethics.

MSW graduates from CSWE accredited programs outside of UCF who need to complete a field placement for Florida licensure (LCSW) must apply to the MSW program as a full-time or part-time second year clinical student.

## Application Deadlines

Orlando Part-Time Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Mar 1		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

## CONTACT INFO

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# Osceola Regional Campus Track

## TRACK DESCRIPTION

**Applications are currently not being accepted for this program, the next available admissions cycle is to be determined. Please contact the Social Work program directly for more information.**

The Master of Social Work (MSW) Program, Regional Campus Track allows students who do not have a BSW degree, a part-time education at the UCF Regional campuses. The track is offered as a cohort program at various campuses with various admission cycles. Students interested in this track should contact the School of Social Work to get information on the specific cohorts that are available.

## CURRICULUM

### Total Hours Required:

**62** Credit Hours Minimum beyond the Bachelor's Degree

The 62-hour MSW program is composed of 39 credit hours of required core and advanced clinical specialization courses. In addition, students complete 9 credit hours of electives and 14 credit hours of field experience. Independent learning is demonstrated throughout the curriculum through the process of inquiry and dialogue. Projects such as research studies, clinical assessments and treatment plans, papers and internships also contribute to the self-development of our students. Students in the 62-hour program must include at least 31 hours of course work at the 6000 level in their program of study.

### Prerequisites

Introductory three-credit college-level courses in the following areas or equivalents are required for admission into the program from the following areas: Biology with human content, English or Communication, Psychology, Statistics, Sociology, and Diversity.

## Required Courses—39 Credit Hours

### Core—21 Credit Hours

The core provides the foundation curriculum for the generalist Social Work practice.

- 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 5305 Social Work Practice I: Generalist Practice (3 credit hours)
- SOW 5306 Social Work Practice II: Intervention Approaches (3 credit hours)
- SOW 5404 Social Work Research (3 credit hours)

### Clinical Specialization—18 Credit Hours

- SOW 6123 Psychosocial Pathology (3 credit hours)
- SOW 6246 Policy Analysis and Social Change (3 credit hours)
- SOW 6324 Clinical Practice with Groups (3 credit hours)
- SOW 6348 Clinical Practice with Individuals (3 credit hours)
- SOW 6612 Clinical Practice with Families (3 credit hours)
- SOW 6424 Theories for Evidence-Based Clinical Practice in Social Work (3 credit hours)

### Electives—9 Credit Hours

A practice elective is required as a component of the foundation curriculum and two clinical electives are required as components of the clinical specialization. They are selected in consultation with adviser and MSW graduate program director.

- Practice elective (3 credit hours)
- Clinical elective (3 credit hours)
- Clinical elective (3 credit hours)

An approved general elective can be selected in consultation with adviser and MSW graduate program director from list below:

- SOW 5355 Studies in Social Work Practice (Depends on topic)
- SOW 5387 Nonprofit Resource Development (Non Clinical)
- SOW 5432 Evaluating Social Work (Clinical)
- SOW 5624 Social Work Practice in Mexican Culture (Depends on topic)
- SOW 5625 Social Work with Women (Clinical)
- SOW 5642 Aging in Social Situations (Clinical)
- SOW 5175 Strategies in Employee Assistance Programs (Non Clinical)
- SOW 5957 Study Abroad: Social Work Practice in the Caribbean (Depends on Topic)
- SOW 5957 Study Abroad: Contemporary Issues in Russia (Depends on Topic)
- SOW 5957 Study Abroad: Contemporary Issues in South Africa (Depends on Topic)
- SOW 6109 Violence Against Women: A Global Perspective (Clinical)
- SOW 6155 Human Sexuality in Social Work Practice (Clinical)
- SOW 6373 Clinical Supervision (Clinical)
- SOW 6383 Social Work Administration (Non Clinical)
- SOW 6384 Administrative Supervision in Social Work (Non Clinical)
- SOW 6386 Seminar on Social Welfare Planning and Implementation (Non Clinical)
- SOW 6399 Advanced Administration in Social Welfare (Non Clinical)
- SOW 6603 Social Work in Health Settings (Clinical)
- SOW 6604 Medications in Social Work Practice (Clinical)
- SOW 6635 Social Work Practice in Schools (Clinical)
- SOW 6644 Interventions with the Elderly and Their Families (Clinical)
- SOW 6652 Children Services in Social Work (Clinical)
- SOW 6655 Child Abuse: Treatment and Prevention (Clinical)
- SOW 6656 Clinical Practice with Children and Adolescents (Clinical)
- SOW 6670 Gay and Lesbian Experience in American Society (Clinical)
- SOW 6689 Sex Therapy (Clinical)
- SOW 6712 Interventions with Substance Abusers (Clinical)
- SOW 6713 Prevention and Treatment of Adolescent Substance Abuse (Clinical)
- SOW 6726 Social Work Practice with Children from Birth to Age Five and Their Families (Clinical)
- SOW 6735 Documentation Skills for Helping Professionals (Clinical)
- SOW 6756 Forensic Social Work (Clinical)
- SOW 6846 Spirituality in Clinical Social Work Practice (Clinical)
- SOW 6914 Integrative Research Project in Clinical Practice
- SOW 7492 Theory Building in Social Work (Clinical)
- PAD 5850 Grant and Contract Management (3 credit hours)

### **Field Experience—14 Credit Hours**

- Generalist Field Education and Seminars (6 credit hours)
- Clinical Field Education and Seminars (8 credit hours)

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 Director. Only agency sites approved by the School of Social Work may be used for field instruction. Generalist MSW students complete a minimum of 500 hours in the field; clinical MSW students complete a minimum of 550 clock hours in the field. Field education includes a field seminar.

## Required Sequence of Curriculum

### *First Semester (Fall)*

- SOW 5105 Human Behavior I: Individual
- SOW 5235 Social Welfare Policies

### *Second Semester (Spring)*

- SOW 5106 Human Behavior II: Systems
- SOW 5132 Diverse Client Populations

### *Third Semester (Summer)*

- SOW 5305 Social Work Practice I
- SOW Elective

### *Fourth Semester (Fall)*

- SOW 5306 Social Work Practice II
- SOW 6XXX Clinical Elective
- SOW 5565 PT MSW Generalist Field/Seminar I

### *Fifth Semester (Spring)*

- SOW 5566 PT MSW Generalist Field/Seminar II
- SOW 6246 Policy Analysis and Social Change
- SOW 5404 Social Work Research

### *Sixth Semester (Summer)*

- SOW 5567 PT MSW Generalist Field/Seminar III
- SOW 6424 Theories for Evidence-based Clinical Social Work Practice
- SOW 6123 Psychosocial Pathology

### *Seventh Semester (Fall)*

- SOW 6348 Practice with Individual
- SOW 6612 Practice with Families
- SOW 6561 PT MSW Clinical Field/Seminar I

### *Eighth Semester (Spring)*

- SOW 6562 PT MSW Clinical Field/Seminar II
- SOW 6324 Practice with Groups
- SOW 6XXX Clinical Elective

### *Ninth Semester (Summer)*

- SOW 6563 PT MSW Clinical Field/Seminar III

## Transfer Credit

Students who have completed course work in an accredited MSW program may transfer up to 30 credit hours toward the 62 credit hours of the degree. Students must have received a grade of “B-” or higher in these courses. Courses must be evaluated on a course-by-course basis by the graduate program director.

## Equipment Fee

Students in the MSW program pay a \$35 equipment fee each semester that they are enrolled. Part-time students pay \$17.50 per semester.

## Independent Learning

Independent learning is demonstrated throughout the curriculum through the process of inquiry and dialogue. Projects such as research studies, clinical assessments and treatment plans, papers and internships also contribute to the self-development of our students.

The field experiences and practice electives provide substantial opportunities for students to learn independently and practically about social work practice.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- One completed college-level course in each of the following six areas: biology with human content, English or communication, diversity (this can be accomplished through a variety of courses that addresses cultural differences), statistics, psychology, and sociology.
- Résumé.
- Three letters of recommendation. Applicants must provide a letter of recommendation from each of the following:
  - Academic: An advisor or professor from your college. For applicants who have been out of college for five or more years, it is suggested the applicant substitute an

individual who has known and worked with the applicant in a professional capacity.

- **Employment:** Either volunteer or paid employment is acceptable. It is recommended that the immediate supervisor complete the reference.
- **Personal:** The applicant may select any individual other than family members.
- A personal statement. Applicants must write a personal/autobiographical statement that should be 2 - 5 pages and covers the following questions:
  - What are the reasons and experiences that led you to choose social work as a profession? Did you consider other professions, if so why did you prefer social work?
  - What are your social work career interests? Which client population is of special interest to you?
  - What are your personal strengths that you can bring to this profession? How have these strengths been demonstrated in the past? What personal attributes might change in order to strengthen your ability to be helpful to others?
  - What do you feel is your personal mission in social work and where do you see yourself 10 years from now in the field of social work?
  - What major issues do you think that professional social workers should be concerned with? What is the role of social work in relation to this issue?
- Writing sample. Applicants must submit a paper written for any class in their undergraduate studies that dealt with social based issues. The paper should be 5-10 pages in length, contain citations, and will be used to evaluate the applicant's ability to write professionally. If the applicant does not have a paper which addresses social issues, he/she is welcome to submit any academic paper of his/her choice. If the applicant does not have an academic paper, then he/she must write a 5-10 page paper in APA format that addresses any social issue related to social work.
- Applicants applying to this program who have attended a college/university outside the

United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Students are admitted and can begin course work in fall semesters only. 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.

### Application Deadlines

Osceola Regional Campus Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15		
Applications are currently not being accepted for this program, the next available admissions cycle is to be determined. Please contact the Social Work program directly for more information				
International Applicants	Jan 15	Jan 15		
Applications are currently not being accepted for this program, the next available admissions cycle is to be determined. Please contact the Social Work program directly for more information				
International Transfer Applicants	Jan 15	Mar 1		
Applications are currently not being accepted for this program, the next available admissions cycle is to be determined. Please contact the Social Work program directly for more information				

### CONTACT INFO

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# Sociology MA, Applied

- Domestic Violence Track

## PROGRAM DESCRIPTION

The Department of Sociology offers a graduate program leading to a 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 opportunities pertaining to the study of deviant behavior and crime; social inequalities; and health, families and communities.

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 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.

## CURRICULUM

Degree-seeking students in the Applied Sociology program may choose either the thesis or a nonthesis course of study. Both options require 30 hours of course work, at least half of which must be at the 6000 level or above. The thesis option is designed primarily for students who plan to enter doctoral programs and is highly recommended for students interested in community college teaching. The nonthesis option is more appropriate for students entering or continuing professional careers following the MA degree.

### Total Hours Required:

**30** Credit Hours Minimum beyond the Bachelor's Degree

The Master of Arts degree is conferred when students have fulfilled the requirements of either the thesis or nonthesis option. Students must earn a grade of "B" (3.0) or better in the program's core 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 first nine hours of course work in the program, students should select a permanent faculty adviser and determine their preliminary program of study, either in the thesis or nonthesis track. Students should maintain close contact with their faculty adviser in order to develop a viable program of study and avoid graduation delays.

## Required Courses—12 Credit Hours

Students receive an independent learning experience in the core by completing a research study in each of the 12 hours of required courses.

- SYA 5625 Proseminar (3 credit hours): Should be taken as early as possible in the program.
- SYA 6126 Social Theory (3 credit hours)
- SYA 6305 Social Research (3 credit hours)
- SYA 6455 Research Analysis (3 credit hours)

## Elective Courses—12 Credit Hours

Students will select a minimum of 12 credit hours of unrestricted electives in consultation with their faculty adviser. No more than 3 hours may be taken in UCF graduate programs outside the department. The department's graduate director must approve all courses taken outside the department prior to enrollment.

A listing and description of courses offered by the Department of Sociology is found in the "Courses" section of the Graduate Catalog Menu.

Under special circumstances, students may enroll in a graduate-level Directed Independent Study course or a Directed Independent Research course to fulfill their nonrestricted 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.

Nonthesis 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 adviser and the department's graduate program director.

### **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 and their thesis committee has been approved by the department, college, and Graduate Studies.

The students' permanent faculty adviser 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.

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.

- Thesis (6 credit hours)

### **Nonthesis Option—6 Credit Hours**

The nonthesis option requires that students complete SYA 6657 Program Design and Evaluation and 3 additional hours of SYA 6918 Directed Research, SYA 6946 Internship or Practicum, SYA 6909 Research Report, or SYA 6908 Directed Independent Studies. Both the Program Design and Evaluation course (SYA 6657) and "directed research or internship" courses require community-oriented research projects to develop research skills in sociology.

- SYA 6657 Program Design and Evaluation (3 credit hours)
- SYA 6918 Directed Research, SYA 6946 Internship or Practicum, SYA 6909 Research Report, or SYA 6908 Directed Independent Studies (3 credit hours)

Before students may begin their projects, they must earn a grade of "B" (3.0) or better in each of the core courses. Students will work directly with a faculty adviser to develop a project and the adviser will supervise the project. A committee composed of three graduate sociology faculty members in the department, one of whom is the adviser, will approve proposals and final products.

The grading system for the project is as follows: Pass/No Pass basis. Students who receive a Pass will be allowed to graduate assuming all other requirements are met. Students who fail to pass will be allowed to conduct the project in a subsequent semester.

### **Equipment Fee**

Full-time students in the Applied Sociology MA program pay a \$39 equipment fee each semester that they are enrolled. Part-time students pay \$19.50 per semester.

### **Independent Learning**

As with all graduate programs, independent learning is an important component in the Applied Sociology master's program. Students will demonstrate independent learning through research seminars and the thesis (thesis students only). The nonthesis option requires the course, SYA 6657, Program Design and Evaluation which requires a research study as the independent learning experience. Also, research studies are included in each of the 15 hours of required courses to provide independent learning.

## **APPLICATION REQUIREMENTS**

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation, including at least two from academic sources familiar with the applicant's academic abilities.
- A personal statement of 250-500 words identifying areas of research interest, faculty with whom they would like to work, and

describing the applicant's academic and professional experiences and goals.

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.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program to the applicant's career/academic goals, and the applicant's potential for completing the degree. 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 director whenever questions arise.

## Application Deadlines

Sociology MA, Applied	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 1	Jul 1	Nov 1	Apr 1
International Applicants	Jan 1	Jan 1	Jul 1	Nov 1
International Transfer Applicants	Jan 1	Mar 1	Sep 1	Dec 1

## CONTACT INFO

### Jay Corzine PhD

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### Traci Milbuta

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PH 403J

# Domestic Violence Track

## TRACK DESCRIPTION

The Department of Sociology offers a graduate program leading to a 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 opportunities pertaining to the study of deviant behavior and crime; social inequalities; and health, families and communities.

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 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.

## CURRICULUM

### Total Hours Required:

**30** Credit Hours Minimum beyond the Bachelor's Degree

Degree-seeking students in the Applied Sociology program may choose either the thesis or a nonthesis course of study. Both options require 30 hours of course work, at least half of which must be at the 6000 level or above.

The thesis option is designed primarily for students who plan to enter doctoral programs and is highly recommended for students interested in community college teaching. The nonthesis option is more appropriate for students entering or continuing professional careers following the MA degree. The Master of Arts degree is conferred when students

have fulfilled the requirements of either the thesis or nonthesis option. Students must earn a grade of “B” (3.0) or better in the program’s core 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 first nine hours of course work in the program, students should select a permanent faculty adviser and determine their preliminary program of study, either in the thesis or nonthesis track. Students should maintain close contact with their faculty adviser in order to develop a viable program of study and avoid graduation delays.

## Required Courses—18 Credit Hours

### Core—12 Credit Hours

Please note that students in the nonthesis option are required to complete a research study in each of the 12 hours of required courses to provide an independent learning experience .

- SYA 5625 Proseminar (3 credit hours): Should be taken as early as possible in your program.
- SYA 6126 Social Theory (3 credit hours)
- SYA 6305 Social Research (3 credit hours)
- SYA 6455 Research Analysis (3 credit hours)

### Specialization—6 Credit Hours

- SYP 5566 Seminar on 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 restricted electives.

- 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 5525 Sociological Criminology (3 credit hours)
- SYP 6515 Deviant Behavior Issues (3 credit hours)

- SYP 6522 Sociological Perspectives on Victims (3 credit hours)
- SYP 6546 Crime, Law, Inequality (3 credit hours)
- SYD 6809 Seminar on Gender Issues (3 credit hours)

\* SYA 6657 cannot be taken for elective credit by nonthesis students because it is a required course for this option.

## 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 and their thesis committee has been approved by the department and college.

The students’ permanent faculty adviser 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.

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.

- Thesis (6 credit hours)

## Nonthesis Option—6 Credit Hours

The nonthesis option requires that students complete SYA 6657 Program Design and Evaluation and 3 additional hours of elective course work in their area of specialization. The Program Design and Evaluation course (SYA 6657) requires community-oriented research projects to develop research skills in sociology.

- SYA 6657 Program Design and Evaluation
- Directed Study for Applied Project (3 credit hours)

## Applied Project

Nonthesis students must complete an applied project. The nature and implementation of each project will be determined by the student and her/his adviser.

Before students may begin the applied project, they must earn a grade of "B" (3.0) or better in each of the five core courses.

The grading system for the project is Pass/No Pass. Students who receive a grade of Pass will be allowed to graduate assuming all other requirements are met.

## Equipment Fee

Full-time students in the Applied Sociology MA program pay a \$39 equipment fee each semester that they are enrolled. Part-time students pay \$19.50 per semester.

## Independent Learning

As with all graduate programs, independent learning is an important component in the Applied Sociology master's program. Students will demonstrate independent learning through research seminars and the thesis (thesis students only). The nonthesis option requires a research study in the SYA 6657 course on Program Design and Evaluation. In addition, research studies are required in each of the 15 hours of required courses to provide independent learning.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation, including at least two from academic sources familiar with the applicant's academic abilities.
- A personal statement of 250-500 words identifying areas of research interest, faculty with whom they would like to work, and

describing the applicant's academic and professional experiences and goals.

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.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program to the applicant's career/academic goals, and the applicant's potential for completing the degree. 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 director whenever questions arise.

## Application Deadlines

Domestic Violence Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 1	Jul 1	Nov 1	Apr 1
International Applicants	Jan 1	Jan 1	Jul 1	Nov 1
International Transfer Applicants	Jan 1	Mar 1	Sep 1	Dec 1

## CONTACT INFO

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 PH 403B

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 traci.milbuta@ucf.edu  
 Telephone: 407-823-1198  
 PH 403J



# Spanish MA

## PROGRAM DESCRIPTION

The master's program in Spanish is intended for those who wish to continue their study in Spanish at the graduate level. The program focuses on the language literature, and civilization of Spain, Latin America, and Hispanics in the United States. Students in the program learn research methods, enhance language skills, and acquire a scholarly view of culture, literature, and linguistics of the Spanish-speaking world.

## CURRICULUM

The master's degree program in Spanish has both thesis and nonthesis options. A total of 36 credit hours of course work for the nonthesis option or at least 30 credit hours of course work and up to 6 credit hours of thesis (3 credit hours minimum) are required of students seeking the master's degree in Spanish.

### Total Hours Required:

**36** Credit Hours Minimum beyond the Bachelor's Degree

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 credit 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 credit hours
- Hispanic Literature—12 credit hours
- Electives—6 or 12 hours

The remaining elective hours of course work are 6 credit hours for the nonthesis 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. Courses must be selected so that at least one-half of required courses are taken at the 6000 level.

All students are required to take SPW 6919 Advanced Spanish Graduate Research, which results in a research paper that organizes and summarizes knowledge in a chosen area of study. All classes require a research paper that allows students to engage in independent learning.

**All courses are taught face to face and are entirely in Spanish.**

## Required Courses—24 Credit Hours

### 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)

### 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)

### Hispanic Literature—12 Credit Hours

- SPW 5741 Contemporary Spanish American Souther Cone Literature (3 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 (3 credit hours)
- SPW 6315 Golden Age Drama (3 credit hours)
- SPW 6356 Spanish American Poetry (3 credit hours)
- SPW 6485 Contemporary Peninsular Literature (3 credit hours)
- SPW 6725 The Generation of 1898 (3 credit hours)
- SPW 6358 Modernismo (3 credit hours)
- SPW 6216 Spanish Golden Age Prose and Poetry (3 credit hours)
- SPW 6775 Spanish Caribbean Prose (3 credit hours)

\* Examples of Seminar Series Topics: Don Quixote, Spanish American Literature Written by Women, Gabriel García Márquez

### **Research Methods—3 Credit Hours**

- SPW 6919 Advanced Spanish Graduate Research (3 credit hours)

### **Elective Courses—6 Credit Hours**

All students in both the thesis and nonthesis options are required to take at least 6 credit hours of electives. These must be approved by your adviser.

- Electives (6 credit hours)

### **Thesis Option—6 Credit Hours**

- SPW 6971 Thesis Research and Thesis (6 credit hours)

### **Nonthesis Option—6 Credit Hours**

Students in the nonthesis option must take an additional 6 credit hours of electives as approved by your adviser.

- Electives (6 credit hours)

## **Comprehensive Examination and Reading List**

Students must pass a comprehensive examination in order to qualify for the master's degree in Spanish. This examination is based on knowledge of the civilization and literature of Spain and Hispanic America and on basic concepts of linguistic theory and analysis.

Since this examination will be given toward the end of the course work (only during fall and spring semesters), 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.

If a student does not successfully pass both the oral and written comprehensive examinations, he or she may be able to retake the exams in the following semester (fall or spring). Thereafter, if the student does not pass the examinations the second time, he/she will be removed from the program.

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 to show ability in the use of the spoken language.

## **Independent Learning**

All students are required to take SPW 6919 Advanced Spanish Graduate Research, which results in a research paper that organizes and summarizes knowledge in a chosen area of study. All classes require a research paper that allows students to engage in independent learning. The program also offers a thesis option.

## **APPLICATION REQUIREMENTS**

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Spanish or a related field.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation.
- Writing sample written in Spanish.
- Interview with Dr. Martha Garcia.
- Approval by the Graduate Committee of the Department of Modern Languages and Literature.

Application information is also available at [mll.cah.ucf.edu/graduate/spanish.php](http://mll.cah.ucf.edu/graduate/spanish.php).

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.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicants potential for completing the degree.

## Application Deadlines

Spanish MA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

## CONTACT INFO

**Martha Garcia PhD**  
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Colbourn Hall - 528B

# Sport and Exercise Science MS

- Applied Exercise Physiology Track
- Coaching Track
- Sport Nutrition Track

## PROGRAM DESCRIPTION

The Master of Science in Sport and Exercise Science provides an in-depth study of applied human physiology and how it relates to athletic performance and health and wellness across the lifespan. Additional areas of study focus on sport nutrition, environmental physiology and exercise biochemistry. Students interested in coaching will receive a thorough understanding of the physiological development of the athlete, and combine this knowledge with appropriate principles of coaching learning to maximize athlete potential and develop realistic and attainable training goals. Students can choose among three tracks within the Sport and Exercise Science Program: Applied Exercise Physiology, Coaching or Sport Nutrition.

## CURRICULUM

### Total Hours Required:

**36** Credit Hours Minimum beyond the Bachelor's Degree

The Master of Science in Sport and Exercise Science offers a thesis and nonthesis option for students. Both the thesis and nonthesis options require a minimum of 36 credit hours. Students selecting the thesis option must receive a commitment from a faculty adviser for approval to do the thesis option in the program. Both options require a minimum of 18 credit hours of course work at the 6000 level. Students in the MS program in Sport and Exercise Science have a choice of three tracks: Applied Exercise Physiology, Coaching, or Sport Nutrition.

Students in the Applied Exercise Physiology and Sport Nutrition tracks will focus on an academic curriculum that prepares them for careers in research, strength and conditioning, fitness training, and health and wellness. Students that choose the Coaching track will focus on an academic

curriculum that prepares them for a career in coaching.

All students in the nonthesis option are required to take an independent learning experience (PET 6910 Problem Analysis) that involves a detailed literature review specific to a subject area of the student's interest. This is done with the supervision of graduate faculty. Another option for students in the nonthesis track is to participate in a practicum (PET 6946) that will serve as their culminating graduate experience.

## Independent Learning

All students are required to complete a research report or thesis after the completion of their coursework.

## APPLICATION REQUIREMENTS

Applicants must choose a track in this program. Track(s) may have different requirements.

## Application Deadlines

Sport and Exercise Science MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

## CONTACT INFO

**Jeffrey Stout PhD**  
Associate Professor  
jeffrey.stout@ucf.edu  
Telephone: 407-823-0211  
ED 320K

# Applied Exercise Physiology Track

## TRACK DESCRIPTION

The Applied Exercise Physiology track in the Sport and Exercise Science MS program provides students with knowledge in health/wellness and applied physiology. Studies focus on preparing students to study elite athletic development, youth health and fitness, and using exercise and nutrition interventions to enhance quality of life for mature adults. Students will prepare for careers in research, personal training, and strength and conditioning.

## CURRICULUM

### Total Hours Required:

36 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—15 Credit Hours

- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- PET 5355 Exercise and Health (3 credit hours)
- PET 6395 Program Design in Strength and Conditioning (3 credit hours)
- PET 6389 Physiological Aspects of Sport and Training (3 credit hours)
- PET 6515 Assessment and Evaluation in Sport and Exercise Science (3 credit hours)

### Elective Courses—15-18 Credit Hours

Students that select the thesis option must take 15 credit hours in electives. Students that select the nonthesis option must take 18 credit hours in electives. All electives are selected in conjunction with the student's graduate adviser or the graduate coordinator. Students can choose from the following courses.

- PET 6376 Sport Nutrition (3 credit hours)
- EDF 6401 Statistics for Educational Data (3 credit hours)

- PET 6357C Environmental Perturbation and Human Performance (3 credit hours)
- PET 6366 Exercise, Nutrition and Weight Control (3 credit hours)
- PET 6381 Physiology of Neuromuscular Mechanisms (3 credit hours)
- PET 6388 Cardiovascular Physiology (3 credit hours)
- PET 6521 Exercise Physiology Instrumentation (3 credit hours)
- PET 6690 Exercise Prescription for Special Populations (3 credit hours)
- PET 6363 Dietary and Nutritional Supplementation for Athletic Performance (3 credit hours)
- PET 7387 Exercise Endocrinology (3 credit hours)
- PET 7535 Research and Experimental Design in Exercise Physiology (3 credit hours)

- Official, competitive GRE score taken within the last five years.
- Two letters of recommendation.
- Résumé.

### Application Deadlines

Applied Exercise Physiology Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

### CONTACT INFO

**Jeffrey Stout PhD**  
 Associate Professor  
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 Telephone: 407-823-0211  
 ED 320K

### Thesis Option—6 Credit Hours

Students selecting the thesis option will take EDF 6401 Statistics for Educational Data and enroll in thesis hours.

- PET 6971 Thesis (6 credit hours)

### Nonthesis Option—3-6 Credit Hours

Students select one of the following courses.

- PET 6910 Problem Analysis (3 credit hours)
- PET 6946 Practicum, Clinical Practice (3-6 credit hours)

### Independent Learning

PET 6910 is the independent learning experience for the program.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.



# Coaching Track

## TRACK DESCRIPTION

The Coaching track in the Sport and Exercise Science MS program prepares students to become more effective coaches by understanding scientific aspects of human performance. Program graduates have gone on to careers in areas such as coaching at all levels of sport, intercollegiate and interscholastic athletics administration, parks and recreation, fitness and health club leadership, and community sport centers.

## CURRICULUM

### Total Hours Required:

36 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—15 Credit Hours

- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- PET 5355 Exercise and Health (3 credit hours)
- PET 5766 Advanced Coaching Theory (3 credit hours)
- PET 6347 Advanced Coaching Methods (3 credit hours)
- PET 6395 Program Design in Strength and Conditioning (3 credit hours)

### Elective Courses—15-18 Credit Hours

Students that select the thesis option must take 15 credit hours in electives. Students that select the nonthesis option must take 18 credit hours in electives. All electives are selected in conjunction with the student's graduate adviser or the graduate coordinator. Students can choose from the following courses:

- PET 5216 Motivational Aspects of Coaching (3 credit hours)
- PET 5495 Critical Issues: Ethics in Coaching and Sport (3 credit hours)
- PET 6515 Assessment and Evaluation in Sport and Exercise Science (3 credit hours)

- PET 6252 Race and Gender in Coaching and Sport Leadership (3 credit hours)
- PET 6391 Training and Conditioning Techniques for Coaches (3 credit hours)
- PET 6376 Sport Nutrition (3 credit hours)
- SPM 5308 Marketing and Promoting Sports and Fitness Programs (3 credit hours)
- SPM 6106 Planning and Operating Facilities for Sports and Fitness Programs (3 credit hours)
- SPM 6158 Leadership and Management in Sports and Fitness Programs (3 credit hours)
- SPM 6726 Legal Issues in Sports and Fitness Programs (3 credit hours)

### Thesis Option—6 Credit Hours

- PET 6971 Thesis (6 credit hours)

### Nonthesis Option—3-6 Credit Hours

Students select one of the following courses:

- PET 6910 Problem Analysis (3 credit hours)
- PET 6946 Practicum, Clinical Practice (3-6 credit hours)

### Independent Learning

The independent learning experience for the program is PET 6910 Problem Analysis.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Two letters of recommendation.
- Résumé.

## Application Deadlines

Coaching Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

## CONTACT INFO

### Jeffrey Stout PhD

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ED 320K

# Sport Nutrition Track

## TRACK DESCRIPTION

The Sport Nutrition track in the Sport and Exercise Science MS program prepares students to advance their knowledge in nutritional aspects of sports performance and nutritional intervention. The course of study will guide students in issues relation to industry regulation of sport supplements, efficacy of various dietary and nutritional supplements, and the effect that nutritional intervention may have on all populations, including the elderly and children. This track may have important relevance for registered dietitians exploring a graduate focus on sport supplementation. In addition, students graduating from this track may have career opportunities in the sport nutrition industry, or working with sport teams or athletes.

## CURRICULUM

### Total Hours Required:

36 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—15 Credit Hours

- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- PET 5355 Exercise and Health (3 credit hours)
- PET 6376 Sport Nutrition (3 credit hours)
- PET 6363 Dietary and Nutritional Supplementation for Athletic Performance (3 credit hours)
- PET 6366 Exercise, Nutrition and Weight Control (3 credit hours)

### Elective Courses—15-18 Credit Hours

Students that select the thesis option must take 15 credit hours in electives. Students that select the nonthesis option must take 18 credit hours in electives. All electives are selected in conjunction with the student's graduate adviser or the graduate

coordinator. Students can choose from the following courses.

- EDF 6401 Statistics for Educational Data (3 credit hours)
- PET 6357C Environmental Perturbation and Human Performance (3 credit hours)
- PET 6388 Cardiovascular Physiology (3 credit hours)
- PET 6389 Physiological Aspects of Sport and Training (3 credit hours)
- PET 6395 Program Design in Strength and Conditioning (3 credit hours)
- PET 6515 Assessment and Evaluation in Sport and Exercise Science (3 credit hours)
- PET 6521 Exercise Physiology Instrumentation (3 credit hours)
- PET 6690 Exercise Prescription for Special Populations (3 credit hours)
- PET 7387 Exercise Endocrinology (3 credit hours)
- PET 7535 Research and Experimental Design in Exercise Physiology (3 credit hours)

### Thesis Option—6 Credit Hours

Students selecting the thesis option will take EDF 6401 Statistics for Educational Data and enroll in thesis hours.

- PET 6971 Thesis (6 credit hours)

### Nonthesis Option—3-6 Credit Hours

Students select one of the following courses.

- PET 6910 Problem Analysis (3 credit hours)
- PET 6946 Practicum, Clinical Practice (3-6 credit hours)

### Independent Learning

PET 6910 is the independent learning experience for the program.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicant to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation.
- Goal Statement.
- Résumé / vita reflecting relevant experience.

### Application Deadlines

Sport Nutrition Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

## CONTACT INFO

### Jeffrey Stout PhD

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 ED 320K

# Sport Business Management MSBM

- MSBM Foundations Track

## PROGRAM DESCRIPTION

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 and the importance of multicultural marketing 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, 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, event and facilities management, 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. Students in the Sport Business Management program have the opportunity to be admitted to the MBA program and receive a MBA as an additional degree. Please note that a student admitted to the MSBM program with provisional admission to the MBA program will take 13 hours of coursework in the first semester, 12 of which are courses that count toward both the MSBM and MBA degrees. The student must earn a grade of B (3.0) or higher in all MBA courses taken, otherwise the student's provisional admission to the MBA program will be revoked.

## CURRICULUM

The DeVos Sport Business Management MSBM program requires a minimum of 45 credit hours beyond the bachelor's degree. The

program includes 18 credit hours of professional core courses, 24 credit hours of sport business management core courses, and 3 credit hours of an internship. This is a nonthesis program in which the internship serves as a capstone experience.

### Total Hours Required:

**45** Credit Hours Minimum beyond the Bachelor's Degree

The two-year full-time curriculum includes the College of Business Administration's foundation core; selected required courses from the college's professional core for solid business skills and knowledge; and required sport business management courses that will create a unique knowledge base for our students.

## Required Courses—45 Credit Hours

### Professional Core—18 Credit Hours

The professional core consists of 18 credit hours of advanced course work.

- MAN 6245 Organizational Behavior and Development (3 credit hours)
- MAR 6466 Strategic Supply Chain Management (3 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)
- ECO 6115 Economic Analysis of the Firm (3 credit hours)

### Sport Business Management Core—24 Credit Hours

The sport business management core consists of 24 credit hours of course work in the related areas of sport.

- SPB 6506 Moral and Ethical Issues in Sport (1.5 credit hours)
- SPB 6606 Diversity and Social Issues in Sport Business Management (1.5 credit hours)
- SPB 6725 Leadership in Sport (1.5 credit hours)

- SPB 6716C Strategic Sport Marketing (3 credit hours)
- SPB 6406 Sport Law (3 credit hours)
- SPB 6806 Business of Sport Media (3 credit hours)
- SPB 6735 The Global Environment of Sport (3 credit hours)
- SPB 6715C Professional Selling in Sport (1.5 credit hours)
- SPM 6108 Facilities and Event Management (1.5 credit hours)
- SPB 6608 The Sport Industries in the United States: Challenges and Opportunities (1.5 credit hours)
- SPB 6706 Sport Analytics (3 credit hours)

### Internship—3 Credit Hours

An internship equivalent to three credit hours with a designated sport organization is required. It would normally be a full-time, 15-week internship taken after the completion of all academic courses. The internship is an independent learning activity that takes place in authentic settings (all settings are professional sports settings, such as the NBA, NFL, etc.) in which students must apply, reflect upon, and refine knowledge and skills acquired in the program.

### Additional Program Requirements

Any student enrolled in a College of Business Administration master's degree program who earns more than two final course grades below a B- will be dismissed from the program and retention plans will not be supported by the College of Business Administration.

### MBA Option—51 Total Credit Hours Required

If accepted into the MBA program, students must complete MAN 6721 Applied Strategy and Business Policy (3 credit hours) and MAR 6816 Strategic Marketing Management (3 credit hours). Please note that a student admitted to the MSBM program with provisional admission to the MBA program will take 13 credit hours of coursework in the first semester, 12 of which are courses that count toward both the MSBM and MBA degrees. The student must earn a grade of B (3.0) or higher in all MBA

courses taken, otherwise the student's provisional admission to the MBA program will be revoked.

### Independent Learning

All students are required to participate in an internship in professional sport settings in which students must apply, reflect upon, and refine knowledge and skills acquired throughout the curriculum.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GMAT score taken within the last five years.
- Three professional letters of recommendation.
- Essay (for details, see <http://www.bus.ucf.edu/sportbusiness/?page=931>)
- Résumé.
- All finalists will be required to have an in-person or Skype interview.
- A computer-based score of 233 (or 91 internet-based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

We admit students based on their total package of academic success, professional and community service experience, commitment to teamwork, and



other factors that show the admissions committee if the applicant is a good fit for the DeVos program.

## Application Deadlines

Sport Business Management MSBM	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Nov 15	Jan 15		
International Applicants	Nov 15	Jan 15		
International Transfer Applicants	Nov 15	Jan 15		

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Business Administration II 205D

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BA2 302X

# Taxation MST

## PROGRAM DESCRIPTION

**NOTE: This program has been suspended and is not accepting applications effective with the Fall 2014 term.**

The Master of Science in Taxation program is designed to prepare individuals for careers as tax professionals and tax consultants in public practice, government, and industry. The MST degree, along with appropriate prerequisite work from an undergraduate degree in accounting, satisfies the education requirements to become a licensed CPA in the state of Florida. Faculty members in the Kenneth G. Dixon School of Accounting emphasize independent learning in various ways in all courses in the MST program. Cases and research projects that involve independent work outside the classroom are incorporated into all course work. The cases and projects are both individual and team prepared. Students are asked to do research that requires they utilize library, internet and resources other than the material provided by the professor. The results of independent research activity are presented in a written report, a case analysis, or an oral presentation. Students work to develop and enhance skills and competencies that will support them professionally throughout their careers. The approaches used in our courses encourage life-long learning.

## CURRICULUM

The Master of Science in Taxation (MST) degree is awarded upon completion of a minimum 30 credit hours, and a final written exit exam. In the total program of study a minimum of 21 credit hours of the course work must be completed in accounting/tax courses. Students, with the assistance and approval of the program adviser, may select other courses that reflect their interests and career objectives.

### Total Hours Required:

**30** Credit Hours Minimum beyond the Bachelor's Degree

Faculty members in the Kenneth G. Dixon School of Accounting emphasize independent

learning in various ways in all courses in the MST program. Cases and research projects that involve independent work outside the classroom are incorporated into all course work. The cases and projects are both individual and team prepared. Students are asked to do research that requires they utilize library, internet and resources other than the material provided by the professor. The results of independent research activity are presented in either a written report or case analysis or oral presentation. Students work to develop and enhance skills and competencies that will support them professionally throughout their careers. The approaches used in our courses encourage students toward life-long learning.

### Foundation Prerequisite Courses

The courses included in the business and accounting foundation core are listed below. An applicant with a recent undergraduate accounting degree should satisfy most of the core foundation requirements. Other recent related business coursework may partially satisfy these core requirements. The business foundation core is designed for students with a nonbusiness undergraduate degree (e.g., psychology, education, or engineering). The accounting foundation core is designed for students with an undergraduate business degree (e.g., finance, marketing, or management). All business and accounting foundation core deficiencies must be satisfied before graduate MSA coursework can be taken. Before taking any foundation courses, please have your undergraduate transcripts reviewed by the MSA/MST Program Advisor.

### Business Foundation Core—21 Credit Hours

- ACG 2021 Financial Accounting (3 credit hours)
- ACG 2071 Managerial Accounting (3 credit hours)
- ECO 2013 Macroeconomics (3 credit hours)
- ECO 2023 Microeconomics (3 credit hours)
- ECO 3401 Quantitative Business Tools I (3 credit hours)
- ECO 3411 Quantitative Business Tools II (3 credit hours)
- FIN 3403 Business Finance (3 credit hours)

### Accounting Foundation Core—22 Credit Hours

- ACG 3131 Intermediate Financial Accounting I (3 credit hours)
- ACG 3141 Intermediate Financial Accounting II (3 credit hours)
- ACG 3361 Cost Accounting I (3 credit hours)
- ACG 4401 Accounting Information Systems (3 credit hours)
- ACG 4651 Auditing (3 credit hours)
- BUL 3130 Legal and Ethical Environment of Business (4 credit hours)
- TAX 4001 Taxation of Business Entities and Transactions (3 credit hours)

### Required Courses—15 Credit Hours

- ACG 6636 Advanced Auditing (3 credit hours)
- ACG 6805 Accounting Theory (3 credit hours)
- TAX 5015 Advanced Tax Topics (3 credit hours)
- TAX 6065 Tax Research (3 credit hours)
- TAX 6845 Tax Planning and Consulting (3 credit hours)

### Elective Courses—15 Credit Hours

#### Restricted Tax Elective Courses—6 Credit Hours

- TAX 6317 Taxation of Flow-thru Entities (3 credit hours)
- TAX 6527 Multi-jurisdictional Taxation (3 credit hours)
- TAX 6875 Contemporary Tax Topics (3 credit hours)
- TAX 6946 Graduate Tax Internship (3 credit hours)

#### Restricted Elective Courses—9 Credit Hours

MSA students can take additional TAX courses or ACG courses as restricted electives. Most MBA courses other than ACG 6425 and BUL 6444 may be taken as restricted electives. BUL 5332 Advanced Business Law Topics is required for UCF students with an undergraduate degree

in accounting who plan to take the CPA exam. Please note that some of the MBA courses may be restricted to only those students enrolled within a specific MBA track. Up to six hours may be selected from outside the College of Business Administration. Courses outside the College of Business Administration must be selected with the student's area of interest and/or career objectives in mind and with the approval of the program adviser.

**Other Requirements**

The satisfactory completion of an end-of-program comprehensive written examination is required. The MST program does not require a thesis.

**Additional Program Requirements**

Any student enrolled in a College of Business Administration master's degree program who earns more than two final course grades below a B- will be dismissed from the program and retention plans will not be supported by the College of Business Administration.

**APPLICATION REQUIREMENTS**

In addition to the general UCF graduate application requirements, applicants to this program need the following:

- One official transcript (in a sealed envelope) from each college/university attended.
- 3.0 GPA in upper division accounting and tax courses.
- Official, competitive GMAT score taken within the last five years.
- Résumé.
- A computer-based score of 233 (or 91 internet-based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.
- Applicants applying to this program who have attended a college/university outside the

United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

**Application Deadlines**

Taxation MST	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

**CONTACT INFO**

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# Teacher Education

## MAT

- Art Education Track
- English Language Arts Education with ESOL Endorsement Track
- Mathematics Education Track
- Middle School Mathematics Education Track
- Science Education-Biology Track
- Science Education-Chemistry Track
- Middle School Science Education Track
- Science Education-Physics Track
- Social Science Education Track

### PROGRAM DESCRIPTION

The Master of Arts in Teaching graduate program was created to allow individuals who are not certified to teach to become effective, certified teachers of secondary content areas. The MAT program offers tracks in 9 secondary content areas: Art Education, English Education, Mathematics Education, Middle School Mathematics Education, Science Education-Biology, Science Education-Chemistry, Science Education-Physics, Science Education-Middle School, and Social Science Education. Graduation from this state-approved MAT includes the successful completion of a 6-hour internship, submission of a comprehensive portfolio, and passing scores on all sections of the Florida Teacher Certification Examination. The Master of Arts in Teaching admits in spring and summer terms only.

Students in the Mathematics Education and Science Education tracks may be eligible for Teacher Education Assistance for College and Higher Education (TEACH) grant. Please see [education.ucf.edu/teach\\_grad.cfm](http://education.ucf.edu/teach_grad.cfm) for more information.

### APPLICATION REQUIREMENTS

Applicants must choose a track in this program. Track(s) may have different requirements.

### CONTACT INFO

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# Art Education Track

## TRACK DESCRIPTION

**The Master of Arts in Teaching is a state-approved initial teacher preparation program that is subject to any change in the Florida Administrative Code (State Board of Education Rule 6A-5.066). Students enrolled in this program should remain in close contact with their adviser to keep informed of any program changes implemented to comply with new state requirements.**

The Teacher Education MAT, Art Education is a state-approved initial teacher preparation program for students seeking certification to teach Art in grades K-12, including students previously certified to teach in another field.

## CURRICULUM

### Total Hours Required:

**37** Credit Hours Minimum beyond the Bachelor's Degree

The Teacher Education MAT, Art Education requires a minimum of 37 credit hours beyond the bachelor's degree. The program is a K-12 program for noneducation majors at the undergraduate level or teachers previously certified in another field.

The MAT requires an online portfolio of both reflective practice/analysis of professional development and demonstration of attainment of the beginning level of performance for all Florida Educator Accomplished Practices (FEAPs). Multiple artifacts and reflective analysis are required for each of the accomplished practices. All portfolio entries are critical components of learning since they are the primary means of accessing the professional development of students as reflective practitioners. LiveText access is required for the portfolio. In addition, an internship is required.

## Required Courses—29 Credit Hours

### Core—13 Credit Hours

- ESE 6935 Introductory Seminar in Secondary Education\* (1 credit hour)
- EDG 6415 Principles of Instruction and Classroom Management\* (3 credit hours)
- EDF 6237 Principles of Learning and Introduction to Classroom Assessment\*\* (3 credit hours)
- EDF 6727 Critical Analysis of Social, Ethical, Legal, and Safety Issues Related to Education (3 credit hours)
- TSL 5085 Teaching Language Minority Students in K-12 Classrooms (3 credit hours)

\*Must be taken in the first semester in the program.

\*\*Must be taken prior to internship.

### Specialization—16 Credit Hours

- RED 5147 Developmental Reading (3 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 (with approval of adviser, 3 credit hours)
- ARE Elective Number Two (with approval of adviser, 3 credit hours)

### Internship—6 Credit Hours

- ARE 6946 Graduate Internship (6 credit hours, taken over two semesters)

Students should ensure that they meet all requirements for Graduate Internship.

- Complete 24 credit hours of the program, including all core courses plus methods courses.
- Overall graduate GPA must be 3.0 or higher.
- No more than 6 credit hours of co-requisite content requirements can be outstanding at the time of admission to graduate internship.
- Passing scores on the appropriate Subject Area Examination and Professional Education



Examination are required prior to admission to the second semester of graduate internship.

- Students must apply and be approved for graduate internship. Deadline dates and applications are available through the Office of Clinical Experiences at <http://www.education.ucf.edu/clinicalexp/>
- Satisfactory completion of the Graduate Internship requires the student to demonstrate proficiency in all Florida Educator Accomplished Practices at the beginning level in accordance with State Board of Education Rule 6A-5.065.

### **Culminating Experience—2 Credit Hours**

- ESE 6256 Critical Issues in Secondary Education (1 credit hour, taken twice)

### **Additional Program Requirements**

- Complete an electronic portfolio according to program guidelines. This portfolio requires demonstration of professional growth, reflection, and proficiency in the 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. These may be previously earned undergraduate or graduate credits, or include graduate content area credits approved for electives in the program. 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.

### **Equipment Fee**

Students in the Master of Arts in Teacher Education program pay a \$64 equipment each semester that they are enrolled. Part-time students pay \$32 per semester.

### **Independent Learning**

The MAT requires an online portfolio of both reflective practice/analysis of professional development and demonstration of attainment of

the beginning level of performance for all Florida Educator Accomplished Practices (FEAPs). Multiple artifacts and reflective analysis are required for each of the accomplished practices. All portfolio entries are critical components of learning since they are the primary means of accessing the professional development of students as reflective practitioners. LiveText is required for the portfolio. In addition, an internship is required.

## **APPLICATION REQUIREMENTS**

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

This program does not require GRE for admission, but in accordance with Florida Statute 1004.4 and State Board of Education Rule 6A-5.066, admission to this graduate-level, state-approved initial teacher preparation program requires one of the following: 1) a composite verbal-quantitative GRE score of at least 1000 or equivalent, or 2) having previously passed all four parts of the College Level Academic Skills Test (CLAST), or 3) passing all four parts of the Florida Teacher Certification Examination/General Knowledge Test (FTCE/GKT). Applicants who do not meet this requirement via option 1 (GRE) or 2 (CLAST), must take and pass the FTCE/GKT for admission.

Students may not switch from an MAT program to an MEd program, or vice versa, without going through the university's application process. Courses used to gain initial state certification may not be transferred into a MEd program.

## Application Deadlines

Art Education Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

## CONTACT INFO

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Education 122U

### Janet Andreasen PhD

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ED 123-Q

# English Language Arts Education with ESOL Endorsement Track

## TRACK DESCRIPTION

**The Master of Arts in Teaching is a state-approved initial teacher preparation program that is subject to any change in the Florida Administrative Code (State Board of Education Rule 6A-5.066). Students enrolled in this program should remain in close contact with their adviser to keep informed of any program changes implemented to comply with new state requirements.**

The Teacher Education MAT, English Language Arts Education with ESOL Endorsement is a state-approved initial teacher preparation program for students seeking certification to teach English in grades 6-12, including students previously certified to teach in another field.

## CURRICULUM

### Total Hours Required:

**39** Credit Hours Minimum beyond the Bachelor's Degree

The Teacher Education MAT, English Language Arts Education with ESOL Endorsement program requires a minimum of 39 credit hours beyond the bachelor's degree that includes ESOL endorsement and the option of adding Reading K-12 endorsement. The program is a secondary (grades 6-12) program for noneducation majors at the undergraduate level or teachers previously certified in another field.

The MAT requires an online portfolio of both reflective practice/analysis of professional development and demonstration of attainment of the beginning level of performance for all Florida Educator Accomplished Practices (FEAPs). Multiple artifacts and reflective analysis are required for each of the accomplished practices. All portfolio entries are critical components of learning since they are the primary means of accessing the

professional development of students as reflective practitioners. LiveText access is required for the portfolio. In addition, an internship is required.

## Required Courses—31 Credit Hours

### Core—13 Credit Hours

- ESE 6935 Introductory Seminar in Secondary Education\* (1 credit hour)
- EDG 6415 Principles of Instruction and Classroom Management\* (3 credit hours)
- TSL 5085 Teaching Language Minority Students in K-12 Classrooms\* (3 credit hours)
- EDF 6727 Critical Analysis of Social, Ethical, Legal, and Safety Issues Related to Education (3 credit hours)
- EDF 6237 Principles of Learning and Introduction to Classroom Assessment\*\* (3 credit hours)

\*Must be taken in the first semester in the program.

\*\*Must be taken prior to internship.

### Specialization—18 Credit Hours

- LAE 6637 Research in Teaching English (3 credit hours)
- LAE 5338 Teaching Writing in Middle and High School (3 credit hours)
- LAE 5346 Methods of Teaching English Language Arts (3 credit hours)
- LAE 5465 Literature for Adolescents (3 credit hours)
- RED 5147 Developmental Reading (3 credit hours)
- TSL 6250 Applied Linguistics in ESOL (3 credit hours)

### Internship—6 Credit Hours

- LAE 6946 Graduate Internship (6 credit hours, taken over two semesters)

Students should ensure that they meet all requirements for Graduate Internship.

- Complete 24 credit hours of the program, including all core courses plus methods courses.
- Overall graduate GPA must be 3.0 or higher.

- No more than 6 credit hours of co-requisite content requirements can be outstanding at the time of admission to graduate internship.
- Passing scores on the appropriate Subject Area Examination and Professional Education Examination are required prior to admission to the second semester of graduate internship.
- Students must apply and be approved for graduate internship. Deadline dates and applications are available through the Office of Clinical Experiences at <http://www.education.ucf.edu/clinicalexp/>
- Satisfactory completion of the Graduate Internship requires the student to demonstrate proficiency in all Florida Educator Accomplished Practices at the beginning level in accordance with State Board of Education Rule 6A-5.065.

## Culminating Experience—2 Credit Hours

- ESE 6256 Critical Issues in Secondary Education (1 credit hour, taken twice)

## Additional Program Requirements

- Complete an electronic portfolio according to program guidelines. This portfolio requires demonstration of professional growth, reflection, and proficiency in all Florida Educator Accomplished Practices (FEAPs).
- Students are required to complete 30 credit hours of co-requisite undergraduate and graduate English course work to meet certification requirements to teach English, grades 6-12. These may be previously earned undergraduate or graduate English credits, or include graduate credits in English approved for electives in the program. 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.

## Equipment Fee

Students in the Master of Arts in Teacher Education program pay a \$64 equipment each

semester that they are enrolled. Part-time students pay \$32 per semester.

## Independent Learning

The MAT requires an online portfolio of both reflective practice/analysis of professional development and demonstration of attainment for all Florida Educator Accomplished Practices (FEAPs). Multiple artifacts and reflective analysis are required for each of the accomplished practices. All portfolio entries are critical components of learning since they are the primary means of accessing the professional development of students as reflective practitioners. LiveText is required for the portfolio. In addition, an internship is required.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

This program does not require GRE for admission, but in accordance with Florida Statute 1004.4 and State Board of Education Rule 6A-5.066, admission to this graduate-level, state-approved initial teacher preparation program requires one of the following: 1) a composite verbal-quantitative GRE score of at least 1000, or 2) having previously passed all four parts of the College Level Academic Skills Test (CLAST), or 3) passing all four parts of the Florida Teacher Certification Examination/General Knowledge Test (FTCE/GKT). Applicants who do not meet this requirement via option 1 (GRE) or 2 (CLAST), must take and pass the FTCE/GKT for admission.

Students may not switch from an MAT program to an MEd program, or vice versa, without going through the university's admission process.

## Application Deadlines

English Language Arts Education with ESOL Endorsement Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

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# Mathematics Education Track

## TRACK DESCRIPTION

The Master of Arts in Teaching is a state-approved initial teacher preparation program that is subject to any change in the Florida Administrative Code (State Board of Education Rule 6A-5.066). Students enrolled in this program should remain in close contact with their adviser to keep informed of any program changes implemented to comply with new state requirements.

The Teacher Education MAT, Mathematics Education is a state-approved initial teacher preparation program for students seeking certification to teach Mathematics in grades 6-12, including students previously certified to teach in another field. A track is also available for Middle School Mathematics (grades 5-9).

Students in the Mathematics Education and Science Education tracks may be eligible for Teacher Education Assistance for College and Higher Education (TEACH) grant. Please see [education.ucf.edu/teach\\_grad.cfm](http://education.ucf.edu/teach_grad.cfm) for more information.

## CURRICULUM

### Total Hours Required:

**36** Credit Hours Minimum beyond the Bachelor's Degree

The Teacher Education MAT, Mathematics Education program requires a minimum of 36 credit hours beyond the bachelor's degree. The program is a secondary (grades 6-12) program for noneducation majors at the undergraduate level or teachers previously certified in another field.

The MAT requires an online portfolio of both reflective practice/analysis of professional development and demonstration of attainment of the beginning level of performance for all Florida Educator Accomplished Practices (FEAPs). Multiple artifacts and reflective analysis are required for each of the accomplished practices. All portfolio entries are critical components of learning since they are the primary means of accessing the professional development of students as reflective

practitioners. LiveText access is required for the portfolio. In addition, an internship is required.

## Required Courses—19 Credit Hours

### Core—13 Credit Hours

- ESE 6935 Introductory Seminar in Secondary Education\* (1 credit hour)
- EDG 6415 Principles of Instruction and Classroom Management\* (3 credit hours)
- EDF 6727 Critical Analysis of Social, Ethical, Legal, and Safety Issues Related to Education (3 credit hours)
- EDF 6237 Principles of Learning and Introduction to Classroom Assessment\*\* (3 credit hours)
- TSL 5085 Teaching Language Minority Students in K-12 Classrooms (3 credit hours)

\*Must be taken in the first semester in the program.

\*\*Must be taken prior to internship

### Methods—6 Credit Hours

- LAE 5496 Disciplinary Literacy in the Content Areas (3 credit hours)
- MAE 5336 Current Methods in Secondary School Mathematics (3 credit hours)

## Elective Courses—9 Credit Hours

Students should select three of the following specialization courses. Course substitutions can be made with approval of adviser.

- IDS 6515 Classroom Management for Mathematics and Science Teachers (3 credit hours)
- IDS 6939 Reforming Curriculum in Mathematics and Science Education (3 credit hours)
- MAE 6337 Teaching Algebra in the Secondary School (3 credit hours)
- MAE 6338 Teaching Geometry in the Secondary School (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)
- MAE 6656 Using Technology in the Instruction of K-12 Mathematics (3 credit hours)
- MAE 6899 Seminar in Teaching Mathematics (3 credit hours)

### **Internship—6 Credit Hours**

- MAE 6946 Graduate Internship (6 credit hours, taken over two semesters)

Students should ensure that they meet all requirements for Graduate Internship.

- Complete 24 credit hours of the program, including all core courses plus methods courses.
- Overall graduate GPA must be 3.0 or higher.
- No more than 6 credit hours of co-requisite content requirements can be outstanding at the time of admission to graduate internship.
- Passing scores on the appropriate Subject Area Examination and Professional Education Examination are required prior to admission to the second semester of graduate internship.
- Students must apply and be approved for graduate internship. Deadline dates and applications are available through the Office of Clinical Experiences at <http://www.education.ucf.edu/clinicaexp/>
- Satisfactory completion of the Graduate Internship requires the student to demonstrate proficiency in all Florida Educator Accomplished Practices at the beginning level in accordance with State Board of Education Rule 6A-5.065.

### **Culminating Experience—2 Credit Hours**

- ESE 6256 Critical Issues in Secondary Education (1 credit hour, taken twice)

### **Additional Program Requirements**

- Complete an electronic portfolio according to program guidelines. This portfolio requires demonstration of professional growth, reflection, and proficiency in the Florida Educator Accomplished Practices.
- Pass all required sections of the Florida Teacher Certification Examination.

- Students are required to have 30 credit hours of mathematics course work to meet certification requirements to teach mathematics in grades 6-12. These may be previously earned undergraduate or graduate mathematics credits or include graduate credits in mathematics approved for electives in the program. 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.

### **Equipment Fee**

Students in the Master of Arts in Teacher Education program pay a \$64 equipment each semester that they are enrolled. Part-time students pay \$32 per semester.

### **Independent Learning**

The MAT requires an online portfolio of both reflective practice/analysis of professional development and demonstration of attainment of the beginning level of performance for all Florida Educator Accomplished Practices (FEAPs). Multiple artifacts and reflective analysis are required for each of the accomplished practices. All portfolio entries are critical components of learning since they are the primary means of accessing the professional development of students as reflective practitioners. LiveText is required for the portfolio. In addition, an internship is required.

## **APPLICATION REQUIREMENTS**

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

This program does not require GRE for admission, but in accordance with Florida Statute 1004.4 and State Board of Education Rule 6A-5.066, admission

to this graduate-level, state-approved initial teacher preparation program requires one of the following: 1) a composite verbal-quantitative GRE score of at least 1000, or 2) having previously passed all four parts of the College Level Academic Skills Test (CLAST), or 3) passing all four parts of the Florida Teacher Certification Examination/General Knowledge Test (FTCE/GKT). Applicants who do not meet this requirement via option 1 (GRE) or 2 (CLAST), must take and pass the FTCE/GKT for admission.

Students may not switch from an MAT program to an MEd program, or vice versa, without going through the university's admission process.

## Application Deadlines

Mathematics Education Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

## CONTACT INFO

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# Middle School Mathematics Education Track

## TRACK DESCRIPTION

**The Master of Arts in Teaching is a state-approved initial teacher preparation program that is subject to any change in the Florida Administrative Code (State Board of Education Rule 6A-5.066). Students enrolled in this program should remain in close contact with their adviser to keep informed of any program changes implemented to comply with new state requirements.**

The Teacher Education MAT, Middle School Mathematics Education is a state-approved initial teacher preparation program for students seeking certification to teach mathematics in grades 5-9, including students previously certified to teach in another field.

Students in the Mathematics Education and Science Education tracks may be eligible for Teacher Education Assistance for College and Higher Education (TEACH) grant. Please see education.ucf.edu/teach\_grad.cfm for more information.

## CURRICULUM

### Total Hours Required:

**36** Credit Hours Minimum beyond the Bachelor's Degree

The Teacher Education MAT, Middle School Mathematics Education program requires a minimum of 36 credit hours beyond the bachelor's degree. The program is a secondary (grades 5-9) program for noneducation majors at the undergraduate level or teachers previously certified in another field.

The MAT requires an online portfolio of both reflective practice/analysis of professional development and demonstration of attainment of the beginning level of performance for all Florida Educator Accomplished Practices (FEAPs). Multiple artifacts and reflective analysis are required for each of the accomplished practices. All

portfolio entries are critical components of learning since they are the primary means of accessing the professional development of students as reflective practitioners. LiveText access is required for the portfolio. In addition, an internship is required.

## Required Courses—19 Credit Hours

### Core—13 Credit Hours

- ESE 6935 Introductory Seminar in Secondary Education\* (1 credit hour)
- EDG 6415 Principles of Instruction and Classroom Management\* (3 credit hours)
- EDF 6727 Critical Analysis of Social, Ethical, Legal, and Safety Issues Related to Education (3 credit hours)
- EDF 6237 Principles of Learning and Introduction to Classroom Assessment\*\* (3 credit hours)
- TSL 5085 Teaching Language Minority Students in K-12 Classrooms (3 credit hours)

\*Must be taken in the first semester in the program.

\*\*Must be taken prior to internship.

### Methods—6 Credit Hours

- LAE 5496 Disciplinary Literacy in the Content Areas (3 credit hours)
- MAE 5327 Teaching Middle School Mathematics (3 credit hours)

## Elective Courses—9 Credit Hours

Students should select three of the following specialization courses. Course substitutions can be made with approval of adviser.

- IDS 6515 Classroom Management for Mathematics and Science Teachers (3 credit hours)
- IDS 6939 Reforming Curriculum in Mathematics and Science Education (3 credit hours)
- MAE 6337 Teaching Algebra in the Secondary School (3 credit hours)
- MAE 6338 Teaching Geometry in the Secondary School (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)
- MAE 6656 Using Technology in the Instruction of K-12 Mathematics (3 credit hours)
- MAE 6899 Seminar in Teaching Mathematics (3 credit hours)

## Internship—6 Credit Hours

- MAE 6946 Graduate Internship (6 credit hours, taken over two semesters)

Students should ensure that they meet all requirements for Graduate Internship.

- Complete 24 credit hours of the program, including all core courses plus methods courses.
- Overall graduate GPA must be 3.0 or higher.
- No more than 6 credit hours of co-requisite content requirements can be outstanding at the time of admission to graduate internship.
- Passing scores on the appropriate Subject Area Examination and Professional Education Examination are required prior to admission to the second semester of graduate internship.
- Students must apply and be approved for graduate internship. Deadline dates and applications are available through the Office of Clinical Experiences at <http://www.education.ucf.edu/clinicalexp/>
- Satisfactory completion of the Graduate Internship requires the student to demonstrate proficiency in all Florida Educator Accomplished Practices at the beginning level in accordance with State Board of Education Rule 6A-5.065.

## Culminating Experience—2 Credit Hours

- ESE 6256 Critical Issues in Secondary Education (1 credit hour, taken twice)

## Additional Program Requirements

- Complete an electronic portfolio according to program guidelines. This portfolio requires demonstration of professional growth,

reflection, and proficiency in the Florida Educator Accomplished Practices.

- Pass all required sections of the Florida Teacher Certification Examination.
- 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.

### Equipment Fee

Students in the Master of Arts in Teacher Education program pay a \$64 equipment each semester that they are enrolled. Part-time students pay \$32 per semester.

### Independent Learning

The MAT requires a portfolio of both reflective practice/analysis of professional development and demonstration of attainment for all of the Florida Educator Accomplished Practices (FEAPs). Multiple artifacts and reflective analysis are required for each of the accomplished practices. All portfolio entries are critical components of learning since they are the primary means of accessing the professional development of students as reflective practitioners. LiveText is required for the portfolio. In addition, an internship is required.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

This program does not require GRE for admission, but in accordance with Florida Statute 1004.4 and

State Board of Education Rule 6A-5.066, admission to this graduate-level, state-approved initial teacher preparation program requires one of the following: 1) a composite verbal-quantitative GRE score of at least 1000, or 2) having previously passed all four parts of the College Level Academic Skills Test (CLAST), or 3) passing all four parts of the Florida Teacher Certification Examination/General Knowledge Test (FTCE/GKT). Applicants who do not meet this requirement via option 1 (GRE) or 2 (CLAST), must take and pass the FTCE/GKT for admission.

Students may not switch from an MAT program to an MEd program, or vice versa, without going through the university's application process.

### Application Deadlines

Middle School Mathematics Education Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

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# Science Education- Biology Track

## TRACK DESCRIPTION

**The Master of Arts in Teaching is a state-approved initial teacher preparation program that is subject to any change in the Florida Administrative Code (State Board of Education Rule 6A-5.066). Students enrolled in this program should remain in close contact with their adviser to keep informed of any program changes implemented to comply with new state requirements.**

The Teacher Education MAT, Science Education - Biology is a state-approved initial teacher preparation program for students seeking certification to teach Biology in grades 6-12, including students previously certified to teach in another field.

Students in the Mathematics Education and Science Education tracks may be eligible for Teacher Education Assistance for College and Higher Education (TEACH) grant. Please see [education.ucf.edu/teach\\_grad.cfm/u](http://education.ucf.edu/teach_grad.cfm/u) for more information.

## CURRICULUM

### Total Hours Required:

**36** Credit Hours Minimum beyond the Bachelor's Degree

The Teacher Education MAT, Science Education, Biology program requires a minimum of 36 credit hours beyond the bachelor's degree. The program is a secondary (grades 6-12) program for noneducation majors at the undergraduate level or teachers previously certified in another field.

The MAT requires an online portfolio of both reflective practice/analysis of professional development and demonstration of attainment of the beginning level of performance for all Florida Educator Accomplished Practices (FEAPs). Multiple artifacts and reflective analysis are required for each of the accomplished practices. All portfolio entries are critical components of learning since they are the primary means of accessing the professional development of students as reflective

practitioners. LiveText access is required for the portfolio. In addition, an internship is required.

## Required Courses—19 Credit Hours

### Core—13 Credit Hours

- ESE 6935 Introductory Seminar in Secondary Education\* (1 credit hour)
- EDG 6415 Principles of Instruction and Classroom Management\* (3 credit hours)
- EDF 6727 Critical Analysis of Social, Ethical, Legal, and Safety Issues Related to Education (3 credit hours)
- EDF 6237 Principles of Learning and Introduction to Classroom Assessment\*\* (3 credit hours)
- TSL 5085 Teaching Language Minority Students in K-12 Classrooms (3 credit hours)

\*Must be taken in the first semester in the program.

\*\*Must be taken prior to internship.

### Methods—6 Credit Hours

- LAE 5496 Disciplinary Literacy in the Content Areas (3 credit hours)
- SCE 5337 Issues and Methods in Secondary School Science (3 credit hours)

## Elective Courses—9 Credit Hours

The elective courses are chosen in accord with the student's area of specialization.

- Electives approved by adviser (9 credit hours)

## Internship—6 Credit Hours

- SCE 6946 Graduate Internship (6 credit hours, taken over two semesters)

Students should ensure that they meet all requirements for Graduate Internship.

- Complete 24 credit hours of the program, including all core courses plus methods courses.
- Overall graduate GPA must be 3.0 or higher.
- No more than 6 credit hours of co-requisite content requirements can be outstanding at the time of admission to graduate internship.



- Passing scores on the appropriate Subject Area Examination and Professional Education Examination are required prior to admission to the second semester of graduate internship.
- Students must apply and be approved for graduate internship. Deadline dates and applications are available through the Office of Clinical Experiences at <http://www.education.ucf.edu/clinicalexp/>
- Satisfactory completion of the Graduate Internship requires the student to demonstrate proficiency in all Florida Educator Accomplished Practices at the beginning level in accordance with State Board of Education Rule 6A-5.065.

### **Culminating Experience—2 Credit Hours**

- ESE 6256 Critical Issues in Secondary Education (1 credit hour, taken twice)

### **Additional Program Requirements**

- Complete an electronic portfolio according to program guidelines. This portfolio requires demonstration of professional growth, reflection, and proficiency in the Florida Educator Accomplished Practices.
- Pass all required sections of the Florida Teacher Certification Examination.
- Students are required to have 30 credit hours of co-requisite science course work to meet certification requirements to teach science in grades 6-12. These may be previously earned undergraduate or graduate science credits, or include graduate credits in science approved for electives in the program. 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.

### **Equipment Fee**

Students in the Master of Arts in Teacher Education program pay a \$64 equipment each semester that they are enrolled. Part-time students pay \$32 per semester.

### **Independent Learning**

The MAT requires a portfolio of both reflective practice/analysis of professional development and demonstration of attainment of the beginning level of performance for all Florida Educator Accomplished Practices (FEAPs). Multiple artifacts and reflective analysis are required for each of the accomplished practices. All portfolio entries are critical components of learning since they are the primary means of accessing the professional development of students as reflective practitioners. LiveText is required for the portfolio. In addition, an internship is required.

### **APPLICATION REQUIREMENTS**

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

This program does not require GRE for admission, but in accordance with Florida Statute 1004.4 and State Board of Education Rule 6A-5.066, admission to this graduate-level, state-approved initial teacher preparation program requires one of the following: 1) a composite verbal-quantitative GRE score of at least 1000, or 2) having previously passed all four parts of the College Level Academic Skills Test (CLAST), or 3) passing all four parts of the Florida Teacher Certification Examination/General Knowledge Test (FTCE/GKT). Applicants who do not meet this requirement via option 1 (GRE) or 2 (CLAST), must take and pass the FTCE/GKT for admission.

Students may not switch from an MAT program to an MEd program without going through the university's application process.

## Application Deadlines

Science Education-Biology Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

## CONTACT INFO

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# Science Education- Chemistry Track

## TRACK DESCRIPTION

**The Master of Arts in Teaching is a state-approved initial teacher preparation program that is subject to any change in the Florida Administrative Code (State Board of Education Rule 6A-5.066). Students enrolled in this program should remain in close contact with their adviser to keep informed of any program changes implemented to comply with new state requirements.**

The Teacher Education MAT, Science Education - Chemistry is a state-approved initial teacher preparation program for students seeking certification to teach Chemistry in grades 6-12, including students previously certified to teach in another field.

Students in the Mathematics Education and Science Education tracks may be eligible for Teacher Education Assistance for College and Higher Education (TEACH) grant. Please see [education.ucf.edu/teach\\_grad.cfm](http://education.ucf.edu/teach_grad.cfm) for more information.

## CURRICULUM

### Total Hours Required:

**36** Credit Hours Minimum beyond the Bachelor's Degree

The Teacher Education MAT, Science Education - Chemistry program requires a minimum of 36 credit hours beyond the bachelor's degree. The program is a secondary (grades 6-12) program for noneducation majors at the undergraduate level or teachers previously certified in another field. The MAT requires an online portfolio of both reflective practice/analysis of professional development and demonstration of attainment of the beginning level of performance for all Florida Educator Accomplished Practices (FEAPs). Multiple artifacts and reflective analysis are required for each of the accomplished practices. All portfolio entries are critical components of learning since they are the primary means of accessing the professional development of students as reflective practitioners. LiveText access is required for the

portfolio. In addition, an internship is required.

## Required Courses—19 Credit Hours

### Core—13 Credit Hours

- ESE 6935 Introductory Seminar in Secondary Education\* (1 credit hour)
- EDG 6415 Principles of Instruction and Classroom Management\* (3 credit hours)
- EDF 6727 Critical Analysis of Social, Ethical, Legal, and Safety Issues Related to Education (3 credit hours)
- EDF 6237 Principles of Learning and Introduction to Classroom Assessment\*\* (3 credit hours)
- TSL 5085 Teaching Language Minority Students in K-12 Classrooms (3 credit hours)

\*Must be taken in the first semester in the program.

\*\*Must be taken prior to internship.

### Methods—6 Credit Hours

- LAE 5496 Disciplinary Literacy in the Content Areas (3 credit hours)
- SCE 5337 Issues and Methods in Secondary School Science (3 credit hours)

## Elective Courses—9 Credit Hours

The elective courses are chosen in keeping with the student's area of specialization.

- Electives approved by adviser (9 credit hours)

## Internship—6 Credit Hours

- SCE 6946 Graduate Internship (6 credit hours, taken over two semesters)

Students should ensure that they meet all requirements for Graduate Internship.

- Complete 24 credit hours of the program, including all core courses plus methods courses.
- Overall graduate GPA must be 3.0 or higher.
- No more than 6 credit hours of co-requisite content requirements can be outstanding at the time of admission to graduate internship.

- Passing scores on the appropriate Subject Area Examination and Professional Education Examination are required prior to admission to the second semester of graduate internship.
- Students must apply and be approved for graduate internship. Deadline dates and applications are available through the Office of Clinical Experiences at <http://www.education.ucf.edu/clinicalexp/>
- Satisfactory completion of the Graduate Internship requires the student to demonstrate proficiency in all Florida Educator Accomplished Practices at the beginning level in accordance with State Board of Education Rule 6A-5.065.

## Culminating Experience—2 Credit Hours

- ESE 6256 Critical Issues in Secondary Education (1 credit hour, taken twice)

## Additional Program Requirements

- Complete an electronic portfolio according to program guidelines. This portfolio requires demonstration of professional growth, reflection, and proficiency in the Florida Educator Accomplished Practices.
- Pass all required sections of the Florida Teacher Certification Examination.
- Students are required to have 30 credit hours of co-requisite science course work to meet certification requirements to teach science in grades 6-12. These may be previously earned undergraduate or graduate science credits, or include graduate credits in science approved for electives in the program. 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.

## Equipment Fee

Students in the Master of Arts in Teacher Education program pay a \$64 equipment each semester that they are enrolled. Part-time students pay \$32 per semester.

## Independent Learning

The MAT requires a portfolio of both reflective practice/analysis of professional development and demonstration of attainment of the beginning level of performance for all Florida Educator Accomplished Practices (FEAPs). Multiple artifacts and reflective analysis are required for each of the accomplished practices. All portfolio entries are critical components of learning since they are the primary means of accessing the professional development of students as reflective practitioners. LiveText is required for the portfolio. In addition, an internship is required.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

This program does not require GRE for admission, but in accordance with Florida Statute 1004.4 and State Board of Education Rule 6A-5.066, admission to this graduate-level, state-approved initial teacher preparation program requires one of the following: 1) a composite verbal-quantitative GRE score of at least 1000, or 2) having previously passed all four parts of the College Level Academic Skills Test (CLAST), or 3) passing all four parts of the Florida Teacher Certification Examination/General Knowledge Test (FTCE/GKT). Applicants who do not meet this requirement via option 1 (GRE) or 2 (CLAST), must take and pass the FTCE/GKT for admission.

Students may not switch from an MAT program to an MED program without going through the university's application process.

## Application Deadlines

Science Education-Chemistry Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

## CONTACT INFO

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# Middle School Science Education Track

## TRACK DESCRIPTION

**The Master of Arts in Teaching is a state-approved initial teacher preparation program that is subject to any change in the Florida Administrative Code (State Board of Education Rule 6A-5.066). Students enrolled in this program should remain in close contact with their adviser to keep informed of any program changes implemented to comply with new state requirements.**

The Teacher Education MAT, Middle School Science Education is a state-approved initial teacher preparation program for students seeking certification to teach science in grades 5-9, including students previously certified to teach in another field.

Students in the Mathematics Education and Science Education tracks may be eligible for Teacher Education Assistance for College and Higher Education (TEACH) grant. Please see [education.ucf.edu/teach\\_grad.cfm](http://education.ucf.edu/teach_grad.cfm) for more information.

## CURRICULUM

### Total Hours Required:

**36** Credit Hours Minimum beyond the Bachelor's Degree

The Teacher Education MAT, Middle School Science Education program requires a minimum of 36 credit hours beyond the bachelor's degree. The program is a secondary (grades 5-9) program for noneducation majors at the undergraduate level or teachers previously certified in another field.

The MAT requires an online portfolio of both reflective practice/analysis of professional development and demonstration of attainment of the beginning level of performance for all Florida Educator Accomplished Practices (FEAPs). Multiple artifacts and reflective analysis are required for each of the accomplished practices. All portfolio entries are critical components of learning

since they are the primary means of accessing the professional development of students as reflective practitioners. LiveText access is required for the portfolio. In addition, an internship is required.

## Required Courses—28 Credit Hours

### Core—13 Credit Hours

- ESE 6935 Introductory Seminar in Secondary Education\* (1 credit hour)
- EDG 6415 Principles of Instruction and Classroom Management\* (3 credit hours)
- EDF 6727 Critical Analysis of Social, Ethical, Legal, and Safety Issues Related to Education (3 credit hours)
- EDF 6237 Principles of Learning and Introduction to Classroom Assessment\*\* (3 credit hours)
- TSL 5085 Teaching Language Minority Students in K-12 Classrooms (3 credit hours)

\*Must be taken in the first semester in the program.

\*\*Must be taken prior to internship.

### Specialization—15 Credit Hours

- LAE 5496 Disciplinary Literacy in the Content Areas (3 credit hours)
- SCE 5325 Teaching Middle School Science (3 credit hours)
- ISC 6146 Environmental Education (3 credit hours)
- SCE 5836 Space Science for Educators (3 credit hours)
- One elective approved by adviser (3 credit hours)

### Internship—6 Credit Hours

- SCE 6946 Graduate Internship (6 credit hours, taken over two semesters)

Students should ensure that they meet all requirements for Graduate Internship.

- Complete 24 credit hours of the program, including all core courses plus methods courses.
- Overall graduate GPA must be 3.0 or higher.



- No more than 6 credit hours of co-requisite content requirements can be outstanding at the time of admission to graduate internship.
- Passing scores on the appropriate Subject Area Examination and Professional Education Examination are required prior to admission to the second semester of graduate internship.
- Students must apply and be approved for graduate internship. Deadline dates and applications are available through the Office of Clinical Experiences at <http://www.education.ucf.edu/clinicalexp/>
- Satisfactory completion of the Graduate Internship requires the student to demonstrate proficiency in all Florida Educator Accomplished Practices at the beginning level in accordance with State Board of Education Rule 6A-5.065.

### **Culminating Experience—2 Credit Hours**

- ESE 6256 Critical Issues in Secondary Education (1 credit hour, taken twice)

### **Additional Program Requirements**

- Complete an electronic portfolio according to program guidelines. This portfolio requires demonstration of professional growth, reflection, and proficiency in the Florida Educator Accomplished Practices.
- Pass all required sections of the Florida Teacher Certification Examination.

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.

### **Equipment Fee**

Students in the Master of Arts in Teacher Education program pay a \$64 equipment each semester that they are enrolled. Part-time students pay \$32 per semester.

### **Independent Learning**

The MAT requires a portfolio of both reflective practice/analysis of professional development and demonstration of attainment of the beginning level of performance for all Florida Educator Accomplished Practices (FEAPs). Multiple artifacts and reflective analysis are required for each of the accomplished practices. All portfolio entries are critical components of learning since they are the primary means of accessing the professional development of students as reflective practitioners. LiveText is required for the portfolio. In addition, an internship is required.

### **APPLICATION REQUIREMENTS**

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

This program does not require GRE for admission, but in accordance with Florida Statute 1004.4 and State Board of Education Rule 6A-5.066, admission to this graduate-level, state-approved initial teacher preparation program requires one of the following: 1) a composite verbal-quantitative GRE score of at least 1000, or 2) having previously passed all four parts of the College Level Academic Skills Test (CLAST), or 3) passing all four parts of the Florida Teacher Certification Examination/General Knowledge Test (FTCE/GKT). Applicants who do not meet this requirement via option 1 (GRE) or 2 (CLAST), must take and pass the FTCE/GKT for admission.

Students may not switch from an MAT program to an MEd program without going through the university's application process.

## Application Deadlines

Middle School Science Education Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

## CONTACT INFO

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# Science Education- Physics Track

## TRACK DESCRIPTION

**The Master of Arts in Teaching is a state-approved initial teacher preparation program that is subject to any change in the Florida Administrative Code (State Board of Education Rule 6A-5.066). Students enrolled in this program should remain in close contact with their adviser to keep informed of any program changes implemented to comply with new state requirements.**

The Teacher Education MAT, Science Education - Physics is a state-approved initial teacher preparation program for students seeking certification to teach Physics in grades 6-12, including students previously certified to teach in another field.

Students in the Mathematics Education and Science Education tracks may be eligible for Teacher Education Assistance for College and Higher Education (TEACH) grant. Please see [education.ucf.edu/teach\\_grad.cfm](http://education.ucf.edu/teach_grad.cfm) for more information.

## CURRICULUM

### Total Hours Required:

**36** Credit Hours Minimum beyond the Bachelor's Degree

The Teacher Education MAT, Science Education - Physics program requires a minimum of 36 credit hours beyond the bachelor's degree. The program is a secondary (grades 6-12) program for noneducation majors at the undergraduate level or teachers previously certified in another field.

The MAT requires an online portfolio of both reflective practice/analysis of professional development and demonstration of attainment of the beginning level of performance for all Florida Educator Accomplished Practices (FEAPs). Multiple artifacts and reflective analysis are required for each of the accomplished practices. All portfolio entries are critical components of learning since they are the primary means of accessing the professional development of students as reflective

practitioners. LiveText access is required for the portfolio. In addition, an internship is required.

## Required Courses—19 Credit Hours

### Core—13 Credit Hours

- ESE 6935 Introductory Seminar in Secondary Education\* (1 credit hour)
- EDG 6415 Principles of Instruction and Classroom Management\* (3 credit hours)
- EDF 6727 Critical Analysis of Social, Ethical, Legal, and Safety Issues Related to Education (3 credit hours)
- EDF 6237 Principles of Learning and Introduction to Classroom Assessment\*\* (3 credit hours)
- TSL 5085 Teaching Language Minority Students in K-12 Classrooms (3 credit hours)

\*Must be taken in the first semester in the program.

\*\*Must be taken prior to internship.

### Methods—6 Credit Hours

- LAE 5496 Disciplinary Literacy in the Content Areas (3 credit hours)
- SCE 5337 Issues and Methods in Secondary School Science (3 credit hours)

## Elective Courses—9 Credit Hours

Students choose electives in keeping with their specialization.

- Electives approved by adviser (9 credit hours)

## Internship—6 Credit Hours

- SCE 6946 Graduate Internship (6 credit hours, taken over two semesters)

Students should ensure that they meet all requirements for Graduate Internship.

- Complete 24 credit hours of the program, including all core courses plus methods courses.
- Overall graduate GPA must be 3.0 or higher.
- No more than 6 credit hours of co-requisite content requirements can be outstanding at the time of admission to graduate internship.

- Passing scores on the appropriate Subject Area Examination and Professional Education Examination are required prior to admission to the second semester of graduate internship.
- Students must apply and be approved for graduate internship. Deadline dates and applications are available through the Office of Clinical Experiences at <http://www.education.ucf.edu/clinicalexp/>
- Satisfactory completion of the Graduate Internship requires the student to demonstrate proficiency in all Florida Educator Accomplished Practices at the beginning level in accordance with State Board of Education Rule 6A-5.065.

## Culminating Experience—2 Credit Hours

- ESE 6256 Critical Issues in Secondary Education (1 credit hour, taken twice)

## Additional Program Requirements

- Complete an electronic portfolio according to program guidelines. This portfolio requires demonstration of professional growth, reflection, and proficiency in the Florida Educator Accomplished Practices.
- Pass all required sections of the Florida Teacher Certification Examination.
- Students are required to have 30 credit hours of co-requisite science course work to meet certification requirements to teach science in grades 6-12. These may be previously earned undergraduate or graduate science credits, or include graduate credits in science approved for electives in the program. 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.

## Equipment Fee

Students in the Master of Arts in Teacher Education program pay a \$64 equipment each semester that they are enrolled. Part-time students pay \$32 per semester.

## Independent Learning

The MAT requires a portfolio of both reflective practice/analysis of professional development and demonstration of attainment of the beginning level of performance for all Florida Educator Accomplished Practices (FEAPs). Multiple artifacts and reflective analysis are required for each of the accomplished practices. All portfolio entries are critical components of learning since they are the primary means of accessing the professional development of students as reflective practitioners. LiveText is required for the portfolio. In addition, an internship is required.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

This program does not require GRE for admission, but in accordance with Florida Statute 1004.4 and State Board of Education Rule 6A-5.066, admission to this graduate-level, state-approved initial teacher preparation program requires one of the following: 1) a composite verbal-quantitative GRE score of at least 1000, or 2) having previously passed all four parts of the College Level Academic Skills Test (CLAST), or 3) passing all four parts of the Florida Teacher Certification Examination/General Knowledge Test (FTCE/GKT). Applicants who do not meet this requirement via option 1 (GRE) or 2 (CLAST), must take and pass the FTCE/GKT for admission.

Students may not switch from an MAT program to an MEd program without going through the university's application process.

## Application Deadlines

Science Education-Physics Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

## CONTACT INFO

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# Social Science Education Track

## TRACK DESCRIPTION

**The Master of Arts in Teaching is a state-approved initial teacher preparation program that is subject to any change in the Florida Administrative Code (State Board of Education Rule 6A-5.066). Students enrolled in this program should remain in close contact with their adviser to keep informed of any program changes implemented to comply with new state requirements.**

The Teacher Education MAT, Social Science Education is a state-approved initial teacher preparation program for students seeking certification to teach Social Science in grades 6-12, including students previously certified to teach in another field.

## CURRICULUM

### Total Hours Required:

**36** Credit Hours Minimum beyond the Bachelor's Degree

The Teacher Education MAT, Social Science Education program requires a minimum of 36 credit hours beyond the bachelor's degree. The program is a secondary (grades 6-12) program for noneducation majors at the undergraduate level or teachers previously certified in another field.

The MAT requires an online portfolio of both reflective practice/analysis of professional development and demonstration of attainment of the beginning level of performance for all Florida Educator Accomplished Practices (FEAPs). Multiple artifacts and reflective analysis are required for each of the accomplished practices. All portfolio entries are critical components of learning since they are the primary means of accessing the professional development of students as reflective practitioners. LiveText access is required for the portfolio. In addition, an internship is required.

## Required Courses—19 Credit Hours

### Core—13 Credit Hours

- ESE 6935 Introductory Seminar in Secondary Education\* (1 credit hour)
- EDG 6415 Principles of Instruction and Classroom Management\* (3 credit hours)
- EDF 6727 Critical Analysis of Social, Ethical, Legal, and Safety Issues Related to Education (3 credit hours)
- EDF 6237 Principles of Learning and Introduction to Classroom Assessment\*\* (3 credit hours)
- TSL 5085 Teaching Language Minority Students in K-12 Classrooms (3 credit hours)

\*Must be taken in the first semester in the program.

\*\*Must be taken prior to internship.

### Methods—6 Credit Hours

- LAE 5496 Disciplinary Literacy in the Content Areas (3 credit hours)
- SSE 5790 Inquiry and Instructional Analysis in Social Science Education (3 credit hours)

## Elective Courses—9 Credit Hours

These electives are chosen in the student's area of specialization, and all must be at the 5000 level and higher. Substitutions may be approved by the student's adviser.

- SSE electives (6 credit hours)
- Social science content elective in other programs and departments (3 credit hours minimum), including, but not limited to, the following course prefixes: AFH, AMH, ASH, CPO, EUH, HIS, INR, LAH, or POS.

## Internship—6 Credit Hours

- SSE 6946 Graduate Internship (6 credit hours, taken over two semesters)

Students should ensure that they meet all requirements for Graduate Internship.

- Complete 24 credit hours of the program, including all core courses plus methods courses.
- Overall graduate GPA must be 3.0 or higher.



- No more than 6 credit hours of co-requisite content requirements can be outstanding at the time of admission to graduate internship.
- Passing scores on the appropriate Subject Area Examination and Professional Education Examination are required prior to admission to the second semester of graduate internship.
- Students must apply and be approved for graduate internship. Deadline dates and applications are available through the Office of Clinical Experiences at <http://www.education.ucf.edu/clinicalexp/>
- Satisfactory completion of the Graduate Internship requires the student to demonstrate proficiency in all Florida Educator Accomplished Practices at the beginning level in accordance with State Board of Education Rule 6A-5.065.

### Culminating Experience—2 Credit Hours

- ESE 6256 Critical Issues in Secondary Education (1 credit hour, taken twice)

### Additional Program Requirements

- Complete an electronic portfolio according to program guidelines. This portfolio requires demonstration of professional growth, reflection, and proficiency in the Florida Educator Accomplished Practices.
- Pass all required sections of the Florida Teacher Certification Examination.
- Students are required to have 30 credit hours of social science course work to meet certification requirements to teach social science in grades 6-12. These may be previously earned undergraduate or graduate social science credits or include graduate credits in social science approved for electives in the program. 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.

### Equipment Fee

Students in the Master of Arts in Teacher Education program pay a \$64 equipment each semester that they are enrolled. Part-time students pay \$32 per semester.

### Independent Learning

The MAT requires a portfolio of both reflective practice/analysis of professional development and demonstration of attainment for all of the Florida Educator Accomplished Practices (FEAPs). Multiple artifacts and reflective analysis are required for each of the accomplished practices. All portfolio entries are critical components of learning since they are the primary means of accessing the professional development of students as reflective practitioners. LiveText is required for the portfolio. In addition, an internship is required.

### APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

This program does not require GRE for admission, but in accordance with Florida Statute 1004.4 and State Board of Education Rule 6A-5.066, admission to this graduate-level, state-approved initial teacher preparation program requires one of the following: 1) a composite verbal-quantitative GRE score of at least 1000, **or** 2) having previously passed all four parts of the College Level Academic Skills Test (CLAST), **or** 3) passing all four parts of the Florida Teacher Certification Examination/General Knowledge Test (FTCE/GKT). Applicants who do not meet this requirement via option 1 (GRE) or 2 (CLAST), must take and pass the FTCE/GKT for admission.

Students may not switch from an MAT program to an MEd program, or vice versa, without going through the university's application process.

## Application Deadlines

Social Science Education Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

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# Teacher Leadership MEd

- Art Education Track
- Curriculum Leadership Track
- Educational Technology Track
- English/Language Arts Education Track
- Global, International and Comparative Education Track
- Gifted Education Track
- Mathematics Education Track
- Science Education Track
- Social Science Education Track
- Urban Education Track

## PROGRAM DESCRIPTION

The Master of Education (MEd) program in Teacher Leadership is designed for professionally certified and experienced educators who want to extend their influence beyond the walls of the classroom and improve their knowledge and skills in the area of leadership. Students also engage in the development of expertise in leading other educators in curriculum and instructional improvement across subject areas and grade levels. The Teacher Leadership program addresses teacher empowerment and leadership in the expanded roles and responsibilities of teachers in schools, including data-driven assessment for school improvement, professional learning communities, applying research to practice, improving instruction and student learning outcomes, and collaboration with families and community.

During the admission process, students may select a track in the following content areas that require certification: Art Education (K-12), English/Language Arts Education (6-12), Mathematics Education (6-12), Science Education (6-12), and Social Science Education (6-12). Students can also select a track in the following program areas which do not require specific certification beyond the professional teaching certificate: Curriculum Leadership, Educational Technology, Gifted Education\*, and Global, International and Comparative Education\*.

**This degree does not prepare students for initial, administrative, or supervisory certification.**

**\*These program areas also include a certificate, which must be applied for separately.**

## CURRICULUM

The Master of Education in Teacher Leadership program requires a minimum of 33 credit hours beyond the bachelor's degree; minimum credit hour requirements vary by track. Students from all tracks must complete the required 15 credit hours of core courses. The Master of Education in Teacher Leadership program requires that all students complete a Capstone Research Project or Thesis. The Capstone is a course-based action research study (i.e., application and analysis of the effectiveness of research-based best practices in the classroom). Additional course requirements vary by track.

**Note:** For teachers certified and interested in Middle School Science (grades 5-9), the K-8 Mathematics and Science MEd program may be of interest.

### Total Hours Required:

**33-36** Credit Hours Minimum beyond the Bachelor's Degree

This section describes the elements of the curriculum that are in common for all of the tracks.

## Required Courses

### Core—15 Credit Hours

All students must take the Teacher Leadership core, regardless of their chosen specialization.

- EDG 6935 Introductory Seminar in Teacher Leadership\* (3 credit hours)
- EDG 6223 Curriculum Theory, Organization and Policy (3 credit hours)
- EDF 6472 Data-driven Decision Making for Instruction\*\* (3 credit hours)
- EDF 6233 Introduction to Action Research and Analysis of Classroom Practice\*\* (3 credit hours)
- EDF 6635 Capstone: Action Research in Teacher Leadership (3 credit hours) or IDS 6971 Thesis (6 credit hours)

\*Must be taken in first semester of program.

\*\*Prerequisites for the Capstone course.

Students complete either a Capstone Research Project or Thesis at the end of the program. EDF 6635 is offered in spring semester only. Students must complete an Intent to Graduate Form the semester prior to enrolling in EDF 6635.

## Independent Learning

The MEd requires a course-based action research study and completion of a capstone experience.

## APPLICATION REQUIREMENTS

Applicants must choose a track in this program. Track(s) may have different requirements.

### Application Deadlines

Teacher Leadership MEd	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

## CONTACT INFO

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Education 223M

# Art Education Track

## TRACK DESCRIPTION

The Art Education track in the Teacher Leadership MEd program leads to a Master of Education (MEd) degree. The MEd degree is designed to meet the expanding needs of the art teacher. Students in the program 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.

## CURRICULUM

### Total Hours Required:

**36-39** Credit Hours Minimum beyond the Bachelor's Degree

The Art Education track in the Teacher Leadership MEd program requires 15-18 credit hours of core courses, including completion of a capstone research project or thesis. In addition, students take 21 credit hours of specialization courses.

### Required Courses—36-39 Credit Hours

#### Core—15-18 Credit Hours

- EDG 6935 Introductory Seminar in Teacher Leadership\* (3 credit hours)
- EDG 6223 Curriculum Theory, Organization and Policy (3 credit hours)
- EDF 6472 Data-Driven Decision Making for Instruction\*\* (3 credit hours)
- EDF 6233 Introduction to Action Research and Analysis of Classroom Practice\*\* (3 credit hours)
- EDF 6635 Action Research and Inquiry in Teacher Leadership (3 credit hours) or IDS 6971 Thesis (6 credit hours)

\* Must be taken in first semester in the program.

\*\*Prerequisites to the Capstone.

Student completes either a Capstone Research Project or Thesis at the end of the program. EDF 6635 is offered in spring semester only.

### Specialization—21 Credit Hours

Students take the following courses:

- ARE 6450 K-12 Instructional Materials (3 credit hours)
- ARE 6666 Arts Advocacy (3 credit hours)
- ARE 6748 Advanced Research Seminar in Art Education (3 credit hours)
- ARE 6747 Assessment Seminar in Art Education (3 credit hours)
- ARE 6905 Research Trends in Art Education (3 credit hours)

Choose two of the following elective courses with adviser approval:

- ARE 5251 Art for Exceptionalities (3 credit hours)
- ARE 5454 Studio Experiences in Art Education (3 credit hours; may be repeated for credit up to 3 times)
- ARE 6195 Teaching Art Appreciation with Interdisciplinary Strategies (3 credit hours)
- ARE 6748 Advanced Research Seminar in Art Education (3 credit hours; may be used in the degree program a maximum of 2 times only when course content is different)
- ARE 6905 Research Trends in Art Education (3 credit hours; may be repeated for credit)
- ART studio courses approved by adviser

### Independent Learning

The MEd requires a course-based action research study and completion of a capstone experience (research report or thesis).

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.

- Evidence of eligibility for a professional teaching certificate in Florida in related area.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

## Application Deadlines

Art Education Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

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Education 122U

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Education 223M

# Curriculum Leadership Track

## TRACK DESCRIPTION

The Curriculum Leadership track in the Teacher Leadership MEd program is designed to meet the advanced knowledge and skill needs of educators in curriculum planning and management.

## CURRICULUM

### Total Hours Required:

**33-36** Credit Hours Minimum beyond the Bachelor's Degree

The Curriculum and Leadership track in the Master of Education Teacher Leadership program requires 15-18 credit hours of core courses, including completion of a capstone research project or thesis. In addition, students take 18 credit hours of specialization courses.

## Required Courses—33-36 Credit Hours

### Core—15-18 Credit Hours

- EDG 6935 Introductory Seminar in Teacher Leadership\* (3 credit hours)
- EDG 6223 Curriculum Theory, Organization and Policy (3 credit hours)
- EDF 6472 Data-Driven Decision Making for Instruction\*\* (3 credit hours)
- EDF 6233 Introduction to Action Research and Analysis of Classroom Practice\*\* (3 credit hours)
- EDF 6635 Capstone: Action Research in Teacher Leadership (3 credit hours) or IDS 6971 Thesis (6 credit hours)

\*Must be taken in first semester of program.

\*\*Prerequisites for the Capstone.

Student completes either a Capstone Research Project or Thesis at the end of the program. Student must complete an Intent to Graduate form the semester prior to enrolling in ED 6635. EDF 6635 is offered in spring semester only.



**Specialization—18 Credit Hours**

Students take the following courses:

- ESE 6217 Curriculum Design (3 credit hours)
- ESE 6416 Curriculum Evaluation (3 credit hours)
- EDG 6224 Curriculum Policy Analysis (3 credit hours)
- EDF 6259 Learning Theories Applied to Leadership in Teaching Practice (3 credit hours)

Choose two of the following elective courses with adviser approval:

- EDF 6517 Perspectives on Education (3 credit hours)
- EME 5050 Fundamentals of Technology for Educators or EME 6602 Integration of Technology into the Curriculum (3 credit hours)
- EDF 6886 Multicultural Education (3 credit hours)
- EDS 6123 Educational Supervisory Practices I or EDS 6130 Educational Supervisory Practices II or EDA 6502 Organization and Administration of Instructional Programs (3 credit hours)
- IDS 6516 Leadership Development for Math and Science Teachers (3 credit hours)
- RED 5147 Developmental Reading (3 credit hours)
- Other electives as approved by adviser and program coordinator (up to 6 credit hours)

- Evidence of eligibility for a professional teaching certificate in Florida in related area.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

**Application Deadlines**

Curriculum Leadership Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

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 Education 223M

**Independent Learning**

The MEd requires a course-based action research study and completion of a capstone experience (research report or thesis).

**APPLICATION REQUIREMENTS**

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.

# Educational Technology Track

## TRACK DESCRIPTION

The Educational Technology track in the Teacher Leadership MEd program is designed for certified and experienced educators who want to increase their technological skills and become highly skilled at successfully integrating technology into the curriculum as well as develop leadership skills necessary to become site-based technology coordinators in K-12 schools, colleges and universities.

## CURRICULUM

### Total Hours Required:

**33-36** Credit Hours Minimum beyond the Bachelor's Degree

The Educational Technology track in the Master of Education Teacher Leadership program requires 15-18 credit hours of core courses, including completion of a capstone research project or thesis. In addition, students take 18 credit hours of specialization courses.

### Required Courses—33-36 Credit Hours

#### Core—15-18 Credit Hours

- EDG 6935 Introductory Seminar in Teacher Leadership\* (3 credit hours)
- EDG 6223 Curriculum Theory, Organization and Policy (3 credit hours)
- EDF 6472 Data-Driven Decision Making for Instruction\*\* (3 credit hours)
- EDF 6233 Introduction to Action Research and Analysis of Classroom Practice\*\* (3 credit hours)
- EDF 6635 Action Research and Inquiry in Teacher Leadership\*\* (3 credit hours) or IDS 6971 Thesis (6 credit hours)

\* Must be taken in first semester in the program.

\*\* Prerequisites to the Capstone.

Student completes either a Capstone Action Research Project or Thesis at the end of the program. EDF 6635 is offered in spring semester only.

### Specialization—18 Credit Hours

Students take the following courses:

- EME 5050 Fundamentals of Technology for Educators (3 credit hours)
- EME 5053 Electronic Resources for Education (3 credit hours)
- EME 6405 Application Software for Educational Settings (3 credit hours)
- EME 6507 Multimedia for Education and Training (3 credit hours)
- EME 6602 Integration of Technology into the Curriculum (3 credit hours)

Choose one of the following courses:

- EME 6055 Current Trends in Instructional Technology (3 credit hours)
- EME 6062 Research in Instructional Technology (3 credit hours)
- EME 6613 Instructional System Design (3 credit hours)
- EME 6417 Interactive Online and Virtual Teaching Environments (3 credit hours; prerequisite is EME 6507)
- EME 6458 Virtual Teaching and the Digital Educator (3 credit hours; prerequisite is EME 6417)

### Independent Learning

The MEd requires a course-based action research study and completion of a capstone experience (research project or thesis).

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Evidence of eligibility for a professional teaching certificate in Florida in related area.

- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

### Application Deadlines

Educational Technology Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

### CONTACT INFO

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 Education 223M

# English/Language Arts Education Track

## TRACK DESCRIPTION

The English Language Arts Education track in the Teacher Leadership MEd program is designed to meet the advanced knowledge and skill needs of the English classroom teacher.

## CURRICULUM

### Total Hours Required:

**33-36** Credit Hours Minimum beyond the Bachelor’s Degree

The English Language Arts Education track in the Master of Education Teacher Leadership program requires 15-18 credit hours of core courses, including completion of a capstone research project or thesis. In addition, students take 18 credit hours of specialization courses.

### Required Courses—33-36 Credit Hours

#### Core—15-18 Credit Hours

- EDG 6935 Introductory Seminar in Teacher Leadership\* (3 credit hours)
- EDG 6223 Curriculum Theory, Organization and Policy (3 credit hours)
- EDF 6472 Data-Driven Decision Making for Instruction\*\* (3 credit hours)
- EDF 6233 Introduction to Action Research and Analysis of Classroom Practice\*\* (3 credit hours)
- EDF 6635 Action Research and Inquiry in Teacher Leadership\* (3 credit hours) or IDS 6971 Thesis (6 credit hours)

\* Must be taken in first semester in the program.

\*\* Prerequisites to the Capstone.

Student completes either a Capstone Action Research Project or Thesis at the end of the

program. EDF 6635 is offered in spring semester only.

### Specialization—18 Credit Hours

Students take the following courses:

- LAE 6637 Research in Teaching English (3 credit hours)
- LAE 6936 Seminar in Language Arts Education (3 credit hours)
- EDF 6259 Learning Theories Applied to Leadership in Teaching Practice (3 credit hours)

Select three of the following courses:

- LAE 5295 Writing Workshop (3 credit hours)
- LAE 5337 Literacy Strategies for Middle and Secondary Teaching (3 credit hours)
- LAE 5495 Assessing Writing (3 credit hours)
- LAE 6296 Advanced Writing Workshop (3 credit hours)
- LAE 6366 Advanced Studies in Adolescent Literature (3 credit hours)
- LAE 6616 Trends in Language Arts Education (3 credit hours)

### Independent Learning

The MEd requires a course-based action research study and completion of a capstone experience (research report or thesis).

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Evidence of eligibility for a professional teaching certificate in Florida in related area.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

### Application Deadlines

English/Language Arts Education Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

### CONTACT INFO

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 Education 223M

# Global, International and Comparative Education Track

## TRACK DESCRIPTION

The Global, International and Comparative Education track in the Teacher Leadership MEd is designed for educators who wish to expand their knowledge and skill in international and cross-cultural education setting.

## CURRICULUM

### Total Hours Required:

**36-39** Credit Hours Minimum beyond the Bachelor's Degree

The Global, International and Comparative Education track in the Master of Education Teacher Leadership program requires 15-18 credit hours of core courses, including completion of a capstone research project or thesis. In addition, students take 21 credit hours of specialization courses.

### Required Courses—36-39 Credit Hours

#### Core—15-18 Credit Hours

- EDG 6935 Introductory Seminar in Teacher Leadership\* (3 credit hours)
- EDG 6223 Curriculum Theory, Organization and Policy (3 credit hours)
- EDF 6472 Data-Driven Decision Making for Instruction\*\* (3 credit hours)
- EDF 6233 Introduction to Action Research and Analysis of Classroom Practice\*\* (3 credit hours)
- EDF 6635 Capstone: Action Research in Teacher Leadership (3 credit hours) or IDS 6971 Thesis (6 credit hours)

\* Must be taken in first semester in the program.

\*\*Prerequisites to the Capstone.

Student completes either a Capstone Research Project or Thesis at the end of the program. EDF 6635 is offered in spring semester only.

### Specialization—21 Credit Hours

Students take the following courses:

- EDF 6809 Introduction to Comparative and International Education (3 credit hours)
- SSE 5391 Global Education: Theory and Practice (3 credit hours)
- EDF 6855 Equitable Educational Opportunity and Life Chances: A Cross-National Analysis (3 credit hours)
- EDS 6365 Education and National Development (3 credit hours)
- EDF 6259 Learning Theories Applied to Leadership in Teaching Practice (3 credit hours)

Select two of the following courses:

- EDG 6775 Exploring Global Educational Issues in International Contexts (3 credit hours)
- EEC 6606 Global issues in Early Childhood (3 credit hours)
- Other graduate courses with the program director's approval

### Independent Learning

The MEd requires a course-based action research study and completion of a capstone experience (research report or thesis).

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

One official transcript (in a sealed envelope) from each college/university attended.

Evidence of eligibility for a professional teaching certificate in Florida in related area.

Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential



evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

## Application Deadlines

Global, International and Comparative Education Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

## CONTACT INFO

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Education 223M

# Gifted Education Track

## TRACK DESCRIPTION

The Gifted Education track in the Teacher Leadership MEd program is designed to meet the advanced knowledge and skill needs of educators who teach diverse gifted and talented students.

## CURRICULUM

### Total Hours Required:

**33-36** Credit Hours Minimum beyond the Bachelor's Degree

The Gifted Education track in the Master of Education Teacher Leadership program requires 15-18 credit hours of core courses, including completion of a capstone research project or thesis. In addition, students take 18 credit hours of specialization courses.

## Required Courses—33-36 Credit Hours

### Core—15-18 Credit Hours

- EDG 6935 Introductory Seminar in Teacher Leadership\* (3 credit hours)
- EDG 6223 Curriculum Theory, Organization and Policy (3 credit hours)
- EDF 6472 Data-Driven Decision Making for Instruction\*\* (3 credit hours)
- EDF 6233 Introduction to Action Research and Analysis of Classroom Practice\*\* (3 credit hours)
- EDF 6635 Action Research and Inquiry in Teacher Leadership\*\* (3 credit hours) or IDS 6971 Thesis (6 credit hours)

\* Must be taken in first semester in the program.

\*\* Prerequisites for enrolling in Capstone. Student completes either a Capstone Research Project or Thesis at the end of the program. EDF 6635 is offered in spring semester only.

**Specialization—18 Credit Hours**

- EDF 6259 Learning Theories Applied to Leadership in Teaching Practice (3 credit hours)
- 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)
- EGI 6417 Guidance and Counseling Strategies for Teachers of Gifted and Talented Individuals (3 credit hours)
- EGI 6305 Theory and Development of Creativity (3 credit hours)

**Application Deadlines**

Gifted Education Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

**CONTACT INFO**

**Gillian Eriksson PhD**  
 Gillian.Eriksson@ucf.edu  
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 Education 223M

**Independent Learning**

The MEd requires a course-based action research study and completion of a capstone experience (research report or thesis).

**APPLICATION REQUIREMENTS**

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Evidence of eligibility for a professional teaching certificate in Florida in related area.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

# Intervention Specialist Track

## TRACK DESCRIPTION

The Intervention Specialist Track in the Curriculum and Instruction MEd program provides advanced coursework for educational leaders to use school-based and classroom instructional data to meet the instructional and intervention needs of all students, including at-risk and struggling students, beyond typical, initial classroom instruction within a multi-tiered system of supports.

In addition, this track will provide an advanced multi-disciplinary theoretical approach and applied knowledge base to experienced educators. Coursework focuses on knowledge, skills and competencies for working with students within an intervention framework.

The Intervention Specialist Track is multi-disciplinary and includes coursework in exceptional student education, school psychology, reading education, and math education. The graduate courses provide an opportunity for students to complete the Intervention Specialist track, as well as a graduate certificate, with separate applications required to each program.

## CURRICULUM

### Total Hours Required:

**33-36** Credit Hours Minimum beyond the Bachelor's Degree

The Intervention Specialist track in the Master in Education Teacher Leadership program requires 15-18 credit hours of core courses, including completion of a capstone research project or thesis. In addition, students take 18 credit hours of specialization courses.

### Required Courses—33-36 Credit Hours

#### Core—15-18 Credit Hours

- EDG 6935 Introductory Seminar in Teacher Leadership\* (3 credit hours)

- EDG 6223 Curriculum Theory, Organization and Policy (3 credit hours)
- EDF 6472 Data-Driven Decision Making for Instruction\*\* (3 credit hours)
- EDF 6233 Introduction to Action Research and Analysis of Classroom Practice\*\* (3 credit hours)
- EDF 6635 Capstone: Action Research in Teacher Leadership (3 credit hours) or IDS 6971 Thesis (6 credit hours)

\* Must be taken in first semester in the program.

\*\*Prerequisites to the Capstone.

Student completes either a Capstone Research Project or Thesis at the end of the program. EDF 6635 is offered in spring semester only.

### Specialization—18 Credit Hours

- EEX 6218 Diagnostic Assessment and Intervention Planning in Exceptional Education (3 credit hours)
- MAE 6517 Diagnosis/Remediation of Difficulties in Mathematics for the Classroom Teacher (3 credit hours)
- RED 5517 Classroom Diagnosis and Development of Reading Proficiencies (3 credit hours)
- SPS 6700 Advanced Psychoeducation and Data-Based Decision Making (3 credit hours)
- Electives as approved by the program adviser (6 credit hours)

### Independent Learning

The MEd requires a course-based action research study and completion of a capstone experience (research report or thesis).

## APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Evidence of eligibility for a professional teaching certificate in Florida in related area and/or sustained teaching experience within schools/colleges (approved by track coordinator).
- One letter of recommendation.
- Goal statement.
- Resume/vita reflecting relevant experience.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

### Application Deadlines

Intervention Specialist Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

### CONTACT INFO

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 ED 315J

# Mathematics Education Track

## TRACK DESCRIPTION

The Mathematics Education track in the Teacher Leadership MEd program is designed to meet the advanced knowledge and skill needs of the classroom teacher of mathematics.

## CURRICULUM

### Total Hours Required:

**33-36** Credit Hours Minimum beyond the Bachelor’s Degree

The Mathematics Education track in the Master in Education Teacher Leadership program requires 15-18 credit hours of core courses, including completion of a capstone research project or thesis. In addition, students take 18 credit hours of specialization courses.

### Required Courses—33-36 Credit Hours

#### Core—15-18 Credit Hours

- EDG 6935 Introductory Seminar in Teacher Leadership\* (3 credit hours)
- EDG 6223 Curriculum Theory, Organization and Policy (3 credit hours)
- EDF 6472 Data-Driven Decision Making for Instruction\*\* (3 credit hours)
- EDF 6233 Introduction to Action Research and Analysis of Classroom Practice\*\* (3 credit hours)
- EDF 6635 Capstone: Action Research in Teacher Leadership (3 credit hours) or IDS 6971 Thesis (6 credit hours)

\* Must be taken in first semester in the program.

\*\*Prerequisites to the Capstone.

Student completes either a Capstone Action Research Project or Thesis at the end of the program. EDF 6635 is offered in spring semester only.

## Specialization—18 Credit Hours

Students take the following courses:

- MAE 6337 Teaching Algebra in the Secondary School (3 credit hours)
- MAE 6338 Teaching Geometry in the Secondary School (3 credit hours)
- EDF 6259 Learning Theories Applied to Leadership in Teaching Practice (3 credit hours)

Select three of the following courses:

- 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)
- MAE 6656 Using Technology in the Instruction of K-12 Mathematics (3 credit hours)
- MAE 6938 Teaching Advanced Mathematics (3 credit hours)
- IDS 6516 Leadership Development for Mathematics and Science Teachers (3 credit hours)
- IDS 6910 Research in Mathematics and Science Education (3 credit hours)
- IDS 6937 Teaching Mathematics and Science Using Reform-based Practices (3 credit hours)
- IDS 6939 Reforming Curriculum in Mathematics and Science Education (3 credit hours)

- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

## Application Deadlines

Mathematics Education Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

## CONTACT INFO

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Education 223M

## Independent Learning

The MEd requires a course-based action research study and completion of a capstone experience (research report or thesis).

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Evidence of eligibility for a professional teaching certificate in Florida in related area.



# Science Education Track

## TRACK DESCRIPTION

The Science Education track in the Teacher Leadership MEd 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.

## CURRICULUM

### Total Hours Required:

**33-36** Credit Hours Minimum beyond the Bachelor's Degree

The Science Education track in the Master in Education Teacher Leadership program requires 15-18 credit hours of core courses, including completion of a capstone research project or thesis. In addition, students take 18 credit hours of specialization courses.

### Required Courses—33-36 Credit Hours

#### Core—15-18 Credit Hours

- EDG 6935 Introductory Seminar in Teacher Leadership\* (3 credit hours)
- EDG 6223 Curriculum Theory, Organization and Policy (3 credit hours)
- EDF 6472 Data-Driven Decision Making for Instruction\*\* (3 credit hours)
- EDF 6233 Introduction to Action Research and Analysis of Classroom Practice\*\* (3 credit hours)
- EDF 6635 Capstone: Action Research in Teacher Leadership (3 credit hours) or IDS 6971 Thesis (6 credit hours)

\* Must be taken in first semester in the program.

\*\*Prerequisites to the Capstone.

Student completes either a Capstone Research Project or Thesis at the end of the program. EDF 6635 is offered in spring semester only.

### Specialization—18 Credit Hours

Select three of the following courses:

- SCE 5836 Space and Physical Science for Educators (3 credit hours)
- ISC 6146 Environmental Education for Educators (3 credit hours)
- IDS 6516 Leadership Development for Mathematics and Science Teachers (3 credit hours)
- IDS 6910 Research in Mathematics and Science Education (3 credit hours)
- IDS 6937 Teaching Mathematics and Science Using Reform-based Practices (3 credit hours)
- IDS 6939 Reforming Curriculum in Mathematics and Science Education (3 credit hours)

Select three courses in one of the following graduate science content areas:

#### *Biology Focus*

- HUN 5247 Principles of Human Nutrition (3 credit hours)
- IDS 5127 Foundation of Bio-Imaging Science (3 credit hours)
- Any graduate-level course with prefix BSC, HSC, MCB, PCB, or ZOO

#### *Chemistry Focus*

- BCH 6740 Advanced Biochemistry (3 credit hours)
- HUN 5247 Principles of Human Nutrition (3 credit hours)
- Any graduate-level course with prefix CHM or CHS

#### *Physics Focus*

- Any graduate-level course with prefixes AST, OSE, PHY, or PHZ

**Note:** For teachers certified and interested in Middle School Science, the K-8 Mathematics and Science MEd program may be of interest.

### Independent Learning

The MEd requires a course-based action research study and completion of a capstone experience (research report or thesis).

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Evidence of eligibility for a professional teaching certificate in Florida in related area.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

### Application Deadlines

Science Education Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

## CONTACT INFO

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ED 322-T

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Education 223M

## Social Science Education Track

### TRACK DESCRIPTION

The Social Science Education track in the Teacher Leadership MEd program is designed to meet advanced knowledge and skill needs of the Social Science classroom teacher.

### CURRICULUM

#### Total Hours Required:

**33-36** Credit Hours Minimum beyond the Bachelor's Degree

The Social Science Education track in the Master in Education Teacher Leadership program requires 15-18 credit hours of core courses, including completion of a capstone research project or thesis. In addition, students take 18 credit hours of specialization courses.

### Required Courses—33-36 Credit Hours

#### Core—15-18 Credit Hours

- EDG 6935 Introductory Seminar in Teacher Leadership\* (3 credit hours)
- EDG 6223 Curriculum Theory, Organization and Policy (3 credit hours)
- EDF 6472 Data-Driven Decision Making for Instruction\*\* (3 credit hours)
- EDF 6233 Introduction to Action Research and Analysis of Classroom Practice\*\* (3 credit hours)
- EDF 6635 Capstone: Action Research in Teacher Leadership (3 credit hours) or IDS 6971 Thesis (6 credit hours)

\* Must be taken in first semester in the program.

\*\*Prerequisites to the Capstone.

Student completes either a Capstone Action Research Project or Thesis at the end of the program. EDF 6635 is offered in spring semester only.

**Specialization—18 Credit Hours**

Students take the following courses:

- Social Science Education electives (12 credit hours)
- Social science electives in other programs and departments (6 credit hours), including, but not limited to, the following course prefixes: AFH, AMH, ASH, CPO, EUH, HIS, INR, LAH, or POS

**Independent Learning**

The MEd requires a course-based action research study and completion of a capstone experience (research report or thesis).

**APPLICATION REQUIREMENTS**

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Evidence of eligibility for a professional teaching certificate in Florida in related area.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

**Application Deadlines**

Social Science Education Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

**CONTACT INFO**

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# Teaching English to Speakers of Other Languages MA

## PROGRAM 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 Humanities and the College of Education. The program provides students a strong foundation in language acquisition, use, and pedagogy. Our MATESOL program offers a combined emphasis on research and teaching, thereby graduating successful researchers and teachers.

## CURRICULUM

The Teaching English to Speakers of Other Languages MA program requires 30-36 credit hours beyond the bachelor's degree dependent on whether students select a thesis or nonthesis option. The thesis option consists of 30 credit hours that includes 24 credit hours of core courses, 3 credit hours of electives, and 3 credit hours of TSL 6971 Thesis. The nonthesis option requires 36 semester hours and includes 24 semester hours of core courses and 12 semester hours of electives. All students, both thesis and nonthesis, must take a written final comprehensive examination covering the core TSL courses.

### Total Hours Required:

**30-36** Credit Hours Minimum beyond the Bachelor's Degree

Most students complete the nonthesis option so that they can focus more on course work related to specific aspects of TESOL, pedagogy, or education. The thesis option is appropriate for those students wishing to research current issues in the discipline or eventually pursue a doctoral program in TESOL or related language field. By the end of the second semester, students wishing to pursue the thesis option should speak with the program director to seek approval and a recommendation for a thesis committee chairperson.

All courses require a final research project that allows students to propose, plan, research, develop,

write, and present their research or teaching interest. The TSL 6640 Research in Second Language is required and should be taken in the first semester of study. A final cumulative course, TSL 6642 Issues in Second Language Acquisition, is also required.

All students must take a comprehensive written examination covering the core TSL courses. This examination is normally taken in the last semester of graduate work and will be reviewed by members of the TESOL Graduate Committee. A student may take the comprehensive examination only twice, and a second examination will not be given in the same semester in which the first attempt occurred.

## Required Courses—24 Credit Hours

### Core

Eight required core courses provide a strong foundation in the content of the discipline.

- 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 6350 Grammar for ESOL Teachers (3 credit hours)
- TSL 6440 Problems in Evaluation in ESOL (3 credit hours)
- TSL 6642 Issues in Second Language Acquisition (3 credit hours)
- TSL 6640 Research in Second Language (3 credit hours)
- TSL 5345 Methods of ESOL Teaching or TSL 6940 ESOL Practicum (3 credit hours)

## Elective Courses—3 Credit Hours

All students must take at least 3 credit hours of electives. Electives provide for three distinct areas of interest: TESOL, linguistics, and multicultural education. Students take their elective credit in one of these areas depending on their interests.

### TESOL

- TSL 5325 ESOL Strategies (3 credit hours)

- TSL 5380 Computers and Technology for ESOL (3 credit hours)
- TSL 5376 Reading and Writing in a Second Language (3 credit hours)
- TSL 5940 Issues in TEFL (3 credit hours)
- TSL 6252 Sociolinguistics for ESOL (3 credit hours)
- TSL 5601 Second Language Vocabulary Learning (3 credit hours)
- TSL 5907 Directed Independent Study (3 credit hours)

**Linguistics**

- LIN 5137 Linguistics (3 credit hours)
- LIN 6932 Problems in Linguistics (3 credit hours)

**Multicultural Education and Pedagogy**

- EDF 6886 Multicultural Education (3 credit hours)
- TSL 6940 ESOL Practicum (3 credit hours)
- EDH 6305 Teaching and Learning in the Community College (3 credit hours)
- SPA 6474 Assessment of Culturally and Linguistically Populations (3 credit hours)
- TSL 5085 Teaching Language to Minority Students K-12 (3 credit hours)
- ENC 5276 Writing/Consulting: Theory and Practice (3 credit hours)
- ENC 5705 Theory and Practice in Composition (3 credit hours)

**Research**

- EDF 6401 Statistics for Educational Data (3 credit hours)

**Thesis Option—3 Credit Hours**

- TSL 6971 Thesis (3 credit hours)

**Nonthesis Option—9 Credit Hours**

Nonthesis students must take an additional 9 credit hours of electives from the list of electives above.

**Independent Learning**

All students in the program are required to take TSL 6640 Research in Second Language and TSL

6642 Issues in Second Language Acquisition. Both classes have as a final project a research paper that organizes and summarizes knowledge in a chosen area of study. All classes in the program require a research paper/project allowing students to engage in independent learning.

**APPLICATION REQUIREMENTS**

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Two letters of recommendation.
- Background questionnaire (After an application is received, the graduate program will send the background questionnaire to the applicant. The purpose of this questionnaire is to gain as much information about an applicant’s reason for wanting a graduate degree in TESOL. The questionnaire also asks about the applicant’s teaching experience, education, research courses, foreign language experience, and cross-cultural background.)

Admission to the UCF MATESOL program is competitive, and meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant’s abilities, past performance, recommendations, match of this program and faculty expertise to the applicant’s career/academic goals, and the applicant’s potential for completing the degree. We strongly recommend that applicants submit their applications and all materials well before the published due dates.

**Application Deadlines**

Teaching English to Speakers of Other Languages MA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 1	Dec 1	Apr 1
The application deadline for Fall 2014 has been extended to July 25, 2014.				
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15



## CONTACT INFO

**Kerry Purmensky PhD**  
kerry.purmensky@ucf.edu  
Telephone: 407-823-0087  
CNH 515

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# Theatre MA

## PROGRAM DESCRIPTION

The Master of Arts in Theatre program provides high school teachers, community college teachers, and developing theatre scholars the opportunity to strengthen skills and knowledge of theatre beyond the undergraduate level. The Master of Arts in Theatre provides less practical training than the MFA degree. Since its purpose is not to train persons for professional careers in the arts and entertainment industry, the program of study is more theoretical. 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.

## CURRICULUM

The Master of Arts in Theatre program offers a rigorous course of study of 39 credit hours minimum, culminating in the writing of a scholarly thesis. Of the 39 credit hours required for the degree, 30 credit hours are required core courses with the other 9 credit hours chosen from a specified list of elective Theatre courses offered by the Department.

### **Total Hours Required:**

**39** Credit Hours Minimum beyond the Bachelor's Degree

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 are also required to demonstrate proficiency in theatrical production.

Students must maintain a minimum "B" (3.00) overall Theatre GPA to continue in the major. Fifty percent of graduate course work must be at the 6000 level. 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 students must successfully complete a written

thesis. The thesis proposal must be approved in advance.

## Required Courses—21 Credit Hours

### Core

- THE 5910 Research Methods in Theatre (3 credit hours)
- THE 6507 Dramatic Theory and Criticism (3 credit hours)
- THE 5205 American Theatre (3 credit hours)
- TPA 5405 Theatre Management for Non-Majors or elective (3 credit hours)
- THE 6086C Careers in Professional Theatre or elective (3 credit hours)
- THE 5307 Contemporary Theatre Practice or Dramatic Literature elective (3 credit hours)
- THE 5945L Theatre Practicum I (1 credit hour)
- THE 5946L Theatre Practicum II (1 credit hour)
- THE 6947L Theatre Practicum III (1 credit hour)

## Elective Courses—9 Credit Hours

Other graduate-level courses may be permitted with departmental approval.

- TPA 5345C 2D Computer Assisted Design for Theatre (3 credit hours)
- TPA 5346C 3D Modeling for Theatre (3 credit hours)
- THE 5288 Period Costumes, Architecture, and Decor I (3 credit hours)
- THE 5289 Period Costumes, Architecture, and Decor II (3 credit hours)
- TPP 6686 Playwriting for Young Audiences (3 credit hours)
- TPP 5246C Circus Arts (2 credit hours)
- TPA 5885C Puppetry (2 credit hours)
- TPP 5125C Improvisation Studio (2 credit hours)
- TPP 5248C Storytelling as a Theatrical Art Form (2 credit hours)

## Thesis—9 Credit Hours

- THE 6971 Thesis (9 credit hours)

## Course Schedule

### YEAR 1

#### *Fall—13 Credit Hours*

- THE 5910 Research Methods in Theatre (3 credit hours)
- TPA 5405 Theatre Management for Non-Majors or elective (3 credit hours)
- 5000 level Theatre 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 6086C Careers in Professional Theatre (3 credit hours)
- THE 5205 American Theatre (3 credit hours)
- THE 5307 Contemporary Theatre Practice (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 at the end of their course work. The department allows two attempts at a comprehensive exam.

## Transfer and Residency

Students without an earned master's degree can usually transfer up to 9 semester hours of credit into this program. A minimum of 30 credits must be taken at the University of Central Florida. Students must complete a residency requirement of at least

two full-time consecutive semesters. A summer session may be counted toward the two consecutive semester requirement.

## Independent Learning

A thesis is required.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- BA or BFA in Theatre or equivalent.
- A 3.0 Theatre GPA.
- Official, competitive GRE score taken within the last five years.
- An interview is required.
- 5-10 page academic paper.
- Goals statement.
- An 8 X 10 headshot.
- Three letters of recommendation.
- Complete the general entrance prerequisites.

**General Entrance Prerequisites**—Students applying for entrance into the MA program 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.

Each student entering the program must be approved by the Graduate Committee of the Department of Theatre.

## Application Deadlines

Theatre MA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Mar 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

## CONTACT INFO

**Julia Listengarten PhD**  
Associate Professor  
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PAC T220

# Urban and Regional Planning MS

## PROGRAM DESCRIPTION

The Master of Science in Urban and Regional Planning program is designed to produce graduates with the analytical skills and managerial knowledge to pursue successful careers in urban, metropolitan, and regional planning and closely related fields. Students will receive an interdisciplinary, holistic educational experience emphasizing sustainability and socially responsible planning.

## CURRICULUM

The Master of Science in Urban and Regional Planning consists of 48 credit hours. Each student completes a core of nine courses (27 credit hours); a concentration in one of three areas: Environmental Planning, Healthy Communities Planning, or Transportation Planning (9 credit hours); General Electives (6 credit hours); and a Capstone Project (6 credit hours). No 4000-level courses may be used in this program. Courses and credit hours used for undergraduate degrees cannot also be counted toward the program, except for Senior Scholar students.

### Total Hours Required:

48 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—33 Credit Hours

#### Core—27 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 6316 Planning Methods (3 credit hours)
- PAD 6353 Environmental Planning and Policy (3 credit hours)

- PAD 6387 Transportation Policy (3 credit hours)
- PAD 6825 Cross-Sectoral Governance (3 credit hours)
- PAD 6847 Planning Healthy Communities (3 credit hours)

### Capstone or Final Product—6 Credit Hours

The final product will be a studio experience for six hours.

- IDS 6953 Urban and Regional Planning Capstone I(3 credit hours)
- IDS 6954 Urban and Regional Planning Capstone II (3 credit hours)

Students work in teams for the final product in the planning degree program under the supervision of a faculty adviser. Students work closely with community partners and may work with the Institute for Economic Competitiveness, the Institute for Social and Behavioral Sciences, the Institute of Government, the Center for Public and Nonprofit Management, the Center for Community Partnership, or the Metropolitan Center for Regional Studies in conducting an applied planning project. Part of the capstone experience is a presentation of their final project.

### Restricted Elective Courses—15 Credit Hours

#### General Electives—6 Credit Hours

Students take two general elective courses for six credit hours with the approval of their adviser. Generally, these courses are taken from the list of restricted electives below, from possibly a different concentration, to provide more breadth. Faculty members who conduct research in the area of concentration may serve as advisers in selecting general electives. An internship may be utilized by students to expand their experience in planning.

- Electives (6 credit hours)

#### Concentration Courses—9 Credit Hours

Students take three courses or nine credit hours from one primary area of concentration:

- Environmental Planning
- Healthy Communities Planning

- Transportation Planning

### ***Environmental Planning***

- PAD 6254 Economics of Land Use Planning and Development
- CEG 5700 Geo-Environmental Engineering
- INR 6405 International Environmental Law
- PAD 6397 Managing Emergencies and Crises
- PAD 6716 Information Systems for Public Managers and Planners
- PCB 6035C Wetland Ecology
- PCB 6328C Landscape Ecology
- PCB 6365 Environmental Physiology
- PHM 5035 Environmental Philosophy
- PUP 6201 Urban Environmental Policy
- PUP 6208 Environmental Politics
- PUP 6247 Contemporary Issues in Environmental Politics
- SYD 5517 Environment and Society
- SYD 6428 Poverty, Homelessness and the Cities
- SYD 6515 Race, Class and Environmental Justice
- SYD 6516 Human Dimensions of Natural Resource Management

### ***Healthy Communities Planning***

- HSA 6128 Health Care Services Management
- HSA 6155 Health Economics and Policy
- HSA 6385 Health Care Quality Management
- HSC 6636 Issues and Trends in the Health Professions
- HSC 6911 Scientific Inquiry in the Health Profession
- PAD 6142 Nonprofit Organizations
- PAD 6397 Managing Emergencies and Crises
- PAD 6716 Information Systems for Public Managers and Planners
- PHC 6000 Epidemiology
- PHC 6146 Health Planning and Policy
- PHC 6420 Case Studies in Health Law
- SYD 5517 Environment and Society

- SYD 6428 Poverty, Homelessness and the Cities
- SYD 6515 Race, Class and Environmental Justice
- SYD 6516 Human Dimensions of Natural Resource Management
- SYO 6405 Sociology of Health and Illness

### ***Transportation Planning***

- PAD XXXX Sustainable Transportation Planning
- CCE 5205 Construction Methods
- CCE 5006 Introduction to Construction Industry
- CCE 6036 Advanced Construction Planning and Control
- CEG 5700 Geo-Environmental Engineering
- CGN 6655 Regional Planning
- ENV 5356 Solids and Hazardous Waste Management
- PAD 6397 Managing Emergencies and Crises
- PAD 6716 Information Systems for Public Managers and Planners
- PCB 6328C Landscape Ecology
- TTE 5805 Geometric Design of Transportation Systems
- TTE 6270 Intelligent Transportation Systems
- TTE 6315 Traffic Safety Analysis
- TTE 6625 Mass Transportation Systems

Please note that students who wish to take transportation classes in the College of Engineering and Computer Science must first take this undergraduate transportation class: TTE 4004 Transportation Engineering.

### **Internship**

Students without practical administrative experience in the public sector are strongly advised to complete an internship (3 credit hours) as part of their electives.

- PAD 6946 Internship (3 credit hours)



### Additional Program Requirements

Students must achieve a grade of “B” (3.0) or higher in every course listed under core requirements and in the Capstone Experience courses.

Students must maintain a program of study and graduate status GPA of 3.0 or higher and can only graduate with a graduate status GPA of 3.0 or higher.

### Independent Learning

Independent learning is demonstrated throughout the curriculum through the process of inquiry and dialogue. Tangible projects, such as research scholarly papers, internships, and the capstone experience also contribute to the self-development of students. The planning study and final project in the Capstone Experience will focus on reviewing and analyzing contemporary planning issues in order to help students acquire knowledge and skills pertaining to best practices in a variety of planning subfields. The Capstone Experience provides opportunities for independent learning experience.

## APPLICATION REQUIREMENTS

In addition to meeting general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Three letters of recommendation. Recommendation letters must specifically address the prospective student’s ability to do academic work at the graduate level. Recommendation letters from professors are preferred.
- Résumé.
- Statement of goals, demonstrating writing ability.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only. 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.

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.

#### INTERNATIONAL STUDENTS:

The School of Public Administration accepts scores from Test of English as a Foreign Language (TOEFL) only. Test scores from the International English Language Testing System (IELTS) are not used in consideration of admission to this program.

All International students must meet university minimum TOEFL score requirements regardless of language in which the undergraduate program was completed.

### Application Deadlines

Urban and Regional Planning MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

## CONTACT INFO

**Christopher Hawkins PhD**  
 Assistant Professor  
 christopher.hawkins@ucf.edu  
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 HPA2 233

## MASTER'S IN FINE ARTS PROGRAMS

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# Creative Writing MFA

### PROGRAM DESCRIPTION

The MFA program emphasizes the study of craft and published writing alongside the closely analyzed production of original work by students. Opportunities for professional development as writers, teachers, and editors abound. Our prolific, dedicated faculty members have won numerous prestigious awards for their work and have served as officers in the Associated Writing Programs (AWP) and other national organizations. The MFA program in Creative Writing offers workshop courses in fiction, literary nonfiction, and poetry, emphasizing the art and craft of literary writing and concentrating on the student's written work.

### CURRICULUM

The minimum total hours required for the Creative Writing MFA is 36 credit hours, including a minimum of nine required credit hours of graduate writing workshop classes. Each candidate will write a book-length creative thesis. There is no nonthesis option in Creative Writing.

#### Total Hours Required:

**36 Credit Hours** Minimum beyond the Bachelor's Degree

#### Prerequisites and Co-requisites

Students are required to have a proficiency in American and British Literature as reflected by completing at least one survey course in each field. Students with baccalaureate degrees in subjects other than English whose transcripts do not clearly indicate successful completion of such courses will be required to complete survey courses in British and American literature as co-requisites before the thesis defense. The particular courses

that satisfy these co-requisites are selected in consultation with the MFA program director.

### Required Courses—15 Credit Hours

#### Core—9 Credit Hours

- CRW 6025 Graduate Writing Workshop. Must be repeated for credit. (3 credit hours)

While students are expected to concentrate their workshop study in the chief genre, multi-genre proficiency is encouraged. Additional credit hours beyond the required 9 credit hours in CRW 6025 Advanced Graduate Writing Workshop are recommended to assist the student in developing better writing and publication skills.

#### Specialization—6 Credit Hours

The student will complete two of the following courses:

- LIT 6039 Studies in Contemporary Poetry (3 credit hours)
- LIT 6097 Studies in Contemporary Fiction (3 credit hours)
- LIT 6076 Studies in Contemporary Nonfiction (3 credit hours)
- CRW 5130 Form and Theory in Creative Writing (3 credit hours)

### Elective Courses—15 Credit Hours

#### Restricted Electives—6 Credit Hours

- CRW 6976 Scholarship and Publication (3 credit hours)
- CRW 6806C Teaching Creative Writing (3 credit hours). Required for teaching assistants who wish to be considered for teaching Creative Writing courses in our undergraduate program.
- CRW 5938 Special Topics Seminar (3 credit hours)
- CRW 5948C Creative Writing Service Learning (3 credit hours)
- CRW 6946 Internship (3 credit hours)
- CRW 6025 Graduate Writing Workshop (3 credit hours)

**Unrestricted Electives—6 Credit Hours**

- LIT 5389 Studies in Gender and Fiction Writing (3 credit hours)
- CRW 5130 Form and Theory in Creative Writing (3 credit hours)
- LIT 6216 Issues in Literary Study (3 credit hours)
- LIT 6936 Studies in Literary, Cultural, and Textual Theory (3 credit hours)
- ENC 5705 Theory and Practice in Composition (3 credit hours)
- LIT 6276 Teaching College Literature (3 credit hours)

**Additional Electives—3 Credit Hours****Thesis—6 Credit Hours**

- CRW 6971 Thesis (3 credit hours)

The candidate will complete a book-length manuscript of publishable quality, written and revised in CRW 6971 Thesis, that meets both departmental and university requirements for the thesis.

**Practicum and Internship**

Although a practicum or an internship is not required, they are encouraged to better prepare the student for their profession. These courses fulfill the 6-hour requirement in restricted electives and are listed in that category.

- CRW 6946 Internship
  - The Florida Review Internship (3 credit hours)
  - The Cypress Dome Internship (3 credit hours)
  - Other Approved Internship (3 credit hours)
- CRW 5948C Service Learning in Creative Writing (3 credit hours)

**Independent Learning**

The creative thesis, a book-length manuscript of original creative work, is the independent learning experience.

**APPLICATION REQUIREMENTS**

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation (preferably from current or former teachers).
- Statement of background and goals. Specify the primary genre of study (fiction, poetry, or literary nonfiction). If you were not an English major, we recommend you include a list (5-7 titles) of recently read contemporary books in the genre in which you are applying.
- Résumé or CV.
- A portfolio of fiction, poetry, or creative nonfiction. The portfolio must be in English and in the applicant's primary genre (up to 15 pages of poetry, 30 pages of fiction, or 30 pages of literary nonfiction). This manuscript is the most important element of a candidate's application. It will be evaluated by a committee of creative writing faculty to assess the candidate's readiness for graduate study. The committee's decision is based upon its qualitative assessment for the manuscript's competence in standard English and originality, and the author's demonstrated potential to succeed in the profession of creative writing.
- At least one survey course in both English and American literature at the university level (may be taken while in graduate residence).

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

## Application Deadlines

Creative Writing MFA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jan 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

## CONTACT INFO

### Terry Thaxton

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CNH 411D

# Emerging Media

## MFA

- Studio Art and the Computer Track
- Digital Media Track

## PROGRAM DESCRIPTION

The Digital Media track is a specialized program designed to train degree candidates to learn and implement the conceptual, theoretical design and technical skills needed for twenty-first century storytelling. The principal emphasis of the program is on the creation of compelling content for new media for which production tools and processes are currently being invented. These students pursue a variety of goals addressing media convergence: including film, digital and dynamic media skills, extending these skills into new areas, or in the case of educations and media professionals, expanding their expertise and credentials for use in their professions.

The Entrepreneurial Digital Cinema track is designed for individuals who intend to work directly on the creation of new films and other media products and prepares graduates to teach in colleges and universities. This rigorous professional program is for visual artists and practitioners who demonstrate exceptional artistic and intellectual prowess, and evidence of significant professional promise. The MFA degree produces graduates with mastery of storytelling while allowing for individualized specialization.

The Studio Art and the Computer track provides students an opportunity to inform and enhance their artistic practice using twenty-first-century electronic media. The emphasis on electronic media is pliable enough to encompass the many ways in which technology intersects with contemporary art and design. Students in the program are invited to combine their backgrounds in traditional art- or computer-related disciplines within a conceptually driven, interdisciplinary environment. Courses provide exposure to time-based media, performance art, video art, sound works, kinetic sculpture, computer-based art, and art using the Internet in order to understand how these forms are driving twenty-first-century artistic practice and informing our understanding of contemporary cultural identities.

## APPLICATION REQUIREMENTS

Applicants must choose a track within this program. Track(s) may have different application requirements.

## CONTACT INFO

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Center for Emerging Media, Rm 122C

# Studio Art and the Computer Track

## TRACK DESCRIPTION

The Studio Art and the Computer track of the MFA in Emerging Media, provides students an opportunity to inform and enhance their artistic practice using 21st Century electronic media. This emphasis on electronic media is pliable enough to encompass the many ways in which technology intersects with contemporary art and design.

Students in the program are invited to combine their backgrounds in traditional art or computer-related disciplines within a conceptually driven, interdisciplinary environment. Courses provide exposure to time-based media, performance art, video art, sound works, kinetic sculpture, computer-based art, and art using the Internet in order to understand how these forms are driving 21st century artistic practice and informing our understanding of contemporary cultural identities.

## CURRICULUM

### Total Hours Required:

**66** Credit Hours Minimum beyond the Bachelor's Degree

The Studio Art and the Computer MFA track is composed of a minimum of 66 credit hours, to be acquired in three years (six full-time semesters excluding summers). Degree credit is obtained in theory courses, studio art courses, electives, and supervised research. All courses must be approved by the Graduate Program Director. The thesis consists of a body of artistic work accompanied by electronic (Internet) documentation and a culminating exhibition.

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 Director of the School of Visual Arts and Design and by the Graduate Committee of the School of Visual Arts and Design.



## Required Courses—51 Credit Hours

- ART 5280 Serial Content (3 credit hours)
- ART 5284 Design Theory and Methods (3 credit hours)
- ART 5696 Art, Design and Human Interactions (3 credit hours)
- ART 5698 Concourse I (3 credit hours)
- ARH 5897 Advanced Seminar in Art History (3 credit hours)
- ART 5910 Studio Concentration I (3 credit hours; should be taken twice for a total of 6 credit hours)
- ART 5941 Graduate Practicum I (1 credit hour)
- ART 6683C Time Arts (3 credit hours)
- ART 6687 Research Concentration I (3 credit hours)
- ART 6689 Research Concentration II (3 credit hours)
- ART 6699 Concourse II (3 credit hours)
- ART 6911 Studio Concentration II (3 credit hours; should be taken twice for a total of 6 credit hours)
- ART 6930 Graduate Seminar (1 credit hour; taken four times)
- ART 6942 Graduate Practicum II (1 credit hour)
- DIG 5487 Principles of Visual Language (3 credit hours)
- DIG 6136 Design for New Media (3 credit hours)

## Elective Courses—9 Credit Hours

Students should choose from graduate level courses within the School of Visual Arts & Design that are not already required for their program. These courses included those with the following prefixes: ARH, ART, DIG and FIL. If approved by the Graduate Program Director, there are many graduate-level courses in the College of Arts and Humanities that can be used as electives in addition to other graduate courses. These courses must be selected so as to ensure that at least one-half of the courses in the student's plan of study are taken at the 6000 level. Normally, at least half of the

selected electives should be taken within the School of Visual Arts and Design.

A listing of courses offered can be found in the drop-down Catalog Menu at the top of the page under "Courses."

- Electives (9 credit hours)

## Thesis—6 Credit Hours

- ART 6971 Thesis (6 credit hours)

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 the UCF College of Graduate Studies. After approval by the UCF College of Graduate Studies, the UCF Library will add it to its archives and make the electronic version of the thesis accessible on the web. The required thesis is the independent learning experience in the degree program.

## Course Schedule

The is a full-time 3-year cohort program that requires students to abide by the following course sequence. Students must remain with their cohort in order to remain in good academic standing and graduate.

### YEAR 1

#### *Fall—13 Credit Hours*

- ARH 5897 Advanced Seminar in Art History (3 credit hours)
- ART 5284 Design Theory and Methods (3 credit hours)
- ART 5910 Studio Concentration I (3 credit hours)
- ART 5941 Graduate Practicum I (1 credit hour)

- DIG 5487 Principles of Visual Language (3 credit hours)

### ***Spring—13 Credit Hours***

- ART 5280 Serial Content (3 credit hours)
- ART 5910 Studio Concentration I (3 credit hours)
- ART 6942 Graduate Practicum II (1 credit hour)
- DIG 6136 Design for New Media (3 credit hours)
- ART, DIG or FIL Elective (3 credit hours)

## **YEAR 2**

### ***Fall—10 Credit Hours***

- ART 5696 Art, Design and Human Interactions (3 credit hours)
- ART 6683C Time Arts (3 credit hours)
- ART 6911 Studio Concentration II (3 credit hours)
- ART 6930 Graduate Seminar (1 credit hour)

### ***Spring—10 Credit Hours***

- ART 6911 Studio Concentration II (3 credit hours)
- ART 6930 Graduate Seminar (1 credit hour)
- ART, DIG or FIL Elective (3 credit hours)
- ART, DIG or FIL Elective (3 credit hours)

## **YEAR 3**

### ***Fall—10 Credit Hours***

- ART 5698 Concourse I (3 credit hours)
- ART 6687 Research Concentration I (3 credit hours)
- ART 6930 Graduate Seminar (1 credit hour)
- ART 6971 Thesis (3 credit hours)

### ***Spring—10 Credit Hours***

- ART 6689 Research Concentration II (3 credit hours)
- ART 6699 Concourse II (3 credit hours)
- ART 6930 Graduate Seminar (1 credit hour)
- ART 6971 Thesis (3 credit hours)

## **Equipment Fee**

Students in the Emerging Media MFA program pay a \$90 equipment fee each semester that they are enrolled.

## **Independent Learning**

A thesis is required.

## **APPLICATION REQUIREMENTS**

Applicants to the MFA program normally must hold an earned BFA degree in Visual Art from a regionally accredited institution. Applicants who hold an earned BA, BS, or other baccalaureate degree in Visual Art or a related discipline from an accredited university may also apply.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A letter of research intent that is at least a page describing the applicant's creative background, proposed research interests, and the relationship between this program and the applicant's future goals. Research in the context of the MFA program primarily means the full-time creation of an original body of art work over the course of three years of residence.
- Two letters of recommendation preferably from former visual art professors.
- A computer-based score of 230 (or 89 internet-based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World

Education Services (WES) or Josef Silny and Associates, Inc. only.

- Applicants must also submit a portfolio of original creative works.
  - 20 jpeg images total (1000 pixels longest dimension – 72 dpi) or a 3-minute demo reel for animation portfolios.
  - The total portfolio file size must no larger than 2.5 MB. If you are submitting a video file that is larger than 2.5 MB please upload the video to YouTube or Vimeo and provide the link in this section of the application. View YouTube uploading instructions here: <http://www.google.com/support/youtube/bin/answer.py?hl=en&answer=57924>. When uploading the video, please title the submission with your full name, and select “unlisted” as your Privacy choice.

Meeting minimum UCF admission criteria does not guarantee admission to the MFA program. Final admission is based on evaluation of the applicant’s abilities, past performance, recommendations, match of this program and faculty expertise to the applicant’s career/academic goals, the applicant’s potential for completing the degree, and the current applicant pool. A strong emphasis is placed on the review of the portfolio of original creative work and the letter of research intent.

## Application Deadlines

Studio Art and the Computer Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Mar 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

## CONTACT INFO

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 Center for Emerging Media, Rm 122C

# Digital Media Track

## TRACK DESCRIPTION

The Digital Media Track in the Emerging Media MFA is a specialized program designed to train degree candidates to learn and implement the conceptual, design, and technical skills needed for twenty-first century storytelling. The principal emphasis of the program is on the creation of compelling content for new media for which production tools and processes are currently being invented. These students pursue a variety of goals addressing media convergence: including digital, and dynamic media skills, extending these skills into new areas, or in the case of educators and media professionals, expanding their expertise and credentials for use in their professions. Students may be admitted on either a full-time or part-time basis, through full-time participation is recommended.

This degree program builds on undergraduate knowledge to build a mature set of conceptual, design, and technical skills needed to communicate stories and messages in a single discipline or in an interdisciplinary environment. A twelve-hour thesis project is required. A typical thesis might involve designing content that is imparted through integrating traditional media with computer-based and computer-enhanced formats where the content is enriched by the use of novel interactive modalities and techniques. Work in the thesis will extend the capabilities of interfaces and measure the effectiveness of training and communicating.

This MFA track is embedded in a rich environment of digital media work at UCF and in the surrounding community. The following are active areas of work at UCF:

- Digital media in instructional applications
- Experience design
- Interactive performance
- Serious Games for Training and Education
- Information Architecture for the World Wide Web
- Social and collaborative media design
- Cultural heritage preservation using new media

The School of Visual Arts and Design faculty have extensive professional and academic experience in

areas spanning film, video, multimedia, interactive and web design, human-centered interactive design, exhibition and theme park design, simulation and training, game development, broadcast design and motion graphics, animation, visual language, immersive design environments, database design, e-commerce, digital storytelling, and educational technology and community development.

Students desiring admission to the Digital Media track should have an undergraduate degree in a media-related creative or technical field such as art, film, animation, theater, music, digital media, computer science, English, or education in the arts. Students will be admitted on the basis of a portfolio review or compelling plan of action for the creation of new knowledge in a profession or field of study by the addition of Digital Media. Desirable background skills for this degree include computer and software literacy. Examples include mastery of Mac or PC workstations that are configured with a diverse range of hardware and software for multimedia production.

## CURRICULUM

### Total Hours Required:

**66** Credit Hours Minimum beyond the Bachelor's Degree

The Digital Media track in the Emerging Media MFA program is a full-time three-year cohort style program (six full-time semesters excluding summers) and students must progress through the program by taking required classes in particular semesters. The program requires a minimum of 66 credit hours including a thesis project. The program requires 48 credit hours of required courses, 6 credit hours of program electives, and 12 credit hours of thesis.

During the first academic year, the student pursues required courses. Throughout the second year, the student finishes remaining required coursework and enrolls in electives approved by his or her thesis chairperson/adviser. During the third year, the student's focus is on completing his or her thesis work.

### Required Courses—48 Credit Hours

- DIG 5137 Information Architecture (3 credit hours)

- DIG 5487 Principles of Visual Language (3 credit hours)
- DIG 6136 Design for New Media (3 credit hours)
- DIG 6546 Previsualization and Concept Development (3 credit hours)
- DIG 6551 Applied Interactive Story (3 credit hours)
- DIG 6605 Physical Computing (3 credit hours)
- DIG 6647 Science and Technology of Dynamic Media (3 credit hours)
- DIG 6812 Digital Interaction for Informal Learning (3 credit hours)
- ARH 5897 Advanced Seminar in Art History (3 credit hours)
- ART 5280 Serial Content (3 credit hours)
- ART 5696 Art, Design and Human Interactions (3 credit hours)
- ART 5941 Graduate Practicum I (1 credit hour)
- ART 6683C Time Arts (3 credit hours)
- ART 6930 Graduate Seminar (1 credit hour, taken four times)
- ART 6942 Graduate Practicum II (1 credit hour)
- FIL 5800 Research Methods in Film and Digital Media (3 credit hours)
- FIL 6673 Arts and Media Entrepreneurship (3 credit hours)

### Elective Courses—6 Credit Hours

Students should choose from graduate-level courses within the School of Visual Arts and Design that are not already required for their program. These courses include those with the following prefixes: ARH, ART, DIG and FIL. If approved by the Graduate Program Director, there are many graduate-level courses in the College of Arts and Humanities that can be used as electives in addition to other graduate courses. These courses must be selected so as to ensure that at least one-half of the courses in the student's plan of study are taken at the 6000 level. Normally, at least half of the selected electives should be taken within the School of Visual Arts and Design.

A listing of courses offered can be found in the drop-down Catalog Menu at the top of the page under “Courses.”

## Thesis—12 Credit Hours

- DIG 6971 Thesis (12 credit hours)

Each candidate for the Master of Fine Arts must submit a thesis proposal and preliminary bibliography on a topic selected in consultation with the adviser. The formal thesis is initiated by the preparation of a proposal that will meet both departmental and university requirements for the thesis. Prior to enrollment into thesis, the adviser, in consultation with the student, will designate a Thesis Committee to be further approved by the Dean of Arts and Humanities or their designee. This committee is chaired by the adviser and includes two or more additional faculty members from the School of Visual Arts and Design.

The members of the student’s thesis committee will judge the proposal as the preliminary step to beginning the thesis. This committee must approve the Thesis Proposal before academic credit can accrue.

The thesis project for the Emerging Media MFA, Digital Media track involves creating innovative applications of digital media to serve artistic, entertainment, commercial, and/or educational needs. The thesis consists of three parts: (1) the creative project (that utilizes digital media); (2) the production journal (documenting the process of developing the project and evaluating its effectiveness); and (3) dissemination (the work is submitted in a juried exhibition, a refereed publication, or other venue that demonstrates development in connection with a professional partner).

The production journal portion of the thesis is a formal written document. The introduction cites similar, related, and antecedent work; the body explains the purposes of the project, the method of its production, and any evaluation that was performed; and it concludes with plans for future work. The thesis will also include an archival copy of the resulting creative product. Both the thesis and the creative product must be delivered in a digital form, acceptable by the UCF library according to its standards for digital dissertations and theses.

## Thesis Defense

In addition to the creative project, the written thesis, and dissemination of work, the final step in completing the thesis requirement is an oral defense before the thesis committee. Candidates present their creative or research work and explain its creation in an oral defense. These presentations are made to the student’s committee, in a public meeting that other faculty and students may attend.

## Course Schedule

The Emerging Media MFA is a full-time 3-year cohort program that requires students to abide by the following course sequence. Students must remain with their cohort in order to remain in good academic standing and graduate.

### YEAR 1

#### *Fall—13 Credit Hours*

- ARH 5897 Advanced Seminar in Art History (3 credit hours)
- ART 5941 Graduate Practicum I (1 credit hour)
- DIG 5487 Principles of Visual Language (3 credit hours)
- DIG 6647 Science and Technology of Dynamic Media (3 credit hours)
- FIL 6673 Arts and Media Entrepreneurship (3 credit hours)

#### *Spring—13 Credit Hours*

- ART 5280 Serial Content (3 credit hours)
- ART 6942 Graduate Practicum II (1 credit hour)
- DIG 5137 Information Architecture (3 credit hours)
- DIG 6136 Design for New Media (3 credit hours)
- FIL 5800 Research Methods in Film and Digital Media (3 credit hours)

### YEAR 2

#### *Fall—10 Credit Hours*

- ART 5696 Art, Design and Human Interactions (3 credit hours)
- ART 6683C Time Arts (3 credit hours)
- ART 6930 Graduate Seminar (1 credit hour)



- DIG 6546 Previsualization and Concept Development (3 credit hours)

### ***Spring—10 Credit Hours***

- ART 6930 Graduate Seminar (1 credit hour)
- DIG 6551 Applied Interactive Story (3 credit hours)
- DIG 6605 Physical Computing (3 credit hours)
- DIG 6812 Digital Interaction for Informal Learning (3 credit hours)

## **YEAR 3**

### ***Fall—10 Credit Hours***

- ART 6930 Graduate Seminar (1 credit hour)
- DIG 6971 Thesis (6 credit hours)
- ART, DIG or FIL Elective (3 credit hours)

### ***Spring—10 Credit Hours***

- ART 6930 Graduate Seminar (1 credit hour)
- DIG 6971 Thesis (6 credit hours)
- ART, DIG or FIL Elective (3 credit hours)

## **Equipment Fee**

Students in the Emerging Media MFA program pay a \$90 equipment fee each semester that they are enrolled.

## **Independent Learning**

A thesis is required.

## **APPLICATION REQUIREMENTS**

Applicants may be asked to attend an admissions interview. The graduate faculty determines final eligibility of applicants. In the case of restricted admission with deficiencies, the graduate committee decides the appropriate courses to be taken to compensate for the deficiencies. The letter of admission will specify the requirements that must be completed for regular admission.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) for each college/university attended

- Competitive GRE score taken within the last five years.
- Three letters of recommendation from professors or employers who can address the applicant's ability to undertake graduate-level course work.
  - These must be submitted using the online letter of recommendation process that is part of the online application.
- A 500-word essay demonstrating the applicant's breadth of knowledge, insight, curiosity, vision, voice, and ability to think critically. The applicant should respond to ONE of the following:
  - Discuss the relationship between emerging technologies and creative expression.
  - Discuss the continuing conflict between art and commerce and how its energy might be made to serve the creative process.
  - Discuss the social, political, and cultural role and responsibilities of the artist/creator in a global society.
- Résumé or a 250-word biography detailing the applicant's creative and entrepreneurial accomplishments as they relate to a professional and/or educational setting.
- A personal vision statement identifying the research area you intend to pursue and a compelling vision of how you intend to utilize your acquired knowledge and skills after completing the degree.
- A creative portfolio
  - The total portfolio file size must no larger than 2.5 MB. If you are submitting a video file that is larger than 2.5 MB please upload the video to YouTube or Vimeo and provide the link in this section of the application. View YouTube uploading instructions here: <http://www.google.com/support/youtube/bin/answer.py?hl=en&answer=57924>. When uploading the video, please title the submission with your full name, and select "unlisted" as your Privacy choice.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's

career/academic goals, the applicant's potential for completing the degree and the current applicant pool.

### Application Deadlines

Digital Media Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Mar 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

### CONTACT INFO

**Kelley Rasgaitis**

svadadvising@ucf.edu

Telephone: 407-235-3596

Center for Emerging Media, Rm 122C

# Literary, Cultural, and Textual Studies Track

## TRACK DESCRIPTION

The Literary, Cultural, and Textual Studies track in the Master of Arts in English program prepares students for both academic and nonacademic careers, by encouraging them to make connections among texts (critical, theoretical, scholarly, literary, etc.), to engage in research and critical thinking at an advanced level, and to write scholarship of merit and distinction.

## CURRICULUM

### Total Hours Required:

#### 33 Credit Hours Minimum beyond the Bachelor's Degree

Each student must complete at least 33 credit hours, including three core courses, one of which is in linguistics. Near the end of the degree program, each candidate will complete a Capstone Course and choose either the thesis option or the nonthesis option, which requires 3 additional credit hours of a 6000-level Literary, Cultural, and Textual Studies course.

The program teaches research methods in one or more courses and requires a research study and final report focusing on literary criticism in a student's particular specialization.

### Required Courses—9 Credit Hours

#### Core—6 Credit Hours

- ENG 5009 Methods of Bibliography and Research (3 credit hours)
- ENG 6078 Contemporary Movements in Literary, Cultural, and Textual Theory (3 credit hours)

#### Capstone—3 Credit Hours

- ENG 6950 Capstone Course (3 credit hours)

Students must take a Capstone Course after completing at least 18 credit hours in the program. The Capstone Course is a systematic and comprehensive revision of previous graduate research, with special attention to the use of theory and to professionalization and with the goal of publication and/or conference presentation.

#### Foreign Language Proficiency

Students must also prove proficiency in a foreign language at the first-year level prior to completing the degree program.

### Elective Courses—21 Credit Hours

#### Restricted—15 Credit Hours

Students must choose four of the following courses.

- ENG 6074 Historical Movements in Literary, Cultural, and Textual Studies (3 credit hours)
- LIT 6216 Issues in Literary Study (can be taken four times for credit when course content is different) (3 credit hours)
- LIT 6936 Studies in Literary, Cultural, and Textual Theory (can be taken four times for credit when course content is different) (3 credit hours)
- LIT 6276 Teaching College Literature (3 credit hours)
- LIN 5137 Linguistics (3 credit hours)
- TSL 6250 Applied Linguistics in ESOL (3 credit hours)

#### Unrestricted—6 Credit Hours

In consultation with the graduate adviser, students will choose three graduate-level English courses.

### Thesis—3 Credit Hours

Students 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.

- LIT 6971 Thesis (3 credit hours)

### Nonthesis Option—3 Credit Hours

Students will complete 3 additional hours of 6000-level Literary, Cultural, and Textual Studies courses.

- Elective (3 credit hours)

### Independent Learning

All courses in the Master's in English, Literary, Cultural, and Textual Studies Track require students to complete substantial independent research projects and, thus provide students the opportunity to engage in independent learning.

## APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in English or its equivalent.
- Official, competitive GRE score taken within the last five years.
- Two letters of recommendation from faculty members or others familiar with applicant's academic potential.
- One year of a foreign language at the university level (may be taken while in graduate residence).
- A one to two page goal statement addressing the applicant's reasons for pursuing graduate study in English.
- A researched literary analysis or equivalent essay of approximately ten pages, with an explanatory cover memo of no more than one page that explains why you chose to submit this particular academic essay and how you would revise if you had the opportunity. All statements and essays should be revised writing (i.e., no written under timed conditions). Writing should be "cleaned": typed, error-free, with no teacher comments. The essay should demonstrate an ability to follow a scholarly format such as MLA or APA.
- A computer-based score of 233 (or 91 internet-based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from

a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.

A résumé is required for applicants seeking assistantship positions.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

## Application Deadlines

Literary, Cultural, and Textual Studies	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Mar 30	Nov 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	
*Applicants who plan to enroll full time in a degree program and who wish to be considered for university fellowships or assistantships should apply by the Fall Priority date.				

## CONTACT INFO

**James Campbell PhD**  
Associate Professor  
james.campbell@ucf.edu  
Telephone: 407-823-5329  
Colbourn Hall 302E

# Technical Communication Track

## TRACK DESCRIPTION

The Technical Communication track in the Master of Arts in English program is completely online and provides students with theoretical and applied skills in such areas as technical writing, visual design, usability, ethics, stylistics, computer documentation, international communication, and the rhetoric of science.

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit [www.intl.ucf.edu](http://www.intl.ucf.edu). If you have any questions, please consult the International Services Center at 407-823-2337.

## CURRICULUM

### Total Hours Required:

#### 33 Credit Hours Minimum beyond the Bachelor's Degree

Each student must complete at least 33 credit hours of coursework including 15 credit hours of required courses and 15 credit hours of elective courses. Near the end of the degree program, each candidate will write a comprehensive examination and complete a thesis option, a nonthesis option with a research project approved by the faculty, or a nonthesis option consisting of an additional 6000-level three-credit-hour Technical Communication course taught by the Department of English.

### Required Courses—15 Credit Hours

- ENC 6297 Production and Publication Methods (3 credit hours)
- ENC 5337 Rhetorical Theory (3 credit hours)
- ENC 6217 Technical Editing (3 credit hours)

- ENC 6261 Technical Writing: Theory and Practice (3 credit hours)
- ENG 5009 Methods of Bibliography and Research (3 credit hours)

## Elective Courses—15 Credit Hours

### Restricted—9 Credit Hours

- ENC 6257 Graphics in Technical Writing (3 credit hours)
- ENC 6306 Persuasive Writing (3 credit hours)
- ENC 6247 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 Writing and Designing Online Help Systems (3 credit hours)
- ENC 6338 The Rhetorics of Public Debate (3 credit hours)
- ENC 6425 Hypertext Theory and Design (3 credit hours)
- ENC 6335 Rhetorical Traditions (3 credit hours)
- LIN 5675 English Grammar and Usage (3 credit hours)
- LIT 6435 Rhetoric of Science (3 credit hours)

### Unrestricted—6 Credit Hours

Students in consultation with the graduate adviser will choose two graduate-level English courses or approved courses from outside the department.

## Thesis Option—3 Credit Hours

Students complete a formal thesis written in consultation with an advisory committee and will meet both departmental and university requirements for the thesis.

- ENC 6971 Thesis (3 credit hours)

## Nonthesis Options—3 Credit Hours

Students will enroll in directed research 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.

- ENC 6918 Directed Research (3 credit hours)

Or, students will enroll in an additional 6000-level course in technical communication taught by the Department of English.

## Comprehensive Examination

The comprehensive examination is a written exam based on four of the core courses (excluding ENG 5009).

## Independent Learning

Both the thesis and special project options of the Master's in English, Technical Communication Track require students to conduct original research and to produce a final paper detailing the subject, purpose, scope, methodology, and conclusions of the study, thus, providing students the opportunity to engage in independent learning.

## APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Two letters of recommendation from faculty members or others familiar with applicant's academic potential.
- One year of a foreign language at the university level (may be taken while in graduate residence).
- A one to two page goal statement addressing the applicant's reasons for pursuing graduate study in English.



- A professional writing sample of approximately ten pages (or an equivalent amount of web-based work), with a cover memo of no more than one page that explains why you chose to submit this particular sample.
- A computer-based score of 233 (or 91 internet-based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant’s degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.
- A résumé is required for applicants seeking assistantship positions.

## CONTACT INFO

**James Campbell PhD**  
 Associate Professor  
 james.campbell@ucf.edu  
 Telephone: 407-823-5329  
 Colbourn Hall 302E

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant’s abilities, past performance, recommendations, match of this program and faculty expertise to the applicant’s career/academic goals, and the applicant’s potential for completing the degree.

Please note: Due to restrictive state regulations, UCF is not permitted to provide online courses or instruction to students in the following states. If you reside in one of these states, you may not be permitted to enroll in or be admitted to a UCF online program. Please contact your state’s higher education regulation authorities or the UCF Graduate Program (see contact information above) for more details.

- Minnesota

## Application Deadlines

Technical Communication	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Mar 30	Nov 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	
*Applicants who plan to enroll full time in a degree program and who wish to be considered for university fellowships or assistantships should apply by the Fall Priority date.				

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# Theatre MFA

- Acting Track
- Theatre for Young Audiences Track

## PROGRAM DESCRIPTION

**The Theatre MFA program is currently not accepting applications for the Design, Musical Theatre, and Acting tracks. Please contact the program for more information.**

The Theatre MFA program with tracks in Acting, Design, Musical Theatre, and Theatre for Young Audiences 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 program is a highly selective, rigorous, three-year professional training program emphasizing both theatre theory and practice. The MFA degree is rooted in the belief that classroom study and practical experience in the theatre are of equal and complementary value. The production aspect, therefore, is integrated into the curriculum because it is the principal means available for the coordination of all the elements of dramatic art. We seek to pursue all possible ways to fuse production responsibilities with classroom work effectively for the purpose of teaching and training.

Students, 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 BA and BFA programs of study are integrally connected and dependent.

## CURRICULUM

The program consists of 61 credit hours, which includes a core of 6 credit hours, 6 hours of thesis, specialization courses and a professional internship which may vary from 6 to 12 hours. Four tracks are available in the program: acting, design, musical theatre, and theatre for young audiences. However, design and musical theatre are not accepting new applications until further notice. Please contact the program for more information.

### Total Hours Required:

**61** Credit Hours Minimum beyond the Bachelor's Degree

The following courses constitute the MFA Graduate Core Curriculum.

### Required Courses—42 to 49 Credit Hours

#### Core—6 Credit Hours

- THE 5910 Research Methods in Theatre (3 credit hours)
- THE 6086C Careers in Professional Theatre (3 credit hours)

#### Specialization—37 to 43 Credit Hours

Specialization courses are offered for each track.

#### Elective Courses

- TPP 6686 Playwriting for Young Audiences (3 credit hours)
- TPP 5246C Circus Arts (2 credit hours)
- TPA 5885C Puppetry (2 credit hours)
- TPP 5125C Improvisation Studio (2 credit hours)
- TPP 5248C Storytelling as a Theatrical Art Form (2 credit hours)
- TPA 6406C Theatre Management (3 credit hours)
- TPP 5935C Contemporary Practices in Youth Theatre (2 credits)
- TPA 5345C 2D Computer Assisted Design for Theatre (3 credit hours) TPA 5346C 3D Modeling for Theatre (3 credit hours)
- TPA 6908 DirectedIndependent Study - Scene Painting
- TPA 6908 Directed Independent Study - Patterning
- TPA 6908 Directed Independent Study - Cutting and Draping
- TPP 6216C Theatre for Young Audiences Tour (3 credit hours)
- TPA 6209C Theatre Crafts (3 credit hours)
- TPA 5949C Design Practicum II (1 credit hour)
- TPA 6947 Design Practicum III (1 credit hour)

- TPA 6948L Design Practicum IV (1 credit hour)

### **Thesis—6 Credit Hours**

- THE 6971 Thesis (6 credit hours)

### **Internship—6 to 12 Credit Hours**

- THE 6948 Professional Internship (6-12 credit hours)

### **Independent Learning**

A thesis is required.

## **APPLICATION REQUIREMENTS**

Applicants must choose a track in this program. Track(s) may have different requirements.

## **CONTACT INFO**

**Julia Listengarten PhD**  
Associate Professor  
julia.listengarten@ucf.edu  
Telephone: 407-823-3858  
PAC T220

# **Acting Track**

## **TRACK DESCRIPTION**

**Applications are currently not being accepted for this program as of Fall 2014, the next available admissions cycle is to be determined. Please contact the Theatre program directly for more information.**

The Master in Fine Arts in Acting track 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 program is a highly selective, rigorous, three-year professional training program emphasizing both theatre theory and practice. The MFA 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. We seek to pursue all possible ways to use the production program effectively for the purpose of teaching and training.

Students, 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 BA and BFA programs of study are integrally connected and dependent.

## **CURRICULUM**

### **Total Hours Required:**

**61** Credit Hours Minimum beyond the Bachelor's Degree

The Acting track of the Theatre MFA program requires 47 credit hours of core and specialization courses that follow a suggested yearly schedule in addition to a thesis and an internship. The electives can be chosen (with instructor approval) from existing courses in the MFA tracks in Acting, Musical Theatre, Design, and Theatre for Young

Audiences. 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 61 credit hours are required, a student may graduate with as many as 65 credit hours.

Students must maintain a minimum “B” (3.0) 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. All Acting program students are required to audition for all fall and spring productions and must accept the roles assigned. A student’s continuation in the program is contingent upon a positive annual evaluation. Students must successfully complete internship and thesis requirements. The thesis proposal must be approved in advance.

Of the 61 hours required for the Acting track, the following courses constitute the MFA Graduate Core Curriculum. See the Course Schedule below for an understanding of how the curricular elements are articulated.

## Required Courses—47 Credit Hours

### Core—6 Credit Hours

- THE 5910 Research Methods in Theatre (3 credit hours)
- THE 6086C Careers in Professional Theatre (3 credit hours)

### Specialization—41 Credit Hours

Shown below is the suggested course schedule.

### Elective Courses

- TPP 6808 Independent Study (1 credit hour)
- TPP 6686 Playwriting for Young Audiences (3 credit hours)
- TPP 5246C Circus Arts (2 credit hours)
- TPA 5885C Puppetry (2 credit hours)
- TPP 5125C Improvisation Studio (2 credit hours)
- TPP 5248C Storytelling as a Theatrical Art Form (2 credit hours)
- TPA 6406C Theatre Management (3 credit hours)

### Thesis—6 Credits

- THE 6971 Thesis (6 credit hours)

### Internship—8 Credit Hours Minimum

- THE 6948 Professional Internship

## Course Schedule

### YEAR 1

#### *Fall—10 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 5910 Research Methods in Theatre (3 credit hours)

#### *Spring—10 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 (3 credit hours)

### YEAR 2

#### *Fall—10 Credit Hours*

- TPP 6146 Acting Studio III (3 credit hours)
- TPP 6517 Movement Studio III (2 credit hours)
- TPP 6717C Stage Voice III (2 credit hours)
- THE 6507 Dramatic Theory and Criticism (3 credit hours)

#### *Spring—11 Credit Hours*

- TPP 6518C Movement Studio IV (2 credit hours)
- TPP 6718C Stage Voice IV (2 credit hours)
- TPP 6267 Acting Studio V: TV/Film (3 credit hours)
- TPP 5278C Musical Theatre Lab (1 credit hour)
- THE 5205 American Theatre (3 credit hours)

**YEAR 3*****Fall—10 Credit Hours***

- THE 6948 Professional Internship (4 credit hours)
- THE 6971 Thesis (3 credit hours)
- THE 6086C Careers in Professional Theatre (3 credits)

***Spring—10 Credit Hours***

- THE 6948 Professional Internship (4 credit hours)
- THE 6971 Thesis (3 credit hours)
- TPP 6186C Advanced Scene Study or Elective (3 credit hours)

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 51 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.

**Independent Learning**

The Independent Learning Requirement is met by successful completion of a master's thesis.

**APPLICATION REQUIREMENTS**

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A 3.0 Theatre GPA.
- Essay stating applicant's academic and professional goals.
- Résumé.
- An 8 X 10 headshot.

- Three letters of recommendation.
- An audition.
- Interview.
- Complete the general entrance and area specific undergraduate prerequisites or their equivalents.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

**Auditions, Portfolio, and Interview Requirements:**

- **MFA Acting** applicants are required to participate in an interview and perform two contrasting monologues.

For more details about these requirements, contact the Theatre Department at [www.theatre.ucf.edu](http://www.theatre.ucf.edu).

**General Entrance and Area Specific**

**Prerequisites** -Students applying for entrance into the MFA Programs must have successfully completed the following undergraduate courses or their equivalent:

- **Acting** -Script Analysis or Play Analysis, Directing I, Theatre History I and II, Dramatic Literature I and II, Stage Voice I, Stage Voice II, Stage Movement I, Stage Movement II, Acting I, Acting II, Acting III.
- **Musical Theatre** -Fundamentals of Music, Acting I, Acting II, Musical Theatre Voice I, Musical Theatre Voice II are all recommended.
- **Design** -Script Analysis or Play Analysis, Directing I, Theatre History I and II, Dramatic Literature I and II, Stagecraft I, Stagecraft II, Theatre Drafting, 2D CADD, Scene Design I, Lighting Design I, Costume Construction, Costume Design I.
- **Theatre for Young Audiences** -Script Analysis or Play Analysis, Directing I, Theatre History I and II, Dramatic Literature I and II, as well as experience in some area of theatre and/or education.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities,



past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

No part-time students will be admitted into the MFA program.

### Application Deadlines

Acting Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Mar 15		
Applications are currently not being accepted for this program as of Fall 2014, the next available admissions cycle is to be determined. Please contact the Theatre program directly for more information.				
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

### CONTACT INFO

**Katherine Ingram MFA**  
 Associate Professor  
 Katherine.Ingram@ucf.edu  
 Telephone: 407-823-4872  
 PAC T216

# Theatre for Young Audiences Track

## TRACK DESCRIPTION

The Master of Fine Arts in Theatre for Young Audiences track 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 program is a highly selective, rigorous, three-year professional training program emphasizing both theatre theory and practice. The MFA 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. We seek to pursue all possible ways to use the production program effectively for the purpose of teaching and training.

Students, 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.

## CURRICULUM

### Total Hours Required:

**61** Credit Hours Minimum beyond the Bachelor's Degree

The Theatre for Young Audiences track of the Theatre MFA program requires 6 credit hours of core courses and 26 credit hours of specialization courses to be completed following a yearly schedule in addition to a thesis and an internship. The electives can be chosen (with instructor approval) from existing courses in the MFA tracks in Acting and Theatre for Young Audiences. 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 61

credit hours are required, a student may graduate with as many as 65 credit hours. Students earning the degree are expected to demonstrate proficiency in their area of specialization.

## Required Courses—32 Credit Hours

### Core—6 Credit Hours

- THE 5910 Research Methods in Theatre (3 credit hours)
- THE 6086C Careers in Professional Theatre (3 credit hours)

### Specialization—26 Credit Hours

- THE 6756 Methods of Teaching Drama (3 credit hours)
- THE 5385 Dramatic Literature for Children (3 credit hours)
- TPA 5081C Design Concepts for Youth Theatre (3 credit hours)
- TPP 5386C Directing for Young Audiences (3 credit hours)
- THE 6726 Advanced TYA Seminar (3 credit hours)
- TPP 5289C Acting Methodologies (2 credit hours)
- THE 6507 Dramatic Theory and Criticism (3 credit hours)
- TPP 6216C Theatre for Young Audiences Tour (3 credit hours)
- TPP 6247 Theatre for Social Change (3 credit hours)

### Elective Courses—11 Credit Hours

- TPP 6686 Playwriting for Young Audiences (3 credit hours)
- TPP 5246C Circus Arts (2 credit hours)
- TPA 5885C Puppetry (2 credit hours)
- TPP 5125C Improvisation Studio (2 credit hours)
- TPP 5248C Storytelling as a Theatrical Art Form (2 credit hours)
- TPA 6406C Theatre Management (3 credit hours)

- TPP 5935C Contemporary Practices in Youth Theatre (2 credits)

### Thesis—6 Credit Hours

- THE 6971 Thesis (6 credit hours)

### Internship—6-12 Credit Hours

- THE 6948 Professional Internship (6-12 credit hours)

The internship must be a minimum of 6 credits with the option of taking up to 12 credits. If students decide to only take the minimum 6 internship credits, the remaining 6 credits must be taken in the electives area.

Students must maintain a minimum “B” (3.0) 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. A student’s continuation in the program is contingent upon a positive annual evaluation. Students must successfully complete an internship, present a written journal documenting their experience and a thesis project. The thesis proposal must be approved in advance.

### Examination

A comprehensive departmental Theatre exam is administered to the MFA students in the Theatre for Young Audiences Track at the end of their course work. The department allows two attempts at a comprehensive exam.

### 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 51 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.

## Independent Learning

The Independent Learning Requirement is met by successful completion of a master's thesis.

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Undergraduate degree in Theatre or equivalent.
- A 3.0 Theatre GPA.
- Official, competitive GRE score taken within the last five years.
- Essay stating applicant's academic and professional goals.
- Résumé.
- An 8 X 10 headshot.
- Three letters of recommendation.
- An audition.
- Interview.
- Complete the general entrance and area specific undergraduate prerequisites or their equivalents.

### Auditions, Portfolio, and Interview Requirements:

- **MFA Theatre for Young Audiences** applicants are required to participate in an onsite interview and students must either audition (perform two contrasting monologues, not to exceed three minutes total) or give a creative presentation.

For more details about these requirements, contact the Theatre Department at [www.theatre.ucf.edu](http://www.theatre.ucf.edu).

### General Entrance and Area Specific

**Prerequisites**—Students applying for entrance into the MFA Programs must have successfully completed the following undergraduate courses or their equivalent:

- **Acting**—Script Analysis or Play Analysis, Directing I, Theatre History I and II, Dramatic Literature I and II, Stage Voice I, Stage Voice II, Stage Movement I, Stage Movement II, Acting I, Acting II, Acting III.

- **Musical Theatre**—Fundamentals of Music, Acting I, Acting II, Musical Theatre Voice I, Musical Theatre Voice II are all recommended.
- **Design**—Script Analysis or Play Analysis, Directing I, Theatre History I and II, Dramatic Literature I and II, Stagecraft I, Stagecraft II, Theatre Drafting, 2D CADD, Scene Design I, Lighting Design I, Costume Construction, Costume Design I.
- **Theatre for Young Audiences**—Script Analysis or Play Analysis, Directing I, Theatre History I and II, Dramatic Literature I and II, as well as experience in some area of theatre and/or education.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

No part-time students will be admitted into the MFA program.

## Application Deadlines

Theatre for Young Audiences Track	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Mar 15		
Applications are currently not being accepted for this program as of Fall 2014, the next available admissions cycle is to be determined. Please contact the Theatre program directly for more information.				
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

## CONTACT INFO

### Julia Listengarten PhD

Associate Professor  
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 PAC T235



## CERTIFICATE PROGRAMS

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# Adult-Gerontology Nurse Practitioner Certificate

## PROGRAM DESCRIPTION

The post-master's Adult/Gerontology Nurse Practitioner Graduate Certificate prepares nurses who already have received a master's degree in nursing for positions as Adult/Gerontology Nurse Practitioners. The program is credit hours and includes up to 660 hours of clinical practice. There are 12 credit hours of prerequisite requirements.

## CURRICULUM

### Total Hours Required:

**18 Credit Hours** Minimum beyond the Master's Degree

### Prerequisites—12 Credit Hours

Students must demonstrate successful completion of the following courses:

- NGR 5003 Advanced Health Assessment and Diagnostic Reasoning (2 credit hours)
- NGR 5003L Advanced Health Assessment and Diagnostic Reasoning (1 credit hour; 60 clinical hours)
- NGR 5141 Pathophysiological Bases for Advanced Nursing Practice (3 credit hours)
- NGR 6172 Pharmacology for Advanced Nursing Practice (3 credit hours)
- NGR 5638 Health Promotion (3 credit hours)

### Required Courses—18 Credit Hours

In addition, students must successfully complete all of the following DNP Adult-Gerontology Nurse Practitioner Track courses:

- NGR 6334 Women's Health for APNs (2 credit hours)
- NGR 6201 Adult I Primary Care (3 credit hours)
- NGR 6240L Adult I Primary Care Clinical (3 credit hours, 180 clinical hours)
- NGR 6263 Gerontologic Care for APNs (3 credit hours)
- NGR 6263L Gerontologic Care Clinical for NPs (2 credit hours, 120 clinical hours)
- NGR 6202L Adult NP Primary Care Clinical (2 credit hours, 120 clinical hours)
- NGR 6248 Family Nurse Practitioner/Adult Gero Nurse Practitioner Practice Practicum (3 credit hours, 180 clinical hours)

## APPLICATION REQUIREMENTS

Admission is open to those with MSN Degrees, but who are not prepared as Adult-Gerontology Nurse Practitioners. For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- BSN and MSN degree from an accredited institution.
- Undergraduate Statistics course.
- Official, competitive GRE score taken within the last five years.
- Licensure as a registered nurse in the State of Florida. (Out of state applicants must be eligible for licensure in Florida and must achieve RN licensure to begin clinical courses.)
- Address the following 3 items in a written essay. Total word count for all (not each) answers should be 500 words or less, double spaced, 12 point Times New Roman font, and 1 inch margins:



- Describe how your professional experiences have prepared you for future education in the role which is the focus of your desired track.
- Describe your plans to alter your work, professional and/ or personal obligations in order to have the time needed for graduate course and clinical practice work.
- Identify one significant contemporary issue/ problem in the US Health care system and explore how members of the nursing profession can help address that issue or solve that problem.
- Curriculum Vitae which reflects prior education, recent clinical accomplishments, any recent scholarly work (publications and presentations), awards, additional certifications, and activities with professional organizations. For recent graduates this can include accomplishments as a student.
- An interview with faculty may also be required.

Before submitting your application, it is recommended that applicants call the College of Nursing Graduate Office at 407-823-2744 to schedule an appointment with a DNP adviser to discuss your goals for graduate study. It is advantageous to discuss the program before writing the required essay because the essay must address your goals for post-master’s preparation for advanced nursing practice.

Admission to the program is competitive, based on evaluation of the applicant’s abilities, past performance, recommendations, FDLE/FBI finger printing and certified background checks, and the match of UCF’s master’s programs with career goals. The College 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.

## Application Deadlines

Adult-Gerontology Nurse Practitioner Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants			Sep 15	
International Applicants				
International Transfer Applicants				

## CONTACT INFO

**Diane Wink EdD**  
 Professor  
 diane.wink@ucf.edu  
 Telephone: 407-823-5440  
 UTWR 473

# Aging Studies Graduate Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Aging Studies is designed to prepare individuals presently employed in the aging field to increase their knowledge of the special needs of our elderly citizens.

The Graduate Certificate in Aging Studies is designed to prepare individuals presently employed in the aging field to increase their knowledge of the special needs of our elderly citizens. Graduate students who are enrolled in health sciences, psychology, social work, nursing, communication sciences and 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 the aging studies certificate 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.

## CURRICULUM

### Total Hours Required:

15 Credit Hours Minimum beyond the Bachelor's Degree

### Required Course—3 Credit Hours

- GEY 5648 Gerontology: An Interdisciplinary Overview

### Required Courses—12 Credit Hours

- 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 5690 Interdisciplinary Care at End-of-Life (3 credit hours)

- PHT 6374C Gerontology in Physical Therapy\* (3 credit hours)
- SOW 5642 Aging in Social Situations (3 credit hours)
- SOW 6938 Interventions with the Elderly and Their Families (3 credit hours)
- SPA 5564 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

## APPLICATION REQUIREMENTS

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. All requested materials must be submitted by the established deadline.

## CONTACT INFO

**Shawn Lawrence PhD, LCSW**  
Associate Professor  
shawn.lawrence@ucf.edu  
Telephone: 407-823-3112  
HPA 1 Suite 204

# Applied Operations Research Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Applied Operations Research prepares individuals with an overview and hands-on experience of Operations Research (OR) tools.

The **Applied Operations Research graduate certificate** gives students a good overview of Operations Research (OR) tools, develops competence in modeling programs and provides practice and hands-on experience with OR tools. As more powerful desktop computers and software become available, the potential to apply OR models and methods to such problems will grow.

Certificate programs can be ideal for non-degree students who would like to sample graduate courses before committing to a graduate degree program. Once a person is accepted into a regular graduate program, credits from a UCF certificate program may be applied toward an existing graduate program. Visit us on the **web** to find out more about Graduate Certificate programs.

## CURRICULUM

### Total Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—9 Credit Hours

- ESI 5219 Engineering Statistics (3 credit hours)
- ESI 5306 Operations Research (3 credit hours)
- ESI 5531 Discrete Systems Simulation (3 credit hours)

### Elective Course—3 Credit Hours

Choose one of the following three courses.

- ESI 6336 Queuing Systems (3 credit hours)
- ESI 6358 Decision Analysis (3 credit hours)
- ESI 6418 Linear Programming and Extensions (3 credit hours)

## APPLICATION REQUIREMENTS

In addition, applicants to this certificate must provide:

- Goal statement: The goal statement should discuss all relevant professional background and any previous research and/or teaching experience.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc only.
- Applications are accepted for the fall and spring terms only.

## Application Deadlines

Applied Operations Research Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	
International Applicants				
International Transfer Applicants				

## CONTACT INFO

**Ahmad Elshennawy PhD**

Professor

ahmade@ucf.edu

Telephone: 407-823-2204

Engineering 2, Room 312

# Autism Spectrum Disorders Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Autism Spectrum Disorders (ASD) provides additional training for professionals with specific focus on knowledge, skills and competencies for working with students with ASD.

The **Graduate Certificate in Autism Spectrum Disorders (ASD)** is designed to provide additional training for professionals. Course work focuses on knowledge, skills and competencies for working with students with ASD. A 20-hour field experience component is associated with each of the four courses.

Certificate programs can be ideal for non-degree students who would like to sample graduate courses before committing to a graduate degree program. Once a person is accepted into a regular graduate program, credits from a UCF certificate program may be applied toward an existing graduate program. Visit us on the **web** to find out more about Graduate Certificate programs.

Graduate Certificates can increase employment credentials, lead to career enhancement, and produce more income.

## CURRICULUM

### Total Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—12 Credit Hours

- EEX 6246 Nature of Autism: Theory and Educational Practice\* (3 credit hours)
- SPA 6437 Communication Foundations and Assistive/Instructional Technology for Communication (3 credit hours)

- EEX 6297 Assessment, Diagnosis, and Curriculum Prescriptions for Students with Autism\* (3 credit hours)
- EEX 6612 Methods of Behavioral Management (3 credit hours)

\*As per Graduate Certificate Program Policies, students may substitute electives as approved by the program director if they have already taken EEX 6297 and EEX 6246 in the Severe or Profound Disabilities Certificate.

## APPLICATION REQUIREMENTS

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. All requested materials must be submitted by the established deadline.

### Application Deadlines

Autism Spectrum Disorders Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

## CONTACT INFO

**Eleazar Vasquez**  
 eleazar.vasquez@ucf.edu  
 Telephone: 407-823-2898  
 ED 315 F

# Career Counseling Certificate

## PROGRAM DESCRIPTION

**This program has been temporarily suspended effective Summer 2014.**

The Graduate Certificate in Career Counseling is housed within the Counselor Education Program in the College of Education. The certificate program is designed to provide advanced training to students in the Counselor Education program and for practicing counselors and therapists who provide career counseling or consultation services.

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.

Certificate programs can be ideal for non-degree students who would like to sample graduate courses before committing to a graduate degree program. Once a person is accepted into a regular graduate program, credits from a UCF certificate program may be applied toward an existing graduate program. Visit us on the **web** to find out more about Graduate Certificate programs.

## CURRICULUM

The Graduate Certificate in Career Counseling requires 12 credit hours.

### Total Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

### Required 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 Course—3 Credit Hours

Students may choose to specialize in a specific academic discipline or tailor their own areas of concentration.

- EDH 6635 Organization and Administration of Higher Education (3 credit hours)
- MHS 6020 Mental Health Care Systems (3 credit hours)
- MAN 5037 Management Foundations (1.5 credit hours)
- MAN 6305 Human Resource Management (3 credit hours)
- SDS 6620 Coordination of Comprehensive Professional School Counseling Programs (3 credit hours)
- SOW 5305 Social Work Practice I: Generalist Practice (3 credit hours)

## APPLICATION REQUIREMENTS

Admission to the program is competitive on a space-available basis.

### Application Deadlines

Career Counseling Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

## CONTACT INFO

**Stacy VanHorn PhD**

counsel@ucf.edu

Telephone: 407-823-2401

ED 322M



# Children's Services Certificate

## PROGRAM DESCRIPTION

**This program has been temporarily suspended effective Fall 2013.**

The Graduate Certificate in Children's Services is designed to prepare students on how to work with children and families in the child welfare system who are facing issues of abuse or neglect.

The Graduate Certificate in Children's Services is designed to prepare students on how to work with children and families in the child welfare system who are facing issues of abuse or neglect. Students will 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 certificate program includes both academic work and a specialized field internship. The program is a joint effort between the School of Social Work and Florida Department of Children and Families to improve services to children and families

## CURRICULUM

### Total Hours Required:

**15-17** Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—15-17 Credit Hours

- SOW 6652 Children's Services in Social Work\* (3 credit hours)
- SOW 6655 Child Abuse: Treatment and Prevention\* (3 credit hours)
- SOW 6612 Clinical Practice with Families (3 credit hours)

Clinical Component:

- SOW 6535 Clinical Field Education I (3 credit hours)
- SOW 6536 Clinical Field Education II (3 credit hours)

OR

- SOW 6531 Full-Time Clinical Field Education I (4 credit hours)
- SOW 6536 Full-Time Clinical Field Education II (4 credit hours)

OR

- SOW 6561 Part-Time Clinical Field Education I (3 credit hours)
- SOW 6562 Part-Time Clinical Field Education II (2 credit hours)
- SOW 6563 Part-Time Clinical Field Education III (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.

## APPLICATION REQUIREMENTS

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. All requested materials must be submitted by the established deadline.

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# Clinical Nurse Leader Certificate

## PROGRAM DESCRIPTION

**This program has been temporarily suspended effective Fall 2013.**

The Clinical Nurse Leader Graduate Certificate prepares nurses who have a master's degree in nursing for positions as Clinical Nurse Leaders. Clinical Nurse Leaders are advanced educated nurses who function as clinical experts at the unit-based level.

## CURRICULUM

The Clinical Nurse Leader certificate curriculum consists of advanced clinical courses as well as advanced clinical nursing leadership. The program requires 12 credit hours. There are 18 credit hours of prerequisite/corequisite requirements. Students gain 480 hours of clinical practice. Each 1 credit hour clinical course requires 60 hours of supervised clinical experience. The Internship/Residency requires 300 clinical hours.

### Total Hours Required:

12 Credit Hours Minimum beyond the Master's Degree

### Prerequisite/Corequisite Courses—18 Credit Hours

- NGR 5003 Advanced Health Assessment and Diagnostic Reasoning (2 credit hours)
- NGR 5003L Advanced Health Assessment Clinical (1 credit hour)
- NGR 5141 Pathophysiological Bases for APN (3 credit hours)
- NGR 5638 Health Promotion (3 credit hours)
- NGR 5720 Organizational Dynamics (3 credit hours)
- NGR 6172 Pharmacology (3 credit hours)
- NGR 6722 Financial Management and Resource Utilization (3 credit hours)

### Required Courses—12 Credit Hours

- NGR 6105 Management of Symptoms and Outcome (3 credit hours)
- NGR 6773L CNL Residency (3 credit hours, 300 clinical hours)
- NGR 6775L CNL Resources and Outcomes (1 credit hour, 60 clinical hours)
- NGR 6777L CNL Quality and Safety (1 credit hour, 60 clinical hours)
- NGR 6776L CNL Advocacy and Education (1 credit hour, 60 clinical hours)
- NGR 6874 Nursing Environment Management (3 credit hours)

## APPLICATION REQUIREMENTS

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. All requested materials must be submitted by the established deadline.

## CONTACT INFO

**Mary Lou Sole PhD**  
Professor  
gradnurse@ucf.edu  
Telephone: 407-823-5496  
UTWR 30

# Clinical Nurse Specialist Adult- Gerontology Certificate

## PROGRAM DESCRIPTION

**This program has been temporarily suspended effective Spring 2014.**

The post-master's Clinical Nurse Specialist Adult-Gerontology Certificate prepares nurses who already have received a master's degree in nursing for positions as Clinical Nurse Specialists. The program is 18 credit hours and includes up to 540 hours of clinical practice. There are 15 credit hours of prerequisite/co-requisite requirements.

## CURRICULUM

### Prerequisites or Co-requisites—15 Credit Hours

Students must demonstrate successful completion of the following courses:

- NGR 5003 Advanced Health Assessment and Diagnostic Reasoning (2 credit hours)
- NGR 5003L Advanced Health Assessment and Diagnostic Reasoning (1 credit hour)
- NGR 5141 Pathophysiological Bases for Advanced Nursing Practice (3 credit hours)
- NGR 5720 Organizational Dynamics (3 credit hours)
- NGR 6172 Pharmacology for Advanced Nursing Practice (3 credit hours)
- NGR 6874 Nursing Environment Management (3 credit hours)

### Required Courses—18 Credit Hours

In addition, students must successfully complete all of the following Clinical Nurse Specialist Adult-Gerontology Track courses:

- NGR 6265 Adult/Gerontology CNS I (3 credit hours)
- NGR 6265L Adult/Gerontology CNS I Clinical (3 credit hours, 180 clinical hours)
- NGR 6266 Adult/Gerontology CNS II (3 credit hours)
- NGR 6266L Adult/Gerontology CNS II Clinical (3 credit hours, 180 clinical hours)
- NGR 6267 Adult/Gerontology CNS III (3 credit hours)
- NGR 6267L Adult/Gerontology CNS III Clinical (3 credit hours, 180 clinical hours)

## APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- BSN and MSN degree from an accredited institution.
- Undergraduate Statistics course.
- Licensure as a registered nurse in the State of Florida. (Out of state applicants must be eligible for licensure in Florida and must achieve RN licensure to begin clinical courses.)
- Address the following 3 items in a written essay. Total word count for all (not each) answers should be 500 words or less, double spaced, 12 point Times New Roman font, and 1 inch margins:
  - Describe how your professional experiences have prepared you for future education in the role which is the focus of your desired track.
  - Describe your plans to alter your work, professional and/ or personal obligations in order to have the time needed for graduate course and clinical practice work.
  - Identify one significant contemporary issue/ problem in the US Health care system and explore how members of the nursing profession can help address that issue or solve that problem.
- Curriculum Vitae which reflects prior education, recent clinical accomplishments,

any recent scholarly work (publications and presentations), awards, additional certifications, and activities with professional organizations. For recent graduates this can include accomplishments as a student.

- An interview with faculty may also be required.

## CONTACT INFO

**Mary Lou Sole PhD**  
Professor  
gradnurse@ucf.edu  
Telephone: 407-823-5496  
UTWR 300

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# Cognitive Sciences Certificate

## PROGRAM DESCRIPTION

The Cognitive Sciences Graduate Certificate program focuses on the interdisciplinary study of cognitive systems. It integrates a diverse range of approaches to examining cognitive processes, investigating the structures that support and scaffold cognition, attempting to understand, model and construct cognitive systems, and philosophically examining the foundations and applications of the cognitive sciences. It also includes applications of these investigations to many areas of human endeavor, including technology design, communication, training, education and clinical settings.

The interdisciplinary program is founded on the belief that cognition is a complex range of phenomena that cannot be well understood from any single disciplinary perspective. Thus, the program includes core interdisciplinary courses on the Cognitive Sciences, as well as drawing from related courses from many areas including Communication Sciences and Disorders, Education, Engineering and Computer Science, Linguistics, Neuroscience, Philosophy and Psychology.

The Graduate Certificate in Cognitive Sciences is designed for students from diverse backgrounds who wish to: (i) deepen and broaden knowledge gained in a related bachelor's degree, (ii) prepare for master's or PhD programs in the cognitive sciences, or (iii) complement current study in UCF graduate programs related to the cognitive sciences

## CURRICULUM

### Total Hours Required:

**18 Credit Hours** Minimum beyond the Bachelor's Degree

## Required Courses—6 Credit Hours

The program recommends that students complete these courses in the first year of the certificate.

- PHI 5327 Topics in the Cognitive Sciences (3 credit hours)
- PHI 5340 Research Methods in the Cognitive Sciences (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.

## Elective Courses—12 Credit Hours

### Core Courses—9 Credit Hours

Choose at least 9 credit hours of elective courses from at least three of the following four Core Areas.

#### *Language and Communication*

- COM 6046 Interpersonal Communication (3 credit hours)
- LIN 5137 Linguistics (3 credit hours)
- LIN 6932 Problems in Linguistics (3 credit hours)
- SPA 6410 Aphasia and Related Disorders (3 credit hours)
- SPA 6417 Cognitive/Communicative Disorders (3 credit hours)
- TSL 6252 Sociolinguistics for ESOL (3 credit hours)
- TSL 6250 Applied Linguistics in ESOL (3 credit hours)

#### *Artificial Intelligence and Modeling Cognition*

- CAP 5636 Advanced Artificial Intelligence (3 credit hours)
- CAP 6640 Computer Understanding of Natural Language (3 credit hours)
- CAP 6671 Intelligent Systems: Robots, Agents, and Humans (3 credit hours)
- EEL 6876 Current Topics in Artificial Intelligence (3 credit hours)
- EEL 6878 Modeling and Artificial Intelligence (3 credit hours)

- EEL 6812 Introduction to Neural Networks (3 credit hours)
- EEL 6875 Autonomous Agents (3 credit hours)

#### *Philosophy*

- PHI 5225 Philosophy of Language (3 credit hours)
- PHI 5325 Topics in Philosophy of Mind (3 credit hours)
- PHI 5328 Philosophies of Embodiment (3 credit hours)
- PHI 5329 Philosophy of Neuroscience (3 credit hours)

#### *Psychology and Neuroscience*

- DEP 5057 Developmental Psychology (3 credit hours)
- EXP 5208 Sensation and Perception (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)
- PSB 5005 Physiological Psychology (3 credit hours)
- ZOO 5745C Essentials of Neuroanatomy (4 credit hours)
- ZOO 5748C Clinical Neuroanatomy (5 credit hours)
- ZOO 5749C Clinical Neuroscience (5 credit hours)

### Restricted Elective Courses—3 Credit Hours

Choose up to one elective course either from the above Core Areas or from the following list:

- CAP 5415 Computer Vision (3 credit hours)
- CAP 5610 Machine Learning (3 credit hours)
- CAP 6676 Knowledge Representation (3 credit hours)
- COM 6467 Studies in Persuasion (3 credit hours)
- EDF 6141 Human Intelligence (3 credit hours)
- EEL 5874 Expert Systems and Knowledge Engineering (3 credit hours)



- EGI 6305 Theory and Development of Creativity (3 credit hours)
- EIN 6258 Human Computer Interaction (3 credit hours)
- EME 6601 Instructional Simulation Design for Training and Education (3 credit hours)
- EME 6614 Instructional Game Design for Training and Education (3 credit hours)
- EME 6646 Learning, Instructional Design, and Cognitive Neuroscience (3 credit hours)
- ENC 6740 Topics in Rhetoric and Composition (3 credit hours) NOTE: Where topic is appropriate; topic should be cleared in advance with the Cognitive Sciences Certificate program director.
- EXP 6257 Human Factors II (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)
- IDS 6504 Adult Learning (3 credit hours)
- IDS 7657 Professional Collaboration Around Language Issues (3 credit hours)
- SOP 5059 Advanced Social Psychology (3 credit hours)
- SPA 6437 Communication Foundations and Assistive/Instructional Technology for Communication (3 credit hours)

NOTE: It is the policy of the College of Graduate Studies not to allow course substitutions for graduate certificate programs. All elective courses listed above have been approved for inclusion by the chair or director of the relevant program. However, it is the student’s responsibility to ensure that all course prerequisites are met. Students without the appropriate prerequisites to courses will need to contact the instructor to inquire about the possibility of registration.

## APPLICATION REQUIREMENTS

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. All requested materials must be submitted by the established deadline.

Admission to the program is competitive on a space-available basis. Final admission is based on evaluation of the applicant’s abilities, past performance and the applicant’s potential for completing the certificate.

## Application Deadlines

Cognitive Sciences Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 30	Nov 15	
International Applicants				
International Transfer Applicants				

## CONTACT INFO

**Mason Cash PhD**  
 Associate Professor  
 mason.cash@ucf.edu  
 Telephone: 407-823-6857  
 PSY 0246

# Community College Education Certificate

## PROGRAM DESCRIPTION

The Community College Education Graduate Certificate prepares students to become campus leaders at all organizational levels of community colleges, including the classroom. The certificate consists of five graduate courses that cover all facets of community college education. The courses are available completely online in a web-based format.

## CURRICULUM

### Total Hours Required:

15 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—15 Credit Hours

- EDH 6053 The Community College in America (3 credit hours)
- EDH 6081 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)

## APPLICATION REQUIREMENTS

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. All requested materials must be submitted by the established deadline.

## Application Deadlines

Community College Education Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

## CONTACT INFO

**Thomas Cox EdD**

thomas.cox@ucf.edu

Telephone: 407-823-6714

ED 220Q

# Computer Forensics Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Computer Forensics provides a unique graduate training opportunity for those who deal directly or indirectly with digital evidence.

The National Center for Forensic Science, the School of Electrical Engineering and Computer Science, and the Department of Chemistry jointly sponsor the interdisciplinary **Graduate Certificate program 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.

Certificate programs can be ideal for non-degree students who would like to sample graduate courses before committing to a graduate degree program. Once a person is accepted into a regular graduate program, credits from a UCF certificate program may be applied toward an existing graduate program.

## CURRICULUM

### Total Hours Required:

15 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—12 Credit Hours

- CNT 6418 Computer Forensics II: Network Security, Intrusion Detection, and Forensic Analysis (3 credit hours)
- CHS 5504 Topics in Forensic Science (3 credit hours)
- CHS 5518 The Forensic Collection and Examination of Digital Evidence (3 credit hours) or 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)

### Elective Courses—3 Credit Hours

Choose one course from the following list

- CIS 6207 The Practice of Digital Forensics (3 credit hours)
- CAP 6133 Advanced Topics in Computer Security and Computer Forensics (3 credit hours)
- A digital evidence course approved by the graduate faculty

## APPLICATION REQUIREMENTS

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. All requested materials must be submitted by the established deadline.

Admission to the program is competitive on a space-available basis. Final admission is based on evaluation of the applicant's abilities, past performance and the applicant's potential for completing the certificate. Students interested in the Out of State Cohort/Track, must contact the program director, Sheau-Dong Lang, PhD, prior to applying.

### Application Deadlines

Computer Forensics Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	
International Applicants				
International Transfer Applicants				

## CONTACT INFO

**Sheau-Dong Lang PhD**  
Associate Professor  
slang@ucf.edu  
Telephone: 407-823-2474  
HEC 339

# Conservation Biology Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Conservation Biology provides students with an excellent opportunity for cross-discipline training in conservation theory in a classroom setting with field work in the laboratory portions of Biology.

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.

Certificate programs can be ideal for non-degree students who would like to sample graduate courses before committing to a graduate degree program. Once a person is accepted into a regular graduate program, credits from a UCF certificate program may be applied toward an existing graduate program.

## CURRICULUM

### Total Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—12 Credit Hours

Students should take two courses from Group A, one course from Group B, and the course from Group C.

#### Group A

- BSC 5332 Invasion Biology (3 credit hours)
- PCB 5045 Conservation Biology (4 credit hours)

- PCB 5935 Population Genetics (3 credit hours)
- PCB 6053C Restoration Ecology (4 credit hours)
- PCB 6328C Landscape Ecology (4 credit hours)
- PCB 6480C Quantitative Conservation Biology (4 credit hours)
- PCB 6556 Conservation Genetics (3 credit hours)
- ZOO 6520 Behavioral Ecology (3 credit hours)

#### Group B

- BOT 6623C Plant Ecology (4 credit hours)
- BSC 5824 Biogeography (4 credit hours)
- ENY 5006C Entomology (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)
- ZOO 5456C Ichthyology (4 credit hours)
- ZOO 5463C Herpetology (4 credit hours)
- ZOO 5475L Field Ornithology (3 credit hours)
- ZOO 5486 Mammalogy (4 credit hours)

#### Group C

- PAZ 5235 Zoo and Aquarium Biology and Management (3 credit hours)

## Independent Learning

Graduate students enrolled in the Graduate Certificate in Conservation Biology are expected to engage in independent learning throughout their enrollment. Independent learning is a key component of all of the courses approved for inclusion in this certificate, where emphasis is placed on the development of analytical skills and critical thinking. In addition, depending upon their career goals, other experiences such as directed readings, additional research projects, or internships may be undertaken by the students.

## APPLICATION REQUIREMENTS

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. All requested materials must be submitted by the established deadline.

Applicants must submit an essay that describes their interests and background in conservation biology. Applicants must also provide GRE scores (verbal and quantitative) taken within the last five years. Admission will be conditional upon receipt of the official score.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the certificate.

### Application Deadlines

Conservation Biology Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jan 15		
Students applying for summer or spring admission will be considered on an ad hoc basis but must complete their applications by December 1.				
International Applicants				
International Transfer Applicants				

## CONTACT INFO

**Pedro Quintana-Ascencio PhD**  
Associate Professor  
pedro.quintana-ascencio@ucf.edu  
Telephone: 407-823-1662  
BL 401

# Construction Engineering Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Construction Engineering offers a wide range of expertise to the practicing civil engineer, from project management principles and tools to construction methods. The certificate program will cover the areas of organization, people, information, control, and technology of construction engineering.

## CURRICULUM

### Total Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—9 Credit Hours

Students must choose three courses from the following.

- CCE 5006 Infrastructure Systems Management (3 credit hours)
- CCE 5205 Decision Support for Infrastructure Projects (3 credit hours)
- CCE 5220 Green Design and Construction (3 credit hours)
- CCE 6036 Advanced Construction Planning and Control (3 credit hours)
- CCE 6045 Cost Analysis of Sustainable Infrastructure Systems (3 credit hours)
- CCE 6211 Design and Monitoring of Construction Processes (3 credit hours)

### Elective Courses—3 Credit Hours

A graduate course in the College of Engineering and Computer Science or the College of Business Administration, as approved by the CECE Graduate Coordinator.



## APPLICATION REQUIREMENTS

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. All requested materials must be submitted by the established deadline.

### Application Deadlines

Construction Engineering Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	
International Applicants				
International Transfer Applicants				

## CONTACT INFO

**David Cooper PhD**  
Professor  
david.cooper@ucf.edu  
Telephone: 407-823-2388  
ENG2 227

# Corporate Communication Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Corporate Communication offers students additional training in creating, managing, and communicating corporate reputation. Coursework focuses on theory, research and practical applications of principles related to corporate communication. The curriculum includes courses in crisis public relations, theories of public relations and electives designed to enhance students' communication skills in corporate environments.

## CURRICULUM

The program is composed of three required graduate courses and three elective courses that can be incorporated into a master's program of study in Mass or Interpersonal Communication or taken as an add-on to another graduate degree. The required and elective courses are drawn from a limited list of courses that reflect current professional development needs for corporate communication. Students must enroll in COM 6008 in the first semester.

### Total Hours Required:

**18 Credit Hours** Minimum beyond the Bachelor's Degree

### Required Courses—9 Credit Hours

- COM 6008 Proseminar in Communication (3 credit hours)
- PUR 6005 Theories of Public Relations (3 credit hours)
- PUR 6403 Crisis Public Relations (3 credit hours)

### Electives—9 Credit Hours

- ADV 6209 Advertising and Society (3 credit hours)

- COM 6025 Health Communication (3 credit hours)
- COM 6047 Interpersonal Support in the Workplace (3 credit hours)
- COM 6145 Organizational Communication (3 credit hours)
- COM 6304 Quantitative Research Methods in Communication (3 credit hours)
- COM 6303 Qualitative Research Methods in Communication (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 6266 Communications Convergence and Media Planning (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 6402 Mass Communication Theory (3 credit hours)
- PUR 6215 Communicating Corporate Social Responsibility (3 credit hours)

not guarantee admission to the Communication MA program as additional requirements exist for the master’s program.

### Application Deadlines

Corporate Communication Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jun 1	Dec 1	
International Applicants				
International Transfer Applicants				

### CONTACT INFO

**Harry Weger PhD**  
 Associate Professor  
 harry.weger@ucf.edu  
 Telephone: 407-823-2859  
 NSC 252

## APPLICATION REQUIREMENTS

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. All requested materials must be submitted by the established deadline.

The Corporate Communication Certificate Program does not admit students in the summer semester. Admission to and successful completion of the Corporate Communication Certificate Program does

# Corrections Leadership Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Corrections Leadership is designed to provide a theoretical and practical knowledge base for correctional practitioners in the areas of criminal justice, public administration and social work.

The **Graduate Certificate 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.

Certificate programs can be ideal for non-degree students who would like to sample graduate courses before committing to a graduate degree program. Once a person is accepted into a regular graduate program, credits from a UCF certificate program may be applied toward an existing graduate program.

Visit us on the **web** to find out more about Graduate Certificate programs.

## CURRICULUM

The Corrections Leadership certificate program consists of two required courses and two elective courses for a total of 12 credit hours.

### Total Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—6 Credit Hours

- CJC 5020 Foundations of Corrections (3 credit hours)
- CJL 6568 Law and Social Control (3 credit hours)

### Elective Courses—6 Credit Hours

Choose two of the following courses.

- CCJ 6051 Community Justice (3 credit hours)
- CCJ 6106 Policy Analysis in Criminal Justice (3 credit hours)
- CCJ 6335 Criminal Justice Sentencing and Punishment Policy (3 credit hours)
- CCJ 6431 Leadership and Ethics in Criminal Justice (3 credit hours)
- CCJ 6730 Planned Change and Innovation in Criminal Justice (3 credit hours)
- PAD 6417 Human Resource Management (3 credit hours)
  - *This course has a prerequisite of PAD 6700. Contact the School of Public Administration for an override.*
- SOW 6712 Interventions with Substance Abusers (3 credit hours)

## APPLICATION REQUIREMENTS

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. All requested materials must be submitted by the established deadline.

### Application Deadlines

Corrections Leadership Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

## CONTACT INFO

**Stephen Holmes PhD**  
stephen.holmes@ucf.edu  
Telephone: 407-823-2603  
HPA 1, RM 311

**Elexis Ritz**  
elexis.ritz@ucf.edu  
Telephone: 407-823-2603  
HPA 311

# Crime Analysis Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Crime Analysis provides students with the essential skills needed by law enforcement agencies to meet the new demands for sophisticated crime analysis and mapping products.

The **Graduate Certificate in Crime Analysis** is designed to provide essential skills that are needed by law enforcement agencies to meet new demands for sophisticated crime analysis and mapping products. Students learn to synthesize theory and application in order to produce the knowledge base necessary to fully utilize available technologies to develop and perform complex crime analysis and mapping; perform advanced spatial analyses of crime; and understand the essentials of creating customized crime analysis and mapping applications that are agency-specific. Certificate programs can be ideal for non-degree students who would like to sample graduate courses before committing to a graduate degree program. Once a person is accepted into a regular graduate program, credits from a UCF certificate program may be applied toward an existing graduate program.

## CURRICULUM

The Crime Analysis Graduate Certificate consists of three required courses and one elective. Each of the required courses are offered live in a computer lab on UCF's main campus and taken in the order shown.

### Total Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—9 Credit Hours

This sequence of courses can only be started in the Fall semester, with the courses taken in the order listed below:

- CCJ 6073 Data Management Systems for Crime Analysis – Fall semester (3 credit hours)
- CCJ 6079 Crime Mapping and Analysis in Criminal Justice – Spring semester (3 credit hours)
- CCJ 6077 Advanced Crime Mapping and Analysis in Criminal Justice – Summer semester (3 credit hours)

### Elective Courses—3 Credit Hours

Choose one of the following courses:

- CCJ 5015 Nature of Crime (3 credit hours)
- CCJ 6074 Investigative and Intelligence Analysis: Theory and Methods (3 credit hours)
- CCJ 6431 Leadership and Ethics in Criminal Justice (3 credit hours)

## APPLICATION REQUIREMENTS

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. All requested materials must be submitted by the established deadline.

### Application Deadlines

Crime Analysis Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15		
International Applicants				
International Transfer Applicants				

## CONTACT INFO

**Stephen Holmes PhD**  
stephen.holmes@ucf.edu  
Telephone: 407-823-2603  
HPA 1, RM 311

**Elexis Ritz**  
elexis.ritz@ucf.edu  
Telephone: 407-823-2603  
HPA 311

# Criminal Justice Executive Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Criminal Justice Executive prepares criminal justice professionals for contemporary executive roles within their organizations in the areas of self-awareness, operations, logistics, human capital, vision and current industry trends. This certificate is designed to develop innovative executives who care about people and results and who are preparing themselves and their agencies for the challenges of tomorrow. This certificate assists executives in developing the competencies and skills to successfully adapt to new and unforeseen realities.

**This certificate program is only available to students in the Valencia College Public Safety Leadership Development Certification Program (PSLDCP).**

## CURRICULUM

The Criminal Justice Executive certificate program consists of three required courses and one elective course for a total of 12 credit hours.

### Total Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—9 Credit Hours

- CJE 6120 Personnel Management in Criminal Justice Organizations (3 credit hours)
- CCJ 6489 Professionalism in Criminal Justice Organizations (3 credit hours)
- CCJ 5931 Contemporary Criminal Justice Strategies (3 credit hours)

### Elective Courses—3 Credit Hours

Students select one of the following courses.

- CCJ 5456 The Administration of Justice (3 credit hours)

- CCJ 5931 Contemporary Criminal Justice Strategies\* (3 credit hours)
- CCJ 6118 Criminal Justice Organizations (3 credit hours)

\*CCJ 5931 can be taken twice in this certificate program as the content of the course changes for each offering.

## APPLICATION REQUIREMENTS

Public Safety Leadership Development Certification Program (PSLDCP) at the Valencia Criminal Justice Institute letter of acceptance to the Valencia College Public Safety Leadership Development Certification Program apply online.

### Application Deadlines

Criminal Justice Executive Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	
International Applicants				
International Transfer Applicants				

\*Applicants who plan to enroll full time in a degree program and who wish to be considered for university fellowships or assistantships should apply by the Fall Priority date.

## CONTACT INFO

### Eugene Paoline, III PhD

Professor  
Eugene.Paoline@ucf.edu  
Telephone: 407-823-4946  
HPA 1, RM 321

### Elexis Ritz

elexis.ritz@ucf.edu  
Telephone: 407-823-2603  
HPA 311



# Design for Usability Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Design for Usability prepares students in the methods of user-centered design usability engineering that can be used to assess and assure usability throughout a product, service or system development cycle. 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.

Certificate programs can be ideal for non-degree students who would like to sample graduate courses before committing to a graduate degree program. Once a person is accepted into a regular graduate program, credits from a UCF certificate program may be applied toward an existing graduate program.

## CURRICULUM

### Total Hours Required:

12 Credit Hours Minimum beyond the Bachelor’s Degree

### Required Courses—12 Credit Hours

- EIN 5248C Ergonomics (3 credit hours)
- EIN 5251 Usability Engineering (3 credit hours)
- EIN 6258 Human Computer Interaction (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)

## APPLICATION REQUIREMENTS

Admission is open to those with a bachelor’s degree in industrial engineering or a closely related discipline from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition, applicants to this certificate must provide:

- Goal statement: The goal statement should discuss all relevant professional background and any previous research and/or teaching experience.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Applications are accepted for the fall and spring terms only.

## Application Deadlines

Design for Usability Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	
International Applicants				
International Transfer Applicants				

## CONTACT INFO

**Ahmad Elshennawy PhD**  
Professor  
ahmade@ucf.edu  
Telephone: 407-823-2204  
Engineering 2, Room 312

# e-Learning Professional Development Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in e-Learning Professional Development is designed for educators in K-12 and higher education, trainers, and instructional designers.

The **e-Learning Professional Certificate** program prepares candidates to facilitate e-learning and generate high-quality e-learning materials in business and industry, higher education and K-12 schools.

Certificate programs can be ideal for non-degree students who would like to sample graduate courses before committing to a graduate degree program. Once a person is accepted into a regular graduate program, credits from a UCF certificate program may be applied toward an existing graduate program.

Visit us on the **web** to find out more about Graduate Certificate programs.

Graduate Certificates can increase employment credentials, lead to career enhancement, and produce more income.

## CURRICULUM

Recommended plan of study for earning the graduate certificate, noting when each course is offered, is provided on the Instructional Technology program website under **Plans of Study** for graduate certificates.

### Total Hours Required:

**15 Credit Hours** Minimum beyond the Bachelor's Degree

## Required Courses—15 Credit Hours

- EME 6613 Instructional System Design (3 credit hours)
- EME 6507 Multimedia in Education and Training (3 credit hours)
- EME 6457 Distance Education: Technology Process Product (3 credit hours)
- EME 6417 Interactive Online and Virtual Teaching Environments (3 credit hours)
- EME 6458 Virtual Teaching and the Digital Educator (3 credit hours)

\*EME 6417 (spring) must be taken before EME 6458 (summer).

## APPLICATION REQUIREMENTS

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. All requested materials must be submitted by the established deadline.

### Application Deadlines

e-Learning Professional Development Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	
International Applicants				
International Transfer Applicants				

## CONTACT INFO

**Glenda Gunter PhD**  
 Associate Professor  
 glenda.gunter@ucf.edu  
 Telephone: 407-823-3502  
 ED 322P

# Emergency Management and Homeland Security Certificate

## PROGRAM DESCRIPTION

The graduate certificate in Emergency Management and Homeland Security provides an interdisciplinary graduate education for people engaged in or seeking professional careers in emergency management and homeland security.

The graduate certificate in Emergency Management and Homeland Security provides an interdisciplinary graduate education for people engaged in or seeking professional careers in emergency management and homeland security with a focus on managing security threats or crises, natural or man-made threats, disasters, or emergencies through the coordination of public, private, and nonprofit sectors. In addition to covering the National Response Plan and recent trends in policy and practice in this field, the program will focus on the Florida emergency management and public safety systems.

## CURRICULUM

The certificate in Emergency Management and Homeland Security consists of 18 credit hours at the graduate level, including four required core courses and two electives (one from a planning emphasis and one from management/policy).

### Total Hours Required:

18 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—12 Credit Hours

All students must take the following courses.

- PAD 6399 Foundations of Emergency Management and Homeland Security (3 credit hours)

- PAD 6397 Managing Emergencies and Crises (3 credit hours)
- PAD 6716 Information Systems for Public Managers and Planners (3 credit hours)
- PAD 6825 Cross-Sectoral Governance (3 credit hours)

### Elective Courses—6 Credit Hours

#### Restricted—6 Credit Hours

- Select one course from Group 1
- Select one course from Group 2

#### *Group 1—Planning Emphasis*

- PAD 5336 Introduction to Urban Planning (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 Planning and Policy (3 credit hours)
- CGN 6655 Regional Planning, Design, and Development (3 credit hours)
- PUR 6403 Crisis Public Relations (3 credit hours)
- PAD 6946 Internship (Internship must show a planning emphasis. If an internship is completed as a group 1 elective, a second internship cannot be completed as a group 2 elective. Current or previous employment cannot be applied toward the internship.)

#### *Group 2—Management and Policy Emphasis*

- PAD 5850 Grant and Contract Management
- PAD 6142 Nonprofit Organizations (3 credit hours)
- PAD 6037 Public Organizations Management (3 credit hours)
- PAD 6387 Transportation Policy (3 credit hours)
- CCJ 6027 Criminal Justice Responses to Terrorism (3 credit hours)
- HSA 5198 Health Care Decision Sciences and Knowledge Management (3 credit hours)
- INR 6136 Seminar in American Security Policy (3 credit hours)

- PAD 6946 Internship (Internship must show a management and policy emphasis. If an internship is completed as a group 2 elective, a second internship cannot be completed as a group 1 elective. Current or previous employment cannot be applied toward the internship.)

represents one year’s data only, however, we hope that this information is helpful to current and prospective students, as you make your career and educational choices.

## APPLICATION REQUIREMENTS

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. Students must submit all requested material by the established deadline; materials received after the established deadline may not be considered. Admission to this certificate program is competitive; applicants meeting the minimum admissions requirements are not guaranteed admission.

**All applicants to this certificate program will be required to submit:**

- A current professional resume
- An academic goal statement

These documents must be attached to the application. The academic goal statement will be used as a sample of the applicant’s writing ability. While there is no set word limit, the statement should address the applicant’s interest in pursuing the certificate program and fully discuss any experience that he or she has had in the field.

## Application Deadlines

Emergency Management and Homeland Security Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	
International Applicants				
International Transfer Applicants				

The U.S. Department of Education requires colleges to disclose a variety of information for any financial aid eligible program that “prepares students for gainful employment in a recognized occupation”. The information provided in the link below is the best that is available to us. This information

## CONTACT INFO

**Claire Knox PhD**  
 Assistant Professor  
 Claire.Knox@ucf.edu  
 Telephone: 407-823-0153  
 HPA2 235

# Entrepreneurship Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Entrepreneurship provides knowledge and skills commonly used by those who create and manage new business ventures.

The Graduate Certificate in Entrepreneurship is designed for those interested in launching new ventures or improving small businesses. The associated courses describe how to integrate product/service, marketing, management, and financial expertise to identify and articulate business opportunities. Each course balances theoretical insights and tactical knowledge reflecting current research and practice.

## CURRICULUM

### Total Hours Required:

9 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—9 Credit Hours

GEB 6115 Entrepreneurship (3 credit hours)  
MAN 5867 Small Business Consulting (3 credit hours) or GEB 6518 Strategic Innovation (3 credit hours)  
GEB 6116 Business Plan Formation (3 credit hours)

## APPLICATION REQUIREMENTS

Admission is open to those with documentation of a bachelors degree from a regionally accredited institution or participation in a UCF graduate degree program. Students who maintain graduate standing in a UCF graduate degree program during the time required to complete a graduate certificate are eligible for this certificate. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

Those applying who are NOT currently enrolled in a UCF graduate program must have a minimum of 2 years of full-time work experience after completion of the bachelor's degree.

## Application Deadlines

Entrepreneurship Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	
International Applicants				
International Transfer Applicants				

## CONTACT INFO

### Cameron Ford PhD

Associate Professor  
cbagrad@bus.ucf.edu  
Telephone: 407-823-3700  
Business Administration 345



# ESOL Endorsement K-12 Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in English for Speakers of Other Languages Endorsement K-12 is designed to prepare certified teachers with specialized knowledge and training in the five areas required by the state of Florida to teach in a K-12 setting: applied linguistics, curriculum, testing, methodology and cross-cultural awareness.

The **ESOL Endorsement K-12 certificate program** provides students with specialized knowledge and training in the five endorsement areas that the state of Florida requires K-12 teachers have. Focus areas include: 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.

Certificate programs can be ideal for non-degree students who would like to sample graduate courses before committing to a graduate degree program. Once a person is accepted into a regular graduate program, credits from a UCF certificate program may be applied toward an existing graduate program. Visit us on the **web** to find out more about Graduate Certificate programs.

## CURRICULUM

No course substitutions are allowed. Upon successful completion, students will need to complete separate paperwork with the state of Florida for official recognition of this endorsement.

### Total Hours Required:

15 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—15 Credit Hours

- TSL 5345 Methods of ESOL Teaching (3 credit hours); or, for students admitted to the Speech and Language Pathology program, TSL 5085 Teaching Language Minority Students in K-12 Classrooms (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); or, for students admitted to the Speech and Language Pathology program, SPA 6474 Assessment and Management of Culturally and Linguistically Diverse Populations (3 credit hours)

## Independent Learning

TSL 5525, TSL 5345, and TSL 6250 require students to work with one or more nonnative speakers. TSL 6250 requires students to transcribe data elicited from a nonnative speaker.

## APPLICATION REQUIREMENTS

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance and the applicant's potential for completing the certificate.

## Application Deadlines

ESOL Endorsement K-12 Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 1	Dec 1	Apr 1
The application deadline for Fall 2014 has been extended to July 25, 2014.				
International Applicants				
International Transfer Applicants				

## CONTACT INFO

**Kerry Purmensky PhD**  
 kerry.purmensky@ucf.edu  
 Telephone: 407-823-0087  
 CNH 515

# Ethics Certificate, Theoretical and Applied

## PROGRAM DESCRIPTION

Students in the Graduate Certificate in Theoretical and Applied Ethics program specialize in applying ethical theories and principles to complex contemporary situations. Students in the Graduate Certificate in Theoretical and Applied Ethics program specialize in applying ethical theories and principles to complex contemporary situations. This interdisciplinary graduate certificate focuses on specific topics of ethical inquiry in philosophy, humanities, the arts, sciences, health care, business, education, criminal justice, public administration, public relations, journalism, politics and other areas.

## CURRICULUM

Students may choose to specialize in some specific academic discipline or tailor their own areas of concentration.

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.

### Total Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

### 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—6 Credit Hours

- ACG 6835 Ethics and Professionalism in Accounting and Auditing (3 credit hours)
- BUL 6444 Law and Ethics (3 credit hours)

- CJE 5021 Foundations of Law Enforcement (3 credit hours)
- CJC 5020 Foundations of Corrections (3 credit hours)
- CCJ 5456 The Administration of Justice (3 credit hours)
- CJL 6568 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)
- ADV 6209 Advertising and Society (3 credit hours)
- NGR 5883 Cultural, Legal, Ethical, and Political Issues of Advanced Practice Nursing\* (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 (3 credit hours)
- SPS 6931 Ethical and Legal Issues in School Psychological Services (3 credit hours)
- WST 5347 Research Seminar in Gender Studies (3 credit hours)

\* NGR courses are restricted to graduate students in nursing.

## APPLICATION REQUIREMENTS

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 graduate program director together with the certificate committee comprised of faculty from the participating departments. Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance and the applicant's potential for completing the certificate.

### Application Deadlines

Ethics Certificate, Theoretical and Applied	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jun 30	Nov 15	Mar 30
International Applicants				
International Transfer Applicants				

## CONTACT INFO

**Michael Strawser PhD**  
Associate Professor  
michael.strawser@ucf.edu  
Telephone: 407-823-2799  
PO Box 161352

# Family Nurse Practitioner Certificate

## PROGRAM DESCRIPTION

The post-master's Family Nurse Practitioner Graduate Certificate prepares nurses who already have received a master's degree in nursing for positions as Family Nurse Practitioners. The program is 22 credits hours and includes up to 720 hours of clinical practice. There are 12 credit hours of prerequisite requirements.

## CURRICULUM

### Total Hours Required:

**22** Credit Hours Minimum beyond the Master's Degree

### Prerequisites—12 Credit Hours

Students must demonstrate successful completion of the following courses:

- NGR 5003 Advanced Health Assessment and Diagnostic Reasoning (2 credit hours)
- NGR 5003L Advanced Health Assessment and Diagnostic Reasoning (1 credit hour; 60 clinical hours)
- NGR 5141 Pathophysiological Bases for Advanced Nursing Practice (3 credit hours)
- NGR 5638 Health Promotion (3 credit hours)
- NGR 6172 Pharmacology for Advanced Nursing Practice (3 credit hours)

### Required Courses—22 Credit Hours

In addition, students must successfully complete all of the following DNP Family Nurse Practitioner Track courses:

- NGR 6334 Women's Health for APNs (2 credit hours)
- NGR 6201 Adult I Primary Care (3 credit hours)

- NGR 6240L Adult I Primary Care Clinical (3 credit hours; 180 clinical hours)
- NGR 6263 Gerontologic Care for APNs (3 credit hours)
- NGR 6263L Gerontologic Care Clinical for NPs (2 credit hours; 120 clinical hours)
- NGR 6305 Pediatric Primary Care (3 credit hours)
- NGR 6305L Pediatric Primary Care Clinical (2 credit hours; 120 clinical hours)
- NGR 6342L Women's Health for Advanced Practice Nurses Clinical (1 credit hour; 60 clinical hours)
- NGR 6248 Family Nurse Practitioner/Adult Gerontology Nurse Practitioner Practice Practicum (3 credit hours; 180 clinical hours)

## Independent Learning

TSL 5525, TSL 5345, and TSL 6250 require students to work with one or more nonnative speakers. TSL 6250 requires students to transcribe data elicited from a nonnative speaker.

## APPLICATION REQUIREMENTS

Admission is open to those with MSN Degrees, but who are not prepared as Family Nurse Practitioners. For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- BSN and MSN degree from an accredited institution.
- Undergraduate Statistics course.
- Official, competitive GRE score taken within the last five years.
- Licensure as a registered nurse in the State of Florida. (Out of state applicants must be

eligible for licensure in Florida and must achieve RN licensure to begin clinical courses.)

- Address the following 3 items in a written essay. Total word count for all (not each) answers should be 500 words or less, double spaced, 12 point Times New Roman font, and 1 inch margins:
  - Describe how your professional experiences have prepared you for future education in the role which is the focus of your desired track.
  - Describe your plans to alter your work, professional and/ or personal obligations in order to have the time needed for graduate course and clinical practice work.
  - Identify one significant contemporary issue/ problem in the US Health care system and explore how members of the nursing profession can help address that issue or solve that problem.
- Curriculum Vitae which reflects prior education, recent clinical accomplishments, any recent scholarly work (publications and presentations), awards, additional certifications, and activities with professional organizations. For recent graduates this can include accomplishments as a student.
- An interview with faculty may also be required.

Before submitting your application, it is recommended that applicants call the College of Nursing Graduate Office at 407-823-2744 to schedule an appointment with a DNP adviser to discuss your goals for graduate study. It is advantageous to discuss the program before writing the required essay because the essay must address your goals for post-master's preparation for advanced nursing practice.

Admission to the program is competitive, based on evaluation of the applicant's abilities, past performance, recommendations, FDLE/FBI finger printing and certified background checks, and the match of UCF's master's programs with career goals. The College 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.

## Application Deadlines

Family Nurse Practitioner Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants			Oct 1	
International Applicants				
International Transfer Applicants				

## CONTACT INFO

### Diane Wink EdD

Professor

diane.wink@ucf.edu

Telephone: 407-823-5440

UTWR 473

# Fundraising Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Fundraising is an 18-credit **completely online** certificate that provides an overview of the core concepts in fundraising and development for those interested in a career as a professional fundraiser. The Certificate is intended to meet the needs of individuals seeking a focused experience in order to prepare for or advance their careers in fundraising and development. It is appropriate for students who seek to expand their knowledge, but who do not wish to commit to a master's degree program.

Credit earned in the certificate program may be applied toward the Master of Nonprofit Management (MNM) degree. However, admission to the MNM degree program has separate requirements from those of the certificate program and students considering continuing into the master's degree should consult with a faculty adviser early in their certificate program. The Graduate Certificate in Fundraising requires that students complete 18 credit hours. Students must maintain at least a 3.0 grade point average in order to be awarded the Graduate Certificate. The Certificate must be completed within 3 years.

## CURRICULUM

### Total Hours Required:

18 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—12 Credit Hours

- PAD 5146 Nonprofit Resource Development (3 credit hours)
- PAD 6142 Nonprofit Organizations (3 credit hours)
- PAD 6237 Ethics and Governance in Philanthropy (3 credit hours)
- PAD 6235 Fundraising as a Profession (3 credit hours)



**Elective Courses—6 Credit Hours**

Select two courses from the following lists.

**Online Electives**

- PAD 5850 Grants and Contract Management (3 credit hours)
- PAD 6208 Nonprofit Financial Management (3 credit hours)
- PAD 6335 Strategic Planning and Management (3 credit hours)

**Face-to-Face Electives**

- PAD 6236 Philanthropy, Fundraising and Social Entrepreneurship (3 credit hours)
- PAD 6946 Internship (3 credit hours)

## APPLICATION REQUIREMENTS

An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. Please submit all requested material by the established deadline(s). Admission is open to those with a bachelor's degree from a regionally accredited institution with a GPA of 2.5 or above.

All applicants to this certificate program will be required to submit:

- One official transcript (in a sealed envelope) from each college/university attended.
- Résumé.
- Statement of interest.

These documents must be attached to the application. The academic goal statement will be used as a gauge of the applicant's writing ability.

**Application Deadlines**

<b>Fundraising Certificate</b>	<b>Fall Priority</b>	<b>Fall</b>	<b>Spring</b>	<b>Summer</b>
Domestic Applicants		Jul 15	Dec 1	
International Applicants				
International Transfer Applicants				

**CONTACT INFO****Stephanie Krick PhD**

stephanie.krick@ucf.edu

Telephone: 407-823-0661

HPAII, Room 234

# Gender Studies Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Gender Studies is designed to provide students with a foundation in feminist theory and research, focusing on the study of gender and its relationship to cultural, social and political institutions and systems of meaning.

The **Gender Studies Graduate Certificate** is an interdisciplinary program coordinated by the Women's Studies Program. The Gender Studies program provides a foundation in feminist theory and research, focusing on the study of gender and its relationship to cultural, social and political institutions and systems of meaning. The program is open to both degree-seeking and nondegree-seeking graduate students. Most courses are offered at times that will accommodate part-time and working students.

Certificate programs can be ideal for non-degree students who would like to sample graduate courses before committing to a graduate degree program. Once a person is accepted into a regular graduate program, credits from a UCF certificate program may be applied toward an existing graduate program.

## CURRICULUM

The Graduate Certificate in Gender Studies includes courses from both the humanities and the social sciences. Entry to CLP 6459C, ENG 6814 Gender in Texts and Technology and SOW 5625 may be restricted. Consult with the instructor.

### Total Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

### Required Course—3 Credit Hours

Select one of the following courses.

- WST 5601 Theories in Gender Studies (3 credit hours)
- LIT 5556 Advanced Feminist Theories (3 credit hours)

### Elective Courses—9 Credit Hours

- AMH 5566 Colloquium: Women in American History (3 credit hours)
- ARH 5897 Advanced Seminar in Art History: Contemporary Women Artists (3 credit hours)
- CLP 6459C Human Sexuality, Marriage, and Sex Therapies (3 credit hours)
- ENC 6332 Gendered Rhetoric (3 credit hours)
- ENG 6078 Contemporary Movements in Literary, Cultural, and Textual Theory (as applicable)\*\* (3 credit hours)
- ENG 6074 Historical Movements in Literary, Cultural, and Textual Studies (as applicable)\*\* (3 credit hours)
- ENG 6814 Gender in Texts and Technology (3 credit hours)
- LIT 5387 Captives, Housewives, and Coquettes (3 credit hours)
- LIT 5389 Studies in Gender and Fiction Writing (3 credit hours)
- LIT 6097 Studies in Contemporary Fiction\* (3 credit hours)
- LIT 6216 Issues in Literary Study (as applicable)\*\* (3 credit hours)
- LIT 6936 Studies in Literary, Cultural, and Textual Theory (as applicable)\*\* (3 credit hours)
- PUP 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 5566 Seminar on Domestic Violence (3 credit hours)
- SYP 6563 Reactions to Domestic Violence (3 credit hours)
- SYP 6561 Child Abuse in Society\* (3 credit hours)
- SYP 6565 Elder Abuse and Neglect\* (3 credit hours)
- WST 5347 Research in Women and Gender Studies (3 credit hours)

\* Students may include only one of these courses (marked with an asterisk) toward meeting the certificate requirements.

\*\* Students must seek the approval of the Director of Women's Studies, which is based on the review of course syllabi, for these courses (marked with a double asterisk).

## APPLICATION REQUIREMENTS

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance and the applicant's potential for completing the certificate.

### Application Deadlines

Gender Studies Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

## CONTACT INFO

**M.C. Santana PhD**  
Telephone: 407-823-2838  
NSC 252

# Gifted Education Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Gifted Education prepares educators to meet the learning needs of diverse gifted and talented students while providing an accelerated and enriched curriculum.

The **Gifted Education graduate certificate** program prepares educators to meet the learning needs of gifted students, and leads to an endorsement to the Florida Teaching Certificate in Gifted Education. The certificate program course work is based upon the standards of NCATE, the National Association Council for Gifted Children, and the Council for Exceptional Children, its conception of giftedness, and the learning needs of gifted students.

Certificate programs can be ideal for non-degree students who would like to sample graduate courses before committing to a graduate degree program. Once a person is accepted into a regular graduate program, credits from a UCF certificate program may be applied toward an existing graduate program.

## CURRICULUM

### Total Hours Required:

**15 Credit Hours** Minimum beyond the Bachelor's Degree

### Required Courses—15 Credit Hours

- 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)
- EGI 6417 Counseling and Guidance Strategies for Teachers of Gifted and Talented Individuals (3 credit hours)
- EGI 6305 Theory and Development of Creativity (3 credit hours)

## APPLICATION REQUIREMENTS

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. All requested materials must be submitted by the established deadline.

### Application Deadlines

Gifted Education Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

## CONTACT INFO

**Gillian Eriksson PhD**  
 Gillian.Eriksson@ucf.edu  
 Telephone: 407-823-6493  
 Education 223M

# Global, International and Comparative Education Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Global, International and Comparative Education prepares teachers for PK-12 classrooms and other professionals who wish to work in international and cross-cultural settings, NGOs, bilateral and multilateral organizations, and/or state and federal government departments.

The **Graduate Certificate in Global and Comparative Education** is designed to offer additional education and training to education professionals who work in international and cross-cultural settings, bilateral and multilateral organizations, and/or state and federal government departments. The program is comprised of five graduate courses, which address the theoretical, methodological, critical, and practical issues associated with education around the world, through both macro and micro cultural perspectives.

Certificate programs can be ideal for non-degree students who would like to sample graduate courses before committing to a graduate degree program. Once a person is accepted into a regular graduate program, credits from a UCF certificate program may be applied toward an existing graduate program.

## CURRICULUM

Students in the Graduate Certificate in Global, International and Comparative Education program must complete five courses (15 credit hours total), four required courses and one elective. Courses may be taken out of sequence.

### Total Hours Required:

**15 Credit Hours** Minimum beyond the Bachelor's Degree

## Required Courses—12 Credit Hours

- EDF 6809 Introduction to Comparative and International Education (3 credit hours)
- SSE 5391 Global Education: Theory and Practice (3 credit hours)
- EDF 6855 Equitable Educational Opportunity and Life Chances: A Cross-National Analysis (3 credit hours)
- EDS 6365 Education and National Development (3 credit hours)

## Elective Courses—3 Credit Hours

Choose one elective course from the list below.

- EDG 6775 Exploring Global Educational Issues in International Contexts (3 credit hours)
- EEC 6606 Global Issues in Early Childhood (3 credit hours)
- Other graduate courses with Program Coordinator's approval

## APPLICATION REQUIREMENTS

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. All requested materials must be submitted by the established deadline.

## Application Deadlines

Global, International and Comparative Education Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

## CONTACT INFO

**Karen Biraimah PhD**  
 karen.biraimah@ucf.edu  
 Telephone: 407-823-2428  
 ED 209B

# Health Care Informatics Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Health Care Informatics allows students in the MS - Health Care Informatics program to gain general knowledge in health care informatics. The rapid growth of the industry demands individuals with health-related backgrounds to possess the technical knowledge in order to properly manage health care informatics applications. The Health Care Informatics Certificate will provide students with the requisite course work to functionally utilize informatics applications and understand their operation. The audience for this certificate would be students enrolled in the Health Care Informatics MS program.

## CURRICULUM

The graduate certificate in Health Care Informatics consists of 16 credit hours. Students will take the first two courses in the fall and the last two courses in the spring. Courses are offered in a lock-step, online format; therefore, students will be required to register for courses in the proper sequence the semester they are offered.

### Total Hours Required:

16 Credit Hours Minimum beyond the Bachelor's Degree

## Required Courses—16 Credit Hours

All students must take the following courses.

- HIM 5118C Health Care Informatics and Information Technology (Fall semester, 4 credit hours)
- HIM 6119C Biostatistics and Decision Analysis (Fall semester, 4 credit hours)



- HIM 6123C Health Informatics Applications: Administrative, Financial, Clinical Project Management (Spring semester, 4 credit hours)
- HIM 6122C System Analysis and Design (Spring semester, 4 credit hours)

## CONTACT INFO

**Kendall Cortelyou-Ward PhD**  
Kendall.Cortelyou-Ward@ucf.edu  
HPA2 210J

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# Industrial Ergonomics and Safety Certificate

## PROGRAM DESCRIPTION

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.

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. Designing workplaces to accommodate human workers is a key to improving worker safety and occupational health.

Certificate programs can be ideal for non-degree students who would like to sample graduate courses before committing to a graduate degree program. Once a person is accepted into a regular graduate program, credits from a UCF certificate program may be applied toward an existing graduate program.

Visit us on the **web** to find out more about Graduate Certificate programs.

## CURRICULUM

### Total Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—6 Credit Hours

- EIN 5248C Ergonomics (3 credit hours)
- EIN 6215 System Safety Engineering and Management (3 credit hours)

### Elective Courses—6 Credit Hours

Choose two of the following courses:

- EIN 6279C Biomechanics (3 credit hours)
- EIN 6264C Industrial Hygiene (3 credit hours)

- EIN 6270C Work Physiology (3 credit hours)

### Independent Learning

TSL 5525, TSL 5345, and TSL 6250 require students to work with one or more nonnative speakers. TSL 6250 requires students to transcribe data elicited from a nonnative speaker.

### CONTACT INFO

**Ahmad Elshennawy PhD**  
 Professor  
 ahmade@ucf.edu  
 Telephone: 407-823-2204  
 Engineering 2, Room 312

## APPLICATION REQUIREMENTS

Admission is open to those with a bachelor’s degree in industrial engineering or a closely related discipline from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition, applicants to this certificate must provide:

- Goal statement: The goal statement should discuss all relevant professional background and any previous research and/or teaching experience.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Applications are accepted for the fall and spring terms only.

### Application Deadlines

Industrial Ergonomics and Safety Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	
International Applicants				
International Transfer Applicants				

# Initial Teacher Professional Preparation Certificate

## PROGRAM DESCRIPTION

The **graduate certificate 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. With the exception of the special methods courses, certificate courses are offered every semester.

Certificate programs can be ideal for non-degree students who would like to sample graduate courses before committing to a graduate degree program. Once a person is accepted into a regular graduate program, credits from a UCF certificate program may be applied toward an existing graduate program.

## CURRICULUM

### Total Hours Required:

15 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—12 Credit Hours

All of the required courses are available online and must be taken at UCF.

- EDF 6727 Critical Analysis of Social, Ethical, Legal and Safety Issues Related to Education (3 credit hours)
- EDF 6237 Principles of Learning and Introduction to Classroom Assessment (3 credit hours)

- EDG 6415 Principles of Instruction and Classroom Management (3 credit hours)
- RED 5147 Developmental Reading (3 credit hours) or LAE 5496 Disciplinary Literacy in the Content Areas (3 credit hours)

### Co-requisite—3 Credit Hours

Special Methods: Course selection depends on the student's intended certification area. Equivalent courses from other accredited Florida State Institutions may be used to satisfy this requirement at the discretion of the Program Director. Students are advised to obtain permission in advance of registering for these courses.

- Art Education: ARE 5359 Teaching Art K-12 (4 credit hours)
- English Language Arts: LAE 5346 Methods of Teaching English Language Arts (3 credit hours)
- Math Education (Grades 5-9): MAE 5327 Teaching Middle School Mathematics (3 credit hours)
- Math Education (Grades 6-12): MAE 5336 Current Methods in Secondary School Mathematics (3 credit hours)
- Music Education: MUE 5348C K-12 Music Methods (4 credit hours)
- Science Education (Grades 5-9): SCE 5325 Teaching Middle School Science (3 credit hours)
- Science Education (Grades 6-12): SCE 5337 Issues and Methods in Secondary School Science Education (3 credit hours)
- Social Science Education: SSE 5790 Inquiry and Instructional Analysis in Social Science Education (3 credit hours)
- Business Education: BTE 6935 Seminar in Business Education (3 credit hours)

## APPLICATION REQUIREMENTS

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. All requested materials must be submitted by the established deadline.

## Application Deadlines

Initial Teacher Professional Preparation Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

The U.S. Department of Education requires colleges to disclose a variety of information for any financial aid eligible program that “prepares students for gainful employment in a recognized occupation”. The information provided in the link below is the best that is available to us. This information represents one year’s data only, however, we hope that this information is helpful to current and prospective students, as you make your career and educational choices.

## CONTACT INFO

**W. Scott Wise**  
 wwise@ucf.edu  
 Telephone: 407-823-1502  
 Education 220B

# Instructional Design for Simulations Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Instructional Design for Simulations prepares educators, instructional designers, and human resource and training specialists in corporate, industry and educational settings to work with engineers, graphic artists, computer programmers and game developers to design training and instructional systems.

The **Graduate Certificate in Instructional Design for Simulations** takes an interdisciplinary approach to prepare educators, instructional designers, human resource and training specialists in corporate, industry and educational settings to work with engineers, graphic artists, computer programmers and game developers to design training and instructional systems, focusing on the pedagogical aspects of stand-alone and PC-based desktop training and educational simulations and games.

Certificate programs can be ideal for non-degree students who would like to sample graduate courses before committing to a graduate degree program. Once a person is accepted into a regular graduate program, credits from a UCF certificate program may be applied toward an existing graduate program.

## CURRICULUM

Recommended plans of study for earning the graduate certificate, noting when each course is offered, are provided on the Instructional Technology program website under **Plans of Study** for professional certificates.

### Total Hours Required:

**15 Credit Hours** Minimum beyond the Bachelor’s Degree

### Required Courses—15 Credit Hours

- EME 6613 Instructional System Design (3 credit hours)
- DIG 6432 Transmedia Story Creation (3 credit hours)
- DIG 5875C Introduction to Modeling and Simulation (3 credit hours)
- EME 6601 Instructional Simulation Design for Training and Education (3 credit hours)
- EME 6614 Instructional Game Design for Training and Education (3 credit hours)

### APPLICATION REQUIREMENTS

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. All requested materials must be submitted by the established deadline.

#### Application Deadlines

Instructional Design for Simulations Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

### CONTACT INFO

**Atsusi Hirumi PhD**  
 Associate Professor  
 hirumi@ucf.edu  
 ED 320-F

**Richard Hartshorne PhD**  
 Associate Professor  
 richard.hartshorne@ucf.edu  
 Telephone: 407-823-1861  
 ED 320

# Instructional/Educational Technology Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Instructional/Educational Technology provides teachers with the knowledge and training to apply technological tools to the learning process.

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 prepares students with a subject matter degree who wish to apply for state of Florida teacher technology positions. Several courses will be taught online and others will be taught with flexible scheduling at the Orlando campus.

Certificate programs can be ideal for non-degree students who would like to sample graduate courses before committing to a graduate degree program. Once a person is accepted into a regular graduate program, credits from a UCF certificate program may be applied toward an existing graduate program.

## CURRICULUM

Several courses are taught online and other courses will be offered on a flexible schedule at the Orlando campus.

### Total Hours Required:

**15 Credit Hours** Minimum beyond the Bachelor’s Degree

### Required Courses—15 Credit Hours

- EME 5050 Fundamentals of Technology for Educators (3 credit hours)



- EME 5053 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)

## APPLICATION REQUIREMENTS

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. All requested materials must be submitted by the established deadline.

### Application Deadlines

Instructional/ Educational Technology Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	
International Applicants				
International Transfer Applicants				

## CONTACT INFO

### Glenda Gunter PhD

Associate Professor  
glenda.gunter@ucf.edu  
Telephone: 407-823-3502  
ED 322P

### Richard Hartshorne PhD

Associate Professor  
richard.hartshorne@ucf.edu  
Telephone: 407-823-1861  
ED 32

# Intervention Specialist Certificate

## PROGRAM DESCRIPTION

The Intervention Specialist graduate certificate provides advanced coursework for educational leaders to use school-based and classroom instructional data to meet the instructional and intervention needs of all students, including at-risk and struggling students, beyond the typical, initial classroom instruction within a multi-tiered system of supports. In addition, this certificate will provide an advanced, multi-disciplinary theoretical approach and applied knowledge base to experienced educators.

The Intervention Specialist graduate certificate provides advanced coursework for educational leaders to use school-based and classroom instructional data to meet the instructional and intervention needs of all students, including at-risk and struggling students, beyond the typical, initial classroom instruction within a multi-tiered system of supports. In addition, this certificate will provide an advanced, multi-disciplinary theoretical approach and applied knowledge base to experienced educators.

Coursework focuses on knowledge, skills and competencies for working with students within an intervention framework. The Intervention Specialist certificate is multi-disciplinary and includes coursework in exceptional student education, school psychology, reading education, and math education. The graduate courses provide an opportunity for students to complete the Intervention Specialist certificate beyond the undergraduate degree. Should a student wish to earn a master's degree, the courses in the certificate could be applied into one of several Master of Education degree programs in the College of Education and Human Performance.

## CURRICULUM

### Total Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—12 Credit Hours

- EEX 6218 Diagnostic Assessment and Intervention Planning in Exceptional Education (3 credit hours)
- MAE 6517 Diagnosis/Remediation of Difficulties in Mathematics for the Classroom Teacher (3 credit hours)
- RED 5517 Classroom Diagnosis and Development of Reading Proficiencies (3 credit hours)
- SPS 6700 Advanced Psychoeducation and Data-Based Decision Making (3 credit hours)

### APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- One letter of recommendation.
- Goal statement.
- Résumé/vita reflecting relevant experience.

### Application Deadlines

Intervention Specialist Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15		
International Applicants				
International Transfer Applicants				

### CONTACT INFO

Mary Little PhD  
 mary.little@ucf.edu  
 Telephone: 407-823-3275  
 ED 315J

# Juvenile Justice Leadership Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Juvenile Justice Leadership is designed to provide students with theoretical and practical knowledge in the areas of criminal justice, public administration and social work.

The **Graduate 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 improve consideration for admission as a degree-seeking student in the master’s program in Criminal Justice. The juvenile justice system is one of the fastest growing career fields in criminal justice.

Certificate programs can be ideal for non-degree students who would like to sample graduate courses before committing to a graduate degree program. Once a person is accepted into a regular graduate program, credits from a UCF certificate program may be applied toward an existing graduate program.

## CURRICULUM

The curriculum for the Juvenile Justice Leadership certificate program consists of two required courses and two elective courses for a total of 12 credit hours.

### Total Hours Required:

12 Credit Hours Minimum beyond the Bachelor’s Degree

### Required Courses—6 Credit Hours

- CJJ 6020 The Juvenile Justice System (3 credit hours)

- CCJ 6118 Criminal Justice Organizations (3 credit hours)

### Elective Course—6 Credit Hours

Choose two of the following courses.

- CCJ 5015 The Nature of Crime (3 credit hours)
- CCJ 6073 Data Management Systems for Crime Analysis (offered fall term only) (3 credit hours)
- CCJ 5456 The Administration of Justice (3 credit hours)
- PAD 6327 Public Program Evaluation Techniques (3 credit hours)
- SOW 6712 Interventions with Substance Abusers (3 credit hours)
- SOW 6655 Child Abuse: Treatment and Prevention (3 credit hours)
- SYP 6561 Child Abuse in Society (3 credit hours)

### CONTACT INFO

**Stephen Holmes PhD**  
 stephen.holmes@ucf.edu  
 Telephone: 407-823-2603  
 HPA 1, RM 311

**Elexis Ritz**  
 elexis.ritz@ucf.edu  
 Telephone: 407-823-2603  
 HPA 311

## APPLICATION REQUIREMENTS

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. All requested materials must be submitted by the established deadline.

### Application Deadlines

Juvenile Justice Leadership Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

# K-8 Mathematics and Science Education Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in K-8 Mathematics and Science Education is designed for teachers to improve the quality of their teaching and learning in Mathematics and Sciences for grades K-8.

The **Graduate Certificate In 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. It is intended for teachers with at least two years of experience who instruct students in mathematics and/or science in grades K-8.

Certificate programs can be ideal for non-degree students who would like to sample graduate courses before committing to a graduate degree program. Once a person is accepted into a regular graduate program, credits from a UCF certificate program may be applied toward an existing graduate program.

## CURRICULUM

### Total Hours Required:

9 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—9 Credit Hours

- MAE 6899 Seminar in Teaching Mathematics (3 credit hours)
- MAE 6318 Current Methods in Elementary School Mathematics (3 credit hours) or MAE 6337 Teaching Algebra in the Secondary School (3 credit hours)

- IDS 6937 Teaching Mathematics and Science Using Reform-based Practices (3 credit hours)

### Elective Courses—3 Credit Hours

Choose one of the following courses:

- SCE 5836 Space and Physical Science for Educators (3 credit hours)
- ISC 6146 Environmental Education for Educators (3 credit hours)

### Independent Learning

TSL 5525, TSL 5345, and TSL 6250 require students to work with one or more nonnative speakers. TSL 6250 requires students to transcribe data elicited from a nonnative speaker.

## APPLICATION REQUIREMENTS

Admission is open to those preferably with three years of experience teaching mathematics and/or science in one of the grades K-8. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

### Application Deadlines

K-8 Mathematics and Science Education Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

## CONTACT INFO

### Juli K. Dixon PhD

Professor  
 jkdixon@ucf.edu  
 Telephone: 407-823-4140  
 ED 123F

# Marriage, Couple, and Family Therapy Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Marriage, Couple and Family Therapy is housed within the Counselor Education Program in the College of Education and Human Performance. The certificate program is designed to provide advanced training to students in the Counselor Education and Social Work programs and for practicing counselors and therapists working with families, couples, and children.

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 academic requirements for Florida Licensure as a Marriage and Family Therapist. Applicants should contact the State Licensure Board to verify the courses they need.

Certificate programs can be ideal for non-degree students who would like to sample graduate courses before committing to a graduate degree program. Once a person is accepted into a regular graduate program, credits from a UCF certificate program may be applied toward an existing graduate program.

## CURRICULUM

The Graduate Certificate in Marriage, Couple and Family Therapy requires 15 credit hours. The Practicum in Counselor Education MHS 6803 and the Counseling Internship MHS 6830 must be taken in separate semesters and combined must amount to at least 180 hours of direct client contact including couples, families, unmarried dyads and individuals. For Social Work students, the certificate requires 17 credit hours, enrollment in either the part-time or full-time Clinical Field Seminar is acceptable, and all course work is specific to Social Work.

### Total Hours Required:

15-17 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—15 Credit Hours

- 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 in Counselor Education (3 credit hours)
- MHS 6830 Counseling Internship (3 credit hours)

### Required Courses for Social Work Students—17 Credit Hours

- SOW 5106 Human Behavior and Social Environment II: Social Systems (3 credit hours)
- SOW 6612 Clinical Practice with Families (3 credit hours)
- SOW 6531 Full-time Clinical Field Seminar I (4 credit hours)\*\*
- SOW 6536 Full-time Clinical Field Seminar II (4 credit hours)\*\*
- MHS 6440 Couples Counseling (College of Education) (3 credit hours)

\*\*For this certificate program, the following part-time clinical courses meet the 8 hour field seminar sequence:

- SOW 6561 Part-time Clinical Field Seminar (3 credit hours)
- SOW 6562 Part-time Clinical Field Seminar (2 credit hours)
- SOW 6563 Part-time Clinical Field Seminar (3 credit hours)

## APPLICATION REQUIREMENTS

Admission is open only to those in graduate Counseling, Psychology or Social Work programs at UCF. An online application to the graduate certificate program and official transcripts must



be submitted. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

### Application Deadlines

Marriage and Family Therapy Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

### CONTACT INFO

**Mark Young PhD**  
 Professor  
 counsel@ucf.edu  
 Telephone: 407-823-2401  
 ED 322Q

# Mathematics Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Mathematics is designed to prepare students to teach college-level mathematics in high schools or colleges. All required courses will be offered to accommodate distance learning by posting recorded lectures and offering scheduled online problem sessions and office hours.

## CURRICULUM

Students must take 9 credit hours of required courses and 9 credit hours of elective courses.

### Total Hours Required:

18 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—9 Credit Hours

Students choose three of the following courses.

- MAA 5210 Topics in Advanced Calculus (3 credit hours)
- MAS 5145 Advanced Linear Algebra and Matrix Theory (3 credit hours)
- MTG 5253 Introduction to Differential Geometry (3 credit hours)
- MAA 6405 Complex Variables (3 credit hours)
- MAT 5712 Scientific Computing (3 credit hours)
- MAP 5426 Special Functions (3 credit hours)

### Elective Course—9 Credit Hours

Students should take three graduate-level courses offered by the UCF Mathematics Department.

## APPLICATION REQUIREMENTS

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. All requested materials must be submitted by the established deadline.

### Application Deadlines

Mathematics Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

### CONTACT INFO

#### Joseph Brennan PhD

Professor

joseph.brennan@ucf.edu

Telephone: 407-823-2710

MAP 202G

# Maya Studies Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Maya Studies is designed to prepare students with a specialized knowledge of the ancient and contemporary Maya.

The **Graduate Certificate program in Maya Studies** focuses on an area of local, national and international interest—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.

Certificate programs can be ideal for non-degree students who would like to sample graduate courses before committing to a graduate degree program. Once a person is accepted into a regular graduate program, credits from a UCF certificate program may be applied toward an existing graduate program.

## CURRICULUM

Students must take two required courses and three additional courses from the available elective courses. Before taking an elective course, students must have taken at least one of the required courses or must have the instructor's consent to take the elective course.

### Total Hours Required:

15 Credit Hours Minimum beyond the Bachelor's Degree

### 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

Choose three courses from the following list or another course related to Maya Studies and approved by the Graduate Certificate faculty.

- ANG 5166 Problems in Maya Studies (3 credit hours)
- ANG 5167 Maya Hieroglyphs (3 credit hours)
- ANG 5822 Maya Field Research (3 credit hours)
- ANG 5228 Maya Iconography (3 credit hours)
- ANG 6110 Archaeological Theory and Method (3 credit hours)
- LAH 5937 Latin America: The Mayas (3 credit hours)

## APPLICATION REQUIREMENTS

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. All requested materials must be submitted by the established deadline.

### Application Deadlines

Maya Studies Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15		Apr 15
International Applicants				
International Transfer Applicants				

## CONTACT INFO

### Diane Chase PhD

Professor

chase@ucf.edu

Telephone: 407-823-2227 or 407-882-6197

Howard Phillips Hall 403

# Medical Speech-Language Pathology Certificate

## PROGRAM 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.

Certificate programs can be ideal for non-degree students who would like to sample graduate courses before committing to a graduate degree program. Once a person is accepted into a regular graduate program, credits from a UCF certificate program may be applied toward an existing graduate program.

Visit us on the **web** to find out more about Graduate Certificate programs.

## CURRICULUM

The UCF Department of Communication Sciences and Disorders (CSD) Graduate Certificate in Medical Speech-Language Pathology is designed to prepare speech language pathologists and students currently enrolled in the CSD program with the knowledge and skills necessary to evaluate and treat individuals with medically-related communication disorders.

Current UCF CSD graduate students: 12 credit hours total (3 courses selected from the list below). Students currently enrolled in the UCF Communication Sciences and Disorders MA program are required to take 9 credit hours in addition to SPA 6565 Feeding and Swallowing, which is required to fulfill the regular degree requirements.

Certificate only, for speech language pathologists (professionals): 12 credit hours (4 courses to be selected from the list below). SPA 6565 Feeding and Swallowing Disorders is a required course toward this certificate if the student has not previously

taken a course in Feeding and Swallowing Disorders at the graduate level. All courses toward the Medical Speech-Language Pathology Certificate program should be selected in consultation with the Master’s Program Coordinator and medical certificate faculty adviser, Dr. Bari Ruddy.

**Total Hours Required:**

12 Credit Hours Minimum beyond the Master’s Degree

**Required Courses—12 Credit Hours**

Complete four of the following six courses:

- SPA 6245 Communication Disorders in Cleft Palate-Velopharyngeal Dysfunction (3 credit hours)
- SPA 6417 Cognitive/Communication Disorders (3 credit hours)
- SPA 6565 Feeding and Swallowing Disorders (3 credit hours)
- SPA 6453 Management of Cognitive Communication Disorders in Traumatic Brain Injury (3 credit hours)
- SPA 6432 Issues in Autism (3 credit hours)
- SPA 6569 Management of Upper Airway and Aerodigestive Disorders (3 credit hours)

**NOTE:**

- Courses from a previous graduate degree program or certificate program cannot be applied toward the completion of the Certificate in Medical Speech-Language Pathology.
- Current students in UCF’s Communication Sciences and Disorders MA program may only apply SPA 6565 Feeding and Swallowing Disorders toward both the Medical Speech-Language Pathology Certificate and the master’s degree in communication sciences and disorders. Nine credit hours will need to be taken in addition to the regular master’s program course requirements.

**APPLICATION REQUIREMENTS**

Admission is open to those with a master’s degree in speech-language pathology from a regionally

accredited institution and UCF graduate students currently enrolled in the Communication Sciences and Disorders M.A. program. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

**Application Deadlines**

Medical Speech-Language Pathology Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

**CONTACT INFO**

**Linda I Rosa-Lugo EdD**  
 Associate Professor  
 csdgraduate@ucf.edu  
 Telephone: 407-823-4798  
 HPA2 101

# Military Social Work Certificate

## PROGRAM DESCRIPTION

Students pursuing a Master of Social Work degree may choose a specialization in military social work. The Graduate Certificate in Military Social Work will prepare students to provide behavioral health services, including: mental health counseling aimed at building psychological resilience; treatment of post-traumatic stress disorder, depression, anxiety, suicide risk assessment and prevention techniques; and family therapy for strengthening military, veterans and their families during and after deployment.

## CURRICULUM

The Military Social Work certificate is open to current UCF MSW students and individuals who have already completed the MSW degree from a regionally accredited institution only. The following courses are required for the certificate, but may also be used as electives in the MSW program.

### Total Hours Required:

9 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—9 Credit Hours

- SOW 5149 Military and Veteran Culture and Historical Frameworks (3 credit hours)
- SOW 6608 Understanding and Managing Combat Related Behavioral and Mental Health Disorders (3 credit hours)
- SOW 6610 Clinical Practice with Military and Veteran Families or Groups (3 credit hours)

## APPLICATION REQUIREMENTS

Admission is only open to those in the Master of Social Work program. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online.

Please submit all requested material by the established deadline(s).

- One official transcript (in a sealed envelope) from each college/university attended.
- Must be accepted into the Master of Social Work program.
- Personal statement for Military Social Work.
- Résumé

Students interested in admission to this certificate program should contact the Master of Social Work (MSW) Program Director and Military Social Work Certificate Program Director for more information.

## Application Deadlines

Military Social Work Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15		Apr 15
International Applicants				
International Transfer Applicants				

## CONTACT INFO

**Sophia Dziegielweski PhD, LISW-S**

Sophia.Dziegielewski@ucf.edu

Telephone: 407-823-6342

HPA 1, 254



# Modeling and Simulation of Technical Systems Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Modeling and Simulation of Technical Systems provides students with the necessary knowledge in modeling and simulation fundamentals, including modeling techniques and applications, with special emphasis on modeling and simulation in testing and evaluation. This graduate certificate is beneficial to technical professionals involved with constructing and using simulation models of dynamic systems. All courses of the certificate program will be delivered electronically via distance education. Students are required to apply to the Out-of-State Cohort Track or the In-State Cohort Track.

## APPLICATION REQUIREMENTS

Applicants must choose a track in this program. Track(s) may have different requirements. Applicants must choose a track in this program. Track(s) may have different requirements.

## CONTACT INFO

**J. Peter Kincaid PhD**  
pkincaid@ist.ucf.edu  
Telephone: 407-882-1330  
Partnership 2 Bldg 131E

**Sabrina Kalish MA**  
sabrina.kalish@ucf.edu  
Telephone: 407-882-1407  
Partnership 2 Building, Room 131D

# Nonprofit Management Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Nonprofit Management is delivered completely online and offers specialized, graduate-level knowledge in nonprofit management, resources development, strategic planning, volunteerism and program evaluation.

This **Graduate Certificate in Nonprofit Management** 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.

The Cohort Track is designed specifically for students who are not Florida residents or reside outside of the state of Florida. Students interested in the out-of-state Graduate Certificate in Nonprofit Management cohort should contact the Division of Continuing Education at [www.ce.ucf.edu/nonprofit](http://www.ce.ucf.edu/nonprofit).

Certificate programs can be ideal for non-degree students who would like to sample graduate courses before committing to a graduate degree program.

## CURRICULUM

### Total Hours Required:

**18** Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—15 Credit Hours

- PAD 5145 Volunteerism in Nonprofit Management (3 credit hours)
- PAD 5146 Nonprofit Resource Development (3 credit hours)
- PAD 6142 Nonprofit Organizations (3 credit hours)
- PAD 6327 Public Program Evaluation Techniques (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 director.

- PAD 5850 Grant and Contract Management (3 credit hours)
- PAD 6149 Nonprofit Administration (3 credit hours)
- PAD 6167 Graduate Nonprofit Leadership Seminar (3 credit hours; required for National Nonprofit Leadership Certification)\*
- PAD 6208 Nonprofit Financial Management (3 credit hours)
- SOW 6383 Social Work Administration (3 credit hours)

\* An internship is also required for students pursuing the National Nonprofit Leadership Certification. Students who provide documentation of at least 300 hours of nonprofit sector experience may have the internship waived.

National Nonprofit Leadership Certificate: The Nonprofit Leadership Alliance represents the achievements of national academic and experiential standards in nonprofit management. Students pursuing the Nonprofit Leadership Certification must complete PAD 6167 Graduate Nonprofit Leadership Seminar as their elective and meet the Nonprofit Leadership Alliance mandated requirements.

**APPLICATION REQUIREMENTS**

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. Students must submit all required material by the established deadline. Materials received after the established deadline may not be considered. Admission to this certificate is competitive; applicants meeting the minimum application requirements are not guaranteed admission to the program.

**All applicants to this certificate program will be required to submit:**

- An official transcript (in a sealed envelope) from each college/university attended
- A current, professional resume
- An academic goal statement

These documents must be attached to the application. The academic goal statement will be used as a sample of the applicant’s writing ability. While there is no set word limit, the statement should address the applicant’s interest in pursuing the certificate program and fully discuss any experience that he or she has had in the field.

**Application Deadlines**

Nonprofit Management Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	
International Applicants				
International Transfer Applicants				

**CONTACT INFO**

**Mary Ann Feldheim PhD**  
 Associate Professor  
 mfeldhei@ucf.edu  
 Telephone: 407-823-2604  
 Health and Public Affairs II 238

# Nursing Education Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Nursing 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. The certificate program can be completed entirely online. The **Graduate Certificate in Nursing 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. It combines courses from the School of Nursing and College of Education to provide a solid foundation in teaching and learning. The program can be completed online.

Certificate programs can be ideal for non-degree students who would like to sample graduate courses before committing to a graduate degree program. Once a person is accepted into a regular graduate program, credits from a UCF certificate program may be applied toward an existing graduate program.

Visit us on the **web** to find out more about Graduate Certificate programs.

## CURRICULUM

### Total Hours Required:

9 Credit Hours Minimum beyond the Master's Degree

Optional courses cannot be substituted for the required courses and do not count toward the certificate.

### Required Courses—9 Credit Hours

- NGR 6718 Evaluation in Nursing Education (3 credit hours)
- NGR 6791 Teaching Strategies for Nurse Educators (3 credit hours)
- NGR 6713 Curriculum Development in Nursing Education (3 credit hours)

## Optional Courses

Students may take as

an optional additional course:

- NGR 6715 Application of Instructional Technology for
- Nursing Education (3 credit hours)

## APPLICATION REQUIREMENTS

Admission to the program is competitive on a space-available basis. The following application requirements must be submitted to the UCF College of Graduate Studies in order to be considered for the Nursing Education Graduate Certificate program:

- One official transcript (in a sealed envelope) from each college/university attended.
- MSN degree from an accredited institution.
- Address the following 3 items in a written essay. Total word count for all (not each) answers should be 500 words or less, double spaced, 12 point Times New Roman font, and 1 inch margins:
  - o Describe how your professional experiences have prepared you for future education in the role which is the focus of your desired track.
  - o Describe your plans to alter your work, professional and/ or personal obligations in order to have the time needed for graduate course and clinical practice work.
  - o Identify one significant contemporary issue/ problem in the US Health care system and explore how members of the nursing profession can help address that issue or solve that problem.
- Curriculum Vitae which reflects prior education, recent clinical accomplishments, any recent scholarly work (publications and presentations), awards, additional certifications and activities with professional organizations. For recent graduates this can include accomplishments as a student.
- Two professional recommendations describing your ability to be successful in a graduate

certificate program. Include at least one clinical reference preferably from a supervisor and one academic reference preferably from a nursing faculty member from a graduate program evaluating potential for graduate study.

Before submitting your application, it is recommended that applicants call the College of Nursing Graduate Office at 407-823-2744 to schedule an appointment with an adviser to discuss your goals for graduate study. It is advantageous to discuss the program before writing the required essay because the essay must address your goals for post-master's preparation for nursing education.

Admission to the program is competitive, based on evaluation of the applicant's abilities, past performance, recommendations, FDLE/FBI finger printing and certified background checks, and the match of UCF's master's programs with career goals. The College 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.

### Application Deadlines

Nursing Education Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Feb 15		
International Applicants				
International Transfer Applicants				

### CONTACT INFO

**Diane Wink EdD**  
 Professor  
 diane.wink@ucf.edu  
 Telephone: 407-823-5440  
 UTWR 473

# Play Therapy Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Play Therapy is housed within the Counselor Education program in the College of Education and Human Performance. The certificate program is designed to provide advanced training to students in the Counselor Education program and for practicing counselors and therapists working with children and adolescents.

The **Graduate Certificate in Play Therapy** provides advanced training 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. Students who complete the certificate will meet the educational requirements for national certification in play therapy.

Certificate programs can be ideal for non-degree students who would like to sample graduate courses before committing to a graduate degree program. Once a person is accepted into a regular graduate program, credits from a UCF certificate program may be applied toward an existing graduate program.

Visit us on the **web** to find out more about Graduate Certificate programs.

Graduate Certificates can increase employment credentials, lead to career enhancement, and produce more income. Our programs are designed with working professionals in mind and we provide flexible and convenient schedule options with many classes offered in the evenings and on weekends.

For more information on this certificate program contact:

## CURRICULUM

The Graduate Certificate in Play Therapy requires 12 credit hours.

**Total Hours Required:**

12 Credit Hours Minimum beyond the Master's Degree

**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)

**CONTACT INFO****Dalena Dillman Taylor PhD**

Assistant Professor

dalena.taylor@ucf.edu

Telephone: 407-823-6106

ED 322-R

**APPLICATION REQUIREMENTS**

Admission is open to those with a bachelor's degree from a regionally accredited institution or those currently enrolled in or possessing a master's degree in counseling or a related field. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline. The Play Therapy Certificate program admits twice per year in the spring and summer terms only.

Individuals seeking national certification through the Association of Play Therapy Incorporated (APT) must obtain a master's degree in counseling or a related field and possess a state license in Mental Health Counseling, Marriage and Family Therapy, or Social Work. For additional play therapy certification requirements, please consult the APT website at [www.a4pt.org](http://www.a4pt.org).

**Application Deadlines**

Play Therapy Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants			Dec 1	Apr 15
International Applicants				
International Transfer Applicants				



# Police Leadership Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Police Leadership provides a theoretical and practical knowledge base for law enforcement executives in criminal justice, public administration or social work.

The **Graduate Certificate 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 program consists of 12 credit hours of course work. Completion of this certificate would improve consideration for admission as a degree-seeking student in the master's program of Criminal Justice.

Certificate programs can be ideal for non-degree students who would like to sample graduate courses before committing to a graduate degree program. Once a person is accepted into a regular graduate program, credits from a UCF certificate program may be applied toward an existing graduate program.

Visit us on the **web** to find out more about Graduate Certificate programs.

## CURRICULUM

Students in the Police Leadership certificate must complete two required courses, one restricted elective and one course from the list of approved unrestricted electives, for a total of 12 credit hours.

### Total Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—6 Credit Hours

- CJE 5021 Foundations of Law Enforcement (3 credit hours)
- CCJ 6106 Policy Analysis in Criminal Justice (3 credit hours)

### Elective Courses—6 Credit Hours

Choose one of the following courses (3 credit hours):

- CCJ 6118 Criminal Justice Organizations (3 credit hours)
- PAD 5807 Local Government Operations (3 credit hours)
- PAD 6037 Public Organizational Management (3 credit hours)
- PAD 6327 Public Program Evaluation Techniques (3 credit hours).
  - *This course (PAD 6327) is an advanced program evaluation course. Those without a background in Public Administration are discouraged from enrolling in this course.*

And, choose one of the following courses (3 credit hours):

- CCJ 5015 The Nature of Crime (3 credit hours)
- CCJ 5456 The Administration of Justice (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 6417 Human Resource Management (3 credit hours)
  - *This course (PAD 6417) has a prerequisite of PAD 6700. Contact the Public Administration department for an override.*
- SOW 5132 Diverse Client Populations (3 credit hours)
- SOW 5175 Strategies in Employee Assistance Programs (3 credit hours)

## APPLICATION REQUIREMENTS

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. All requested materials must be submitted by the established deadline.

## Application Deadlines

Police Leadership Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

## CONTACT INFO

**Stephen Holmes PhD**  
 stephen.holmes@ucf.edu  
 Telephone: 407-823-2603  
 HPA 1, RM 311

**Elexis Ritz**  
 elaxis.ritz@ucf.edu  
 Telephone: 407-823-2603  
 HPA 311

# Prekindergarten Disabilities Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Prekindergarten (Pre-K) Disabilities prepares graduate students to teach pre-kindergarten students with disabilities.

The **Graduate Certificate in Pre-Kindergarten Disabilities** provides postbaccalaureate 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 with the passage of the specific subject area exam (SAE) from the Florida Department of Education. The goal of the certificate is to prepare qualified graduate students to teach pre-kindergarten students with disabilities.

Certificate programs can be ideal for non-degree graduate students who would like to sample graduate courses before committing to a graduate degree program. Once a person is accepted into a regular graduate program, credits from a UCF certificate program may be applied toward an existing graduate program.

Visit us on the **web** to find out more about Graduate Certificate programs.

## CURRICULUM

### Total Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

### 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 6222 Observation and Assessment of Young Children (3 credit hours)

## APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree in exceptional education or primary education from a regionally accredited institution, a master's degree in varying exceptionalities or primary education from a regionally accredited institution, or if an individual has shown 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), or early childhood education.

An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

### Application Deadlines

Prekindergarten Disabilities Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

## CONTACT INFO

**Mary Little PhD**  
 mary.little@ucf.edu  
 Telephone: 407-823-3275  
 ED 315J

# Professional Writing Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Professional Writing offers professionals opportunities to develop and improve communication skills vital to advancing in the workplace.

The **Graduate Certificate in Professional Writing** addresses the theory and practice of organizational writing. Providing at least two web-based courses each semester, the 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.

## CURRICULUM

This flexible five-course sequence of graduate study includes two required core courses and allows students to choose three electives from the list below. Students will also complete an electronic writing portfolio before graduation.

### Total Hours Required:

**15 Credit Hours** Minimum beyond the Bachelor's Degree

### Required Courses—6 Credit Hours

- ENC 5337 Rhetorical Theory (3 credit hours)
- ENC 5237 Writing for the Business Professional (3 credit hours)

## Elective Courses—9 Credit Hours

Choose three courses from the following list.

- ENC 5225 Theory and Practice of Document Usability (3 credit hours)
- ENC 5276 Writing/Consulting: Theory and Practice (3 credit hours)
- ENC 5705 Theory and Practice in Composition (3 credit hours)
- ENC 5930 Current Topics in Professional Writing (3 credit hours)
- ENC 6216 Editing Professional Writing (3 credit hours)\*
- ENC 6217 Technical Editing (3 credit hours)\*
- ENC 6244 Teaching Technical Writing (3 credit hours)
- ENC 6247 Proposal Writing (3 credit hours)
- ENC 6257 Graphics in Technical Writing (3 credit hours)
- ENC 6261 Technical Writing, Theory and Practice (3 credit hours)
- ENC 6292 Project Management for Technical Writers (3 credit hours)
- ENC 6296 Computer Documentation (3 credit hours)
- ENC 6297 Production and Publication Methods (3 credit hours)
- ENC 6306 Persuasive Writing (3 credit hours)
- ENC 6332 Gendered Rhetoric (3 credit hours)
- ENC 6333 Contemporary Rhetoric and Composition Theory (3 credit hours)
- ENC 6335 Rhetorical Tradition (3 credit hours)
- ENC 6338 The Rhetorics of Public Debate (3 credit hours)
- ENC 6339 Rhetorical Movements (3 credit hours)
- ENC 6425 Hypertext Theory and Design (3 credit hours)
- ENC 6428 Rhetoric of Digital Literacy (3 credit hours)
- ENC 6429 Teaching Writing with Computers (3 credit hours)
- ENC 6945 Community Literacy Practicum (3 credit hours)

- ENC 6712 Studies in Literacy and Writing (3 credit hours)
- ENC 6245 Teaching Professional Writing (3 credit hours)
- ENC 6740 Topics in Rhetoric and Composition (3 credit hours)
- ENG 5009 Methods of Bibliography and Research (3 credit hours)
- LIN 5137 Linguistics (3 credit hours)
- LIN 5675 English Grammar and Usage (3 credit hours)

\*Note: Due to their similarity, students can apply either ENC 6216 or ENC 6217 to this program of study. Students cannot use both for elective credit for this program.

## Electronic Writing Portfolio

Students will complete an electronic writing portfolio before filing for graduation. This portfolio must be approved by the program director and must include three exemplary projects, each from a different course. A page analyzing the rhetorical situation should accompany each project.

## Exit Survey

Students should complete the Exit Survey at the end of their program if they would like to receive a certificate of program completion in addition to their grade audit.

## APPLICATION REQUIREMENTS

Successful applicants will have received a grade of “A” or “B” in an upper-division writing intensive course. All applications require the following in order to be reviewed:

- An application to the graduate certificate program
- Official transcripts
- A statement of academic intent

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant’s abilities, past performance and the applicant’s potential for completing the certificate.

## Application Deadlines

Professional Writing Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Nov 1	Mar 30
International Applicants				
International Transfer Applicants				

## CONTACT INFO

### Kathleen Bell PhD

Associate Professor

kathleen.bell@ucf.edu

Telephone: 407-823-2295

CNH 417A

# Project Engineering Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Project Engineering is designed to meet the needs of engineers moving into management and other leadership roles.

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.

Certificate programs can be ideal for non-degree students who would like to sample graduate courses before committing to a graduate degree program.

Once a person is accepted into a regular graduate program, credits from a UCF certificate program may be applied toward an existing graduate program.

Visit us on the **web** to find out more about Graduate Certificate programs.

## CURRICULUM

### Total Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—9 Credit Hours

- 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)

### Elective Course—3 Credit Hours

Choose one of the following two courses.

- EIN 6357 Advanced Engineering Economic Analysis (3 credit hours)
- ESI 6358 Decision Analysis (3 credit hours)



## APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree in industrial engineering or a closely related discipline from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition, applicants to this certificate must provide:

- Goal statement: The goal statement should discuss all relevant professional background and any previous research and/or teaching experience.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Applications are accepted for the fall and spring terms only.

### Application Deadlines

Project Engineering Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	
International Applicants				
International Transfer Applicants				

## CONTACT INFO

**Ahmad Elshennawy PhD**  
Professor  
ahmade@ucf.edu  
Telephone: 407-823-2204  
Engineering 2, Room 312

# Public Administration Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Public Administration provides graduate-level continuing education for both in-service and pre-career students. This program is offered completely online.

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 managerial and support positions.

Certificate programs can be ideal for non-degree students who would like to sample graduate courses before committing to a graduate degree program. Once a person is accepted into a regular graduate program, credits from a UCF certificate program may be applied toward an existing graduate program.

Visit us on the **web** to find out more about Graduate Certificate programs.

## CURRICULUM

### Total Hours Required:

18 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—15 Credit Hours

- 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)

**Elective Courses—3 Credit Hours**

**Restricted—3 Credit Hours**

Choose one course from the following list.

- PAD 5427 Labor Relations in the Public Sector (3 credit hours)
- PAD 5807 Local Government Operations (3 credit hours)
- PAD 5060 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)

**Application Deadlines**

Public Administration Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	
International Applicants				
International Transfer Applicants				

**CONTACT INFO**

**Qian Hu PhD**  
 Assistant Professor  
 qian.hu@ucf.edu  
 Telephone: 407-823-2604  
 HPA 2-Room 238H

**APPLICATION REQUIREMENTS**

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. Students must submit all required material by the established deadline(s). Materials received after the established deadline date may not be considered. Admission to this program is competitive; applicants meeting the minimum admission requirements are not guaranteed admission to the program.

**All applicants to this certificate program will be required to submit:**

- A current professional resume
- An academic goal statement

These documents must be attached to the application. The academic goal statement will be used as a sample of the applicant’s writing ability. While there is no set word limit, the statement should address the applicant’s interest in pursuing the certificate program and fully discuss any experience that he or she has had in the field.

# Quality Assurance Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Quality Assurance is designed to provide students with the knowledge they need to increase process and product performance and to improve the quality and reliability of goods and services in any manufacturing, healthcare, and other service organizations.

Today's 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.

Certificate programs can be ideal for non-degree students who would like to sample graduate courses before committing to a graduate degree program. Once a person is accepted into a regular graduate program, credits from a UCF certificate program may be applied toward an existing graduate program.

Visit us on the **web** to find out more about Graduate Certificate programs.

## CURRICULUM

### Total Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—9 Credit Hours

- ESI 5219 Engineering Statistics (3 credit hours)
- ESI 5236 Reliability Engineering (3 credit hours)
- ESI 6225 Quality Design and Control (3 credit hours)

### Elective Course—3 Credit Hours

Choose one of the following two courses.

- ESI 5227 Total Quality Improvement (3 credit hours)
- ESI 6224 Quality Management (3 credit hours)

## APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree in industrial engineering or a closely related discipline from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition, applicants to this certificate must provide:

- Goal statement: The goal statement should discuss all relevant professional background and any previous research and/or teaching experience.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Applications are accepted for the fall and spring terms only.

### Application Deadlines

Quality Assurance Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	
International Applicants				
International Transfer Applicants				

## CONTACT INFO

**Ahmad Elshennawy PhD**  
 Professor  
 ahmade@ucf.edu  
 Telephone: 407-823-2204  
 Engineering 2, Room 312

# Reading Education Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Reading Education provides teachers with research-based strategies for teaching reading.

The purpose of the **Graduate Certificate in Reading Education** 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. The program focuses in the teaching of reading through a straightforward, concise presentation of essential knowledge of performance areas.

Certificate programs can be ideal for non-degree students who would like to sample graduate courses before committing to a graduate degree program. Once a person is accepted into a regular graduate program, credits from a UCF certificate program may be applied toward an existing graduate program.

## CURRICULUM

Although there are no program course prerequisites, candidates who have had no previous children’s or adolescent literature courses are strongly encouraged to take one course prior to enrolling in the certificate program or at least prior to enrolling in RED 6846 Reading Practicum.

### Total Hours Required:

**18 Credit Hours** Minimum beyond the Bachelor’s Degree

Suggested courses for those candidates who have not had previous children’s or adolescent literature courses include: LAE 5415 Children’s Literature in Elementary Education (3 credit hours) or LAE 5465 Literature for Adolescents (3 credit hours).

## Required Courses—18 Credit Hours

- RED 5147 Developmental Reading\* (3 credit hours)
- RED 5517 Classroom Diagnosis and Development of Reading Proficiencies (3 credit hours) (PR: RED 5147)
- TSL 5085 Teaching Language Minority Students in K-12 Classrooms\* (3 credit hours)
- RED 6845 Advanced Evaluation and Instruction in Reading (3 credit hours) (PR: RED 5517)
- RED 6846 Reading Practicum (6 credit hours) (PR: RED 6845)

\*Online delivery course.

## APPLICATION REQUIREMENTS

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. All requested materials must be submitted by the established deadline.

Applicants must show proof of one of the following: Florida professional teaching certificate, Florida Department of Education Statement of Eligibility indicating that all requirements for professional (not temporary) certification have been met, completion of a state-approved initial teacher preparation program (undergraduate or graduate), or admission to a graduate level state-approved preparation program.

### Application Deadlines

Reading Education Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

## CONTACT INFO

**Karri Williams PhD**  
Associate Professor  
Karri.Williams@ucf.edu  
Telephone: 321-433-7922  
UCF Cocoa (BC 357)

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# Research Administration Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Research Administration is a 18-credit online certificate that provides an overview of the core concepts in research administration for those interested in management within research organizations. The Certificate is intended to meet the needs of individuals seeking a focused experience in order to prepare for or advance their careers in research management and leadership. It is appropriate for students who seek to expand their knowledge, but who do not wish to commit to a master's degree program.

Credit earned in the certificate program may be applied toward the Master of Research Administration (MRA) degree. However, admission to the MRA degree program has separate requirements from those of the certificate program. Students considering continuing into the master's degree should familiarize themselves with the credit transfer policy and consult with a faculty adviser early in their certificate program. The Graduate Certificate in Research Administration requires that students complete 18 credit hours of courses. Students must maintain at least a 3.0 grade point average in order to be awarded the Graduate Certificate. The certificate must be completed within three years.

## CURRICULUM

The Graduate Certificate in Research Administration requires 18 credit hours of online courses that provide an overview of the core concepts in research administration. Students take 12 credit hours of required courses and choose 6 credit hours of elective courses.

### **Total Hours Required:**

**18** Credit Hours Minimum beyond the Bachelor's Degree



## Required Courses—12 Credit Hours

- PAD 6742 Introduction to Research Administration (3 credit hours)
- PAD 6743 Leadership and Organization Models in Research Administration (3 credit hours)
- PAD 6747 Audits in Research Administration (3 credit hours)
- PAD 6741 Research Integrity for Research Administrators (3 credit hours)

## Elective Courses—6 Credit Hours

Select two courses from the following list:

- PAD 6748 Governance and Regulatory Issues for Sponsored Programs (3 credit hours)
- PAD 6745 Contracting for Sponsored Programs (3 credit hours)
- PAD 6744 Financial Management in Research Administration (3 credit hours)
- PAD 6746 Intellectual Property, Technology Transfer and Commercialization (3 credit hours)

Students must maintain a “B” (3.0) or better in all required courses.

## APPLICATION REQUIREMENTS

An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. Please submit all requested material by the established deadline(s). Admission is open to those with a bachelor’s degree from a regionally accredited institution with a GPA of 2.5 or above. Applications must include official transcripts, a resume and statement of interest. Employment in the field of research administration is preferred. Admission to this certificate program is limited. Please refer to the specific MRA program website for tuition rates. The University of Central Florida does not accept State Employee Waivers for this certificate program.

## Application Deadlines

Research Administration Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 1	Nov 15	
International Applicants				
International Transfer Applicants				

## CONTACT INFO

**Jo Ann Smith PhD**

Assistant Professor

Jo.Smith@ucf.edu

Telephone: 407-823-2604

HPA II - Suite 238

# SAS Data Mining Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in SAS Data Mining is designed to provide students with the knowledge of using statistical, data presentation and data visualization tools needed for data mining with SAS/Enterprise Miner and SAS/Warehouse Administrator software.

The **Graduate Certificate 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. 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.

Certificate programs can be ideal for non-degree students who would like to sample graduate courses before committing to a graduate degree program.

## CURRICULUM

The program requires five courses and is set up so that students begin the program in the fall semester. Applicants contemplating applying for spring and summer terms should first contact the program coordinator for advisement.

### Total Hours Required:

**15 Credit Hours** Minimum beyond the Bachelor's Degree

Two courses can be taken during the 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.

## Required Courses—15 Credit Hours

- STA 5104 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, subject to the approval of the graduate program director, can take a higher-level course such as STA 6236 Regression Analysis instead of STA 5206 Statistical Analysis.

## APPLICATION REQUIREMENTS

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. All requested materials must be submitted by the established deadline.

### Application Deadlines

SAS Data Mining Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
Applicants contemplating applying for spring and summer terms should first contact the program coordinator for advisement.				
International Applicants				
International Transfer Applicants				

## CONTACT INFO

### James Schott PhD

Professor  
james.schott@ucf.edu  
Telephone: 407-823-2797  
CCII 205

# Severe or Profound Disabilities Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Severe or Profound Disabilities provides students and professionals with additional training in working with students with severe or profound disabilities.

The Graduate Certificate in Severe or Profound Disabilities (SPD) provides additional training for professionals and students. Course work focuses on knowledge, skills and competencies for working with students with SPD. Pending state approval, persons holding Florida ESE teacher certification may apply the five certificate courses toward State Endorsement in Severe or Profound Disabilities (Administrative Rule 6A-4.0179).

## CURRICULUM

The program requires five graduate courses that can be incorporated into a master's program of study in Exceptional Education or taken as an add-on to an undergraduate or graduate degree. The graduate internship for EEX 6946 must be completed in a classroom with students with severe or profound disabilities or students with autism spectrum disorders.

### Total Hours Required:

15 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—15 Credit Hours

- EEX 6297 Assessment, Diagnosis, and Curriculum Prescriptions for Students with Autism\* (3 credit hours)
- EEX 6759 Transition Planning and Interdisciplinary Teaming for Students with Disabilities (3 credit hours)
- EEX 6246 Nature of Autism: Theory and Educational Practice\* (3 credit hours)

- EEX 6946 Graduate Internship: Exceptional Education (3 credit hours)
- EMR 6235 Nature of Severe or Profound Disabilities: Theory and Educational Practice (3 credit hours)

\* As per Graduate Certificate Program Policies, students may substitute electives as approved by the program director if they have already taken EEX 6297 and EEX 6246 in the Autism Spectrum Disorders Certificate.

## APPLICATION REQUIREMENTS

### Application Deadlines

Severe or Profound Disabilities Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

## CONTACT INFO

### Eleazar Vasquez

eleazar.vasquez@ucf.edu  
Telephone: 407-823-2898  
ED 315 F

# Social Science Education Certificate

## PROGRAM DESCRIPTION

The Social Science Education Graduate Certificate is for teachers who instruct students in social science content in grade levels K-12.

The Social Science Education Graduate Certificate is for teachers who instruct students in social science content in grade levels K-12. The program is designed to improve the quality of teaching and learning in social science classrooms. Graduates of the K-12 Social Science program form a strong infrastructure of teachers focusing on long-term impact in schools while helping students succeed in learning social science content. The focus of the K-12 Social Science Education Graduate Certificate is to provide all graduates with exceptional pedagogical and subject matter knowledge and skills by focusing on research-based, state-of-the-art best practices in social science education.

## Other K-12 Social Science Education Programs

A Master of Education in K-12 Social Science Education is available. Students who successfully complete the graduate certificate may transfer credits from the Social Science Education Graduate Certificate into the MEd program, if they meet the acceptance criteria and are admitted into the MEd in Social Science Education program. In addition, the K-12 Social Science Education master's program is closely allied with the Education PhD, Social Science Education Track. Graduates of the Social Science Education master's program have been very successful in completing advanced graduate degrees.

## CURRICULUM

The graduate certificate in Social Science Education includes two required courses and two elective courses chosen from the list below. Total Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

## Required Courses—6 Credit Hours

- SSE 6388 Digital History in the K-12 Classroom (3 credit hours)
- SSE 6636 Contemporary Social Science Education (3 credit hours)

## Elective Courses—6 Credit Hours

Choose two courses from the following list.

- EDS 5356 Mentoring and Clinical Supervision of Pre-professional Educators (3 credit hours)
- SSE 5391 Global Education: Theory and Practice (3 credit hours)
- SSE 5776 Democracy and Education (3 credit hours)
- SSE 5790 Inquiry and Instructional Analysis in Social Science Education (3 credit hours)
- SSE 6115 Methods in Elementary School Social Science (3 credit hours)
- SSE 6387 Teaching with Film (3 credit hours)
- SSE 6617 Trends in Elementary School Social Studies Education (3 credit hours)

## APPLICATION REQUIREMENTS

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. All requested materials must be submitted by the established deadline.

## Application Deadlines

Social Science Education Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

## CONTACT INFO

**Scott Waring PhD**  
Associate Professor  
scott.waring@ucf.edu  
Telephone: 407-823-1766  
ED 206J

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# Social Work Administration Certificate

## PROGRAM DESCRIPTION

**This program has been temporarily suspended effective Summer 2014.**

The Graduate Certificate in Social Work Administration is designed to prepare students for management positions in the public sector and private nonprofit agencies.

The **Social Work Administration Graduate Certificate** offers students preparation to manage public sector and private nonprofit agencies. 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.

Certificate programs can be ideal for non-degree students who would like to sample graduate courses before committing to a graduate degree program. Once a person is accepted into a regular graduate program, credits from a UCF certificate program may be applied toward an existing graduate program.

## CURRICULUM

### Total Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—6 Credit Hours

- SOW 6246 Policy Analysis and Social Change (3 credit hours)
- SOW 6383 Social Work Administration (3 credit hours)



## Elective Courses—6 Credit Hours

Select two courses from the following list.

- SOW 6373 Clinical Supervision (3 credit hours)
- SOW 6384 Administrative Supervision in Social Work (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)

## APPLICATION REQUIREMENTS

Admission is only open to those who are currently enrolled in the Master of Social Work program. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. Please submit all requested material by the established deadline(s).

## CONTACT INFO

**Shawn Lawrence PhD, LCSW**  
Associate Professor  
shawn.lawrence@ucf.edu  
Telephone: 407-823-3112  
HPA 1 Suite 204

# Special Education Certificate

## PROGRAM 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.

Certificate programs can be ideal for non-degree students who would like to sample graduate courses before committing to a graduate degree program. Once a person is accepted into a regular graduate program, credits from a UCF certificate program may be applied toward an existing graduate program.

Visit us on the **web** to find out more about Graduate Certificate programs.

## CURRICULUM

### Total Hours Required:

18 Credit Hours Minimum beyond the Bachelor's Degree

### 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 6295 Assessment and Curriculum Prescriptions for the Exceptional Population (3 credit hours)
- EEX 6612 Methods of Behavior Management (3 credit hours)

## APPLICATION REQUIREMENTS

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. All requested materials must be submitted by the established deadline.

### Application Deadlines

Special Education Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

## CONTACT INFO

**Mary Little PhD**  
 mary.little@ucf.edu  
 Telephone: 407-823-3275  
 ED 315J

# Structural Engineering Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Structural Engineering provides qualified engineers and students with the knowledge to analyze and design structures that will perform safely.

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. The Graduate Certificate in Structural Engineering is designed to advance the knowledge of civil and structural engineers. The Graduate Certificate is a good way for qualified students to sample the graduate programs in this area. However, because these are graduate level classes, students must have an undergraduate degree in Civil Engineering or closely related discipline in order to be admitted.

## CURRICULUM

### Total Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—12 Credit Hours

Choose four of the following courses.

- CEG 6115 Foundation Engineering (3 credit hours)
- CES 5144 Matrix Structural Analysis (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 6010 Structural Reliability (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 6527 Nonlinear Structural Analysis (3 credit hours)
- CES 6715 Prestressed Concrete Structures (3 credit hours)

## APPLICATION REQUIREMENTS

Admission is open to those with a bachelor’s degree in Civil or Mechanical Engineering from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

### Application Deadlines

Structural Engineering Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	
International Applicants				
International Transfer Applicants				

## CONTACT INFO

**David Cooper PhD**  
 Professor  
 david.cooper@ucf.edu  
 Telephone: 407-823-2388  
 ENG2 227

# Systems Engineering Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Systems Engineering is designed to provide students with an introduction to systems engineering tools and techniques for better system performance.

## CURRICULUM

### Total Hours Required:

12 Credit Hours Minimum beyond the Bachelor’s Degree

### Required Courses—12 Credit Hours

- ESI 5219 Engineering Statistics (3 credit hours)
- ESI 5306 Operations Research (3 credit hours)
- ESI 5531 Discrete Systems Simulation (3 credit hours)
- ESI 6551C Systems Engineering (3 credit hours)

## APPLICATION REQUIREMENTS

Admission is open to those with a bachelor’s degree in engineering or a closely related discipline from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition, applicants to this certificate must provide:

- Goal statement: The goal statement should discuss all relevant professional background and any previous research and/or teaching experience.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course

credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Applications are accepted for the fall and spring terms only.

### Application Deadlines

Systems Engineering Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	
International Applicants				
International Transfer Applicants				

### CONTACT INFO

#### Ahmad Elshennawy PhD

Professor

ahmade@ucf.edu

Telephone: 407-823-2204

Engineering 2, Room 312

# Systems Simulation for Engineers Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Systems Simulation for Engineers provides students with an introduction to the area of advanced simulation modeling.

Discrete event simulation provides very powerful modeling capabilities to engineers. 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.

Certificate programs can be ideal for non-degree students who would like to sample graduate courses before committing to a graduate degree program. Once a person is accepted into a regular graduate program, credits from a UCF certificate program may be applied toward an existing graduate program.

Visit us on the **web** to find out more about Graduate Certificate programs.

## CURRICULUM

### Total Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—12 Credit Hours

- 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)

## APPLICATION REQUIREMENTS

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. All requested materials must be submitted by the established deadline.

### Application Deadlines

Systems Simulation for Engineers Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

## CONTACT INFO

**Ahmad Elshennawy PhD**  
Professor  
ahmade@ucf.edu  
Telephone: 407-823-2204  
Engineering 2, Room 312

# Teaching English as a Foreign Language Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Teaching English as a Foreign Language prepares students with specialized knowledge and skills to teach English as a Foreign Language in overseas settings.

Our **Teaching English as a Second Language (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.

Certificate programs can be ideal for non-degree students who would like to sample graduate courses before committing to a graduate degree program. Once a person is accepted into a regular graduate program, credits from a UCF certificate program may be applied toward an existing graduate program.

Visit us on the **web** to find out more about Graduate Certificate programs.

## CURRICULUM

No course substitutions are allowed. The TEFL Certificate can be completed in one or more semesters, depending on the semester of entrance. It can also be completed fully online, depending on your selection of courses. Students must consult with their adviser or the program director prior to selecting the four courses for their program.

### Total Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—12 Credit Hours

Select any four of the following 12 courses.



- TSL 5345 Methods of ESOL Teaching (3 credit hours)
- TSL 6940 ESOL Practicum (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)
- TSL 6350 Grammar ESOL (3 credit hours)
- TSL 6440 Assessment Issues in TESOL (3 credit hours)
- TSL 6640 Research in Second Language (3 credit hours)
- TSL 6252 Sociolinguistics (3 credit hours)
- TSL 5380 Computer and Technology for ESOL (3 credit hours)
- TSL 5601 Second Language Vocabulary Learning (3 credit hours)
- TSL 6642 Issues in Second Language Acquisition (3 credit hours)

## CONTACT INFO

**Kerry Purmensky PhD**  
 kerry.purmensky@ucf.edu  
 Telephone: 407-823-0087  
 CNH 515

Though the courses may be taken in any order, it is recommended that TSL 6940 ESOL Practicum be taken near the end of a program of study (if that course is included).

## APPLICATION REQUIREMENTS

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant’s abilities, past performance and the applicant’s potential for completing the certificate.

### Application Deadlines

Teaching English as a Foreign Language Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 1	Dec 1	Apr 1
The application deadline for Fall 2014 has been extended to July 25, 2014.				
International Applicants				
International Transfer Applicants				

# Technology Ventures Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Technology Ventures is designed for those interested in creating and growing technology-based business ventures, including startups, corporate ventures and spin outs.

The **Graduate Certificate in Technology Commercialization** presents knowledge and skills associated with the successful commercialization of science and technology research. It will benefit those interested in identifying business opportunities enabled by scientific and technological innovations. The courses will offer students insights into intellectual property issues, innovation commercialization processes, technology business strategies, and business plan formation.

Certificate programs can be ideal for non-degree students who would like to sample graduate courses before committing to a graduate degree program. Once a person is accepted into a regular graduate program, credits from a UCF certificate program may be applied toward an existing graduate program.

## CURRICULUM

### Total Hours Required:

9 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—9 Credit Hours

GEB 6518 Strategic Innovation (3 credit hours)  
GEB 5516 Technological Entrepreneurship (3 credit hours)  
GEB 6116 Business Plan Formation (3 credit hours)

## APPLICATION REQUIREMENTS

Admission is open to those with documentation of a bachelors degree from a regionally accredited institution or participation in a UCF graduate

degree program. Students who maintain graduate standing in a UCF graduate degree program during the time required to complete a graduate certificate are eligible for this certificate. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

Those applying who are NOT currently enrolled in a UCF graduate program must have a minimum of 2 years of full-time work experience after completion of the bachelor's degree.

## Application Deadlines

Technology Ventures Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	
International Applicants				
International Transfer Applicants				

## CONTACT INFO

### Cameron Ford PhD

Associate Professor  
cbagrad@bus.ucf.edu  
Telephone: 407-823-3700  
Business Administration 345

# Training Simulation Certificate

## PROGRAM 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.

Certificate programs can be ideal for non-degree students who would like to sample graduate courses before committing to a graduate degree program. Once a person is accepted into a regular graduate program, credits from a UCF certificate program may be applied toward an existing graduate program.

Visit us on the **web** to find out more about Graduate Certificate programs.

## CURRICULUM

### Total Hours Required:

9 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—9 Credit Hours

- EIN 5255C Interactive Simulation (3 credit hours)
- EIN 6645 Real-Time Simulation Agents (3 credit hours)
- EME 6613 Instructional System Design (3 credit hours)

## APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree in industrial engineering or a closely related discipline from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted.

Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition, applicants to this certificate must provide:

- Goal statement: The goal statement should discuss all relevant professional background and any previous research and/or teaching experience.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Applications are accepted for the fall and spring terms only.

## Application Deadlines

Training Simulation Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	
International Applicants				
International Transfer Applicants				

## CONTACT INFO

**Ahmad Elshennawy PhD**

Professor

ahmade@ucf.edu

Telephone: 407-823-2204

Engineering 2, Room 312

# Transportation Engineering Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Transportation Engineering is for qualified professionals faced with solving transportation needs.

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.

Certificate programs can be ideal for non-degree students who would like to sample graduate courses before committing to a graduate degree program. However, because these are graduate level classes, students must have an undergraduate degree in Civil Engineering or closely related discipline in order to be admitted. Once a person is accepted into a regular graduate program, credits from a UCF certificate program may be applied toward an existing graduate program.

Visit us on the [web](#) to find out more about Graduate Certificate programs.

## CURRICULUM

### Total Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—12 Credit Hours

Choose four courses from the following list.

- CGN 6655 Regional Planning, Design, and Development (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 6205 Highway Capacity (3 credit hours)
- TTE 6270 Intelligent Transportation Systems (3 credit hours)
- TTE 6315 Traffic Safety Analysis (3 credit hours)
- TTE 6526 Airport Planning and Design (3 credit hours)
- TTE 6625 Mass Transportation Systems (3 credit hours)

## APPLICATION REQUIREMENTS

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. All requested materials must be submitted by the established deadline.

Students must have completed an undergraduate Transportation course (such as TTE 4004) or an equivalent.

### Application Deadlines

Transportation Engineering Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	
International Applicants				
International Transfer Applicants				

## CONTACT INFO

### David Cooper PhD

Professor

david.cooper@ucf.edu

Telephone: 407-823-2388

ENG2 227

# Urban and Regional Planning Certificate

## PROGRAM DESCRIPTION

The Graduate Certificate in Urban and Regional Planning is designed to provide students with enhanced knowledge and skills in urban and regional planning.

The **Graduate Certificate in Urban and Regional Planning (URP)** is designed to enhance knowledge, skills, and career development, in the field of community and urban and regional planning. Central Florida has been identified as one of the major growth areas in the state and planning has been recognized as one of the major policy issues for this area.

Certificate programs can be ideal for non-degree students who would like to sample graduate courses before committing to a graduate degree program. Once a person is accepted into a regular graduate program, credits from a UCF certificate program may be applied toward an existing graduate program.

Visit us on the **web** to find out more about Graduate Certificate programs.

## CURRICULUM

### Total Hours Required:

**18 Credit Hours** Minimum beyond the Bachelor's Degree

### 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)

### Electives—6 Credit Hours

#### Restricted—6 Credit Hours

Choose two courses from the following list.

- PAD 5356 Managing Community and Economic Development (3 credit hours)
- PAD 6316 Planning Methods (3 credit hours)
- PAD 6387 Transportation Policy (3 credit hours)
- PAD 6397 Managing Emergencies and Crises (3 credit hours)
- PAD 6353 Environmental Planning and Policy (3 credit hours)
- PAD 6825 Cross-Sectoral Governance (3 credit hours)
- PAD 6847 Planning Healthy Communities (3 credit hours)

## APPLICATION REQUIREMENTS

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. Please be sure to submit all required materials by the established deadline(s). Admission to this program is competitive; applicants meeting the minimum admission requirements are not guaranteed admission.

### All applicants to this certificate program will be required to submit:

- A current, professional resume
- An academic goal statement

These documents must be attached to the application. The academic goal statement will be used as a sample of the applicant's writing ability. While there is no set word limit, the statement should address the applicant's interest in pursuing the certificate program and fully discuss any experience that he or she has had in the field.



## Application Deadlines

Urban and Regional Planning Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	
International Applicants				
International Transfer Applicants				

## CONTACT INFO

**Christopher Hawkins PhD**  
 Assistant Professor  
 christopher.hawkins@ucf.edu  
 Telephone: 407-823-2706  
 HPA2 233

# World Languages Education - English for Speakers of Other Languages (ESOL) Certificate

## PROGRAM DESCRIPTION

The World Languages Education - English for Speakers of Other Languages (ESOL) graduate certificate builds knowledge and skills in teaching and assessing academic subjects and supporting second language acquisition and literacy for teaching English learners in PreK-12 schools. The graduate certificate is designed for College of Education and Human Performance students pursuing graduate initial certification degrees in secondary content areas, school leadership, or student support fields.

The World Languages Education - English for Speakers of Other Languages (ESOL) graduate certificate builds knowledge and skills in teaching and assessing academic subjects and supporting second language acquisition and literacy for teaching English learners in PreK-12 schools. The graduate certificate is designed for College of Education and Human Performance students pursuing graduate initial certification degrees in secondary content areas, school leadership, or student support fields. Students who successfully complete this graduate certificate can expect to increase their marketability in educational professions that serve English learners in PreK-12 settings. This graduate certificate is designed to promote student success in PreK-12 schools but does not directly qualify students for teacher certification. Courses used to earn this certificate may not also be used to earn the World Languages Education - Languages Other Than English (LOTE) graduate certificate.

## CURRICULUM

The World Languages Education, English for Speakers of Other Languages (ESOL) graduate certificate builds knowledge and skills in teaching

and assessing academic subjects and supporting second language acquisition and literacy for teaching English learners in PreK-12 schools. The graduate certificate is designed for College of Education and Human Performance students pursuing graduate initial certification degrees in secondary content areas, school leadership, or student support fields.

## CONTACT INFO

**Joyce Nutta PhD**  
 Associate Professor  
 joyce.nutta@ucf.edu  
 Telephone: 407-823-4341  
 ED 122N

### Total Hours Required:

12 Credit Hours Minimum beyond the Bachelor’s Degree

### Required Courses—12 Credit Hours

- TSL 5085 Teaching Language Minority Students in K-12 Classrooms (3 credit hours)
- TSL 6379 Second Language Literacy (3 credit hours) or TSL 6250 Applied Linguistics in ESOL (3 credit hours)
- TSL 5345 Methods of ESOL Teaching (3 credit hours)
- TSL 5525 ESOL Cultural Diversity (3 credit hours)

## APPLICATION REQUIREMENTS

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. All requested materials must be submitted by the established deadline.

### Application Deadlines

World Languages Education - English for Speakers of Other Languages (ESOL) Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

# World Languages Education - Languages Other Than English (LOTE) Certificate

## PROGRAM DESCRIPTION

The World Languages Education - Languages Other Than English (LOTE) graduate certificate builds knowledge and skills in teaching and assessing academic subjects and supporting second language acquisition and literacy for teaching languages other than English. The graduate certificate is well suited for students pursuing a graduate degree in a language other than English or for students with graduate standing who are proficient in a LOTE that they would like to teach.

The World Languages Education - Languages Other Than English (LOTE) graduate certificate builds knowledge and skills in teaching and assessing academic subjects and supporting second language acquisition and literacy for teaching languages other than English. The graduate certificate is well suited for students pursuing a graduate degree in a language other than English or for students with graduate standing who are proficient in a LOTE that they would like to teach. Students who successfully complete this graduate certificate can expect to increase their marketability in careers that include educational components such as instructing, training and lecturing. This graduate certificate is designed to promote student success in instructional settings, particularly in the PreK-12 school setting, but does not directly qualify students for teacher certification. Courses used to earn this certificate may not also be used to earn the World Languages Education - English for Speakers of Other Languages (ESOL) graduate certificate.

## CURRICULUM

The World Languages Education, Languages Other Than English (LOTE) graduate certificate builds knowledge and skills in teaching and assessing academic subjects and supporting second language

acquisition and literacy for teaching languages other than English. The graduate certificate is well suited for students pursuing a graduate degree in a language other than English or for students with graduate standing who are proficient in a LOTE that they would like to teach.

### Total Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

### Required Courses—12 Credit Hours

- TSL 5085 Teaching Language Minority Students in K-12 Classrooms (3 credit hours; online)
- TSL 6379 Second Language Literacy (3 credit hours; online) or TSL 6250 Applied Linguistics in ESOL (3 credit hours; online)
- FLE 5331 Foreign Language Methods at the Secondary Level (3 credit hours) or TSL 5345 Methods of ESOL Teaching (3 credit hours; online)
- FLE 5335 Foreign Language Methods at the Elementary Level (3 credit hours) or FLE 6695 Professional Development in Foreign Language Education (3 credit hours; online)

## APPLICATION REQUIREMENTS

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. All requested materials must be submitted by the established deadline.

### Application Deadlines

World Languages Education - Languages Other Than English (LOTE) Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

## CONTACT INFO

**Joyce Nutta PhD**

Associate Professor

[joyce.nutta@ucf.edu](mailto:joyce.nutta@ucf.edu)

Telephone: 407-823-4341

ED 122N

**NONDEGREE PROGRAMS****CONTACT INFO****Graduate Admissions Counselor**

gradadmissions@ucf.edu

Telephone: 407-823-2766

Millican Hall 230

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# Education Undecided or Certification

**PROGRAM DESCRIPTION**

Nondegree students in the College of Education may take only 5000- or 6000-level courses (unless seeking certification).

**APPLICATION  
REQUIREMENTS**

If you are interested in taking graduate courses at UCF for personal or professional enhancement or to prepare for possible admission to a graduate degree-seeking program in the College of Education, you may enroll as an Education Undecided/Certification student. Applicants must apply online. In addition to completing the online application, applicants will need to submit official, final transcripts from a regionally accredited institution showing a conferred bachelor's degree.

Admission as an Education Undecided/Certification student does not guarantee admission to a graduate certificate or degree-seeking program. International students are not eligible for this status unless they hold an eligible visa.

**Application Deadlines**

Education Undecided or Certification	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				



# Nondegree or Transient

## PROGRAM DESCRIPTION

The nondegree-seeking program is for students who have completed at least a baccalaureate degree from a regionally accredited university in the United States and are not seeking a graduate degree. They may be taking courses for their own enrichment, for Florida certification for education, or to complete application requirements for a graduate program. Students who are enrolled in a graduate program at another university and want to take courses at UCF and transfer it to their home institution are considered transient students and nondegree-seeking at UCF.

## APPLICATION REQUIREMENTS

If you are interested in taking graduate courses at UCF for personal or professional enhancement, to prepare for possible admission to a graduate degree-seeking or certificate program, or to complete enrollment requirements at another university, you may enroll as a Nondegree Seeking student. Not all graduate degree programs at UCF accept Nondegree Seeking students, however, so it is best to contact the program director for the graduate program that offers the course you want to take prior to applying and ask if the program accepts nondegree students and if specific enrollment instructions apply for graduate-level courses.

**In addition to completing the online application, Nondegree Seeking applicants will need to submit official, final transcripts from a regionally accredited institution showing a conferred bachelor’s degree.**

Please note that nondegree admission does not guarantee admission to a graduate degree-seeking or certificate program at UCF. International students are not eligible for nondegree status unless they hold an eligible visa. International students taking online courses from their home country are eligible to be nondegree seeking since they do not require a visa.

In general, nondegree-seeking students are

not eligible for financial aid, assistantships, or fellowships, although it is best to check with the Office of Student Financial Assistance for specific details. Nondegree-seeking students must be enrolled in 12 credit hours or more to be considered in full-time status.

Nondegree seeking students will also be required to submit an Immunization Form prior to enrollment. Although this form is not used in the admission process, students will not be allowed to enroll at UCF without submitting the required Immunization Form.

## Application Deadlines

Nondegree or Transient	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
The application deadline for Fall 2014 has been extended to August 1, 2014.				
International Applicants				
International Transfer Applicants				

# Nursing Nondegree

## PROGRAM DESCRIPTION

Students may take nursing graduate courses as a nondegree-seeking post-baccalaureate student on a space-available basis. See the Policies section of this Catalog for details on the possible use of these courses toward a degree. Completion of post-baccalaureate courses does not guarantee admission to the graduate program or their use in a degree program.

Students should choose the Nursing Nondegree option on the application to facilitate processing of files. Student may take nursing graduate classes as a nondegree-seeking post-baccalaureate student on a space-available basis. It is possible that no courses will have space available in a given semester as students in the graduate nursing programs receive priority for enrollment. Please contact the College of Nursing Graduate Office for registration assistance at [gradnurse@ucf.edu](mailto:gradnurse@ucf.edu).

## CURRICULUM

Students can enroll in graduate nursing courses as nondegree on a space-available basis. Students can only transfer courses taken in nondegree status with a “B” grade or better into a graduate nursing program. Transfer credit limitations apply to nondegree students and will vary depending on the program. Please refer to the Graduate Catalog for Policies related to nondegree seeking students and transfer of credit.

Nursing nondegree enrollment will be limited to the following courses:

- NGR 5800 Theory for Advanced Practice Nursing (3 credit hours)
- NGR 5141 Pathophysiological Bases for Advanced Practice Nursing (3 credit hours)
- NGR 5638 Health Promotion (3 credit hours)
- NGR 5720 Organizational Dynamics (3 credit hours)
- NGR 5871 Health Care Informatics (3 credit hours)

## APPLICATION REQUIREMENTS

If you are interested in taking nursing graduate courses at UCF for personal or professional enhancement or to prepare for possible admission to a graduate program, you may enroll as a nursing nondegree-seeking student. Applicants must apply online. In addition to completing the online application, applicants need to submit official, final transcripts conferring a bachelor’s degree and evidence of completion of a professional nurse education program (RN).

### Application Deadlines

Nursing Nondegree	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
Students interested in Nursing Nondegree should contact the College of Nursing ( <a href="mailto:gradnurse@ucf.edu">gradnurse@ucf.edu</a> or 407-823-2744) regarding class availability and scheduling prior to applying.				
International Applicants				
International Transfer Applicants				

## CONTACT INFO

### Susan Chase EdD

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# Courses

Courses listed here include all approved UCF graduate courses as of the date this Graduate Catalog was published (May 2014).

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 “Course Catalog Search” or “Class Schedule Search” at myUCF (<https://my.ucf.edu>) for those courses offered each term.

## UNDERSTANDING COURSE INFO

### Classification of Courses

- **3000-4999. Junior- and senior-level courses (Upper-division).** These courses contain advanced undergraduate level material and are designed primarily for undergraduate juniors and senior. When approved for inclusion in an individual program of graduate study by a supervisory committee approved by UCF College of Graduate Studies, selected 4000-4999 courses may serve the needs of individual graduate students.
- **5000-5999. Courses designed for graduate students.** Courses at the 5000 level are taken to satisfy graduate degree requirements. However, nondegree-seeking students and seniors may enroll in 5000-level courses with permission from the program.
- **6000-6999. Advanced graduate level courses.** These courses are designed to build upon the beginning graduate level courses and to deliver more advanced content and experiences. They are 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 and master’s programs) should check with their adviser before registering for 6000-level courses.
- **7000-7999. Doctoral-level courses.** These courses provide material at the most advanced graduate level. They are restricted to admitted doctoral students only.

## 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 (SCNS). This numbering system is used by all public postsecondary institutions in Florida and 25 participating non-public institutions. The major purpose of this system is to facilitate the transfer of courses between participating institutions. Students and administrators can use the online Statewide Course Numbering System to obtain course descriptions and specific information about course transfer between participating Florida institutions. The information is at the SCNS website at <http://scns.fldoe.org>.

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 “statewide course profiles.”

Example of Course Identifier

Prefix	Level Code (first digit)	Century Digit (second digit)	Decade Digit (third digit)	Unit Digit (fourth digit)	Lab Code
ENC	1	1	0	1	
English Composition	Lower (Freshman) level at this institution	Freshman Composition	Freshman Composition Skills	Freshman Composition Skills I	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 freshman composition skills course is offered by 59 different postsecondary institutions. Each institution uses “ENC 101” to identify its freshman composition skills 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, “ENC” means “English Composition,” the century digit “1” represents “Freshmen Composition,” the decade digit “0” represents “Freshman composition Skills,” and the unit digit “1” represents “Freshman Composition Skills I.”

In the sciences 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, ENC 1101 is offered at a community college. The same course is offered at a state university as ENC 2101. A student who has successfully completed ENC 1101 at the community college is guaranteed to receive transfer credit for ENC 2101 at the state university if the student transfers. The student cannot be required to take ENC 2101 again since ENC 1101 is equivalent to ENC 2101. 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. Note: Credit generated at institutions on the quarter-term system may not transfer the equivalent number of credits to institutions on the semester-term systems. For example, 4.0 quarter hours often transfers as 2.67 semester hours.

## 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

Prefix	Description
ACG	Accounting: General
ADV	Advertising
AFA	Afro-American Studies
AFH	African History
AMH	American History
AML	American Literature
ANG	Anthropology: Graduate
APK	Applied Kinesiology
ARE	Art Education
ARH	Art History
ART	Art
ASH	Asian History
AST	Astronomy
ATR	Athletic Training
BCC	Basic Clinical Clerkships (Required)
BCH	Biochemistry (Biophysics)
BME	Biomedical Engineering
BMS	Basic Medical Sciences
BOT	Botany
BSC	Biological Sciences
BTE	Business Teacher Education
BUL	Business Law
CAP	Computer Applications for Computer Scientists

Prefix	Description
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
CJE	Law Enforcement
CJJ	Juvenile Justice
CJL	Law and Process
CLP	Clinical Psychology
CNT	Computer Networks
COM	Communication
COP	Computer Programming
COT	Computing Theory
CPO	Comparative Politics
CRW	Creative Writing
CWR	Civil Water Resources
CYP	Community Psychology
DEP	Developmental Psychology
DIG	Digital Media
EAB	Experimental Analysis of Behavior
EAS	Aerospace Engineering
EBD	Education: Emotional/Behavior Disorders
ECM	Engineering: Computer Math
ECO	Economics
ECP	Economic Problems and Policy
ECS	Economic Systems and Development
ECT	Education: Career/Technical
ECW	Education: Career/Workforce
EDA	Educational Administration
EDE	Education: Elementary

Prefix	Description
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
EEE	Engineering: Electrical and Electronic
EEL	Engineering: Electrical
EES	Environmental Engineering Science
EEX	Education: Exceptional Child: Core Compet.
EGC	Counselor Education
EGI	Education: Gifted
EGM	Engineering Science
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
ENY	Entomology
EPD	
ESE	Education: Secondary
ESI	Industrial/Systems Engineering
ETG	Engineering Technology: General
EUH	European History
EXP	Experimental Psychology
FIL	Film
FIN	Finance
FLE	Foreign Language Education
FSS	Food Service Systems
GEB	General Business



Prefix	Description
GEO	Geography: Systematic
GEY	Gerontology
HFT	Hospitality Management
HIM	Health Information Management
HIS	General History and Historiography
HMG	Hospitality Management Graduate
HSA	Health Services Administration
HSC	Health Sciences
HUM	Humanities
HUN	Human Nutrition
IDS	Interdisciplinary Studies
INP	Industrial and Applied Psychology
INR	International Relations
ISC	Interdisciplinary Sciences
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
MDC	Medicine Clinical Clerkships
MDE	Medical Electives
MDI	Medical Internships
MDR	Medical Research
MDX	Medical Externships
MHS	Mental Health Services
MLS	Medical Laboratory Science
MMC	Mass Media Communication
MTG	Mathematics: Topology and Geometry
MUC	Music: Composition

Prefix	Description
MUE	Music Education
MUG	Music: Conducting
MUH	Music: History/Musicology
MUL	Music Literature
MUM	Music: Commercial/Management/ Administration
MUN	Music Ensembles
MUO	Music: Opera/Musical Theatre
MUS	Music
MUT	Music: Theory
MVB	Applied Music: Brasses
MVJ	Applied Music: Jazz
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
PAZ	Parks and Zoos
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
PGY	Photography
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

Prefix	Description
PPE	Personality
PSB	Psychobiology
PSY	Psychology
PUP	Public Policy
PUR	Public Relations
QMB	Quantitative Methods in Business
RED	Reading Education
REE	Real Estate
RET	Respiratory Care
SCE	Science Education
SDS	Student Development Services
SOP	Social Psychology
SOW	Social Work
SPA	Speech Pathology and Audiology
SPB	Sport Business
SPC	Speech Communication
SPM	Sports Management
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
SYG	Sociology: General
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

Section 1007.24(7), Florida Statutes, states:

“Any student who 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 statewide course numbering system shall be awarded credit by the receiving institution for courses satisfactorily completed by the student at the previous institutions. Credit shall be awarded if the courses are judged by the appropriate statewide course numbering system faculty committees representing school districts, public postsecondary educational institutions, and participating nonpublic postsecondary educational institutions 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 Department of Education shall ensure that credits to be accepted by a receiving institution are generated in courses for which the faculty possesses credentials that are comparable to those required by the accrediting association of the receiving institution. The award of credit may be limited to courses that are entered in the statewide course numbering system. Credits awarded pursuant to this subsection shall satisfy institutional requirements on the same basis as credits awarded to native students.”

## Exceptions to the General Rule for Equivalency

Since the initial implementation of the SCNS, specific disciplines or types of courses have been excepted from the guarantee of transfer for equivalent courses. These include varying topics courses that must be evaluated individually, or applied courses in which the student must be evaluated for mastery of skill and technique. 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 not offered by receiving institution
- B. For courses non-regionally accredited institutions, courses offered prior to the established transfer date of the the course in question.

- C. Courses in the 900-999 series are not automatically transferable, and must be evaluated individually. These include such courses as Special Topics, Internships, Practica, Study Abroad, Thesis, and Dissertations.
- D. Applied academics for adult education courses
- E. Graduate courses
- F. Internships, practica, clinical experiences, and study abroad courses with numbers other than those ranging from 900-999.
- G. Applied courses in the performing arts (Art, Dance, Interior Design, Music, and Theater) and skills courses in Criminal Justice (academy certificate courses) are not guaranteed as transferable.

### Courses at Nonregionally Accredited Institutions

The Statewide Course Numbering System makes available on its home page (<http://scons.fldoe.org>) a report entitled “Courses at Nonregionally Accredited Institutions” that contains a comprehensive listing of all nonpublic institution courses in the SCNS inventory, as well as each course’s transfer level and transfer effective date. This report is updated monthly.

Questions about the Statewide Course Numbering System and appeals regarding course credit transfer decisions should be directed to Associate Dean, in Undergraduate Studies, Millican Hall 210, University of Central Florida, 4000 Central Florida Parkway, Orlando, FL 32816, Phone (407) 823-2691, or the Florida Department of Education, Office of Articulation, 1401 Turlington Building, Tallahassee, Florida 32399-0400. Special reports and technical information may be requested by calling the Statewide Course Numbering System office at (850) 245-0427 or via the internet at <http://scons.fldoe.org>.

### 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.

	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
Cooperative Education	5949	
Study Abroad	5957	6958
Research Report		6909
Thesis—Master’s		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 - Prerequisite, a course that must be taken and passed prior to enrollment in the listed course.
- CR - Corequisite, a course that must be taken concurrently with or prior to the listed course.
- C.I. - 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 BA = Business Administration, CAH = Arts and Humanities, COM = College of Medicine, CON = College of Nursing, COS = Sciences, CREOL = Optics and Photonics, ED = Education, ECS = Engineering and Computer Science, and HPA = Health and Public Affairs.

College	Abbreviation	Department
BA	ACCT	Accounting
CAH	AAS	African American Studies
COS	ANTHRO	Anthropology
COS	BIOL	Biology
COS	CHEM	Chemistry
ED	CFCS	Child, Family & Comm Sci
ECS	CECE	Civil, Envir & Const Eng
BA	BUS	College-BA
CAH	CAH	College-CAH
ECS	ECS	College-ECS
ED	EDU	College-ED
HPA	HPA	College-HPA
HPA	COM SC&DIS	Commun Sci & Disorders
COS	COMM	Communication
ECS	CS	Computer Science
HPA	CJ	Criminal Justice
BA	ECON	Economics
ED	E&HS	Educational & Human Sci
ECS	ECE	Electrical & Computer Eng
CAH	ENG	English
CAH	FILM	Film Program
BA	FIN	Finance
RCHM	FOOD&LODG	Foodservice & Lodging Mgm
HPA	HMI	Health Mangt & Informatic
HPA	HP	Health Professions
CAH	HIST	History
RCHM	HSP SERV	Hospitality Services
ECS	IEMS	Industrial & Management

College	Abbreviation	Department
GRDST	INTERDIS	Interdisciplinary Grad
HPA	LS	Legal Studies
BA	MAN	Management
BA	MIS	Management Inform. System
BA	MAR	Marketing
ECS	MSE	Materials Sci & Engineer
COS	MATH	Mathematics
ECS	MECH/AERO	Mechanical & Aerospace
COM	MED	Medicine
CAH	LANG	Modern Languages
COM	M&M	Molecular & Microbiology
CAH	MUSIC	Music
CON	NURS	Nursing
OPT	OPT	Optics
CAH	PHIL	Philosophy
COS	PHYS	Physics
COS	POLS	Political Science
COS	PSYCH	Psychology
HPA	PUB	Public Administration
HPA	PUB AFF	Public Affairs
CAH	SVAD	Schl Visual Arts & Design
HPA	SOWK	Social Work
COS	SOC	Sociology
COS	STAT	Statistics
ED	TL&L	Teach, Learn & Leadership
CAH	THEA	Theatre
RCHM	TEA	Tourism, Events & Attract
CAH	WOM	Women's Studies
CAH	WRITE	Writing & Rhetoric

## COURSES LIST

### ACG 6065. Accounting Foundations

3(3,0). PR: Graduate standing. To provide students with a basic understanding of accounting information used for investor and managerial decision making.

*Spring, Summer*

BA - Kenneth G. Dixon School of Accounting

### ACG 6255. International and Multinational Accounting

3(3,0). PR: Graduate standing and ACG 3141 or equivalent. An examination of the environmental factors affecting international accounting concepts and standards. Cross-country differences in accounting treatments are compared.

*Occasional*

BA - Kenneth G. Dixon School of Accounting

### ACG 6305. Advanced Managerial Accounting

3(3,0). PR: Graduate standing and ACG 3361. Advanced and current techniques for generation and use of accounting information in managerial decision-making.

*Occasional*

BA - Kenneth G. Dixon School of Accounting

### ACG 6415. Advanced Accounting Information Systems

3(3,0). PR: Graduate standing and ACG 4401C. Evaluation of the overall risk to critical accounting and business processes posed by information technology.

*Occasional*

BA - Kenneth G. Dixon School of 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.

*Spring*

BA - Kenneth G. Dixon School of Accounting

### ACG 6519. Governmental and Nonprofit Accounting

3(3,0). PR: Graduate standing and ACG 3501. Examination of current issues and advanced topics in governmental and nonprofit accounting with emphasis on public policy issues and governmental budgeting.

*Occasional*

BA - Kenneth G. Dixon School of Accounting

### ACG 6636. Advanced Auditing

3(3,0). PR: Graduate standing and ACG 4651 and STA 2023. Advanced topics on independent, external auditing including internal control, evidence, reporting, and operational auditing.

*Occasional*

BA - Kenneth G. Dixon School of 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.

*Occasional*

BA - Kenneth G. Dixon School of Accounting

### ACG 6685. Fraud Auditing

3(3,0). PR: Graduate standing and ACG 4651 and STA 2023. Theory and techniques relating to fraud auditing and fraud examination.

*Occasional*

BA - Kenneth G. Dixon School of Accounting

### ACG 6805. Accounting Theory

3(3,0). PR: Graduate standing and all foundation courses for the accounting program. An examination of the evolution of contemporary accounting theory with emphasis on current and future developments.

*Occasional*

BA - Kenneth G. Dixon School of Accounting

### ACG 6835. 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.

*Occasional*

BA - Kenneth G. Dixon School of Accounting

### ACG 7157. Seminar in Archival Research in Accounting

3(3,0). PR: Approval of instructor and PhD program coordinator. Extensive coverage of archival literature dealing with auditing, financial accounting, accounting regulation, and related accounting research.

*Occasional*

BA - Kenneth G. Dixon School of 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 empirical literature related to accounting-based judgement/decision processes and the behavioral implications of accounting.

*Occasional*

BA - Kenneth G. Dixon School of Accounting

### 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 appreciation for the body of accounting knowledge that investigates accounting as a practice carried out within social and organizational contexts.

*Occasional*

BA - Kenneth G. Dixon School of Accounting

### ACG 7837. Foundations in Behavioral Accounting Research

3(3,0). PR: C.I. and PhD Program Coordinator Consent. Foundation in behavioral theory development and research design applicable to studying the individual and organizational aspects of accounting.

*Odd Fall*

BA - Kenneth G. Dixon School of 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.

*Occasional*

BA - Kenneth G. Dixon School of 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.

*Fall, Spring*

*BA - Kenneth G. Dixon School of Accounting*

**ACG 7888. Seminar in Critical Accounting and AIS**

3(3,0). PR: Instructor and PhD program coordinator consent. This course provides an in-depth understanding of the critical accounting and AIS literature and the knowledge and skills necessary to undertake scholarly research in the area.

*Occasional*

*BA - Kenneth G. Dixon School of 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.

*Occasional*

*BA - Kenneth G. Dixon School of Accounting*

**ACG 7917. Advanced Research Methods in Accounting and Accounting Information Systems Rch**

3(3,0). PR: Approval of instructor and PhD program coordinator. Advanced study in specialized areas of accounting and AIS research. By definition, topical areas will vary.

*Occasional*

*BA - Kenneth G. Dixon School of Accounting*

**ADE 6678. The Socio-Historical Context of Adult Education**

3(3,0). Graduate standing or C.I. An overview of adult education examining the historical and philosophical roots, the current social context and the multiple disciplinary perspectives that inform the field.

*Odd Fall*

*ED - Department of Child, Family and Community Sciences*

**ADV 6209. 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.

*Occasional*

*COS - Nicholson School of Communication*

**AFA 5930. Topics in African American Studies**

3(3,0). PR: Graduate standing 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.

*Occasional*

*CAH - Program in African American Studies*

**AFH 5259. Colloquium in African History**

3(3,0). PR: Graduate standing or C.I. Readings on selected topics in African History. May be used in the degree program a maximum of 3 times.

*Odd Fall*

*CAH - Department of History*

**AFH 5806. The Historiography of Slavery in Africa**

3(3,0). PR: Graduate standing or senior standing or C.I. Course covers the central issues and controversies in the historiography of slavery in Africa.

*Occasional*

*CAH - Department of History*

**AMH 5116. Colloquium in U.S. Colonial History**

3(3,0). PR: Graduate standing or senior standing or C.I. Reading and discussion of the literature on selected topics in colonial American history. May be used in the degree program a maximum of 4 times.

*Occasional*

*CAH - Department of History*

**AMH 5137. Colloquium in U.S. Revolutionary Period**

3(3,0). PR: Graduate standing or senior standing or C.I. Reading and class discussion of the literature on selected topics in the Revolutionary Era, 1763-1789.

*Occasional*

*CAH - Department of History*

**AMH 5149. Colloquium in Early U.S. History, 1789-1815**

3(3,0). PR: Graduate standing or senior standing or C.I. Reading and class discussion of the literature on selected topics of the early national period.

*Occasional*

*CAH - Department of History*

**AMH 5169. Colloquium in Age of Jackson**

3(3,0). PR: Graduate standing or senior standing or C.I. Intensive reading and class discussion on selected topics of the Jacksonian age.

*Occasional*

*CAH - Department of History*

**AMH 5176. Colloquium in Civil War and Reconstruction**

3(3,0). PR: Graduate standing or senior standing or C.I. Intensive reading and class discussion on selected topics of the Civil War and Reconstruction era.

*Occasional*

*CAH - Department of History*

**AMH 5219. Colloquium in Late 19th Century U.S.**

3(3,0). PR: Graduate standing or senior standing or C.I. Reading and class discussion of the literature on selected topics of late 19th century U.S.

*Occasional*

*CAH - Department of History*

**AMH 5296. Colloquium in 20th Century U.S.**

3(3,0). PR: Graduate standing or senior standing or C.I. Reading and class discussion on selected topics in 20th-century U.S. May be used in the degree program a maximum of 4 times.

*Occasional*

*CAH - Department of History*

**AMH 5378. History of Technology**

3(3,0). PR: Graduate standing or C.I. Introduces the historiography of technology's role in historical events, and society's role in shaping technology.

*Even Summer*

*CAH - Department of History*

**AMH 5391. Colloquium in U.S. Cultural History**

3(3,0). PR: Graduate standing or senior standing or C.I. Students will read and discuss a common or diverse body of the significant literature in the field.

*Occasional*

*CAH - Department of History*

**AMH 5406. Colloquium in American South**

3(3,0). PR: Graduate standing or senior standing or C.I. Intensive reading and class discussion on selected topics of

Southern history from colonial origins to the present.

*Occasional*

CAH - Department of History

**AMH 5446. Colloquium in U.S. Frontier**

3(3,0). PR: Graduate standing or senior standing or C.I. Reading and class discussion of the literature on selected topics of frontier history.

*Occasional*

CAH - Department of History

**AMH 5515. Colloquium in U.S. Diplomatic History**

3(3,0). PR: Graduate standing or senior standing or C.I. A survey of the historical literature of American foreign policy. May be repeated for credit only when course content is different.

*Occasional*

CAH - Department of History

**AMH 5566. Colloquium: Women in American History**

3(3,0). PR: Graduate standing 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.

*Occasional*

CAH - Department of History

**AMH 5636. Colloquium in US Environmental History**

3(3,0). Graduate standing or C.I. Evolution of historical texts and methodologies for understanding nature-human interaction and how access to resources shaped human opportunity, from colonization to the present.

*Occasional*

CAH - Department of History

**AMH 5925. Colloquium in US Military History**

3(3,0). PR: Graduate standing or C.I. Readings in selected topics in United States military history. May be used in the degree program a maximum of 3 times only when course content is different.

*Occasional*

CAH - Department of History

**AMH 5937. AP American History**

3(3,0). PR: Graduate standing 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.

*Occasional*

CAH - Department of History

**AMH 6346. Seminar in the History of American Automobility**

3(3,0). Graduate standing or C.I. Readings and research in the development of American automobility.

CAH - Department of 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.

*Occasional*

CAH - Department of History

**AMH 6592. Seminar in Oral History**

3(3,0). 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.

*Occasional*

CAH - Department of 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 only when course content is different.

*Occasional*

CAH - Department of 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.

*Occasional*

CAH - Department of English

**ANG 5100. Archeological Sciences**

3(3,0). PR: Admission to Anthropology MA, Maya Studies GC, or C.I. Field and laboratory methods routinely used in archeology and forensic archeology, including instrumentation.

*Occasional*

COS - Department of Anthropology

**ANG 5166. Problems in Maya Studies**

3(3,0). PR: Admission to Anthropology MA, Maya Studies GC, or C.I. In-depth study of current methodological, theoretical, and/or topical problems in Maya Studies.

*Occasional*

COS - Department of Anthropology

**ANG 5167. Maya Hieroglyphs**

3(3,0). PR: Admission to Anthropology MA, Maya Studies GC, or C.I. The study of Maya writing, the translation of Maya hieroglyphs, and the significance of translations to reconstructions of ancient Maya culture.

*Even Summer*

COS - Department of Anthropology

**ANG 5191. Mortuary Archaeology**

3(3,0). Admission to Anthropology MA, Maya Studies GC, or C.I. Funerary customs and human remains; basic data collection, skeletal analysis, and comparative study of mortuary ritual-ancient and modern.

*Occasional*

COS - Department of Anthropology

**ANG 5228. Maya Iconography**

3(3,0). PR: Admission to Anthropology MA, Maya Studies GC, or C.I. Study and interpretation of ancient Maya iconography as reflected in art, artifacts, and constructed features.

*Odd Spring*

COS - Department of Anthropology

**ANG 5272. Culture, Power and Development**

3(3,0). PR: Admission to Anthropology M.A. program, Maya Studies graduate certificate, or C.I. Origins and contemporary ramifications of underdevelopment and disempowerment in the world system from an anthropological perspective.

*Occasional*

COS - Department of Anthropology

**ANG 5301. Anthropology of Tourism**  
3(3,0). PR: Admission to Anthropology MA, Maya Studies GC, or C.I. Anthropology of tourism in U.S. and world regions, including impacts on local peoples, cultures, and environments.

*Occasional*

*COS - Department of Anthropology*

**ANG 5486. Quantitative Research in Anthropology**  
3(3,0). PR: Admission to the MA in Anthropology program, Maya Studies graduate certificate, or C.I. Quantitative approaches to problems in anthropology, including multivariate systems, assessment of reliability, and approaches for small samples.

*Even Fall*

*COS - Department of Anthropology*

**ANG 5531. Nutritional Anthropology**  
3(3,0). PR: One course in Social Sciences (min 2000-level) and one course in Biological Sciences (min 2000-level) or Consent of Instructor. 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.

*Occasional*

*COS - Department of Anthropology*

**ANG 5620. Language and Culture**

3(3,0). PR: Admission to Anthropology MA, Maya Studies GC, or C.I. Language as an integral part of human culture and behavior, focusing on cross cultural issues that affect cultural competency.

*Occasional*

*COS - Department of Anthropology*

**ANG 5738. Advanced Medical Anthropology**  
3(3,0). PR: Admission to Anthropology MA, Maya Studies GC, or C.I. Advanced topics in ethnography of medical traditions and anthropological approaches to the study of health and disease.

*Occasional*

*COS - Department of Anthropology*

**ANG 5742. Problems in Forensic Anthropology**  
3(3,0). PR: Admission to Anthropology MA, Maya Studies GC, or C.I. Current issues and topics in forensic anthropology.

*Even Spring*

*COS - Department of Anthropology*

**ANG 5822. Maya Field Research**  
3(3,0). PR: Admission to Anthropology MA, Maya Studies GC, or C.I. Practical application of method and theory during primary infield research in the Maya area.

*Spring*

*COS - Department of Anthropology*

**ANG 6002. Proseminar in Anthropology**  
3(3,0). PR: Admission to Anthropology MA, Maya Studies GC, or C.I. Central concepts, theories, resources, and methods fundamental to cultural anthropology, human ecology, physical anthropology, and archaeology.

*Occasional*

*COS - Department of Anthropology*

**ANG 6110. Archaeological Theory and Method**  
3(3,0). PR: Admission to Anthropology MA, Maya Studies

GC, or C.I. History and current theory and methods used by archaeologists to interpret past behavior.

*Fall*

*COS - Department of Anthropology*

**ANG 6168. The Ancient Maya**  
3(3,0). PR: Admission to Anthropology MA, Maya Studies GC, or C.I. Overview of the archaeology of the ancient Maya of Mexico, Belize, Guatemala, and upper Mexico.

*Odd Fall*

*COS - Department of Anthropology*

**ANG 6181C. GIS Applications in Anthropology**  
3(2,2). PR: Admission to Anthropology MA program, Maya Studies graduate certificate, or C.I. Application of geographic information systems methodology for the documentation and analysis of anthropological, archeological and forensic problems.

*Spring*

*COS - Department of Anthropology*

**ANG 6324. Contemporary Maya**  
3(3,0). PR: Admission to Anthropology M.A. program, Maya Studies graduate certificate, or C.I. Overview of the cultures and peoples comprising the contemporary Maya of Central America.

*Even Fall*

*COS - Department of Anthropology*

**ANG 6520C. Advanced Human Osteology**  
3(2,2). PR: Admission to Anthropology MA, Maya Studies GC, or C.I. Advanced seminar on methods and theory pertaining to the study of the human skeleton.

*Occasional*

*COS - Department of Anthropology*

**ANG 6587. Seminar in Biological Anthropology**  
3(3,0). PR: Admission to Anthropology MA, Maya Studies GC, or C.I. Topics in biological anthropology including focus on human biological variation and adaptation.

*Occasional*

*COS - Department of Anthropology*

**ANG 6701. Seminar in Applied Anthropology**  
3(3,0). PR: Admission to Anthropology MA, Maya Studies GC, or C.I. Anthropological perspectives and methods in the resolution of human problems in a cross-cultural setting, including issues of achieving cultural competence in a globalizing world.

*Occasional*

*COS - Department of Anthropology*

**ANG 6740C. Advanced Forensic Anthropology**  
3(2,2). PR: Admission to Anthropology MA, Maya Studies GC, or C.I. Advanced theory and laboratory methods in forensic anthropology, including forensic skeletal analysis and interpretation.

*Occasional*

*COS - Department of Anthropology*

**ANG 6801. Ethnographic Research Methods**  
3(3,0). PR: Admission to Anthropology MA, Maya Studies GC, or C.I. Ethnographic research techniques and praxis: data collection and analysis, writing ethnographies, and research presentation.

*Occasional*

*COS - Department of Anthropology*

**ANG 6821. Forensic Archeology Field Methods**  
3(3,0). PR: Admission to Anthropology MA, Maya Studies GC, or C.I. Application of archeological techniques to the search, recovery, excavation and documentation of modern human remains.

*Occasional*

*COS - Department of Anthropology*

**ANG 6930. Seminar in Cultural Anthropology**  
3(3,0). PR: Admission to Anthropology MA, Maya Studies GC, or C.I. Theoretical foundations and contemporary issues in the study of living cultures.

*Occasional*

*COS - Department of Anthropology*

**APK 7139. Exercise Biochemistry Techniques**  
3(3,0). PR: Admission to M.S. in Sport and Exercise Science--Applied Exercise Physiology track or the Ph.D. in Education--Exercise Physiology track. A course in laboratory instrumentation and methodologies for determining the composition of biological samples. Focuses on application and interpretation of methodologies.

*Occasional*

*ED - Department of Educational and Human Sciences*

**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.

*Occasional*

*ED - School of Teaching, Learning, and Leadership*

**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 - School of Teaching, Learning, and Leadership*

**ARE 5359. Teaching Art K-12**  
4(4,0). PR: Admission to MA 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.

*Summer*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Spring, Summer*

*ED - School of Teaching, Learning, and Leadership*

**ARE 5648. Contemporary Visual Arts Education**  
3(3,0). PR: Graduate standing or C.I. Continued study of current programs and innovations in public school Visual Arts Programs.

*Occasional*

*ED - School of Teaching, Learning, and Leadership*

**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).

*Fall*

*ED - School of Teaching, Learning, and Leadership*

**ARE 6450. K-12 Instructional Materials**  
3(3,0). PR: Graduate standing or C.I. A historical examination of art education curriculum along with developing learning experiences and visual resources (slides, transparencies, technology) from art works, and documentation.

*Occasional*

*ED - School of Teaching, Learning, and Leadership*

**ARE 6666. Arts Advocacy**  
3(2,1). . The study and development of plans to produce arts advocacy programs for the public school system.

*Occasional*

*ED - School of Teaching, Learning, and Leadership*

**ARE 6747. Assessment Seminar in Art Education**  
3(3,0). PR: Graduate standing or C.I. Examines the nature of past and present assessment research in art education, various methods of conducting this research, and how it can translate into application and contribute to the knowledge base in the field.

*Odd Fall, Even Spring*

*ED - School of Teaching, Learning, and Leadership*

**ARE 6748. Advanced Research Seminar in Art Education**  
3(3,0). PR: Graduate standing or C.I. Examines the nature of past and present research in art education, various methods of conducting art education research, and how research can translate into practical classroom application. May be used in the program a maximum of 2 times only when course content is different. May be used in the degree program a maximum of 2 times only when course content is different.

*Odd Fall, Odd Spring*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Occasional*

*ED - School of Teaching, Learning, and Leadership*

**ARE 6947. Internship Seminar in Art Education**  
3(3,0). PR: Graduate standing or C.I. Internship in pre K-16 or as a community based art educator under supervision of a certified classroom teacher.

*Odd Fall, Even Spring*

*ED - School of Teaching, Learning, and Leadership*

**ARH 5897. Advanced Seminar in Art History**  
3(3,0). PR: ARH 2050 and ARH 2051 or C.I. Research methods on various topics including: major artist, monument, cultural period or theme.

*Occasional*

*CAH - School of Visual Arts and Design*

**ART 5280. Serial Content**  
3(3,0). Admission to Emerging Media MFA or Digital Media M.A., graduate standing, or C.I. Serial content, story forms, interactive narrative theory and practice for art, digital media and film. Traditional and non-traditional forms of visual and interactive storytelling.



Fall

CAH - School of Visual Arts and Design

**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.

Fall

CAH - School of Visual Arts and Design

**ART 5670C. Digital Illustration**

3(2,4). CR: ART 6683C. Methods and media effects usually associated with traditional illustration in a digital platform.

Spring

CAH - School of Visual Arts and Design

**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 "arts electronica" into the present.

Spring

CAH - School of Visual Arts and Design

**ART 5695. WebArt 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.

Spring

CAH - School of Visual Arts and Design

**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.

Spring

CAH - School of Visual Arts and Design

**ART 5698. Concourse I**

3(3,0). PR: ART 5910 and ART 5280 and ART 5694, or C.I. Digital reproduction of studio works.

Fall

CAH - School of Visual Arts and Design

**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.

Fall

CAH - School of Visual Arts and Design

**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 used in the degree program a maximum of 3 times.

Fall, Spring

CAH - School of Visual Arts and Design

**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.

Occasional

CAH - School of Visual Arts and Design

**ART 6281C. Serial Content and Classic Form II**

3(3,3). PR: Content and Form I. Studio course exploring the book form via digital technology (for book history, essential basic design principles, and typographical designs) and traditional methods.

Fall

CAH - School of Visual Arts and Design

**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.

Spring

CAH - School of Visual Arts and Design

**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.

Even Fall

CAH - School of Visual Arts and Design

**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.

Occasional

CAH - School of Visual Arts and Design

**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.

Fall

CAH - School of Visual Arts and Design

**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.

Occasional

CAH - School of Visual Arts and Design

**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.

Occasional

CAH - School of Visual Arts and Design

**ART 6911. Studio Concentration II**

3(3,0). PR: Admission to MFA and ART 5910. Continuation of Concentration I. The principle class for studio work production. May be used in the degree program a maximum of 2 times.

Fall



CAH - School of Visual Arts and Design

**ART 6930. Graduate Seminar**

1(1,0). Admission to Emerging Media MFA program, graduate standing, or C.I. Lecture and interactive discussion centers upon art, digital media, film, aesthetics, culture, technology, and industry in relation to emerging media. May be used in the degree program a maximum of 4 times.

*Fall, Spring*

CAH - School of Visual Arts and Design

**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.

*Spring*

CAH - School of Visual Arts and Design

**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.

*Occasional*

CAH - Department of History

**ASH 5229. History of the Middle East**

3(3,0). PR: Graduate standing or C.I. Selected topics in the history of the modern Middle East. May be used in the degree program a maximum of 2 times only when course content is different.

*Occasional*

CAH - Department of History

**ASH 5408. Colloquium in Modern China**

3(3,0). 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.

*Occasional*

CAH - Department of History

**ASH 5485. U.S. China Relations**

3(3,0). PR: Graduate standing or C.I. An in-depth study of the significant relations between China and the United States since the 18th century.

*Even Fall*

CAH - Department of History

**ASH 5925. Colloquium in South Asian History**

3(3,0). PR: Graduate standing or C.I. Addresses key themes in South Asian history through selected readings. May be used in the degree program a maximum of 3 times only when course content is different.

*Occasional*

CAH - Department of History

**ASH 6936. Seminar in US-China Relations**

3(3,0). PR: Graduate standing or C.I. Historiographical interrogations of the intricate relations between the United States and China from 1900 to the present.

*Occasional*

CAH - Department of History

**AST 5145. Advanced Asteroids, Comets, and Meteorites**

3(3,0). PR: Graduate standing or C.I. An advanced study of

physical, chemical, mineralogical and orbital characteristics of Asteroids, Comets and Meteorites, with an emphasis on the origin of our solar system.

*Odd Spring*

COS - Department of Physics

**AST 5154. Advanced Planetary Geophysics**

3(3,0). PR: Admission to Physics MS or PhD or C.I. The physics of planetary evolution, planetary interiors, and planetary surface processes.

*Even Fall*

COS - Department of Physics

**AST 5165. Planetary Atmospheres**

3(3,0). PR: PHY 3220 and PHY 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.

*Even Spring*

COS - Department of Physics

**AST 5263. Advanced Observational Astronomy**

3(3,0). PR: Graduate standing in the Physics department or C.I. Experimental design and experimental techniques in astrophysics; spherical astronomy; physics of telescopes and of common astronomical detectors; error analysis.

*Even Spring*

COS - Department of Physics

**AST 5334. Extrasolar Planets and Brown Dwarfs**

3(3,0). PR: Admission to Physics M.S. or Physics Ph.D., or C.I. Substellar-mass objects, their formation, evolution, dynamics, detection, and environments.

*Odd Spring*

COS - Department of Physics

**AST 5765C. Advanced Astronomical Data Analysis**

3(3,1). PR: MAC 2313, a 3000-level or higher course in astronomy or planetary science, ability to write simple computer programs, or C.I. Advanced astronomical data formation and acquisition, detector physics, measurement extraction, error analysis, modeling, computer programming, statistics, interpretation, and written and oral presentation of results.

*Fall*

COS - Department of Physics

**AST 6112. Origin and Evolution of Planetary Systems**

3(3,0). PR: Graduate standing in Physics or C.I. Observations and properties of extrasolar planets and circumstellar disks through physics of disk evolution and planet formation and dynamical evolution of planetary systems.

*Odd Spring*

COS - Department of Physics

**AST 6156. Current Topics in Planetary Sciences**

3(3,0). PR: Admission to Planetary Sciences M.S./Ph.D. or C.I. Review and analyze current advances in planetary science, particularly science results from recent discoveries. The focus of the course will vary depending on current discoveries. May be used in the degree program a maximum of 3 times.

*Occasional*

COS - Department of Physics

**AST 7919. Doctoral Research**

VAR(VAR,VAR). PR: Doctoral standing. Doctoral research.

May be repeated for credit. Graded S/U.

*Fall, Spring, Summer*

COS - Department of Physics

**AST 7980. Doctoral Dissertation**

VAR(VAR,VAR). PR: Candidacy status. Doctoral dissertation. May be repeated for credit. Graded S/U.

*Fall, Spring, Summer*

COS - Department of Physics

**ATR 5144. Advanced Human Injuries**

3(3,0). PR: ATR 2010C 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.

*Occasional*

ED - Department of Educational and Human Sciences

**BCH 6740. Advanced Biochemistry**

3(3,0). PR: Must meet proficiency requirement as determined by the Chemistry department or C.I. Biochemistry focusing on enzymology, regulation of the activity of enzymes and cellular chemical activity, and biochemical methods to study proteins.

*Occasional*

COS - Department of Chemistry

**BME 5140. Materials Science of Instrumentation for Clinical Applications**

3(3,0). General graduate standing in Engineering, Biomedical Science, Biotechnology, Chemistry or related disciplines or C.I. Study of engineering and materials concepts behind the clinical diagnostics currently used and under development, as well as technologies utilized in fabrication and characterization of these devices.

*Odd Fall*

ECS - Department of Mechanical, Materials, and Aerospace Engineering

**BME 5572. Biomedical Nanotechnology**

3(3,0). PR: EEL 3123C or C.I. Human Physiology, Bioelectric Phenomena and Neurons, Nanoelectronics for fabrication of biochips for human biomedical applications, self-assembly, bioelectronics, moral and ethical issues.

*Spring*

ECS - Electrical & Computer Eng

**BMS 6050. Psychosocial Issues in Healthcare**

4(4,0). PR: Matriculation in the College of Medicine M.D. program. This module covers the role of psychosocial factors in health and illness, emphasizing communication skills, cultural differences, human sexuality, domestic violence, and alcohol misuse.

*Spring*

COM - M.D. Program

**BMS 6911. Focused Inquiry and Research Experience II**

5(5,0). PR: Focused Inquiry and Research Experience I (BMS 6910). This course provides the training and mentorship enabling medical students to successfully complete rigorous, independent, scholarly research projects in fields of individual passion.

*Fall, Spring*

COM - M.D. Program

**BOT 6623C. Plant Ecology**

4(3,3). Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. The study of the abiotic and biotic

processes that control the distribution of terrestrial flora at local, landscape, and global scales.

*Occasional*

COS - Department of Biology

**BSC 5258L. Tropical Biology Research and Conservation**

3(0,3). PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. Research and conservation in New World tropics, including a field trip to Belize. Tropical biodiversity and forest ecology, integrating conservation strategies in research and communication.

*Occasional*

COS - Department of Biology

**BSC 5316. Marine Conservation Biology**

3(3,0). PR: BSC 4312C Marine Biology, graduate standing, or C.I. Examine human impacts in marine ecosystems and how humans can become better stewards of these habitats.

*Odd Spring*

COS - Department of Biology

**BSC 5332. Invasion Biology**

3(3,0). PR: PCB 3044 or C.I. The three stages of biological invasion (introduction, establishment and spread) as well as impacts on native species and ecosystems.

*Even Spring*

COS - Department of 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.

*Occasional*

COS - Department of Biology

**BSC 5418. Tissue Engineering**

3(3,0). PR: Graduate standing. Introduction to Tissue Engineering with a special emphasis on the current status of the field, on novel methods and on cell biomaterial interactions.

*Occasional*

COM - Department of Molecular and Microbiology

**BSC 5436. Biomedical Informatics : Structure Analysis**

3(3,0). PR: PCB 3522 or equivalent or C.I. Introduction of bioinformatics tools and resources on RNA and protein structure analysis.

*Fall*

COM - Department of Molecular and Microbiology

**BSC 5618. Phylogenetic Approaches in Biological Research**

3(3,0). PR: Admission to Biology Department graduate program or C.I. A multidisciplinary approach to understanding evolutionary relationships among organisms using phylogenetic information to address important questions in biology.

*Even Fall*

COS - Department of Biology

**BSC 5824. Biogeography**

4(4,0). PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. Study of geographic variation in

nature, ranging from past to present and from genes to ecosystems.

*Occasional*

*COS - Department of Biology*

**BSC 6407C. Laboratory Methods in Molecular Biology**

3(1,6). PR: Graduate standing, PCB 3522 or C.I. Description and practice of commonly used methods in molecular biology.

*Fall*

*COM - Department of Molecular and Microbiology*

**BSC 6431. Practice of Biomedical Sciences**

3(3,0). PR: Graduate standing. Introduces students to the practice of biomolecular science. Graded S/U.

*Fall*

*COM - Department of Molecular and Microbiology*

**BSC 6432. Biomedical Sciences I**

5(5,0). PR: 1) Acceptance in the Molecular Biology and Microbiology master's program, or 2) Biochem I, or Molecular Biology 1 and 2, or Cell Biology, or C.I. First semester of a multi-disciplinary course. Topics include metabolic reactions, DNA replication and transcription. Lectures incorporate current scientific findings in the context of biomedical applications.

*Fall*

*COM - Department of Molecular and Microbiology*

**BSC 6433. Biomedical Sciences II**

5(5,0). PR: BSC 6432, graduate standing. Second semester of a multi-disciplinary course. Topics covered include protein translation, signaling and bioinformatics. Lectures incorporate current scientific findings in the context of biomedical applications.

*Spring*

*COM - Department of Molecular and Microbiology*

**BSC 6614. Advanced Topics in Systematics**

1(1,0). PR: An evolution course, C.I., admission to graduate program. Discussion of new cutting edge topics in Systematics and hands on learning of computer data analysis in this field.

*Occasional*

*COS - Department of Biology*

**BSC 6935. Seminar in Biology**

1(1,0). PR: Admission to Biology M.S. or Conservation Biology graduate certificate or C.I. Discussions and presentations addressing current research in the field of Biology. Graded S/U. May be used in the degree program a maximum of 2 times.

*Fall, Spring*

*COS - Department of Biology*

**BTE 6935. Seminar in Business Education**

3(3,0). PR: Graduate standing or C.I. Current problems, issues, and trends in business education.

*Summer*

*ED - Department of Child, Family and Community Sciences*

**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.

*Fall, Spring*

*BA - Kenneth G. Dixon School of Accounting*

**BUL 5810. 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.

*Occasional*

*BA - Kenneth G. Dixon School of Accounting*

**BUL 6444. Law and Ethics**

3(3,0). PR: Accepted for graduate study in College of Business Administration. Legal and ethical issues inherent in business decision making, including the effects of legislation, regulation, diversity, harassment, and other workplace issues on business activity.

*Fall, Spring*

*BA - Kenneth G. Dixon School of Accounting*

**CAP 5015. Multimedia Compression on the Internet**

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.

*Occasional*

*ECS - Computer Science*

**CAP 5055. AI for Game Programming**

3(3,0). PR: CS Foundation Exam or EEL 4851C or C.I. Surveys cutting-edge AI techniques for video games and board games and contrasts them with more traditional approaches.

*Spring*

*ECS - Computer Science*

**CAP 5066. Web Application Authoring Tools**

3(3,0). PR: Graduate standing and/or approval of the Director of the Software Engineering Certificate Program. A survey of available tools for creating and maintaining Web sites, and methodologies for; determining which tool is best suited for a particular application environment.

*Fall*

*ECS - Computer Science*

**CAP 5100. Human-Computer Interface Design**

3(3,0). PR: COP 4331C, graduate standing and/or approval of the Director of the Software Engineering Certificate Program. Focuses on dynamics of human-computer interaction. Provides a comprehensive overview of HCI design as a software discipline. Features a user-centered approach to Web-based application design.

*Fall*

*ECS - Computer Science*

**CAP 5415. Computer Vision**

3(3,0). PR: COP 3503C, MAC 2312 and COT 3960. Image formation, binary vision, region growing and edge detection, shape representation, dynamic scene analysis, texture, stereo and range images, and knowledge representation.

*Fall*

*ECS - Computer Science*

**CAP 5510. Bioinformatics**

3(3,0). PR: Background in programming language or molecular biology. This course introduces problems, concepts, algorithms, and applications in Bioinformatics.

It covers essential topics such as sequence alignment and prediction of gene and protein structure.

*Occasional*

*ECS - Computer Science*

**CAP 5512. Evolutionary Computation**

3(3,0). PR: CAP 4630 or COP 3503C or C.I. This course covers the field of evolutionary computation, focusing on the theory and application of genetic algorithms.

*Spring*

*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.

*Occasional*

*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.

*Fall*

*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.

*Spring*

*ECS - Computer Science*

**CAP 6065. Planning and Estimating Web Application Development**

3(3,0). PR: DIG 3134, CIS 5378, COP 6717, graduate standing and/or approval or the Director of the Software Engineering Certificate Program. Web project manager responsibilities. Team assembly and communication. Project definition, change management, planning strategies and workflow. Design, build and delivery stages. Quality Assurance. Agile methodologies.

*Occasional*

*ECS - Computer Science*

**CAP 6105. Pen-Based User Interfaces**

3(3,0). PR: CAP 5610 or C.I. Designed to give students a thorough understanding of the techniques, algorithms, and evaluation methodologies used in designing and developing pen-, sketch-, and gesture-based user interfaces.

*Fall*

*ECS - Computer Science*

**CAP 6121. 3D User Interfaces for Games and Virtual Reality**

3(3,0). PR: CAP 5725 or C.I. Introduction to the design, implementation, and evaluation of the fundamental techniques in spatial 3D interaction.

*Spring*

*ECS - Computer Science*

**CAP 6133. Advanced Topics in Computer Security and Computer Forensics**

3(3,0). COP 5611, COT 5405, CNT 5008. Advanced topics in computer security and forensics such as

cryptography; automatic intrusion detection, advanced pattern matching, statistical techniques, firewalls, and vulnerability scanning.

*Occasional*

*ECS - Computer Science*

**CAP 6135. Malware and Software Vulnerability Analysis**

3(3,0). PR: CNT 4704 or equivalent and CGS 5131, or C.I. Analyzes computer malicious codes, such as virus, worm, trojan, spyware, and software vulnerabilities, such as buffer-overflow.

*Even Fall*

*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.

*Occasional*

*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.

*Occasional*

*ECS - Computer Science*

**CAP 6419. 3D Computer Vision**

3(3,0). PR: CAP 5415 or EEL 5820 or C.I. 2D/3D Projective Geometry, Projective Transformation Estimation, Camera Calibration, Single View Modeling, Bi-focal Modeling, Fundamental Matrix, Stratified Structure, Homography, Tri-focal Tensor, Auto-Calibration, Chirality.

*Occasional*

*ECS - Computer Science*

**CAP 6515. Algorithms in Computational Biology**

3(3,0). PR: COT 5405 or CAP 5510. This course will concentrate on algorithmic problems in computational biology.

*Fall*

*ECS - Computer Science*

**CAP 6517. Computational Genomics**

3(3,0). PR: CAP 5510. This course will summarize computational techniques for comparing and analyzing genomics; (DNA) sequences.

*Spring*

*ECS - Computer Science*

**CAP 6545. Machine Learning Methods for Bioinformatics**

3(3,0). PR: CAP 5510 or C.I. Machine learning methods and their applications in Bioinformatics.

*Occasional*

*ECS - Computer Science*

**CAP 6616. Neuroevolution and Generative and Developmental Systems**

3(3,0). PR: COP 3503C or C.I. Focuses on evolving neural networks for difficult sequential decision and control tasks and associated issues in efficient encoding and representation.

*Occasional*

*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.

*Spring*

*ECS - Computer Science*

**CAP 6671. Intelligent Systems: Robots, Agents, and Humans**

3(3,0). PR: CAP 5610 or C.I. Includes practical techniques for designing intelligent agents capable of planning, learning, and cooperation. Discussion of psychological/social issues.

*Spring*

*ECS - Computer Science*

**CAP 6675. Complex Adaptive Systems**

3(3,0). PR: Graduate standing or C.I. This course is an introduction to the field of complex adaptive systems and will cover basic definitions, theoretical background, and empirical analyses.

*Fall*

*ECS - Computer Science*

**CAP 6676. Knowledge Representation**

3(3,0). CAP 5636. Topics covered include terminological languages, logicist approaches, ontologies, ontological and conceptual relativity, processes, intangibles, time, building large knowledge bases, and complexity analysis.

*Occasional*

*ECS - Computer Science*

**CAP 6701. Real-time Realistic Rendering**

3(3,0). PR: CAP 4720 or CAP 5725. GPU Programming; State-of-the-art algorithms for: Real-time rendering of a lighting effects and realistic materials; Real-time volume rendering; real-time simulation and rendering of smoke.

*Occasional*

*ECS - Computer Science*

**CAP 6721. Ray Tracing**

3(3,0). PR: CAP 5725, programming experience. Advanced graphics: Implementation of ray tracing algorithm plus extensions, spatial subdivisions, MC sampling, camera models, texture mapping, instancing.

*Occasional*

*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.

*Occasional*

*ECS - Computer Science*

**CCE 5006. Infrastructure Systems Management**

3(3,0). PR: CCE 4004 and CCE 4034, or C.I. Essential elements of infrastructure systems and cover concepts, methods, and technologies essential for infrastructure life cycle engineering and management.

*Fall, Spring*

*ECS - Department of Civil, Environmental, and Construction Engineering*

**CCE 5205. Decision Support for Infrastructure Projects**

3(3,0). PR: CCE 4004 and CCE 4034, or C.I. Infrastructure decision-making theories, data representation for decision analysis, advanced methods in decision-making, and applications of decision support systems in infrastructure projects.

*Fall, Spring*

*ECS - Department of Civil, Environmental, and Construction Engineering*

**CCE 5220. Green Design and Construction**

3(3,0). PR: CCE 4004. Introduction of sustainability concepts as they relate to construction design and delivery. Topics include Leadership in Energy and Environmental Design (LEED) categories, economic analysis, and integrated project management.

*Odd Spring*

*ECS - Department of Civil, Environmental, and Construction Engineering*

**CCE 6036. Advanced Construction Planning and Control**

3(3,0). PR: CCE 5006 and CCE 5205, or C.I. Advanced concepts, theories, and applications in planning, estimating, and scheduling. Students will be introduced to dynamic project planning and optimization.

*Fall, Spring*

*ECS - Department of Civil, Environmental, and Construction Engineering*

**CCE 6045. Cost Analysis of Sustainable Infrastructure Systems**

3(3,0). PR: CCE 5006. Cost engineering for construction organizations, projects, and operations. Topics include project cash flow analysis, construction cost accounting, evaluating investments, and life cycle cost analysis.

*Odd Fall*

*ECS - Department of Civil, Environmental, and Construction Engineering*

**CCE 6211. Design and Monitoring of Construction Processes**

3(3,0). PR: CCE 5006 and CCE 5205, or C.I. Concepts of integrated project delivery, improving site layout, advanced operations improvement technologies, improving site security, and green construction.

*Fall, Spring*

*ECS - Department of Civil, Environmental, and Construction Engineering*

**CCE 6918. Directed Research; Independent Study**

VAR (1-99). . This is a directed research independent study course. Graded S/U.

*ECS - Department of Civil, Environmental, and Construction Engineering*

**CCE 6971. Thesis**

VAR. . This is a thesis course. Graded S/U. May be repeated for credit.

*ECS - Department of Civil, Environmental, and Construction Engineering*

**CCE 7980. Dissertation**

VAR. . This is a dissertation course. Graded S/U. May be repeated for credit.

*ECS - Department of Civil, Environmental, and Construction Engineering*

**CCJ 5015. The Nature of Crime**



3(3,0). PR: Admission to Criminal Justice graduate program, graduate certificate, or C.I. 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.

*Occasional*

*HPA - Department of Criminal Justice*

**CCJ 5456. The Administration of Justice**

3(3,0). PR: Admission to Criminal Justice graduate program, graduate certificate program, or C.I. 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.

*Fall, Spring, Summer*

*HPA - Department of Criminal Justice*

**CCJ 5931. Contemporary Criminal Justice Strategies**

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 used in the degree program a maximum of 3 times.

*Occasional*

*HPA - Department of Criminal Justice*

**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 the criminal justice investigative process operates. Focus on the roles and responsibilities of agents as investigators. May be used in the degree program a maximum of 3 times only when course content is different.

*Occasional*

*HPA - Department of Criminal Justice*

**CCJ 6027. Criminal Justice Responses to Terrorism**

3(3,0). PR: Admission to the Criminal Justice graduate program or C.I. Critically examines phenomena of domestic and international terrorism to give students a solid grounding of salient issues in developing crime control strategies to prevent terrorism and mount appropriate responses to incidents.

*Occasional*

*HPA - Department of Criminal Justice*

**CCJ 6038. Violent Crimes and Criminals**

3(3,0). PR: Admission to Criminal Justice graduate program or C.I. This course provides critical examination of violent crimes and criminals. Students will focus on gathering, reviewing, analyzing and synthesizing evidence-based data on violent crime.

*Occasional*

*HPA - Department of Criminal Justice*

**CCJ 6051. Community Justice**

3(3,0). PR: Admission to Criminal Justice graduate program, graduate certificate, or C.I. Examines concepts of community justice as they relate to an alternative form of administering criminal justice.

*Occasional*

*HPA - Department of Criminal Justice*

**CCJ 6067. Perspectives on Genocide**

3(3,0). PR: Admission to Criminal Justice graduate program or C.I. This course provides a critical examination of criminal justice perspectives on genocide.

*Occasional*

*HPA - Department of Criminal Justice*

**CCJ 6073. Data Management Systems for Crime Analysis**

3(3,0). PR: Admission to M.S. in Criminal Justice, Criminal Justice certificate, or C.I. This course is designed to provide the conceptual basis, understanding, and skills necessary for complex crime data manipulation.

*Fall*

*HPA - Department of Criminal Justice*

**CCJ 6074. Investigative and Intelligence Analysis: Theory and 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.

*Occasional*

*HPA - Department of Criminal Justice*

**CCJ 6077. Advanced Crime Mapping and Analysis in Criminal Justice**

3(3,0). PR: CCJ 6073 and Crime Mapping and Analysis in Criminal Justice or C.I. Develop advanced mapping and analysis proficiency utilizing sophisticated spatial analysis techniques.

*Summer*

*HPA - Department of Criminal Justice*

**CCJ 6079. Crime Mapping and Analysis in Criminal Justice**

3(3,0). PR: CCJ 6073. Course provides the conceptual knowledge and practical skills to design and implement GIS based analysis of community crime problems.

*Spring*

*HPA - Department of Criminal Justice*

**CCJ 6106. Policy Analysis in Criminal Justice**

3(3,0). PR: Admission to Criminal Justice graduate program, graduate certificate, or C.I. This course is designed to familiarize students with the causes and consequences of public policy with an emphasis on criminal justice policy.

*Fall*

*HPA - Department of Criminal Justice*

**CCJ 6118. Criminal Justice Organizations**

3(3,0). PR: Graduate standing or C.I. Theory and research on complex organizations are applied in criminal justice settings. Alternative organizational goals, structures, staffing patterns, management styles and planning strategies are examined.

*Fall*

*HPA - Department of Criminal Justice*

**CCJ 6335. Criminal Justice Sentencing and Punishment Policy**

3(3,0). PR: Admission to Criminal Justice graduate program, graduate certificate, or C.I. This course critically examines the impact of sentencing policy on the correctional system, offenders, their families and the communities to which they return upon release.

*Occasional*

*HPA - Department of Criminal Justice*

**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.

*Occasional*

HPA - Department of Criminal Justice

**CCJ 6366. Criminal Justice Responses to Domestic Violence**

3(3,0). PR: CCJ 6704 or C.I. This course examines the criminal justice response to domestic violence. Particular emphasis is placed on historical responses, policy as well as an examination of the current role of police, prosecutors, defense attorneys and magistrates in handling domestic assault and battery.

*Occasional*

HPA - Department of Criminal Justice

**CCJ 6406. Research and Technology Implementation**

3(3,0). PR: Admission to Criminal Justice graduate program or C.I. Changing roles of social and physical sciences as related to the objectives and administration of public safety agencies.

*Occasional*

HPA - Department of Criminal Justice

**CCJ 6431. Leadership and Ethics in Criminal Justice**

3(3,0). PR: Admission to Criminal Justice graduate program, graduate certificate, or C.I. Examines the leadership issues faced by decision makers in the criminal justice system.

*Occasional*

HPA - Department of Criminal Justice

**CCJ 6467. Justice and Safety System Manpower**

3(3,0). PR: Admission to Criminal Justice graduate program, graduate certificate, or C.I. Processes essentials to administration to human resources in criminal justice and public safety agencies; structure and processes for acquisition, training, and maintenance of personnel.

*Occasional*

HPA - Department of Criminal Justice

**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.

*Fall, Spring, Summer*

HPA - Department of Criminal Justice

**CCJ 6489. Professionalism in Criminal Justice Organizations**

3(3,0). PR: Admission to M.S. in Criminal Justice, or C.I. Historical evolution of professionalism in criminal justice organizations and how it has changed the structure or practices of each involved agency.

*Fall, Spring, Summer*

HPA - Department of Criminal Justice

**CCJ 6617. 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.

*Occasional*

HPA - Department of Criminal Justice

**CCJ 6626. Copycat Crime and Criminals**

3(3,0). PR: Graduate standing or C.I. Explores the nature and prevalence of copycat crime while reviewing the theories, research and criminal justice policies associated with it.

*Occasional*

HPA - Department of Criminal Justice

**CCJ 6669. Race, Crime and Justice**

3(3,0). PR: Admission to Criminal Justice graduate program or C.I. This course is designed to acquaint students of all disciplines with the operational dynamics of race, crime and justice.

*Occasional*

HPA - Department of Criminal Justice

**CCJ 6675. Human Rights and Criminal Justice**

3(3,0). PR: Admission to Criminal Justice graduate program 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.

*Occasional*

HPA - Department of Criminal Justice

**CCJ 6702. Advanced Research Methods in Criminal Justice**

3(3,0). PR: CCJ 6704. Exposes students to the application of research methods in criminal justice. This course serves as the capstone experience for the Research Track.

*Fall*

HPA - Department of Criminal Justice

**CCJ 6704. Research Methods in Criminal Justice**

3(3,0). PR: Admission to Criminal Justice Master's program or C.I. An advanced examination of research methodology in criminal justice settings on such topics as problem conceptualization, sampling designs, research proposals, data collection, and evaluation techniques.

*Fall, Spring, Even Summer*

HPA - Department of Criminal Justice

**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.

*Occasional*

HPA - Department of Criminal Justice

**CCJ 6706. Quantitative Methods and Computer Utilization in Criminal Justice**

3(3,0). PR: Admission to Criminal Justice Master's program or C.I. Application of statistical software to quantitative and qualitative methods in Criminal Justice.

*Fall, Spring, Odd Summer*

HPA - Department of Criminal Justice

**CCJ 6714. Advanced Quantitative Methods in Criminal Justice**

3(3,0). PR: CCJ 6706. Application of multivariate linear and nonlinear statistical techniques to criminal justice issues. Focus is on selecting appropriate procedures, computer-based analysis and interpreting and applying results.

*Fall*

HPA - Department of Criminal Justice

**CCJ 6730. Planned Change and Innovation in Criminal Justice**

3(3,0). PR: Admission to M.S. in Criminal Justice, Criminal Justice graduate certificate, or C.I. This course will provide participants with an understanding of planned individual and organizational change so that they may become successful agents of such change.

*Occasional*

*HPA - Department of Criminal Justice*

**CCJ 6934. Criminal Justice, Crime, and Popular Culture**

3(3,0). PR: Graduate standing or C.I. Explore how Criminal Justice System, criminals, and crime are portrayed in entertainment and news media, and the effects portrayals have on society and criminal justice.

*Occasional*

*HPA - Department of Criminal Justice*

**CCJ 6938. Special Topics in Criminal Justice**

VAR(VAR,VAR). . Students are exposed to in-depth coverage of a particular contemporary problem in criminal justice, for example, the death penalty or the influence of the media on crime and punishment.

*Occasional*

*HPA - Department of Criminal Justice*

**CCJ 6946. Criminal Justice Practicum**

VAR(VAR,VAR). . Students will undertake a significant research project in a criminal justice agency. May be repeated for credit.

*HPA - Department of Criminal Justice*

**CCJ 7457. Seminar in Criminal Justice Theory**

3(3,0). PR: Admission to PhD program or C.I. Examination of the theoretical basis of criminal justice policies. Focus on retribution, incapacitation, deterrence, rehabilitation, and restoration.

*Occasional*

*HPA - Department of Criminal Justice*

**CCJ 7930. Seminar in Criminal Justice Policy Analysis**

3(3,0). PR: Admission to PhD program or C.I. Criminal justice policy formulation, implementation, and evaluation, with special emphasis on problems of conceptualization and methodology.

*Occasional*

*HPA - Department of Criminal Justice*

**CDA 5106. Advanced Computer Architecture**

3(3,0). PR: EEL 4768C. Modern processor design, instruction-level parallelism, thread-level parallelism, data-level parallelism, memory hierarchy, and I/O.

*Fall, Spring*

*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; parallelization techniques; communication synchronization and granularity; parallel data structures; automatic program restructuring.

*Occasional*

*ECS - Computer Science*

**CDA 6107. Parallel Computer Architecture**

3(3,0). PR: CDA 5106. Principles and trade-offs in the design of parallel architectures, shared-memory, message-passing, dataflow, data-parallel machines, cache coherence protocols, and consistence models.

*Spring*

*ECS - Computer Science*

**CDA 6530. Performance Models of Computers and Networks**

3(3,0). PR: Graduate standing or C.I. Performance models of computer systems and networks using probability models and discrete event simulations. Queuing theory and modeling tools.

*Occasional*

*ECS - Computer Science*

**CEG 5405. Seepage in Soils**

3(3,0). PR: CEG 4011C. Principles of flow through soils; flow nets, analytical solutions; seepage forces, design of filters and drainage layers; dewatering, drainage in dams, embankments, and pavement systems.

*Even Spring*

*ECS - Department of Civil, Environmental, and Construction Engineering*

**CEG 5700. Geo-Environmental Engineering**

3(3,0). PR: CEG 4011C. Geotechnical applications to environmental problems, groundwater flow, soil contamination and groundwater contaminate transport, geosynthetics and stability of landfill design, control of contaminated sites.

*Occasional*

*ECS - Department of Civil, Environmental, and Construction Engineering*

**CEG 6065. Soil Dynamics**

3(3,0). PR: CEG 4011C. Comprehensive coverage in calculating the dynamic response of foundations, presenting a variety of contemporary techniques for fields and laboratory.

*Occasional*

*ECS - Department of Civil, Environmental, and Construction Engineering*

**CEG 6115. Foundation Engineering**

3(3,0). PR: CEG 4012 or C.I. Analysis and design of spread footings, mat foundations, retaining walls, sheeting and bracing systems and pile foundations.

*Occasional*

*ECS - Department of Civil, Environmental, and Construction Engineering*

**CEG 6317. Advanced Geotechnical Engineering**

3(3,0). PR: CEG 4012 or C.I. Mechanics of soils and models; elasticity and plasticity of soil bodies; strength of soils and stability of soil structures.

*Occasional*

*ECS - Department of Civil, Environmental, and Construction Engineering*

**CEG 7980. Dissertation**

1-99(1-99,0). . May be repeated for credit. Graded S/U.

*Fall, Spring, Summer*

*ECS - Department of Civil, Environmental, and Construction Engineering*

**CEN 5016. Software Engineering**

3(3,0). PR: COP 4331C. Application of formal software processes, engineering methods, and documentation standards to the development of large scale software systems. A team project is required.

*Spring*

*ECS - Computer Science*

**CEN 5077. Web Application Testing**

3(3,0). PR: Graduate standing and/or approval of the Director of the Software Engineering Certificate Program.

Test design strategies, patterns and tools. Metrics. Client-server and wireless applications testing. Automated testing. Quality assurance. Performance, security, and usability analysis. Cross site scripting tests.

*Summer*

*ECS - Computer Science*

**CEN 5326. Web Server Configuration and Maintenance**  
3(3,0). PR: COP 3502C, CNT 3004, graduate standing and/or approval of the Director of the Software Engineering Certificate Program. Offers a comprehensive overview of the tools and techniques needed to succeed as a Web Server Administrator, including the tasks they are expected to perform.

*Occasional*

*ECS - Computer Science*

**CEN 6036. Web Application Architecture and Design**  
3(3,0). PR: COP 4331C, CIS 5378, COP 6717, graduate standing and/or approval of the Director of Software Engineering Certificate Program. Software, web, security, information, messaging, and deployment architecture. Architecture views. Architecture patterns. Design patterns. UML and RUP methodologies.

*Summer*

*ECS - Computer Science*

**CEN 6075. Formal Specification of Software Systems**  
3(3,0). PR: Discrete math (equivalent to COT 3100C, MAD 2104, or MHF 3302) or C.I. Issues and current research in formal specification and verification of software-intensive systems. mathematical models and formalisms.

*Odd Spring*

*ECS - Electrical & Computer Eng*

**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.

*Occasional*

*ECS - Computer Science*

**CES 5144. Matrix Methods for Structural Analysis**  
3(3,0). PR: CES 4100C or C.I. Implementation of the matrix methods for structural analysis that are commonly and currently used in practice and in research, special topics such as finite element formulations, special analysis procedures, and use of software packages.

*Even Fall*

*ECS - Department of Civil, Environmental, and Construction Engineering*

**CES 5325. Bridge Engineering**

3(3,0). PR: CES 4605 and CES 4702 or C.I. Bridge engineering fundamentals, design philosophies, analysis and design concepts for concrete and steel bridges, AASHTO specifications, Bridge rating, and introduction to Bridge health monitoring.

*Occasional*

*ECS - Department of Civil, Environmental, and Construction Engineering*

**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.

*Occasional*

*ECS - Department of Civil, Environmental, and Construction Engineering*

**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.

*Occasional*

*ECS - Department of Civil, Environmental, and Construction Engineering*

**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.

*Occasional*

*ECS - Department of Civil, Environmental, and Construction Engineering*

**CES 6010. Structural Reliability**

3(3,0). PR: STA 3032 and CES 4100C or equivalent course or C.I. Application of probability theory to classical and computational reliability methods for civil systems. Topics in component and system reliability, simulation, bounds, sensitivity, and model updating.

*Occasional*

*ECS - Department of Civil, Environmental, and Construction Engineering*

**CES 6116. Finite Element Structural Analysis**

3(3,0). PR: CES 5144 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.

*Occasional*

*ECS - Department of Civil, Environmental, and Construction Engineering*

**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.

*Occasional*

*ECS - Department of Civil, Environmental, and Construction Engineering*

**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.

*Occasional*

*ECS - Department of Civil, Environmental, and Construction Engineering*

**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.

*Occasional*

*ECS - Department of Civil, Environmental, and Construction*



*Engineering***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.

*Occasional*

ECS - Department of Civil, Environmental, and Construction Engineering

**CES 6527. Nonlinear Structural Analysis**

3(3,0). PR: CES 5144 or C.I. Structural nonlinear analysis theory and applications, including material and geometric nonlinearity, numerical methods and solution strategies, inelastic element formulation, and use of software packages.

*Occasional*

ECS - Department of Civil, Environmental, and Construction Engineering

**CES 6715. Prestressed Concrete Structures**

3(3,0). 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.

*Occasional*

ECS - Department of Civil, Environmental, and Construction Engineering

**CES 6840. Composite Steel Concrete Structures**

3(3,0). 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.

*Occasional*

ECS - Department of Civil, Environmental, and Construction Engineering

**CES 6910. Research in Structural Engineering**

3(3,0). C.I. Behavior and design of steel, concrete, or composite structures under cyclic, wind, earthquake, impact, or blast loading.

*Occasional*

ECS - Department of Civil, Environmental, and Construction Engineering

**CGN 5506C. Asphalt Concrete Mix Design**

3(2,2). CEG 4011C. Properties of asphalt, aggregate and asphalt mixtures, Marshall mix design, Hveem mix design, pavement rehabilitation.

*Occasional*

ECS - Department of Civil, Environmental, and Construction Engineering

**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.

*Occasional*

ECS - Department of Civil, Environmental, and Construction Engineering

**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.

*Fall*

ECS - Department of Electrical Engineering and 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.

*Odd Fall*

COS - Department of Chemistry

**CHM 5235. Applied Molecular Spectroscopy**

3(3,0). PR: CHM 3120 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.

*Occasional*

COS - Department of Chemistry

**CHM 5305. Applied Biological Chemistry**

3(3,0). 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.

*Occasional*

COS - Department of 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.

*Even Fall*

COS - Department of 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.

*Odd Spring*

COS - Department of Chemistry

**CHM 5580. Advanced Physical Chemistry**

3(3,0). CR: CHM 3411 and PR: MAC 2313, and graduate standing or senior standing or C.I. Selected topics of thermodynamics, kinetics, quantum mechanics, and structure.

*Occasional*

COS - Department of Chemistry

**CHM 5715C. Optical Materials Processing and Characterization Techniques**

3(2,3). 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.

*Occasional*

COS - Department of Chemistry

**CHM 6134. Advanced Instrumental Analysis**



3(3,0). CHM 6710. Advanced instrumental techniques related to luminescence spectroscopy and applications to chemical analysis.

*Occasional*

COS - Department of Chemistry

**CHM 6278. The Organic Chemistry of Drug Design**

3(3,0). CHM 2211 (or equivalent) and C.I. Drug design and action using the principles of organic chemistry.

*Occasional*

COS - Department of Chemistry

**CHM 6440. Kinetics and Catalysis**

3(3,0). PR: Must meet proficiency requirement as determined by the Chemistry Department or C.I. Classical kinetics with an emphasis on industrial applications and current catalysis methodologies.

*Spring*

COS - Department of 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.

*Occasional*

COS - Department of Chemistry

**CHM 6492. Atomic Spectroscopy**

3(3,0). PR: CHM 3120 or C.I. Includes theory and instrumentation for atomic absorption and emission spectroscopy with focus on their applications in various fields including forensic science.

*Occasional*

COS - Department of Chemistry

**CHM 6620. Solid State Inorganic Chemistry**

3(3,0). PR: CHM 4610, or C.I. Structure and chemistry of novel solid-state inorganic materials and their emerging applications.

*Occasional*

COS - Department of Chemistry

**CHM 6710. Applied Analytical Chemistry**

3(3,0). PR: Must meet proficiency requirement as determined by the Chemistry department or C.I. Concepts in molecular structure that integrate structural, physical, and chemical properties with aspects of industrial and analytical chemistry.

*Fall*

COS - Department of 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.

COS - Department of Chemistry

**CHM 6936. 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.

*Occasional*

COS - Department of Chemistry

**CHS 5502. Principles of Forensic Science**

3(3,0). PR: Admission to Forensic Science MS program

or C.I. Principles of forensic science crime scene investigation, concepts in physical and biological evidence, evidence collection and transport, discrimination and individualization of evidence.

*Even Spring*

COS - Department of Chemistry

**CHS 5504. Topics in Forensic Science**

3(3,0). PR: Admission to Digital Forensics M.S. or Computer Forensics graduate certificate or C.I. History and current topics in Forensic Science.

*Fall*

COS - Department of 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.

*Summer*

COS - Department of 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.

*Even Spring*

COS - Department of Chemistry

**CHS 6240. Chemical Thermodynamics**

3(3,0). PR: Must meet proficiency requirement as determined by the Chemistry department or C.I. Classical and statistical thermodynamics with emphasis on industrial applications and estimation methods.

*Fall*

COS - Department of Chemistry

**CHS 6251. Applied Organic Synthesis**

3(3,0). PR: Must meet proficiency requirement as determined by the Chemistry department or C.I. 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.

*Spring*

COS - Department of Chemistry

**CHS 6260. Chemical Unit Operations and Separations**

3(3,0). PR: CHM 3411. A study of the elements and dynamics that are fundamental to industrial separation methods and transport processes.

*Even Fall*

COS - Department of Chemistry

**CHS 6261. Chemical Process and Product Development**

2(2,0). 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.

COS - Department of Chemistry

**CHS 6508. Advanced Mass Spectrometry for Forensic Science**

3(3,0). PR: C.I. Principles and data analysis of quadrupole mass filters and chemical manipulations of ions stored in quadrupolar trapping fields.

*Occasional*

*COS - Department of Chemistry*

**CHS 6513. Quality Assurance for Forensic Scientists**  
3(3,0). Admission into M.S. Forensic Science program and C.I. Principles and concepts of quality assurance for forensic scientists. Includes a study of national analytical and accreditation standards.

*Odd Fall*

*COS - Department of Chemistry*

**CHS 6535. Forensic Molecular Biology**  
3(3,0). PR: PCB 4524, C.I.; and must have successfully completed undergraduate courses in statistics and biology. Procedures for recovering and typing DNA from evidentiary materials and the interpretation of data.

*Fall*

*COS - Department of 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.

*Occasional*

*COS - Department of Chemistry*

**CHS 6536. Population Genetics and Genetic Data**  
3(3,0). PR: C.I. and must have successfully completed undergraduate courses in statistics and biology. Analysis of laboratory derived DNA data and how they can be applied in an occupational context.

*Fall*

*COS - Department of Chemistry*

**CHS 6539C. Forensic Analysis Laboratory**  
4(2,3). PR: CHM 5235, CHS 6548, or C.I. Forensic analytical laboratory techniques focusing on spectroscopic and chromatographic methods.

*Occasional*

*COS - Department of Chemistry*

**CHS 6545. Forensic Analysis of Explosives**  
3(3,0). Admission into Forensic Science M.S. program or C.I. Modern analytical methods and protocols for the forensic analysis of low and high explosives. Analysis of pure materials and post-blast residues will be covered along with scene search and recovery protocols.

*Odd Spring*

*COS - Department of Chemistry*

**CHS 6546. Forensic Analysis of Ignitable Liquids**  
3(3,0). Admission into Forensic Science M.S. or C.I. Modern analytical methods and protocols for the forensic analysis of ignitable liquids. Ignitable liquid production as relates to ASTM classification, sampling methods, databases and modern methods of data analysis.

*Even Spring*

*COS - Department of Chemistry*

**CHS 6548. Explosives and Accelerants Analysis**  
3(3,0). PR: CHM 4130C or C.I. Forensic analysis of explosives and accelerants by mass spectrometric techniques.

*Occasional*

*COS - Department of Chemistry*

**CHS 6613. Current Topics in Environmental Chemistry**  
3(3,0). PR: CHM 2045C, CHM 2046, or the equivalent of

a BS 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.

*Odd Spring*

*COS - Department of Chemistry*

**CHS 7938. Frontiers in Chemistry**  
1(1,0). PR: Admission to the PhD Chemistry program or C.I. Chemistry research seminar addressing current challenges, trends and opportunities in the chemical sciences. May be used in the degree program a maximum of 3 times.

*Fall, Spring, Summer*

*COS - Department of Chemistry*

**CIS 5105. Capacity Planning and Performance Evaluation of Web Services**

3(3,0). PR: COP 4600, graduate standing and/or approval of the Director of the Software Engineering Certificate Program. Web performance problems, basic performance concepts, quantitative models for web performance, planning the capacity of web services, understanding and characterizing the workload, measuring performance.

*Occasional*

*ECS - Computer Science*

**CIS 5378. Designing Secure Transactions in Web Applications**

3(3,0). PR: Graduate standing and/or approval of the Director of the Software Engineering Certificate Program. Secure electronic commerce, data indirection, shell command injection, cross-site scripting, Web Trojans, symmetric encryption, security protocols, application vulnerabilities, threats and hackers.

*Spring*

*ECS - Computer Science*

**CIS 6206. Electronic Discovery for Digital Forensics Professionals**

3(3,0). CGS 5131 or C.I. This course will introduce experienced digital forensics students to legal and practical issues regarding electronic discovery, including legal requirements, technical solutions and practical aspects.

*Fall*

*ECS - Department of Electrical Engineering and Computer Science*

**CIS 6207. The Practice of Digital Forensics**

3(3,0). PR: CGS 5131 and CNT 6418, or C.I. Application of digital scientific techniques to solve information assurance, forensic and legal problems.

*Fall, Spring*

*ECS - Computer Science*

**CIS 6386. Operating Systems and File System Forensics**

3(3,0). PR: CGS 5131 or C.I. In-depth coverage of computer forensics related issues associated with multiple operating systems, multiple file systems, and applications.

*Spring*

*ECS - Computer Science*

**CIS 6395. Incident Response Technologies**

3(3,0). PR: CGS 5131 and CNT 6418, or C.I. This course covers security incidents and intrusions. Topics include: identifying and categorizing incidents, responding to incidents, log analysis, network traffic analysis, and tools.

Fall

ECS - Computer Science

**CJC 5020. Foundations of Corrections**

3(3,0). PR: Admission to Criminal Justice graduate program, graduate certificate, or C.I. Provides an overview of correctional process in U.S., including philosophical foundations and contemporary practices.

*Occasional*

HPA - Department of Criminal Justice

**CJC 7029. Advanced Seminar in Corrections**

3(3,0). PR: Doctoral standing or C.I. Students integrate theory and empirical data to critically analyze issues in corrections practice and policy.

*Spring*

HPA - Department of Criminal Justice

**CJE 5021. Foundations of Law Enforcement**

3(3,0). PR: Admission to Criminal Justice graduate program, graduate certificate program, or C.I. Examines police role in modern society and law enforcement policy.

*Occasional*

HPA - Department of Criminal Justice

**CJE 6120. Personnel Management in Criminal Justice Organizations**

3(3,0). PR: Admission to M.S. in Criminal Justice or C.I. This course provides a general overview of the issues and problems in the management of criminal justice agencies with an emphasis on best practices.

*Occasional*

HPA - Department of Criminal Justice

**CJE 6688. Cyber Crime and Criminal Justice**

3(3,0). PR: CCJ 5015 or C.I. Deals with the problem of cyber crime and the criminal use of the Internet. Includes investigation, enforcement and legal issues.

*Occasional*

HPA - Department of Criminal Justice

**CJE 6718. Proseminar in Criminal Justice**

3(3,0). PR: C.I. Capstone experience for the Criminal Justice Professional track. Reviews and integrates the six other courses in the core curriculum.

Fall

HPA - Department of Criminal Justice

**CJE 7029. Advanced Seminar in Law Enforcement**

3(3,0). PR: Doctoral standing or C.I. Students integrate theory and empirical data to critically analyze issues in law enforcement practice and policy.

Fall

HPA - Department of Criminal Justice

**CJJ 6020. The Juvenile Justice System**

3(3,0). PR: Admission to Criminal Justice graduate program, graduate certificate, or C.I. 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.

Fall

HPA - Department of Criminal Justice

**CJL 5049. 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.

*Occasional*

HPA - Department of Criminal Justice

**CJL 6520. American Criminal Courts**

3(3,0). PR: Graduate standing or C.I. Critically study and evaluate day-to-day discretionary decisions of prosecutors, judges and defense attorneys and identify how their decisions shape the broad discretionary power this institution yields.

*Spring*

HPA - Department of Criminal Justice

**CJL 6568. Law and Social Control**

3(3,0). PR: Admission to Criminal Justice graduate program, graduate certificate, or C.I. This course will examine the types of behavior the state has sought to control and the means employed to exert such control.

*Occasional*

HPA - Department of Criminal Justice

**CJL 7029. Advanced Seminar in Court Processes and Procedures**

3(3,0). PR: Doctoral standing or C.I. Students integrate theory and empirical data to critically analyze issues in court processes and procedures.

*Summer*

HPA - Department of Criminal Justice

**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.

*Occasional*

COS - Department of 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.

*Occasional*

COS - Department of Psychology

**CLP 6181. Psychological Theories of Substance Abuse Treatment**

3(3,0). PR: Acceptance to Clinical Psychology PhD program or C.I. The mechanisms responsible for, and the treatment of, substance tolerance and dependence. This course is intended for the PhD in Clinical Psychology, in certain instances graduate students in other programs may enroll.

*Occasional*

COS - Department of 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.

*Occasional*

COS - Department of Psychology

**CLP 6192C. Group Psychotherapy Experiential Lab**

1(0,1). PR: Graduate standing in Clinical Psychology MA or C.I. Group process from the client's perspective. Graded S/U.

*Occasional*

*COS - Department of 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.  
*Odd Spring*  
*COS - Department of Psychology*

**CLP 6197. Applied Group Psychotherapy Theory**  
3(3,0). PR: Graduate admission to Clinical Psychology MA or C.I. Introduction to the theory and practice of the group psychotherapies.  
*Occasional*  
*COS - Department of Psychology*

**CLP 6321. Psychotherapy in Community Settings**  
3(3,0). PR: Acceptance to Clinical Psychology PhD 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 PhD in Clinical Psychology; in certain instances graduate students in other programs may enroll. Graded S/U.  
*Occasional*  
*COS - Department of 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.  
*Fall*  
*COS - Department of Psychology*

**CLP 6449C. Career and Lifestyle Assessment**  
3(2,1). PR: CLP 6441C or C.I. Application and theory of obtaining, integrating, and utilizing career, vocational, and lifestyle assessment in clinical settings such as rehabilitation centers, mental health centers, and hospitals.  
*Spring*  
*COS - Department of Psychology*

**CLP 6457C. Group Psychotherapy**  
3(2,2). PR: Graduate admission and C.I. Group counseling: theory and practice. Experiential group laboratory.  
*Occasional*  
*COS - Department of 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.  
*Occasional*  
*COS - Department of 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.  
*Occasional*  
*COS - Department of 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.  
*Occasional*  
*COS - Department of Psychology*

**CLP 6461. Cognitive-Behavioral Therapy**  
3(3,0). PR: Must be enrolled in the Clinical Psychology PhD Program. Covers theory, outcomes, and methods of cognitive-behavioral therapy. Includes discussion of variations of CBT, as targeted to particular psychiatric disorders.  
*COS - Department of 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 mental health field. Graded S/U.  
*Occasional*  
*COS - Department of Psychology*

**CLP 6949. Predoctoral Internship**  
1(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. Graded S/U.  
*Fall, Spring, Summer*  
*COS - Department of Psychology*

**CLP 7125. Adult Psychopathology**  
3(3,0). PR: Admission to Clinical Psychology PhD or C.I. Clinical presentation and etiological theories of psychological disorders in adults.  
*Spring*  
*COS - Department of Psychology*

**CLP 7136. Child Psychopathology**  
3(3,0). PR: Admission to Clinical Psychology PhD or C.I. Clinical presentation and etiological theories of psychological disorders in children and adolescents.  
*Fall*  
*COS - Department of Psychology*

**CLP 7145C. Introduction to Clinical Psychology and Psychotherapy**  
1(1,1). PR: Admission to the Clinical Psychology Ph.D. program or C.I. A historical look at clinical psychology, psychotherapy, and clinical research. May be used in the degree program a maximum of 2 times only when course content is different.  
*Fall, Spring, Summer*  
*COS - Department of Psychology*

**CLP 7378. Proseminar in Professional Psychology**  
3(3,0). PR: Admission to Clinical Psychology PhD or C.I. Survey of psychologists' roles in administration, supervision, and treatment development.  
*Odd Spring*  
*COS - Department of Psychology*

**CLP 7429. Clinical Neuropsychological Assessment**  
3(3,0). PR: Admission to Clinical Psychology Ph.D. program or C.I. Provides foundational knowledge in clinical neuropsychological assessment, with a focus on assessment of adult clinical patients by doctoral-level clinical psychologists.  
*Occasional*



COS - Department of Psychology

**CLP 7446C. Child Psychological Assessment**

3(2,2). PR: Admission to Psychology Ph.D. Clinical track or C.I. Emphasis is placed on theories and techniques of psychological assessment with children and adolescents. Primary emphasis on interviewing, observation skills, and administering intelligence tests.

*Spring*

COS - Department of Psychology

**CLP 7447C. Adult Psychological Assessment**

3(2,2). PR: Admission to Psychology PhD Clinical track or C.I. Theory and techniques of adult psychological assessment with emphasis on intake interviewing, cognitive and personality assessment, and report writing.

*Fall*

COS - Department of Psychology

**CLP 7474. Child Empirically Supported Treatments**

3(3,0). PR: Admission to Clinical Psychology PhD or C.I. Empirically supported psychological and pharmacological treatments for children and adolescents.

*Odd Spring*

COS - Department of Psychology

**CLP 7494. Adult Empirically Supported Treatments**

3(3,0). PR: Admission to Clinical Psychology PhD or C.I. Empirically supported psychological and pharmacological treatment for adults.

*Odd Fall*

COS - Department of Psychology

**CLP 7623. Ethical and Professional Issues in Clinical Psychology**

3(3,0). PR: Admission to Clinical Psychology PhD or C.I. APA Code of Ethics, relevant laws, and professional standards in clinical psychology.

*Fall*

COS - Department of Psychology

**CLP 7942L. Supervision Practicum**

1(0,3). PR: Admission to Clinical Psychology Ph.D. program or C.I. Advanced practicum focused on learning in didactic and experiential effective clinical supervision. Graded S/U. May be used in the degree program a maximum of 2 times.

*Fall, Spring, Summer*

COS - Department of Psychology

**CLP 7943C. Clinical Practicum**

VAR(VAR,VAR). PR: Acceptance to Clinical Psychology Ph.D. program or C.I. Clinical activities performed in an approved university or community setting under faculty/staff supervision. This course is intended for the Ph.D. in Clinical Psychology, in certain instances graduate students in other programs may enroll. Graded S/U. May be used in the degree program up to a maximum of 12 credits.

*Fall, Spring, Summer*

COS - Department of Psychology

**CNT 5008. Computer Communication Networks Architecture**

3(3,0). PR: EEL 4768C. Computer networks, layers, protocols and interfaces, local area networks networking.

*Fall*

ECS - Computer Science

**CNT 6418. Computer Forensics II**

3(3,0). PR: CGS 5131 or C.I. Computer network protocols and security models, cryptography, network intrusion detection and prevention, digital evidence collection and legal issues involved in network forensics, wireless security and forensics.

*Spring*

ECS - Electrical & Computer Eng

**CNT 6519. Wireless Security and Forensics**

3(3,0). PR: CGS 5131 or C.I. Advanced topics in wireless network security, security management, cryptography, wireless forensics and related areas.

*Odd Spring*

ECS - Computer Science

**CNT 6707. Advanced Computer Networks**

3(3,0). PR: CNT 5008 or C.I. Recent advances in computer networks, overlay and multihomed networks, routing and multicasting, Internet friendly protocols, congestion control, QoS-differentiated services, cellular networks.

*Spring*

ECS - Computer Science

**COM 5932. Topics in Communication Theory and Research**

3(3,0). Admission to Communication M.A. program or C.I. In-depth examination of a particular area of communication theory and research, emphasizing major developments, current uses, implications for research, and overall impact on the field.

*Occasional*

COS - Nicholson School of Communication

**COM 6008. Proseminar in Communication**

3(3,0). PR: Admission to the Communication M.A. program or C.I. Introduction to the field of communication at the graduate level emphasizing skills and practices needed to succeed at the graduate level and as a professional in the field.

*Fall, Spring*

COS - Nicholson School of Communication

**COM 6025. Health Communication**

3(3,0). PR: Graduate standing and C.I. Examines issues of healthcare provider-patient communication, health literacy, public health, health in other cultures, ethics in health communication, and mass media health messages.

*Occasional*

COS - Nicholson School of Communication

**COM 6046. Interpersonal Communication**

3(3,0). PR: Graduate status. Survey of theoretical perspectives in interpersonal communication.

*Spring*

COS - Nicholson School of Communication

**COM 6047. Interpersonal Support in the Workplace**

3(3,0). PR: Graduate standing. Interpersonal theories relevant to understanding marginalization and building supportive relationships in the workplace.

*Occasional*

COS - Nicholson School of Communication

**COM 6048. Communication in Close Relationships**

3(3,0). PR: Graduate standing or C.I. Classic and contemporary theory of communication in close relationships.



*Occasional**COS - Nicholson School of 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.

*Occasional**COS - Nicholson School of Communication***COM 6145. Organizational Communication**

3(3,0). PR: Graduate standing or C.I. Organizational communication theory, perspectives, methods and current issues that reflect the centrality of communication processes in constituting organizing and organizations.

*Occasional**COS - Nicholson School of Communication***COM 6303. Qualitative Research Methods in Communication**

3(3,0). PR: Admission to Communication M.A. or C.I. Examination of qualitative methods in communication with emphasis on interviewing, ethnography, focus groups, observational methods and data interpretation.

*Fall, Spring**COS - Nicholson School of Communication***COM 6304. Quantitative Research Methods in Communication**

3(3,0). PR: Admission to Communication M.A. program or C.I. Examination of quantitative methods in communication. Topics include experimental research design, sampling procedures, survey design, content analysis, and introduction to data analysis.

*Fall, Spring, Summer**COS - Nicholson School of Communication***COM 6425. Symbolism in Terrorism**

3(3,0). PR: Admission to the Communication M.A. program or C.I. Skills for, and approaches to, analyzing communication strategies used by terrorists in pursuing their long-term objectives and goals.

*Occasional**COS - Nicholson School of 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.

*Occasional**COS - Nicholson School of Communication***COM 6467. Studies in Persuasion**

3(3,0). PR: Graduate status. Analysis of research and major theoretical perspectives in persuasive communication.

*Occasional**COS - Nicholson School of Communication***COM 6468. Communication and Conflict**

3(3,0). . Research seminar in the study of communication and conflict.

*Occasional**COS - Nicholson School of 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.

*Occasional**COS - Nicholson School of Communication***COP 5021. Program Analysis**

3(3,0). PR: COP 4020 and COT 4210 or C.I. Static analysis of programs including theoretical and practical limitations, data flow analysis, abstract interpretation, and type and effect systems. Tools to automate program analysis.

*Even Spring**ECS - Computer Science***COP 5537. Network Optimization**

3(3,0). PR: Graduate standing or C.I. Techniques for modeling complex, interconnected systems as networks; optimization with graph theory; algorithms, data structures, and computational complexity; statistical methods for studying large, evolving networks.

*Fall**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.

*Spring**ECS - Computer Science***COP 5711. Parallel and Distributed Database Systems**

3(3,0). PR: COP 4710. Storage manager, implementation techniques for parallel DBMSs, distributed DBMS architectures, distributed database design, query processing, multidatabase systems.

*Occasional**ECS - Computer Science***COP 6087. Cloud Computing**

3(3,0). PR: CDA 5106 or C. I. Introduces cloud computing, infrastructure, applications, architecture, resource management, security, cloud storage systems and networks for computer clouds.

*Fall**ECS - Computer Science***COP 6525. Distributed Processing of Digital Evidence**

3(3,0). PR: CGS 5131 and COP 5611, or C.I. Parallel and distributed processing techniques using MPI in a cluster environment; data mining techniques used in analyzing large quantities of digital data.

*Even Spring**ECS - Computer Science***COP 6614. Operating Systems Techniques**

3(3,0). COP 5611. Techniques in the design and implementation of operating systems. Case studies of several experimental and commercial operating systems.

*Occasional**ECS - Computer Science***COP 6616. Multicore Programming**

3(3,0). PR: COT 5405 or C.I. The course focuses on the computational principles, algorithms, and tools for multi-processor programming. Topics of study include programming models and frameworks, lock-free synchronization, transactional memory.

*Occasional**ECS - Computer Science*

**COP 6621. Compiler Construction**

3(3,0). COP 5021, COT 5310. Techniques in the design and implementation of compilers. Optimization, code generation, error recovery, attributed grammars. A project is required.

*Occasional*

*ECS - Computer Science*

**COP 6717. Database Interface Development**

3(3,0). PR: COP 4710, CAP 5066, graduate standing and/or approval of the Director of the Software Engineering Certificate Program. Design and implementation techniques for incorporating database interfaces in Web applications. Comparison of tools and methodologies, including Microsoft .NET, Java JDBC, and PHP. Hands-on exercises.

*Spring*

*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.

*Occasional*

*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.

*Occasional*

*ECS - Computer Science*

**COT 5405. Design and Analysis of Algorithms**

3(3,0). PR: COT 4210. Classification of algorithms, e.g., recursive, divide-and-conquer, greedy, etc. Data Structures and algorithm design and performance. Time and space complexity analysis.

*Fall, Spring*

*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.

*Occasional*

*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.

*Occasional*

*ECS - Computer Science*

**COT 6417. Algorithms on Strings and Sequences**

3(3,0). PR: COT 5405 or C.I. Study of algorithms for exact and approximate string pattern matching, sequence alignment and multiple string alignment.

*Occasional*

*ECS - Computer Science*

**COT 6505. Computational Methods/Analysis I**

3(3,0). PR: COT 5405. Analysis of direct and iterative solutions of systems of linear equations, eigenvalues and vectors and roots of nonlinear equations, error analysis.

*Occasional*

*ECS - Computer Science*

**COT 6600. Quantum Computing**

3(3,0). PR: COT 5405. This course introduces basic concepts in quantum circuits and quantum algorithms.

*Occasional*

*ECS - Electrical & Computer Eng*

**COT 6602. Introduction to Quantum Information Theory**

3(3,0). PR: COT 6600 Quantum Computing. Basic concepts in quantum information theory and quantum error correcting codes.

*Occasional*

*ECS - Computer Science*

**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.

*Occasional*

*COS - Department of Political Science*

**CPO 6067. Comparative Courts**

3(3,0). Graduate standing or C.I. Courts in new nations and democracies, and their roles in national politics and issues of human rights.

*Occasional*

*COS - Department of Political Science*

**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.

*Occasional*

*COS - Department of Political Science*

**CPO 6091. Seminar in Comparative Politics**

3(3,0). PR: Admission to a graduate degree-seeking program or C.I. 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.

*Even Spring*

*COS - Department of Political Science*

**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.

*Occasional*

*COS - Department of Political Science*

**CPO 6776. Comparative Rising Powers**

3(3,0). PR: Admission to graduate degree-seeking program or C.I. The course examines key contemporary rising powers in Eurasia: China, India, and Russia. It focuses on a comparative analysis of the nature of their rise.

*Occasional*

*COS - Department of Political Science*

**CPO 6785. Political and Economic Inequality in Comparative Perspective**

3(3,0). 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.

*Occasional*

*COS - Department of Political Science*

**CRW 5020. Graduate Writing Workshop**

3(3,0). PR: Admission to Creative Writing MFA and C.I. Student writers present their own work, receiving detailed analysis of its strengths and weaknesses from their fellow writers and from the teacher. May be used in the degree program a maximum of 5 times.

*Fall, Odd Spring*

*CAH - Department of English*

**CRW 5130. Form and Theory in Creative Writing**

3(3,0). PR: Admission to Creative Writing MFA or C.I. Formal and theoretical study of creative writing of given genre (poetry, short fiction, etc). May be used in the degree program a maximum of 3 times.

*Occasional*

*CAH - Department of English*

**CRW 5948C. Creative Writing Service Learning**

3(2,1). PR: Admission to Creative Writing MFA or C.I. On-site experience leading and sharing creative writing in community settings. May be used in the degree program a maximum of 3 times.

*Occasional*

*CAH - Department of English*

**CRW 6025. Advanced Graduate Writing Workshop**

3(3,0). PR: Admission to the Creative Writing MFA and C.I. Writing and revising in one established form. Advanced Graduate Writing Workshop may be taken five times (for a total of 15 hours) in order to produce a book-length manuscript (fiction, poetry, or other genre). May be used in the degree program a maximum of 5 times.

*Fall, Spring*

*CAH - Department of English*

**CRW 6806C. Teaching Creative Writing**

3(2,1). PR: Graduate standing in MFA in Creative Writing program or C.I. Addresses trends in creative writing pedagogy, workshop alternatives, course design, classroom management, role of creative writing in academia.

*Fall*

*CAH - Department of English*

**CRW 6976. Scholarship and Publication Models**

3(3,0). PR: Admission to Creative Writing MFA, graduate standing or C.I. Overview of thesis-writing process from proposal to defense, and possible subsequent publication.

*Occasional*

*CAH - Department of English*

**CWR 5125. Groundwater Hydrology**

3(3,0). PR: CWR 4633C or C.I. Theories of groundwater movement, geological factors, analysis and design techniques, etc. Emphasis on practical considerations.

*Occasional*

*ECS - Department of Civil, Environmental, and Construction Engineering*

**CWR 5205. Hydraulic Engineering**

3(3,0). PR: CWR 4633C or C.I. Concepts of fluid mechanics and hydrodynamics applied to natural and man-made

flow of intent to civil and environmental engineering.

*Occasional*

*ECS - Department of Civil, Environmental, and Construction Engineering*

**CWR 5515. Numerical Methods in Civil and Environmental Engineering**

3(3,0). PR: CWR 4633C or C.I. This course will present intermediate to advanced numerical methods theory and include code development and error assessment, while targeting civil and environmental engineering applications.

*Occasional*

*ECS - Department of Civil, Environmental, and Construction Engineering*

**CWR 5545. Water Resources Engineering**

3(3,0). PR: CWR 4633C or C.I. Systems identification and solution to complex water allocation problems, and other hydraulic engineering designs and operations using economic analysis and operations research techniques.

*Occasional*

*ECS - Department of Civil, Environmental, and Construction Engineering*

**CWR 5634. Water Resources in a Changing Environment**

3(3,0). PR: CWR 4632C. To model and understand potential impact of climate change and human activities on hydrologic systems and various spatial and temporal scales.

*Odd Fall*

*ECS - Department of Civil, Environmental, and Construction Engineering*

**CWR 6102. Advanced Hydrology**

3(3,0). PR: CWR 4633C 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.

*Occasional*

*ECS - Department of Civil, Environmental, and Construction Engineering*

**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.

*Occasional*

*ECS - Department of Civil, Environmental, and Construction Engineering*

**CWR 6235. Open Channel Hydraulics**

3(3,0). PR: CWR 4633C or C.I. Free surface flow studies by empirical and theoretical methods for the design, operation, and management of open channels.

*Occasional*

*ECS - Department of Civil, Environmental, and Construction Engineering*

**CWR 6236. River Engineering and Sediment Transport**

3(3,0). PR: CWR 4633C or C.I. River morphology and regime with stabilization and modification of river courses. Sediment transport including control methods and modeling.

*Occasional*

*ECS - Department of Civil, Environmental, and Construction Engineering*

**CWR 6535. Modeling Water Resources Systems**

3(3,0). PR: CWR 4633C or C.I. Contemporary mathematical models for water quality and quantity considerations including computer-based hydraulic and hydrologic models.

*Occasional*

ECS - Department of Civil, Environmental, and Construction Engineering

**CWR 6539. Finite Elements in Surface Water Modeling**

3(3,0). PR: CWR 5515 or C.I. This course explores finite element techniques as applied to surface water modeling, introduces theory and applications, and develops means by which errors can be appraised.

*Occasional*

ECS - Department of Civil, Environmental, and Construction Engineering

**CWR 6660. Water Policy, Planning and Governance**

3(3,0). PR: CWR 4633C or C.I. This course deals with political, social, economic and administrative systems that affect the use, development, planning, and management of water resources at different levels.

*Even Fall*

ECS - Department of Civil, Environmental, and Construction Engineering

**CYP 6942. Practicum in Psychological Counseling**

3(3,0). PR: Admission to Clinical Psychology MA and CLP 6195C and CLP 6441C, or C.I. Training in psychotherapy skills in a community setting under faculty supervision. Graded S/U.

*Spring*

COS - Department of Psychology

**CYP 6948C. Psychology Internship**

VAR(VAR,VAR). PR: Clinical psychology MA students. Supervised placement in community setting for 10-30 hours per week. Graded S/U. May be repeated for credit.

*Occasional*

COS - Department of Psychology

**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.

*Spring*

COS - Department of Psychology

**DIG 5045C. Principles of Interactive Entertainment I**

3(1,3). PR: Admission to Digital Media MS program or C.I. Interactive digital content creation technologies and development processes.

*Fall*

CAH - Schl Visual Arts & Design

**DIG 5046C. Principles of Interactive Entertainment II**

3(1,3). PR: DIG 5045C or C.I. Advanced principles of interactive digital content creation technologies and development processes.

*Fall*

CAH - Schl Visual Arts & Design

**DIG 5137. Information Architecture**

3(3,0). PR: Film and digital media majors or C.I. Exploration of the process of formal design of interactive processes, examining the theories of usability and object oriented design.

*Fall*

CAH - School of Visual Arts and Design

**DIG 5366. Creating Interactive Characters**

3(3,0). PR: Admission to Digital Media MS or C.I. Survey of issues related to creating interactive characters. Topics will range from modeling humans to reviewing realistic human capabilities. Graded S/U.

*Fall, Spring, Summer*

CAH - School of Visual Arts and Design

**DIG 5487. Principles of Visual Language**

3(3,0). PR: Film and digital media majors or C.I. Overview of Visual Language, including the nature of perceptions and cognitions of imagery.

*Fall*

CAH - School of Visual Arts and Design

**DIG 5529C. Production for Media**

3(1,3). PR: Admission to Digital Media MS program or C.I. Theories and practices of production processes for interactive entertainment.

*Fall*

CAH - Schl Visual Arts & Design

**DIG 5548C. Rapid Prototype Production I**

3(1,3). PR: Admission to Digital Media MS or C.I. Students engage in interdisciplinary teams to create rapid development projects.

*Fall*

CAH - Schl Visual Arts & Design

**DIG 5549C. Rapid Prototype Production II**

3(1,3). PR: DIG 5548C or C.I. Students engage in interdisciplinary teams to create advanced rapid development projects.

*Fall*

CAH - Schl Visual Arts & Design

**DIG 5565C. Digital Asset Management Systems**

3(1,3). PR: Graduate standing or C.I. Structure and use of Digital Asset Management Systems (DAMS). Protection of intellectual property rights by encryption, water marking, steganography. Version and work process flow control systems.

*Occasional*

CAH - School of Visual Arts and Design

**DIG 5627. 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.

*Occasional*

CAH - School of Visual Arts and Design

**DIG 5810. Ways of Seeing: Cultural and Technological Perspectives**

3(3,0). PR: Admission to Film and Digital Media master's program or C.I. Cultural and technological perspectives formed by the intersection of media and cultural studies, art history and criticism, and cinema studies.

*Fall*

CAH - School of Visual Arts and Design

**DIG 5875C. 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.  
*Fall, Summer*  
 COS - Department of Psychology

**DIG 5876. Quantitative Aspects of Modeling and Simulation**

3(3,0). PR: Graduate Standing or C.I. Introduction to matrix algebra and other discrete mathematics topics for modeling and simulation applications.  
*Spring*  
 COS - Department of Psychology

**DIG 5950. Interactive Entertainment Capstone**

3(3,0). PR: Admission to Digital Media MS. Prepare a product design document and technical design document for a production project. Graded S/U.  
*Fall, Spring, Summer*  
 CAH - School of Visual Arts and Design

**DIG 6136. Design for New Media**

3(3,0). Admission to Emerging Media MFA or Digital Media MA program, DIG 5487, or C.I. Theories and practices of interactive design for digital media content.  
*Occasional*  
 CAH - School of Visual Arts and Design

**DIG 6432. Transmedia Story Creation**

3(3,0). PR: Film and digital media majors or C.I. Repurposing of traditional stories: creation of authentic environments and the emergence of new authoring scenarios.  
*Fall, Summer*  
 CAH - School of Visual Arts and Design

**DIG 6436. Ethnographic Storytelling & New Media**

3(3,0). PR: Graduate standing. Theories and practices related to ethnographic storytelling using new media.  
*Odd Fall*  
 CAH - College-CAH

**DIG 6546. Previsualization and Concept Development**

3(3,0). PR: Film and digital media majors, DIG 6136, or C.I. Skills and knowledge for planning and developing a new feature length film or digital media project.  
*Fall*  
 CAH - School of Visual Arts and Design

**DIG 6547C. Preproduction and Prototyping**

3(1,3). PR: DIG 5529C or C.I. Standard pre-production process in interactive entertainment.  
*Fall*  
 CAH - Schl Visual Arts & Design

**DIG 6550. Digital Media Pre-Production**

3(3,0). PR: Film and digital media majors, DIG 6546, or C.I. Methodologies for digital media design, scoping, prototyping, presentation, and integration, culminating in developed plan for new media projects.  
*Odd Fall*  
 CAH - School of Visual Arts and Design

**DIG 6551. Applied Interactive Story**

3(3,0). PR: Film and digital media majors, DIG 6432, or C.I. Concepts and specific skills for creating scripts and programs for interactive digital media story experiences.  
*Fall*  
 CAH - School of Visual Arts and Design

**DIG 6605. Physical Computing**

3(3,0). PR: DIG 5137. Introduces methods of connecting physical objects to microprocessor controllers in order to build original interactive components for research or artistic purposes.  
*Odd Spring*  
 CAH - School of Visual Arts and Design

**DIG 6647. Science and Technology of Dynamic Media**

3(3,0). PR: Film and digital media majors, DIG 5137 or C.I. Contemporary media theory and survey of scientific principles behind digital media production, synthesis, and evaluation.  
*Spring*  
 CAH - School of Visual Arts and Design

**DIG 6718C. Interactive Entertainment Project**

3(1,3). PR: DIG 5046C or C.I. Students implement a complete game, based on designs pre-produced and prototyped in previous courses.  
*Fall*  
 CAH - Schl Visual Arts & Design

**DIG 6785C. Advanced Interactive Entertainment**

3(1,3). PR: DIG 6547C or C.I. Advanced techniques and application in programming, production, and development of professional portfolios.  
*Fall*  
 CAH - Schl Visual Arts & Design

**DIG 6812. Digital Interaction for Informal Learning**

3(3,0). PR: Graduate standing or C.I. Theories of digital media interaction that apply to the design of interfaces that help people learn in informal contexts.  
*Occasional*  
 CAH - School of Visual Arts and Design

**DIG 6825. Digital Media Research Methods**

3(3,0). PR: Graduate standing and C.I. A review of quantitative research methods needed for digital media professionals.  
*Occasional*  
 CAH - School of Visual Arts and Design

**DIG 6836. Design and Development for Texts and Technology**

3(3,0). PR: Graduate standing or C.I. A study of the applied design and development process on concepts and practices of literacy/electracy, including pedagogical, artistic, workplace, and leisure-based communicative practices.  
*Fall*  
 CAH - College-CAH

**DIG 6877. Theory & Application of Interactive Performance**

3(3,0). PR: SFDM MFA or MA, or C.I. Study of theory and application of concepts for interactive digital media design using scenario construction, character development, and technology. May be used in the degree program a maximum of 5 times only when course content is different.  
*Spring*  
 CAH - School of Visual Arts and Design

**DIG 6944C. Game Design Practicum**

6(2,6). PR: DIG 5046C or C.I. Supervised experience supplementing theoretical and practical experiences involving new research developments or partnerships within industry.



*Fall**CAH - Schl Visual Arts & Design***EAB 5765. Applied Behavior Analysis with Children and Youth**

3(3,0). 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.

*Occasional**COS - Department of Psychology***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.

*Occasional**ECS - Mechanical & Aerospace***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.

*Occasional**ECS - Mechanical & Aerospace***EAS 5211. Aeroelasticity**

3(3,0). PR: EAS 3101 or EML 3701 and EAS 4210 or EML 4220. Concerned with consequences and trade-offs created by interactions between aerodynamic forces and structural deformation. Static aeroelastic problems; control effectiveness; lift effectiveness; divergence. Dynamic aeroelasticity; flutter and vibration.

*Occasional**ECS - Mechanical & Aerospace***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.

*Occasional**ECS - Mechanical & Aerospace***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.

*Occasional**ECS - Mechanical & Aerospace***EAS 5407C. Mechatronic Systems**

3(2,3). PR: EML 3034C. Discrete control techniques for aerospace mechatronic systems. Controller design, test and evaluation.

*Occasional**ECS - Mechanical & Aerospace***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.

*Occasional**ECS - Mechanical & Aerospace***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.

*Odd Fall**ECS - Mechanical & Aerospace***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.

*Even Fall**ECS - Mechanical & Aerospace***EAS 6403C. Attitude Determination and Control**

3(2,3). EAS 6507, EML 5060. Spacecraft attitude dynamics and control. Pointing and stabilization methods. Optimal and learning algorithms applied to perturbation analysis.

*ECS - Department of Mechanical and Aerospace Engineering***EAS 6405. Advanced Flight Dynamics**

3(3,0). 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.

*Occasional**ECS - Department of Mechanical and Aerospace Engineering***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.

*Occasional**ECS - Mechanical & Aerospace***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.

*Occasional**ECS - Mechanical & Aerospace***EAS 6807C. Aerospace Measurements Instrumentation**

3(2,3). PR: EAS 4134, EAS 3800C, EAS 6507, EML 5060, or C.I.; not open to students who have credit for EML 6308C. Inertial instruments (i.e.; gyros, accelerometers), thermal, fluid, optical sensors and actuators, for space and aerodynamic applications.

*Occasional**ECS - Mechanical & Aerospace***EAS 6808. Space Environment and Payload Instrumentation**

3(3,0). EAS 4504, EML 5060 or C.I. Space environment and payload instrumentation. Characterization of space environment and payload instrumentation methods.

*Occasional**ECS - Department of Mechanical and Aerospace Engineering***EBD 6117. Behavior Disorders in Schools**

3(3,0). Basic Teacher Certificate or C.I. Assessment analysis of behavior disorders, cause and effects, identification and theories.

*ED - Department of Child, Family and Community Sciences*

**EBD 6226. Theory and Application for Emotionally Handicapped**

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.

*Occasional*

*ED - Department of Child, Family and Community Sciences*

**ECM 6308. 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. May be used in the degree program a maximum of 2 times.

*Even Fall*

*ECS - Electrical & Computer Eng*

**ECO 5005. Economic Concepts**

3(3,0). PR: Acceptance into the graduate program. Introduction to micro and macro economic analysis.

*Occasional*

*BA - Department of 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.

*Fall, Spring*

*BA - Department of Economics*

**ECO 6118. Microeconomic Theory I**

3(3,0). PR: ECO 3101 (or equivalent), ECO 3410 (or equivalent), and ECO 6403 (concurrent enrollment), or C.I. Microeconomic principles governing individual decision-making relative to the theory of the firm and consumer choice.

*Fall*

*BA - Department of Economics*

**ECO 6206. Macroeconomic Theory I**

3(3,0). PR: ECO 3203 (or equivalent) and ECO 6403 (or equivalent), or C.I. An analysis of aggregate economic conditions including the determination of output, employment, and income levels.

*Fall*

*BA - Department of 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.

*Occasional*

*BA - Department of Economics*

**ECO 6315. Seminar in Contemporary Economic Issues**

3(3,0). PR: ECO 6118 or equivalent and ECO 6403 or equivalent. Discussion and analysis of current economic problems and issues. May be used in the degree program a maximum of 3 times only when course content is different.

*Occasional*

*BA - Department of Economics*

**ECO 6403. Mathematical Economics**

3(3,0). PR: ECO 3101 (or equivalent), ECO 3410 (or equivalent), and ECO 6118 (co-requisite), or C.I. Covers the foundations of economic theory with particular focus on the mathematical methods that are indispensable for proper understanding of the economic literature.

*Fall*

*BA - Department of Economics*

**ECO 6404. Games and Economic Behavior**

3(3,0). PR: Graduate standing and ECO 6118. The study of interactive and strategic behavior relying on Experimental Game Theoretic literature.

*Even Fall*

*BA - Department of Economics*

**ECO 6405. Business Statistical Concepts and Methods**

3(3,0). PR: Admission to Business Graduate Program. Fundamental statistical methods of data analysis used in business to enable managers to make more informed decisions under uncertainty. Descriptive and inferential concepts and methods, probability and probability distributions, 1- and 2-sample inference, experimental and survey design, analysis of variance, correlation, and regression analysis applied to business cases and actual business data. Statistical assumptions, limitations, ethical reporting issues are explored as well. Students use Excel and statistical software to perform computations and interpret standard output.

*Summer*

*BA - Department of Economics*

**ECO 6416. Applied Business Research Tools**

3(3,0). PR: Master's of Business Administration program foundation core courses; Core I Courses. Multivariate methods and related tools applied to analyze business and economic data as an aid in decision making.

*Fall*

*BA - Department of Economics*

**ECO 6418. Economic Concepts with Math Applications**

3(3,0). PR: Admission to CBA master's program. Business-based overview of microeconomic price and output determination through analysis of different types of markets with calculus. Algebraic formulation of macro economy, with emphasis on measuring economic activity, determination of macro equilibrium and forecasting using appropriate mathematical models for business decisions.

*Spring, Summer*

*BA - Department of Economics*

**ECO 6424. Econometrics I**

3(3,0). PR: ECO 6403 (or equivalent) and ECO 6118 (or equivalent), or C.I. Develops basic statistical methods and provides coverage of the general linear regression model, generalized least squares, generalized methods of moments, and multi-equation models.

*Spring*

*BA - Department of Economics*

**ECO 6433. Business Cycles and Forecasting**

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.

*Occasional*

BA - Department of Economics

**ECO 6453. Experimental Economics**

3(3,0). PR: ECO 6118 (or equivalent) and ECO 6403 (or equivalent). Introduction to the use of experimental methods in economics: motivation, design, analysis, and policy implications of this methodology.

*Odd Fall*

BA - Department of Economics

**ECO 6505. Public Economics**

3(3,0). PR: ECO 6118 or equivalent. and ECO 6403 or equivalent. Analysis of how government activities influence resource allocation, relative prices, and welfare, including public goods theory, tax incidence, and optimal taxation theory.

*Even Spring*

BA - Department of Economics

**ECO 6705. International Economics**

3(3,0). PR: Graduate standing and ECO 6115 or equivalent, and ECO 6403 or equivalent. An inquiry into the theory of international trade and finance, commercial policy, and economic integration.

*Odd Spring*

BA - Department of Economics

**ECO 7116. Microeconomic Theory II**

3(3,0). PR: ECO 6118 (or equivalent) and ECO 6403 (or equivalent). Advanced treatment of demand, production, cost, and market theory under varying competitive conditions.

*Spring*

BA - Department of Economics

**ECO 7117. Advanced Topics in Economic Theory**

3(3,0). PR: ECO 7116 and ECO 7205. Advanced topics in economic theory, including comparative statics, atemporal duality theory, comparative dynamics and intertemporal duality theory, differential game theory, and the economics of information.

*Spring*

BA - Department of Economics

**ECO 7205. Macroeconomic Theory II**

3(3,0). PR: ECO 6206 (or equivalent), ECO 6403 (or equivalent), and ECO 6118 (or equivalent). The study of classical, neoclassical, and endogenous growth theories and their application to contemporary economic problems.

*Spring*

BA - Department of Economics

**ECO 7423. Applied Models I**

3(3,0). PR: Acceptance in the PhD Program, and ECO 6416 or equivalent. Advanced coverage of standard regression methods and models plus nonparametric statistics.

*Odd Fall*

BA - Department of Economics

**ECO 7426. Econometrics II**

3(3,0). PR: ECO 6424 (or equivalent) or C.I. Covers estimation of static and dynamic panel data models, and limited dependent variable models as well as sample selection problems.

*Fall*

BA - Department of Economics

**ECO 7428. Time Series**

3(3,0). PR: ECO 6424 (or equivalent) or C.I. Advanced treatment of time series analytical techniques including vector autoregression, cointegration and nonstationarity.

*Odd Spring*

BA - Department of Economics

**ECP 6008. Economics of Sport**

3(3,0). PR: Acceptance in the the Sport Business Management Program and CBA Masters Program of Study Foundation Core. Economic understanding of how organized sports operates and affects modern society.

*Spring*

BA - Department of Economics

**ECP 6309. Survey of Environmental and Natural Resource Economics**

3(3,0). PR: ECO 6118 or equivalent and ECO 6403 or equivalent. A survey of the basic theoretical principles and the accompanying empirical work in environmental and natural resource economics.

*Fall*

BA - Department of Economics

**ECP 6405. Industrial Organization**

3(3,0). PR: ECO 6118 (or equivalent) and ECO 6403 (or equivalent). An analysis of firm behavior in imperfectly competitive markets, strategic behavior, and economic policy directed at promoting competitive behavior.

*Odd Spring*

BA - Department of Economics

**ECP 7306. Environmental Economics**

3(3,0). PR: ECP 6309. The application of economic theory and methods to the evaluation of the effects of economic activity on the environment with selected applications.

*Spring*

BA - Department of Economics

**ECP 7307. Research Seminar**

3(3,0). PR: ECO 7426, ECP 7311, ECP 7306, or C.I. Students conduct and evaluate research in their chosen field of specialization. Student projects are prepared with faculty consultation and are presented as part of the seminar.

*Spring*

BA - Department of Economics

**ECP 7311. Natural Resource Economics**

3(3,0). PR: ECP 6309. Advanced treatment of dynamic principles in optimal renewable and nonrenewable resource consumption and the role of natural resources in economic development and international trade.

*Fall*

BA - Department of 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.

*Even Spring*

BA - Department of Economics

**ECT 6791. Research in Career Education**

3(3,0). PR: EDF 6432 or EDF 6481 or C.I. Curricular, instructional, demographic, and trends research in the field of career education.

ED - Department of Child, Family and Community Sciences

**ECW 5207. 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 - Department of Child, Family and Community Sciences*

**ECW 5265. 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.

*Occasional*  
*ED - Department of Child, Family and Community Sciences*

**ECW 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 - Department of Child, Family and Community Sciences*

**ECW 6067. History of Career Education in the United States**

3(3,0). PR: EDF 6432 or EDF 6481 or C.I. A detailed examination of federal legislation, associations, organizations, people, events, and other key factors that define the history of career education in the U.S.

*ED - Department of Child, Family and Community Sciences*

**ECW 6105. 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, and techniques for evaluating vocational program effectiveness.

*Even Fall*  
*ED - Department of Child, Family and Community Sciences*

**ECW 6205. 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 - Department of Child, Family and Community Sciences*

**ECW 6206. 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.

*ED - Department of Child, Family and Community Sciences*

**ECW 6666. Issues in Career Education**

3(3,0). PR: EDF 6432 or EDF 6481 or C.I. An examination of current issues in career education including changing work force demands and implications for secondary and postsecondary career education.

*ED - Department of Child, Family and Community Sciences*

**ECW 6695. 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 - Department of Child, Family and Community Sciences*

**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.

*Fall, Spring, Summer*  
*ED - School of Teaching, Learning, and Leadership*

**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.

*Fall, Spring, Summer*  
*ED - School of Teaching, Learning, and Leadership*

**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.

*Fall, Spring, Summer*  
*ED - School of Teaching, Learning, and Leadership*

**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.

*Fall, Spring, Summer*  
*ED - School of Teaching, Learning, and Leadership*

**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.

*Fall, Spring, Summer*  
*ED - School of Teaching, Learning, and Leadership*

**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.

*Occasional*  
*ED - School of Teaching, Learning, and Leadership*

**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.

*Spring, Summer*  
*ED - School of Teaching, Learning, and Leadership*

**EDA 6939. Seminar in Educational Administration**

3(3,0). PR: C.I. Discussion of problems in school administration, patterns of curriculum organization, and research projects. May be used in the degree program a maximum of 4 times.

*Occasional*  
*ED - School of Teaching, Learning, and Leadership*



**EDA 6946. Internship**

VAR(1-6). PR: C.I. Normally, the Educational Leadership internship is completed during the latter part of the degree program. Application must be made in semester prior to internship through the student's adviser. May be used in the degree program a maximum of 2 times.

*Fall, Spring*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Occasional*

*ED - School of Teaching, Learning, and Leadership*

**EDA 7192. Educational Leadership**

3(3,0). PR: Doctoral standing 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.

*Occasional*

*ED - School of Teaching, Learning, and Leadership*

**EDA 7193. Instructional Leadership**

3(3,0). PR: Acceptance into the EdD PK-12 track in Educational Leadership. Study and analysis of research on leadership resulting in improved student achievement at the local, state, and national levels is the focus of this course.

*Spring*

*ED - School of Teaching, Learning, and Leadership*

**EDA 7195. Politics, Governance, and Financing of Educational Organizations**

3(3,0). PR: Doctoral standing or C.I. The study of policy development as a political process; governance issues; and financial issues in education.

*Occasional*

*ED - School of Teaching, Learning, and Leadership*

**EDA 7196. Leadership in a Learning Organization**

3(3,0). PR: Admission to the Education Ed.D. program. This course emphasizes contemporary leadership theory as it applies to a learning organization; i.e., human resources, district department leadership, military, higher education or business.

*Occasional*

*ED - College-ED*

**EDA 7205. Planning, Research, and Evaluation Systems in Educational Administration**

3(3,0). PR: Doctoral standing or C.I. The study of research and evaluation methodologies, system theory, and planning and design strategies in educational administration.

*Occasional*

*ED - School of Teaching, Learning, and Leadership*

**EDA 7215. Community Outreach for Educational Leaders**

3(3,0). PR: Acceptance into the EdD PK-12 track in Educational Leadership. The course focus will be on developing understandings of the essential relationships between schools and community organizations and the community organizations with themselves.

*Fall*

*ED - School of Teaching, Learning, and Leadership*

**EDA 7224. Human Resource Development in Educational Organizations**

3(3,0). PR: Acceptance into the EdD PK-12 track in Educational Leadership. The purpose of this course is to provide understanding of the functions of recruiting, selecting, placing, evaluating, and compensating people.

*Fall*

*ED - School of Teaching, Learning, and Leadership*

**EDA 7225. Advanced Legal Studies in Education**

3(3,0). PR: Acceptance into the EdD PK-12 track in Educational Leadership. In-depth study of current legal issues confronting educational leaders and their private sector counterparts.

*Spring*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Occasional*

*ED - School of Teaching, Learning, and Leadership*

**EDA 7274. Learning and Accountability**

3(3,0). PR: Acceptance into the EdD PK-12 track in Educational Leadership. Study of analytical applications at the school building or district level for instructional improvement.

*Fall*

*ED - School of Teaching, Learning, and Leadership*

**EDA 7333. Dynamics of Children, Families, & Organizations: Implications for Educational**

3(3,0). PR: Acceptance into the EdD PK-12 track in Educational Leadership. This course will provide an understanding of diversity in contemporary families, theoretical perspectives, and services, as well as creating safe schools and/or organizations.

*Summer*

*ED - School of Teaching, Learning, and Leadership*

**EDA 7943. Field Project in Educational Leadership**

3-6(3-6,0). PR: Admission to doctoral candidacy. Field experience and projects for advanced graduate students. Participation in school plant surveys, accreditation visitation, curriculum studies, administrative analysis, and field research. May be used in the degree program a maximum of 5 times.

*Fall, Spring, Summer*

*ED - School of Teaching, Learning, and Leadership*

**EDA 7987. Dissertation in Practice**

1-6(1-6,0). PR: Admission to the EdD in Educational Leadership--Executive Track/completion of EdD coursework. The dissertation in practice is the capstone experience during which doctoral students conduct scholarly research on a complex problem of practice in an education organization.

*Fall, Spring, Summer*

*ED - School of Teaching, Learning, and Leadership*

**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 - School of Teaching, Learning, and Leadership*



**EDE 6933. Introductory Seminar in Elementary Education**  
1(1,0). PR: Admission to graduate program or C.I. Overview of the MEd and MA in Elementary Education programs' policies and expectations, and exploration of the teaching profession (professional organizations, accomplished practices, publications, issues and terminology).

*Fall, Spring, Summer*

*ED - School of Teaching, Learning, and Leadership*

**EDE 6935. Capstone Seminar in Elementary Education**  
2(2,0). 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 MEd or MA in Elementary Education program.

*Fall, Spring, Summer*

*ED - School of Teaching, Learning, and Leadership*

**EDF 5245. Preparation and Management of Classroom Instruction**

3(3,0). C.I. Study of strategies for instructional planning and classroom management that result in optimum learning.

*ED - School of Teaching, Learning, and Leadership*

**EDF 5607. Language, Culture and Pedagogy: Impact and Implications**

3(3,0). 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.

*Occasional*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Occasional*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Fall, Spring, Summer*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Occasional*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Occasional*

*ED - School of Teaching, Learning, and Leadership*

**EDF 6233. Introduction to Action Research and Analysis of Classroom Practice**

3(3,0). PR: EDF 6481, EDG 6935, EDG 6223. Analyses of teaching and curriculum practices to inform design of data-driven assessment that provides evidence of student learning and progress.

*Fall, Spring, Summer*

*ED - School of Teaching, Learning, and Leadership*

**EDF 6237. Principles of Learning and Introduction to Classroom Assessment**

3(3,0). PR: Graduate standing. Students will examine prominent developmental and learning theories in depth and their implications for instruction and assessment. Key issues in educational psychology will be explored.

*ED - School of Teaching, Learning, and Leadership*

**EDF 6259. Learning Theories Applied to Leadership in Teaching Practice**

3(3,0). PR: Graduate standing or C.I. Examination and application of theories of learning, leadership, and best practice in teaching that result in evidence of student progress.

*Fall, Spring, Summer*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Fall, Spring, Summer*

*ED - Department of Educational and Human Sciences*

**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.

*Fall, Spring, Summer*

*ED - Department of Educational and Human Sciences*

**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.

*Occasional*

*ED - School of Teaching, Learning, and Leadership*

**EDF 6447. Development and Validation of Educational Tests and Measures**

3(3,0). 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 - Department of Educational and Human Sciences*

**EDF 6464. Mixed Methods for Evaluation in Educational Settings**

3(3,0). PR: EDF 6401 and EDF 6481 or C.I. This service learning course will examine component and integrated mixed method designs toward developing a proposal for a program evaluation for a local nonprofit organization.

*ED - Department of Educational and Human Sciences*

**EDF 6472. Data-Driven Decision-Making for Instruction**

3(3,0). PR: Graduate standing or C.I. Understand how to design a research study, understand basic measurement principles, collect/analyze data, interpret results, report findings, apply research-to-practice in applied settings.

*Occasional*

*ED - Department of Educational and Human Sciences*

**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.

*Fall, Spring, Summer*

*ED - Department of Educational and Human Sciences*

**EDF 6486. Research Design in Education**

3(3,0). 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 - Department of Educational and Human Sciences*

**EDF 6496. Teaching and Learning in Urban Settings**

3(3,0). PR: Graduate standing. Analysis and discussion of instructional and assessment methods that seek to improve the quality of teaching and learning in urban schools.

*Odd Fall, Even Spring*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Fall, Spring, Summer*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Fall, Spring, Summer*

*ED - School of Teaching, Learning, and Leadership*

**EDF 6635. Capstone: Action Research in Teacher Leadership**

3(3,0). PR: EDF 6472 and EDF 6233. The Capstone, the final course in the program, is an action research study. The research study focuses on contemporary research in teacher leadership.

*Spring*

*ED - School of Teaching, Learning, and Leadership*

**EDF 6688. Public Policy and Urban Education**

3(3,0). PR: Graduate standing. Critical analysis of public policy formation, implementation, and evaluation with regard to their impact on urban schools and communities.

*Even Fall, Odd Spring*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Odd Fall, Odd Spring, Summer*

*ED - School of Teaching, Learning, and Leadership*

**EDF 6727. Critical Analysis of Social, Ethical, Legal, and**

**Safety Issues Related to Educ**

3(3,0). PR: Graduate standing. Analysis of critical issues in education including social, ethical, legal, and safety concerns which impact the quality of education.

*Fall, Spring*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Occasional*

*ED - School of Teaching, Learning, and Leadership*

**EDF 6855. Equitable Educational Opportunity & Life Chances: A Cross-National Analysis**

3(3,0). PR: Graduate standing. Analysis of how gender, class, race, ethnicity, and language affect the quality and outputs of schooling, with a focus on multinational organizations and NGO's.

*Summer*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Occasional*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Fall, Spring, Summer*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Fall, Spring*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Fall, Spring, Summer*

*ED - Department of Educational and Human Sciences*

**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.

*Fall*

*ED - Department of Educational and Human Sciences*

**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.

*Spring*

*ED - Department of Educational and Human Sciences*

**EDF 7407. Research in Educational Leadership 2**

3(3,0). PR: EDF 7471 and EDF 6481. Methods applied to statistical problems and resolution of selected problems appropriate for statistical applications is the focus of the course.

*Spring*

*ED - Department of Educational and Human Sciences*

**EDF 7408. Research in Educational Leadership 3**

3(3,0). PR: EDF 7407 and EDF 6481. Research 3 continues the development of respect for the scientific spirit of inquiry and to build upon the problem-solving and research strategies studied in Research 1 and Research 2. The course is intended to enhance students' comfort and confidence with research and statistical tools that will enhance their professional effectiveness.

*Spring*

*ED - Department of Educational and Human Sciences*

**EDF 7410. Application of Nonparametric and Categorical Data Analysis in Education**

3(3,0). PR: EDF 7403 or comparable doctoral level statistics course. Application of nonparametric and categorical data analysis procedures to education. Topics: nonparametrics for single samples, paired samples, independent samples, logistic regression, contingency tables, and logit models.

*ED - Department of Educational and Human Sciences*

**EDF 7415. Latent Variable Modeling In Education**

3(3,0). PR: EDF 7403 or its equivalent at the doctoral level. This course introduces students to the propriety, fit, parsimony, interpretation and power analysis of latent variable measurement and causal models.

*ED - Department of Educational and Human Sciences*

**EDF 7427. Psychometrics**

3(3,0). PR: EDF 7403, C.I. Overview of classical test theory with an introduction to item response theory and generalizability theory. Techniques for evaluating validity and reliability will be applied through statistical analyses.

*Odd Fall*

*ED - Department of Educational and Human Sciences*

**EDF 7457. Data, Assessment, & Accountability**

3(3,0). PR: Admission to the Education Ed.D. program. Differentiates data from research, emphasizes working with data sets, and guides data use to make ethical decisions and to understand and measure outcomes.

*Fall*

*ED - College-ED*

**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.

*Fall, Spring, Summer*

*ED - Department of Educational and Human Sciences*

**EDF 7468. Evaluation of Complex Problems of Practice**

3(3,0). PR: Admission to the Education Ed.D. program.

Emphasizes evaluation of complex problems of practice, review of effective evaluation, and development of knowledge and skills in program evaluation.

*Occasional*

*ED - College-ED*

**EDF 7471. Research in Educational Leadership I**

3(3,0). PR: EDF 6481. Study, analysis, and understanding of applied educational research methods are the focus of the course.

*Fall*

*ED - Department of Educational and Human Sciences*

**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.

*Occasional*

*ED - Department of Educational and Human Sciences*

**EDF 7474. Multilevel Data Analysis In Education**

3(3,0). PR: EDF 7403 or comparable doctoral level statistics course. The course will consider the statistical foundations of multilevel linear models, also known as hierarchical linear models (HLMs), and focuses on their application in education and behavioral sciences.

*ED - Department of Educational and Human Sciences*

**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.

*Fall*

*ED - Department of Educational and Human Sciences*

**EDF 7476. Advanced Research Methods**

3(3,0). PR: EDF 7403, EDF 7463, C.I. Review/expand knowledge of empirical research in education. Includes systematic literature review, convert conceptual questions to concrete, and multiple analytic methods.

*Fall*

*ED - Department of Educational and Human Sciences*

**EDF 7478. Analysis of Data for Complex Problems of Practice**

3(3,0). PR: Admission to the Education Ed.D. program. Qualitative and quantitative methods appropriate for the analysis of data are introduced and used for solving complex problems of practice.

*Occasional*

*ED - College-ED*

**EDF 7479. Applications of Technology in Qualitative Resrch: Data, Organztn, & Analysis**

3(3,0). EDF 7475 or C.I. Course includes use of video and audio to collect data, two leading data analysis software packages, and requires students demonstrate competencies in lab-based assignments.

*ED - Department of Educational and Human Sciences*

**EDF 7488. Monte Carlo Simulation Research in Education**

3(3,0). EDF 7403 or C.I. Students are taught how to generate univariate and multivariate data under various parametric conditions for the purpose of exploring the limits of analytical procedures.

*ED - Department of Educational and Human Sciences*

**EDF 7489. Quantitative Research Synthesis**

3(3,0). PR: Equivalent to EDF 6481 and EDF 7403. This course addresses the problem of the accumulation of evidence in scientific research through the use of quantitative methods for research synthesis and meta-analysis.

*Spring*

*ED - Department of Educational and Human Sciences*

**EDF 7494. Identifying Complex Problems of Practice**

3(3,0). PR: Admission to the Education Ed.D. program. Emphasizes orientation toward identifying complex problems of practice through review of sound research methodology and development of knowledge and skills in program evaluation.

*Occasional*

*ED - College-ED*

**EDF 7916. Analysis and Synthesis of Educational Literature**

3(3,0). PR: Doctoral standing or C.I. Students will learn to find, select, critically analyze, and synthesize educational research and scholarship.

*Even Spring*

*ED - School of Teaching, Learning, and Leadership*

**EDF 7947. Internship in Methodology, Measurement, and Analysis**

3(3,0). PR: EDF 7403, EDF 7463, & C.I. This course provides practical application of research skills developed through course work. The student will complete/participate in an approved research project.

*Occasional*

*ED - Department of Educational and Human Sciences*

**EDG 5356. Instructional Coaching**

3(3,0). PR: Graduate standing or C.I. This course will prepare educators to become instructional coaches, developing skills and methods to impact student achievement by influencing teachers' instructional practices.

*Summer*

*ED - School of Teaching, Learning, and Leadership*

**EDG 5745. Teaching the Non-English Student**

3(3,0). C.I. Bilingual and non-linguistic instruction in curriculum areas in English as a second language.

*ED - School of Teaching, Learning, and Leadership*

**EDG 5941. Clinical Practice**

2-8(0,11). 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 - School of Teaching, Learning, and Leadership*

**EDG 6042. Character Education in the Schools**

3(3,0). C.I. An examination of issues in the field of character education.

*ED - School of Teaching, Learning, and Leadership*

**EDG 6047. Contemporary Issues in Education**

3(3,0). . An analysis of current trends in education and their impact on educational programs.

*ED - School of Teaching, Learning, and Leadership*

**EDG 6223. Curriculum Theory, Organization, and Policy**

3(3,0). PR: Graduate standing or C.I. An exploration and examination of foundations and leadership decision-making in curriculum design, development, organization, and policy.

*Fall, Spring, Summer*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Odd Spring*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Spring*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Occasional*

*ED - Department of Educational and Human Sciences*

**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.

*Occasional*

*ED - School of Teaching, Learning, and Leadership*

**EDG 6329. 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.

*Occasional*

*ED - School of Teaching, Learning, and Leadership*

**EDG 6337. Techniques of Game Use in Education**

3(3,0). . Analysis, development, and use of educational games as an approach to classroom teaching.

*ED - School of Teaching, Learning, and Leadership*

**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.

*Occasional*

*ED - School of Teaching, Learning, and Leadership*

**EDG 6415. Principles of Instruction and Classroom Management**

3(3,0). PR: Graduate standing or consent of department chair. Students are exposed to various methods of delivering instruction, as well as organizational and management skills. Students microteach and view lessons



to develop reflective practices.  
*Fall, Spring*  
*ED - School of Teaching, Learning, and Leadership*

**EDG 6636. Social Contexts of the Urban Classroom**  
 3(3,0). PR: Graduate standing. Review, analyze, and contextualize classroom dynamics embedded in urban communities and the institution of schooling.  
*Odd Fall, Even Spring*  
*ED - School of Teaching, Learning, and Leadership*

**EDG 6775. Exploring Global Educational Issues in International Contexts**  
 3(3,0). PR: Graduate standing. Guided field experience in global issues challenging the educational community worldwide, from both academic and experiential perspectives. In conjunction with international field experience/study abroad. May be used in the degree program a maximum of 2 times only when course content is different.  
*Fall, Spring, Summer*  
*ED - School of Teaching, Learning, and Leadership*

**EDG 6935. Introductory Seminar in Teacher Leadership**  
 3(3,0). PR: Graduate standing and admitted to Teacher Leadership MED. Examine current leadership trends in educational contexts and critically analyze the role of collaborative leadership in school improvement.  
*Fall, Spring, Summer*  
*ED - School of Teaching, Learning, and Leadership*

**EDG 6940. Graduate Internship**  
 1-8(0,1-8). PR: Approval of student internship office. 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 - School of Teaching, Learning, and Leadership*

**EDG 7221. Advanced Curriculum Theory**  
 3(3,0). PR: EDG 6223 or C.I. An analysis of the research base which supports the various dimensions of the curriculum field.  
*Occasional*  
*ED - School of Teaching, Learning, and Leadership*

**EDG 7325. 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 basis.  
*Even Fall, Even Spring*  
*ED - School of Teaching, Learning, and Leadership*

**EDG 7692. Issues in Curriculum**  
 3(3,0). PR: EDG 7221; EDG 7325; 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.  
*Fall, Spring*  
*ED - School of Teaching, Learning, and Leadership*

**EDG 7947. Laboratory of Practice**  
 3(3,0). PR: Admission to the Education Ed.D. program. Guided internship: student placement in a leadership setting in a school, social service agency, private or community setting that is involved with learning or development. May be used in the degree program a maximum of 2 times.

*Occasional*  
*ED - College-ED*

**EDG 7985. Proposing and Implementing Data-Driven Decisions**  
 3(3,0). PR: Admission to the Education Ed.D. program. Prepares the student for the capstone experience through the development of the capstone proposal and proposal defense.  
*Occasional*  
*ED - College-ED*

**EDG 7987. Dissertation in Practice**  
 VAR(1-99). PR: Admission to the Education Ed.D. program/completion of Ed.D. coursework. Guides the student through the completion of the capstone project experience. May be used in the degree program a maximum of 7 times.  
*Fall, Spring, Summer*  
*ED - Dean's Office - ED*

**EDH 5306. Teaching Methods in Engineering**  
 1(1,0). PR: Graduate standing in an engineering discipline. This course will cover basis teaching pedagogy to help engineering students becomes better TA's and help students deliver better technical presentations.  
*Occasional*  
*ECS - Mechanical & Aerospace*

**EDH 6043. On Course: Steering Students Toward Success**  
 2(2,0). PR: C.I. Provides faculty with strategies, tactics, and tools to improve interactivity to distance learning.  
*Even Fall*  
*ED - Department of Child, Family and Community Sciences*

**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.  
*Summer*  
*ED - Department of Child, Family and Community Sciences*

**EDH 6045. First Year College Experience**  
 3(3,0). PR: Graduate standing or C.I. Focus on critical first year college experience through existing research and practice. Students design a first year experience program within an institution of their choice.  
*Odd Fall*  
*ED - Department of Child, Family and Community Sciences*

**EDH 6046. Diversity in Higher Education**  
 3(3,0). PR: Graduate standing or C.I. Introduction to theory, research, and practice of historical and contemporary diversity issues in American higher education: race, class, gender, and sexuality as they relate to institutional issues, administrators, faculty, and students.  
*Odd Fall*  
*ED - Department of Child, Family and Community Sciences*

**EDH 6047. Theories of College Student Development**  
 3(3,0). PR: Graduate standing or C.I. Study of the composition of student populations in American colleges and universities and the theories and factors within the learning environment which support student development.  
*Odd Fall*  
*ED - Department of Child, Family and Community Sciences*



**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.  
*Occasional*  
*ED - Department of Child, Family and Community Sciences*

**EDH 6054. Issues in Postsecondary Education**  
3(3,0). PR: Graduate standing or C.I. The course focuses on organization, management and leadership in postsecondary education, the non-compulsive educational level following completion of high school (community colleges, virtual universities).  
*Odd Summer*  
*ED - Department of Child, Family and Community Sciences*

**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.  
*Fall*  
*ED - Department of Child, Family and Community Sciences*

**EDH 6067. International Higher Education**  
3(3,0). PR: Graduate standing or C.I. Examines the variegated nature and activities of international higher education from the perspective of both theory and practice.  
*.Odd Fall*  
*ED - Department of Child, Family and Community Sciences*

**EDH 6081. 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.  
*Occasional*  
*ED - Department of Child, Family and Community Sciences*

**EDH 6105. Retention Strategies in Colleges and Universities**  
3(3,0). PR: Graduate standing. Analyzing educational and political ramifications of college attrition, with focus on variation in retention practices and strategies.  
*Even Summer*  
*ED - Department of Child, Family and Community Sciences*

**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.  
*Fall*  
*ED - Department of Child, Family and Community Sciences*

**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.  
*Spring*  
*ED - Department of Child, Family and Community Sciences*

**EDH 6305. Teaching and Learning in the Community College**  
3(3,0). PR: EDF 7232. Focuses on teaching effectiveness in the community college.  
*Fall*  
*ED - Department of Child, Family and Community Sciences*

**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.  
*Summer*  
*ED - Department of Child, Family and Community Sciences*

**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.  
*Occasional*  
*ED - Department of Child, Family and Community Sciences*

**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.  
*Spring*  
*ED - Department of Child, Family and Community Sciences*

**EDH 6632. American Professoriate and College Presidency**  
3(3,0). PR: Graduate standing or C.I. Similarities/ differences among American professoriate and college presidency in various institutions and academic disciplines. Topics relevant to faculty careers, higher education administration, student affairs, and public policy.  
*Odd Spring*  
*ED - Department of Child, Family and Community Sciences*

**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.  
*Fall*  
*ED - Department of Child, Family and Community Sciences*

**EDH 6635. Organization and Administration of Higher Education**  
3(3,0). PR: Graduate standing or C.I. Major trends and challenges of higher education organization and administration; provides synthesis and integration of historical and contemporary issues of academic governance and leadership from theoretical and practical perspectives.  
*Even Fall*  
*ED - Department of Child, Family and Community Sciences*

**EDH 6655. Athletics in the American University**  
3(3,0). Graduate standing or C.I. An examination of the historical and contemporary role of athletics in the American University with explicit focus on the student athlete and student support services of athletes.  
*Odd Fall*  
*ED - Department of Child, Family and Community Sciences*

**EDH 6656. Academic Success and the Student Athlete**  
3(3,0). Graduate standing or C.I. This course will examine the factors related to academic success including issues related to the organization and structure of athletic support services.  
*Odd Summer*  
*ED - Department of Child, Family and Community Sciences*

**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.  
*Fall*  
*ED - Department of Child, Family and Community Sciences*

**EDH 6936. Seminar for Future Professoriate**

3(3,0). PR: Admission to the Professoriate graduate certificate program or C.I. Diverse expectations and career trajectories of university faculty, professional portfolios, and critical analysis of strengths and weaknesses. Graded S/U.

*Occasional*

*ED - Department of Child, Family and Community Sciences*

**EDH 6946. Internship**

VAR. . Graded S/U. May be repeated for credit.

*ED - Department of Educational and Human Sciences*

**EDH 6947. Practicum in Student Personnel**

3(3,0). EDH 6634. Provides supervised learning experience and opportunities for assessments and evaluation. Graded S/U.

*Occasional*

*ED - Department of Educational and Human Sciences*

**EDH 7040. Research on the College Student**

3(3,0). PR: Doctoral standing. Introduction to theoretical concepts and research findings related to student characteristics, college environments, choice, student development, attrition, persistence, cognitive and affective development, and general outcomes.

*Even Spring*

*ED - Department of Child, Family and Community Sciences*

**EDH 7056. Politics/Governance/Finance Higher Education**

3(3,0). PR: Doctoral standing or C.I. Study of policy developmental process, governance issues, and financial issues in higher education.

*Spring*

*ED - Department of Child, Family and Community Sciences*

**EDH 7366. Assessment Practices in Higher Education**

3(3,0). PR: Doctoral standing or C.I. Prepares higher education leaders with necessary knowledge, understanding, and skills to create and conduct effective assessment programs and activities.

*Fall*

*ED - Department of Child, Family and Community Sciences*

**EDH 7401. Higher Education and Public Policy**

3(3,0). PR: Doctoral standing. Course examines development and analysis of US Higher Education policy issues, socio-political contexts at play in policy processes, and how competing policy agendas are negotiated.

*Odd Summer*

*ED - Department of Child, Family and Community Sciences*

**EDH 7405. Legal Issues in Higher Education**

3(3,0). PR: Doctoral standing 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. Exploration of key laws and legal concepts applicable to American institutions of higher education, including how to weigh and balance competing

rights and responsibilities of institutions, faculty, staff, and students.

*Even Fall*

*ED - Department of Child, Family and Community Sciences*

**EDH 7409. Legal Issues in Higher Education II**

3(3,0). PR: EDH 7405. Advance legal aspects in public and private institutions of higher education including case law implications of collective bargaining and relationships between colleges and students.

*Odd Fall, Odd Summer*

*ED - Department of Child, Family and Community Sciences*

**EDH 7631. Managing change, conflict, and stability in Higher Education**

3(3,0). PR: Doctoral standing or C.I. Course introduces and defines nature of change, and reviews theories of transformation in higher education; investigates various higher education change models and practical change strategies.

*Odd Fall*

*ED - Department of Child, Family and Community Sciences*

**EDH 7638. Advanced Seminar in Higher Education**

3(3,0). PR: Doctoral standing or C.I. Course explores "the enduring enigmas" in Higher Education, those long-contested controversies forging the patterns and traditions of our colleges and universities.

*Even Spring*

*ED - Department of Child, Family and Community Sciences*

**EDH 7934. Higher Ed Literature, Research, & Professional Writing Seminar**

3(3,0). Graduate standing or C.I. Provides students with research strategies and writing skills for dissertation preparation, journal writing, publication and reviewing, and conference presentation skills. Graded S/U. May be used in the degree program a maximum of 2 times only when course content is different.

*ED - Department of Educational and Human Sciences*

**EDH 7980. Dissertation**

VAR(VAR,VAR). PR: Doctoral standing. Dissertation credits course for Higher Ed doctoral students. Graded S/U. May be repeated for credit.

*Even Fall, Spring, Summer*

*ED - Department of Child, Family and Community Sciences*

**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.

*Occasional*

*ED - School of Teaching, Learning, and Leadership*

**EDM 6235. Contemporary Issues of Middle Level Education**

3(3,0). Graduate standing or C.I. Critical analysis of the contemporary educational issues that directly impact middle level schools.

*Occasional*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Occasional*

*ED - School of Teaching, Learning, and Leadership*

**EDM 6401. Principles of Middle Level Education**

3(3,0). graduate standing. Development of a professional understanding of middle schools: rationale, organization, instructional strategies and characteristics of exemplary middle schools.

*Occasional*

*ED - School of Teaching, Learning, and Leadership*

**EDP 6213. Seminar in Applied Learning and Instruction I**

3(3,0). PR: Graduate standing or C.I. An overview of contemporary theories and research related to human learning and instruction with a focus on affective and motivational issues surrounding learning and instruction.

*Fall*

*ED - School of Teaching, Learning, and Leadership*

**EDP 6217. Seminar in Applied Learning and Instruction II**

3(3,0). PR: EDP 6213 or C.I. An overview of contemporary theories and research in human learning and instruction. Emphasis on cognition, critical thinking, problem-solving, individual differences, and assessment of learning outcomes.

*Spring*

*ED - School of Teaching, Learning, and Leadership*

**EDP 6936. Capstone in Applied Learning & Instruction**

1-6(1-6-0). PR: EDP 6213, EDP 6217, EDF 6216, or C.I. Students use critical thinking and written communication skills to integrate and apply material learned in courses in learning, instruction, and motivation. Graded S/U. Variable credit, 1-6. May be used in the degree program a maximum of 2 times.

*Fall, Spring, Summer*

*ED - School of Teaching, Learning, and Leadership*

**EDP 7517. Facilitating Learning, Development & Motivation**

3(3,0). PR: Admission to the Education Ed.D. program. Emphasizes using theory and research in learning, development, and motivation to diagnose and solve learning and motivational problems in diverse educational environments.

*Fall*

*ED - College-ED*

**EDS 5356. Mentoring and Clinical Supervision of Pre-professional Educators**

3(2,1). PR: C.I. The practical application of coaching and mentoring practices that satisfy the standards of clinical supervision and assure attainment of the Florida Educator Accomplished Practices.

*Fall, Spring, Summer*

*ED - School of Teaching, Learning, and Leadership*

**EDS 6053. Trends in Educational Supervision**

3(3,0). Basic supervision course or C.I. Examination and analysis of the trends, issues, and problems in educational supervision.

*ED - School of Teaching, Learning, and Leadership*

**EDS 6100. Leadership**

3(3,0). 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 - School of Teaching, Learning, and Leadership*

**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.

*Fall, Spring, Summer*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Fall, Spring, Summer*

*ED - School of Teaching, Learning, and Leadership*

**EDS 6365. Education and National Development**

3(3,0). PR: Graduate standing. This course explores current issues and relationships between education and national development by studying multinational institutions and nongovernmental organizations engaged in educational planning worldwide.

*Fall*

*ED - Department of Child, Family and Community Sciences*

**EDS 7111. Administration and Supervision of Staff Development**

3(2,1). 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 - Department of Educational and Human Sciences*

**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.

*Summer*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Spring*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Even Fall*

*ED - School of Teaching, Learning, and Leadership*

**EEC 5745. Child Life: Psychosocial Care of Children in Health Settings**

3(3,0). PR: EEC 3700 or C.I. Course teaches Child Life theory and practice to students wanting to work with children, youth, and their families in hospitals and pediatric health settings.

*Odd Spring*

*ED - School of Teaching, Learning, and Leadership*

**EEC 6216. 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.

*Spring*

*ED - School of Teaching, Learning, and Leadership*

**EEC 6269. Play Development, Intervention, and Assessment**

3(3,0). . Explores play development, facilitation, intervention, and assessment.

*Even Summer*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Fall*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Spring*

*ED - School of Teaching, Learning, and Leadership*

**EEC 6525. Early Childhood Program Administration**

3(3,0). Graduate standing. Organizational and administrative theories as they relate to practice in selected early childhood services.

*Occasional*

*ED - Department of Child, Family and Community Sciences*

**EEC 6606. Global Issues in Early Childhood**

3(3,0). PR: Graduate standing or C.I. This course is designed to provide our students with global perspectives on early childhood development and engage our students in international research activities.

*Fall*

*ED - School of Teaching, Learning, and Leadership*

**EEC 6947. Practicum in Child, Family, and Community Sciences**

6(1-6,0). PR: Graduate standing or C.I. Field-based placement in a social service agency, childcare center, hospital, or school, working with a mentor family liaison to develop skills/ knowledge with diverse families.

*Fall, Spring, Summer*

*ED - School of Teaching, Learning, and Leadership*

**EEC 7055. Advocacy, Public Policy, and Program Evaluation**

3(3,0). PR: Admission to the program or C.I. Research-based practice as it relates to child advocacy and changes in public policy.

*Spring*

*ED - School of Teaching, Learning, and Leadership*

**EEC 7058. Theoretical Foundations of Early Childhood**

3(3,0). PR: Admission to the program or C.I. Theoretical bases of early childhood, philosophy, and current research in early childhood.

*Fall*

*ED - School of Teaching, Learning, and Leadership*

**EEC 7409. Current Trends in Child, Family, and Community Sciences**

3(3,0). PR: Admission to the program or C.I. This course examines emerging and current trends in the field of Child, Family, and Community Sciences.

*Summer*

*ED - School of Teaching, Learning, and Leadership*

**EEC 7673. Early Childhood: Professional Publishing and Grant Writing**

3(3,0). PR: Admission to the program or C.I. This course examines the aspects of grant writing and writing of professional journals for the field of early childhood.

*Fall*

*ED - School of Teaching, Learning, and Leadership*

**EEC 7676. Critical Analysis of Early Childhood Research**

3(3,0). PR: Admission to the program or C.I. This course examines research, theories, and trends in early childhood and how they influence perspectives related to young children.

*Spring*

*ED - School of Teaching, Learning, and Leadership*

**EEC 7945. Early Childhood: Internship in Teaching and Supervision**

3(3,0). PR: Admission to the program or C.I. Examine and practice the various roles of an early childhood college professor focusing on undergraduate teaching and supervision. May be used in the degree program a maximum of 4 times.

*Fall, Spring, Summer*

*ED - School of Teaching, Learning, and Leadership*

**EEC 7948. Early Childhood: Internship in Research**

3(3,0). PR: Admission to the program or C.I. Examine and practice the various roles of an early childhood college professor focusing on research. May be used in the degree program a maximum of 4 times.

*Fall, Spring, Summer*

*ED - School of Teaching, Learning, and Leadership*

**EEE 5265. Biomedical Effects and Applications of Electromagnetic Energy**

3(3,0). EEL 3470 or C.I. RF and microwave energy and their interaction with biological materials. Specific biomedical effects such as absorption, thermal therapy, hyperthermia, etc., will be discussed.

*Even Spring*

*ECS - Department of Electrical Engineering and Computer Science*

**EEE 5332C. Thin Film Technology**

3(2,1). PR: EEE 3350 or equivalent. Presents the various thin film deposition techniques for the fabrication of microelectronic, semiconductor, and optical devices.

*Occasional*

*ECS - Department of Electrical Engineering and Computer Science*



**EEE 5352. Semiconductor Material and Device Characterization**

3(3,0). PR: EEE 3350 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.

*Occasional*

*ECS - Department of Electrical Engineering and Computer Science*

**EEE 5353. Semiconductor Device Modeling and Simulation**

3(3,0). PR: EEE 3307C. Large signal and small signal model development for semiconductor diodes, BJTs, and MOSFETs. Parameter extraction, numerical algorithm, and SPICE simulation are included.

*Spring*

*ECS - Department of Electrical Engineering and Computer Science*

**EEE 5356C. Fabrication of Solid-State Devices**

4(3,3). PR: EEE 3350. Fabrication of microelectronic devices, processing technology, ion implantation and diffusion, device design, and layout. Laboratory includes device processing technology.

*Fall, Spring*

*ECS - Department of Electrical Engineering and Computer Science*

**EEE 5370. Operational Amplifiers**

3(3,0). PR: EEE 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.

*Even Fall*

*ECS - Department of Electrical Engineering and Computer Science*

**EEE 5378. CMOS Analog and Digital Circuit Design**

3(3,0). PR: EEE 4309C. Advanced principles and design techniques for CMOS ICs including most recent published results.

*Fall*

*ECS - Department of Electrical Engineering and Computer Science*

**EEE 5390C. Full-Custom VLSI Design**

3(2,3). EEE 3342C, EEE 3307C. Provide background in integrated devices, circuits, and digital subsystems needed for design and implementation of silicon logic chips.

*ECS - Department of Electrical Engineering and Computer Science*

**EEE 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.

*Spring*

*ECS - Department of Electrical Engineering and Computer Science*

**EEE 5542. Random Processes I**

3(3,0). PR: EEL 3552C and STA 3032. Elements of probability theory, random variables, and stochastic processes.

*Fall, Spring*

ECS - Department of Electrical Engineering and Computer Science

**EEE 5555. 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.

*Occasional*

*ECS - Department of Electrical Engineering and Computer Science*

**EEE 5557. 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.

*Spring*

*ECS - Department of Electrical Engineering and Computer Science*

**EEE 6317. Power Semiconductor Devices and Integrated Circuits**

3(3,0). PR: EEE 3350 or equivalent or C.I. Fundamental understanding of modern power semiconductor devices and integrated circuits (ICs) in relation to their applications in power electronics systems.

*Spring*

*ECS - Department of Electrical Engineering and Computer Science*

**EEE 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.

*Occasional*

*ECS - Department of Electrical Engineering and Computer Science*

**EEE 6327. Design of Video Coding Systems**

3(3,0). PR: EEL 4768C and EEL 4750. VLSI architectures and image/video coding algorithms, image/video coding standards, and architectural issues related with area/power/performance.

*Spring*

*ECS - Department of Electrical Engineering and Computer Science*

**EEE 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.

*Occasional*

*ECS - Department of Electrical Engineering and Computer Science*

**EEE 6347. Trustworthy Hardware**

3(3,0). EEE 5390C or EEL 5704 or C.I. Introduce the concept of trustworthy hardware. Review scientific publications in the area of trustworthy hardware. Design, analyze, and evaluate trustworthy embedded systems.

*Occasional*

*ECS - Department of Electrical Engineering and Computer Science*

**EEE 6358. Advanced Semiconductor Device I**

3(3,0). PR: EEE 3350. First course in advanced



semiconductor device physics and modeling. Main stream devices including junctions diode, bipolar transistor, and metal-oxide field-effect transistor.

*Spring*

*ECS - Department of Electrical Engineering and Computer Science*

**EEE 6371. Advanced Electronics I**

3(3,0). PR: EEE 5378 or EEE 5370. Models for integrated-circuit active devices. Analysis and design of IC amplifiers. Feedback amplifiers. Frequency response and stability. Compensation of amplifiers.

*Even Spring*

*ECS - Department of Electrical Engineering and Computer Science*

**EEE 6372. Advanced Topics in Electronics**

3(3,0). PR: EEE 6371 or C.I. Advanced and current topics in electronics such as power electronics and semiconductor integrated circuits.

*Occasional*

*ECS - Department of Electrical Engineering and Computer Science*

**EEE 6406. Modern EDA Algorithms in VLSI**

3(3,0). PR: EEL 4783. This course covers all of the most important aspects of modern Electronic Design Automation (EDA) software: logic synthesis, circuit placement, and routing algorithms. Students will not only learn theory but also gain hands-on experience by doing a software project.

*Spring*

*ECS - Department of Electrical Engineering and Computer Science*

**EEE 6475. CMOS Analog and Digital Integrated Circuit Design**

3(3,0). PR: EEE 4309C or C.I. The objective of this class is to teach the graduate students the principle and techniques of CMOS IC design for high performance, low power, and RF applications.

*Fall*

*ECS - Department of Electrical Engineering and Computer Science*

**EEE 6504. Adaptive Digital Signal Processing**

3(3,0). PR: EEE 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.

*Spring*

*ECS - Department of Electrical Engineering and Computer Science*

**EEE 6505. Multidimensional Digital Processing**

3(3,0). EEE 5513 or C.I. Multidimensional signals and systems. Two-dimensional transforms and filters. Image processing applications.

*Occasional*

*ECS - Department of Electrical Engineering and Computer Science*

**EEE 6508. 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, and speech processing.

*Occasional*

*ECS - Department of Electrical Engineering and Computer*

*Science*

**EEE 6543. Random Processes II**

3(3,0). PR: EEE 5542. Stochastic processes. Mean-squared estimation. Queueing theory. Spectral estimation.

Applications to communications and radar systems.

*Occasional*

*ECS - Department of Electrical Engineering and Computer Science*

**EEE 6558. Advanced Radar Systems**

3(3,0). EEE 5557. Advanced radar concepts: electromagnetic propagation and target scattering & fading; radar signal processing - target parameter estimation & information extraction, and radar system design.

*ECS - Department of Electrical Engineering and Computer Science*

**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.

*Spring*

*ECS - Department of Electrical Engineering and Computer Science*

**EEL 5185. System Identification**

3(3,0). PR: EEL 3657 or C.I. Dynamic systems, models of time-invariant linear, time-varying and nonlinear systems, nonparametric frequency- and time-domain identification methods, kernel expansion techniques, parameter estimation methods, experiment design, and applications.

*Spring*

*ECS - Department of Electrical Engineering and Computer Science*

**EEL 5245C. Power Electronics**

3(2,1). PR: EEE 4309C. Principles of power electronics, power semiconductor devices, inverter topologies, switch-mode and resonant dc-to-dc converters, cyclo-converters, applications.

*Fall*

*ECS - Department of Electrical Engineering and Computer Science*

**EEL 5272. Biomedical Sensors**

3(3,0). PR: EEL 4750 or EEL 4832 or C.I. Study of engineering concepts behind the various biomedical sensors used to monitor a patient undergoing clinical therapy.

*Occasional*

*ECS - Department of Electrical Engineering and Computer Science*

**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.

*Occasional*

*ECS - Department of Electrical Engineering and Computer Science*

**EEL 5437C. Microwave Engineering**

4(3,3). PR: EEL 3470 or C.I. Transmission line theory, Smith charts, S-parameters, simple impedance matching circuits, wave guides, resonators, basic microwave measurements.

*Fall*

*ECS - Department of Electrical Engineering and Computer Science*

**EEL 5439C. RF and Microwave Communications**

4(3,3). PR: EEL 4436C or equivalent. RF and microwave active circuits microstrip amplifier, oscillator, and mixer design and fabrication. Receiver design, noise, familiarization with network and spectrum analyzers.

*Spring*

*ECS - Department of Electrical Engineering and Computer Science*

**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.

*Odd Fall*

*ECS - Department of Electrical Engineering and Computer Science*

**EEL 5625. Applied Control Systems**

3(3,0). 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.

*Occasional*

*ECS - Department of Electrical Engineering and Computer Science*

**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.

*Fall*

*ECS - Department of Electrical Engineering and Computer Science*

**EEL 5669. Autonomous Robotic Systems**

3(3,0). PR: EEL 3657 or C.I. Introduction to robotics, with emphasis on kinematics, dynamics, trajectory planning, regulation and tracking, formation control, and cooperative rules and behaviors of robotic vehicles.

*Odd Fall*

*ECS - Department of Electrical Engineering and Computer Science*

**EEL 5690. Introduction to Medical Robotics and Tele-Operation**

3(3,0). PR: EEL 3657 or Medical students in their second year or later. Medical robots for minimally invasive surgery, kinematics, constrained workspace and dexterity, haptics, tele-operation and network based control, basics of laparoscopic surgery.

*Occasional*

*ECS - Department of Electrical Engineering and Computer Science*

**EEL 5704. Computer Aided Logical Design**

3(3,0). EEL 4742C. Design, analysis and synthesis of sequential logic circuits and systems. Data path and controller design using a hardware description language.

*Occasional*

*ECS - Department of Electrical Engineering and Computer Science*

**EEL 5722C. Field-Programmable Gate Array (FPGA)**

**Design**

3(3,3). PR: EEE 3342C or C.I. FPGA architectures, design flow, technology mapping, placement, routing, reconfigurable computing applications, and evolvable hardware.

*Even Fall*

*ECS - Department of Electrical Engineering and Computer Science*

**EEL 5771C. Engineering Applications of Computer Graphics**

3(2,3). PR: EGN 3420 or C.I. Computer graphics in engineering applications. Laboratory assignments.

*Occasional*

*ECS - Department of Electrical Engineering and Computer Science*

**EEL 5780. Wireless Networks**

3(3,0). PR: EEL 4781 or C.I. The wireless networking topics include: cellular networks, multiple access protocols, channel assignment and resource allocation, mobility and location management, handoffs, routing, authentication, call admission control and QoS provisioning, network layer issues, wireless data networking (WAP, GSM, GPRS, CDMA, WCDMA.).

*Even Spring*

*ECS - Department of Electrical Engineering and Computer Science*

**EEL 5820. Image Processing**

3(3,0). PR: MAP 2302, 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.

*Odd Spring*

*ECS - Department of Electrical Engineering and Computer Science*

**EEL 5825. Pattern Recognition**

3(3,0). PR: EEL 4750 or C.I. Preliminaries of pattern recognition, Bayesian Decision Theory, linear discriminant functions, Neural Network approaches, decision tree classifiers, unsupervised learning and clustering, non-parametric techniques, and other topics reflecting the state-of-the art.

*Occasional*

*ECS - Department of Electrical Engineering and Computer Science*

**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.

*Occasional*

*ECS - Department of Electrical Engineering and Computer Science*

**EEL 5874. Expert Systems and Knowledge Engineering**

3(3,0). PR: EEL 4872 or CAP 4630 C.I. Introduction to expert systems in engineering. Expert systems tools and interviewing techniques. This course is hands-on and project oriented.

*Spring*

*ECS - Department of Electrical Engineering and Computer*

## Science

**EEL 5881. Software Engineering I**

3(3,0). PR: COP 4331C or C.I. Design, implementation, and testing of computer software for Engineering applications.

*Fall, Spring*

*ECS - Department of Electrical Engineering and Computer Science*

**EEL 5936. Current Topics in EECS**

0(1,0). PR: Open to all ECE graduate students. Lectures presented by ECE and national lectures will provide our students a broad view of the state of the art EE and CE fields. Graded S/U.

*ECS - Department of Electrical Engineering and Computer Science*

**EEL 6026. Optimization of Engineering Systems**

3(3,0). PR: Graduate standing and C.I. A unified treatment of optimization methods often used to solve problems in engineering and applied sciences. Software packages are used when appropriate.

*Occasional*

*ECS - Department of Electrical Engineering and Computer Science*

**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.

*Occasional*

*ECS - Department of Electrical Engineering and Computer Science*

**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.

*Occasional*

*ECS - Department of Electrical Engineering and Computer Science*

**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 and control and power system stability.

*Occasional*

*ECS - Department of Electrical Engineering and Computer Science*

**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.

*Occasional*

*ECS - Department of Electrical Engineering and Computer Science*

**EEL 6272. Smart Power Grids Protection**

3(3,0). EEL 4216 or C.I. Different aspects of protection of smart grids. Provides a comprehensive understanding of protection of modern power systems including protection of renewable energies and protection of automated power

systems.

*Spring*

*ECS - Department of Electrical Engineering and Computer Science*

**EEL 6425C. RF and Microwave Measurement Techniques**

4(3,3). PR: EEL 4436C or EEL 6482 or EEL 5439C or C.I. RF and Microwave components in wireless systems; i.e., antennas, passive components, active circuits, as well as noise, modulation are characterized by measurement and designed/verified by EM/circuit software.

*Fall*

*ECS - Department of Electrical Engineering and Computer Science*

**EEL 6463. Antenna Analysis and Design II**

3(3,0). PR: EEL 5462C. Aperture antennas, reflectors, and microstrip antennas.

*Even Spring*

*ECS - Department of Electrical Engineering and Computer Science*

**EEL 6481. Numerical Techniques in Electromagnetics**

3(3,0). PR: EEL 6488 or C.I. Applications of finite difference methods (FDTD), finite element method, integral equation method (method of moments) to electromagnetics.

*Occasional*

*ECS - Department of Electrical Engineering and Computer Science*

**EEL 6482. Electromagnetic Theory I**

3(3,0). PR: EEL 5439C or C.I. Maxwell's equations, boundary conditions, propagation and reflection, electromagnetic theorems and principles, guided waves and scattering.

*Fall*

*ECS - Department of Electrical Engineering and Computer Science*

**EEL 6488. Electromagnetic Theory II**

3(3,0). PR: EEL 6482 or C.I. Scattering, diffraction, Green's function, and method of moments.

*Occasional*

*ECS - Department of Electrical Engineering and Computer Science*

**EEL 6489. Advanced Topics in Electromagnetics and Microwaves**

3(3,0). PR: C.I. Advanced and current topics in EM fields, antennas, and microwaves.

*Occasional*

*ECS - Department of Electrical Engineering and Computer Science*

**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.

*Fall*

*ECS - Department of Electrical Engineering and Computer Science*

**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.

*Spring*

ECS - Department of Electrical Engineering and Computer Science

**EEL 6532. Information Theory and Coding**

3(3,0). PR: EEE 5542 or C.I. Concepts regarding information: Covers entropy, channel capacity, Shannon's theorems, Fano's inequality, coding theory, linear, Hamming, and cyclic codes, Hamming, Singleton, Gilbert-Varshamov, and Plotkin Bounds.

Spring

ECS - Department of Electrical Engineering and Computer Science

**EEL 6537. Detection and Estimation**

3(3,0). EEE 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.

Occasional

ECS - Department of Electrical Engineering and Computer Science

**EEL 6590. Advanced Topics in Communications**

3(3,0). PR: C.I. Advanced and current topics in communications, such as coding theory, information theory, spread spectrum, etc.

Occasional

ECS - Department of Electrical Engineering and Computer Science

**EEL 6616. Adaptive Control**

3(3,0). PR: EEL 5173. System identification and adaptive control design, including identification algorithms, MRAC, STR, and stochastic adaptive control. Lyapunov stability and input-output stability.

Occasional

ECS - Department of Electrical Engineering and Computer Science

**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.

Occasional

ECS - Department of Electrical Engineering and Computer Science

**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.

Even Fall

ECS - Department of Electrical Engineering and Computer Science

**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.

Occasional

ECS - Department of Electrical Engineering and Computer Science

**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, and robustness.

Occasional

ECS - Department of Electrical Engineering and Computer Science

**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.

Occasional

ECS - Department of Electrical Engineering and Computer Science

**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.

Occasional

ECS - Department of Electrical Engineering and Computer Science

**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.

Occasional

ECS - Department of Electrical Engineering and Computer Science

**EEL 6683. Cooperative Control of Networked Autonomous Systems**

3(3,0). PR: EEL 5173 or C.I. Fundamentals of cooperative control theory for autonomous vehicles and agents, with emphasis on consensus, effects of intermittent and delayed communication/sensing network, and cooperative control designs.

Odd Fall

ECS - Department of Electrical Engineering and Computer Science

**EEL 6723. Reconfigurable Logic Applications**

3(3,0). PR: EEL 5722C or C.I. Field-programmable gate array (FPGA) architectures, reconfigurable computing applications, and emerging central processing unit CPU+FPGA hybrid platform. The overall objective is to investigate the state-of-the-art FPGA-based reconfigurable computing both from a hardware and software perspective.

Odd Spring

ECS - Department of Electrical Engineering and Computer Science

**EEL 6760. Data Intensive Computing**

3(3,0). PR: CDA 5106 or C. I. Data intensive computing and its enabling systems architectures such as MapReduce, cloud computing and storage, with a focus on system architecture, middleware and building blocks, programming models, algorithmic design, and application development.

Occasional

ECS - Department of Electrical Engineering and Computer Science

**EEL 6762. Performance Analysis of Computer and**



**Communication Systems**

3(3,0). PR: EEL 4742C and STA 3032 or C.I. Stochastic modeling and discrete-event simulation; Markov chains; networks of queues; SemiMarkov models; application to multiprocessor systems, switching and multi-user communications.

*Occasional*

ECS - Department of Electrical Engineering and Computer Science

**EEL 6769. Parallel Knowledge Processing Systems**

3(3,0). PR: EEL 6762 and EEL 5874 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.

*Occasional*

ECS - Department of Electrical Engineering and Computer Science

**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.

*Fall*

ECS - Department of Electrical Engineering and Computer Science

**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.

*Odd Fall*

ECS - Department of Electrical Engineering and Computer Science

**EEL 6812. Introduction to Neural Networks**

3(3,0). PR: EEL 5825 or C.I. Preliminaries of Neural Networks, simple layer perceptrons, multi-layer perceptrons, Kohonen neural networks, radial basis function neural networks, adaptive resonance theory neural networks, and support vector machines.

*Spring*

ECS - Department of Electrical Engineering and Computer Science

**EEL 6823. Image Processing II**

3(3,0). EEL 5820 or C.I. Advance topics in image processing: nonlinear and adaptive filtering morphological processing, color image processing, texture analysis, and image encoding.

*Occasional*

ECS - Department of Electrical Engineering and Computer Science

**EEL 6843. Machine Perception**

3(3,0). 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.

*Occasional*

ECS - Department of Electrical Engineering and Computer Science

**EEL 6865. Architecture and Design of Software Intensive Systems**

3(3,0). 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.

*Occasional*

ECS - Department of Electrical Engineering and Computer Science

**EEL 6875. Autonomous Agents**

3(3,0). PR: EEL 4872 or CAP 4630 or C.I. Agent architectures, including behavioral, decision theoretic and logic (BDI) based. Multi-agent systems, agent communication languages. Negotiation, argumentation, coalition formation. Project oriented.

*Occasional*

ECS - Department of Electrical Engineering and Computer Science

**EEL 6876. Current Topics in Artificial Intelligence**

3(3,0). PR: EEL 4872 or CAP 4630 or C.I. Review of the state-of-the-art research in selected current topics in artificial intelligence. Includes extensive review of current literature and class discussion.

*Occasional*

ECS - Department of Electrical Engineering and Computer Science

**EEL 6878. Modeling and Artificial Intelligence**

3(3,0). PR: EEL 4872 or CAP 4630 or C.I. Introduction to artificial intelligence techniques applied to computer-based modeling, simulation, and training.

*Occasional*

ECS - Department of Electrical Engineering and Computer Science

**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.

*Spring*

ECS - Department of Electrical Engineering and Computer Science

**EEL 6885. Software Engineering Quality Assurance Methods**

3(3,0). EEL 5881, EEL 6883. Methods for verification and validation of software quality, including software engineering metrics and models.

*Occasional*

ECS - Department of Electrical Engineering and Computer Science

**EEL 6886. Software Testing Theory**

3(3,0). 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.

*Occasional*

ECS - Department of Electrical Engineering and Computer Science

**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.



*Occasional*

ECS - Department of Electrical Engineering and Computer Science

**EES 5318. Industrial Ecology**

3(3,0). PR: ENV 3001, ENV 4341. Discussion of similarities between ecological systems and industrial systems with the emphasis on material cycles, energy flow, pollution prevention, organizational structures, and environmental management.

*Occasional*

ECS - Department of Civil, Environmental, and Construction Engineering

**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.

*Fall, Summer*

ED - Department of Child, Family and Community Sciences

**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.

*Spring*

ED - Department of Child, Family and Community Sciences

**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.

*Summer*

ED - Department of Child, Family and Community Sciences

**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.

*Fall*

ED - Department of Child, Family and Community Sciences

**EEX 6028. Challenges of Poverty in Special Education**

3(3,0). 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.

*Occasional*

ED - Department of Child, Family and Community Sciences

**EEX 6061. Instructional Strategies Pre-K-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.

*Spring*

ED - Department of Child, Family and Community Sciences

**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.

*Spring*

ED - Department of Child, Family and Community Sciences

**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.

*Fall*

ED - Department of Child, Family and Community Sciences

**EEX 6218. Diagnostic Assessment and Intervention Planning in Exceptional Education**

3(3,0). PR: Graduate standing or C.I. This course develops advanced instructional and intervention planning and decision-making knowledge and skills using school and classroom-based instructional data in reading and mathematics.

*Summer*

ED - Department of Child, Family and Community Sciences

**EEX 6222. Observation and Assessment of Young Children**

3(3,0). . Study of formal and informal observation and assessment.

*Summer*

ED - Department of Child, Family and Community Sciences

**EEX 6246. Nature of Autism: Theory and Educational Practice**

3(3,0). . Theory and teaching applications for students with autism spectrum disorders includes 20 hour field-based experience. Designed for application towards requirements for State Endorsement in Autism.

*Fall, Spring*

ED - Department of Child, Family and Community Sciences

**EEX 6295. 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.

*Summer*

ED - Department of Child, Family and Community Sciences

**EEX 6297. Assessment, Diagnosis, and Curriculum Prescriptions for Students with Autism**

3(3,0). . Contemporary assessments and models for assessing exceptional children to address curriculum and prescription. Specific emphasis is placed on assessment of students with autism spectrum disorders.

*Fall, Spring*

ED - Department of Child, Family and Community Sciences

**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.

*Summer*

ED - Department of Child, Family and Community Sciences

**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.

*Spring*

*ED - Department of Child, Family and Community Sciences*

**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.

*Fall*

*ED - Department of Child, Family and Community Sciences*

**EEX 6759. Transition Planning and Interdisciplinary Teaming for Students with Disabilities**

3(3,0). PR: Graduate standing or C.I. Interdisciplinary teaming to include available resources, the recognition of the role of parents, teachers, and other professionals; functional community-based curriculum; employability skills; and transition planning.

*Fall, Summer*

*ED - Department of Child, Family and Community Sciences*

**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.

*Occasional*

*ED - Department of Child, Family and Community Sciences*

**EEX 7320. Program Evaluation and Planning in Special Education**

3(3,0). PR: Admission to Education PhD 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.

*Odd Spring*

*ED - Department of Child, Family and Community Sciences*

**EEX 7428. Personnel Preparation: Special Education**

3(3,0). PR: Admission to Education PhD 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.

*Spring*

*ED - Department of Child, Family and Community Sciences*

**EEX 7527. Professional Writing Grant Writing in Special Education**

3(3,0). PR: Admission to Education PhD program. 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.

*Fall, Summer*

*ED - Department of Child, Family and Community Sciences*

**EEX 7536. Seminar: Urban Special Education Leadership**

3(3,0). PR: Doctoral standing. Focus on how districts, schools, and communities can improve educational outcomes for children with disabilities and children who are at risk in urban settings.

*Summer*

*ED - Department of Child, Family and Community Sciences*

**EEX 7766. Technology Research Training in Special Education**

3(3,0). PR: Admission to Education PhD 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.

*Even Spring*

*ED - Department of Child, Family and Community Sciences*

**EEX 7865. Internship in College Instruction in Special Education**

3(3,0). PR: Admission to Education PhD program. Supervised experience in design, delivery, and evaluation of a college course in special education or disability services.

*Fall, Spring*

*ED - Department of Child, Family and Community Sciences*

**EEX 7866. Internship in Practicum Supervision in Special Education**

3(3,0). PR: Admission to Education PhD program. Supervised experience in observing, supervising, and evaluating student teacher performance in a practicum setting in special education or disability services.

*Fall, Spring*

*ED - Department of Child, Family and Community Sciences*

**EEX 7936. Current Issues Trends in Special Education**

3(3,0). PR: Admission to PhD 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.

*Fall*

*ED - Department of Child, Family and Community Sciences*

**EEX 7947. Internship in Special Education Policy and Leadership**

3(0,3). PR: Admission to Exceptional Education track of the Ph.D. in Education or C.I. Supervised internship experience in policy analysis and application in special education and disability services. May be used in the degree program a maximum of 3 times only when course content is different.

*Summer*

*ED - Department of Child, Family and Community Sciences*

**EGC 6431. Guiding Human Relationships I**

3(3,0). C.I. Human relationship skills that will enhance intrapersonal and interpersonal relationship skills in classrooms.

*Occasional*

*ED - Department of Educational and Human Sciences*

**EGC 6432. Guiding Human Relationships II**

3(3,0). C.I. Advanced human relationship skills that will enhance intrapersonal and interpersonal relationship skills in classrooms.

*Occasional*

*ED - Department of Educational and Human Sciences*

**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.

*Occasional*

*ED - School of Teaching, Learning, and Leadership*

**EGI 6245. Program Planning and 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.

*Occasional*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Occasional*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Occasional*

*ED - School of Teaching, Learning, and Leadership*

**EGI 6417. Guidance and Counseling Strategies for Teachers of Gifted & Talented Individuals**

3(3,0). PR: Graduate standing or C.I. Guidance and counseling procedures and strategies for teachers of gifted/talented students, including student group dynamics; communication with parents; career goals; alternative educational opportunities.

*Spring*

*ED - School of Teaching, Learning, and Leadership*

**EGM 6653. Theory of Elasticity and Plasticity**

3(3,0). PR: EML 5237. Review of stress and strain; solution by tensor stress and potential functions; linear and nonlinear elasticity; constitutive models; for elastic-(visco) plastic solids.

*Occasional*

*ECS - Mechanical & Aerospace*

**EGN 5840. Small Rocket Applications for Teachers**

3(3,0). PR: Admission to Lockheed Martin UCF Teaching 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 experiments.

*Occasional*

*ECS - Mechanical & Aerospace*

**EIN 5108. The Environment of Technical Organizations**

3(3,0). PR: Graduate status or CI; 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.

*Fall*

*ECS - Department of Industrial Engineering and Management Systems*

**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.

*Spring*

*ECS - Department of Industrial Engineering and Management Systems*

**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.

*Fall, Spring*

*ECS - Department of Industrial Engineering and Management Systems*

**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.

*Fall*

*ECS - Department of Industrial Engineering and Management Systems*

**EIN 5251. Usability Engineering**

3(3,0). PR: STA 3032 or equivalent. Usability paradigms/principles; cognitive walk-throughs; heuristic, review-based, model-based, empirical and storyboard evaluation; techniques; query techniques; laboratory techniques; and field study approaches.

*Spring*

*ECS - Department of Industrial Engineering and Management Systems*

**EIN 5255C. Interactive Simulation**

3(2,2). PR: Graduate standing or C.I. Introduction to significant topics relative to the development and use of simulators for knowledge transfer in the technical environment.

*Fall*

*ECS - Department of Industrial Engineering and Management Systems*

**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.

*Occasional*

*ECS - Department of Industrial Engineering and Management Systems*

**EIN 5346. Engineering Logistics**

3(3,0). . Study of the logistics life cycle involving planning, analysis and design, testing, production, distribution, and support.

*Occasional*

*ECS - Department of Industrial Engineering and Management Systems*

**EIN 5356. Cost Engineering**

3(3,0). . Cost estimation and control of engineering systems throughout the product life cycle.

*Occasional*

*ECS - Department of Industrial Engineering and Management Systems*

**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.

*Occasional*

*ECS - Department of Industrial Engineering and Management Systems*

**EIN 6182. Engineering Management**

3(3,0). PR: EIN 5140, EIN 5108, EIN 6370. Capstone investigation and analysis of topics for improving engineering enterprises in national and international competitive environments. Quantitative engineering tools/methods will be used.

*Spring*

*ECS - Department of Industrial Engineering and Management Systems*

**EIN 6215. System Safety Engineering and Management**

3(3,0). PR: C.I. Occupational injury and accident statistic. Accident investigation and prevention methods. Hazard analysis. Occupational safety and health standards and regulations. Product safety and liability.

*Spring*

*ECS - Department of Industrial Engineering and Management Systems*

**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.

*Fall*

*ECS - Department of Industrial Engineering and Management Systems*

**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.

*Occasional*

*ECS - Department of Industrial Engineering and Management Systems*

**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.

*Even Spring*

*ECS - Department of Industrial Engineering and Management Systems*

**EIN 6271. Human Reliability**

3(3,0). PR: ESI 5219. Methods for analysis and quantification of human performance; human error probability; applications to design and analysis of new and redesign of existing aviation, industrial, management, and power generation systems.

*Occasional*

*ECS - Department of Industrial Engineering and Management Systems*

**EIN 6279C. 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.

*Odd Spring*

*ECS - Department of Industrial Engineering and Management Systems*

**EIN 6326. Technology Strategy**

3(3,0). PR: Graduate status. This course is designed to expose engineering management students to cutting edge tools and concepts for managing technology and product

strategy. May be repeated for credit.

*Occasional*

*ECS - Department of Industrial Engineering and Management Systems*

**EIN 6336. Production and Inventory Control**

3(3,0). PR: EIN 4333C or equivalent. Review of models and techniques used in forecasting, production control and inventory control. Includes aggregate planning, production scheduling, inventory management, models, etc.

*Spring*

*ECS - Department of Industrial Engineering and Management Systems*

**EIN 6339. Operations Engineering**

3(3,0). PR: EIN 6357, ESI 5306, 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.

*Fall*

*ECS - Department of Industrial Engineering and Management Systems*

**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.

*Fall, Spring*

*ECS - Department of Industrial Engineering and Management Systems*

**EIN 6370. Innovation in Engineering Design**

3(3,0). PR: Graduate standing or C.I. Explores techniques for innovation and presents methods for engineers to foster innovation when designing new products or systems.

*Fall*

*ECS - Department of Industrial Engineering and Management Systems*

**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.

*Occasional*

*ECS - Department of Industrial Engineering and Management Systems*

**EIN 6459. Concurrent Engineering**

3(3,0). . Elements of concurrent engineering and its applications. Topics include quality function deployment, design for manufacturability, and design for assembly.

*Occasional*

*ECS - Department of Industrial Engineering and Management Systems*

**EIN 6528. Simulation Based Life Cycle Engineering**

3(3,0). PR: EIN 5255C or DIG 5875C or EIN 5117. This course examines the phenomenon of simulation based life cycle engineering. Case studies illustrate infrastructure and organization change necessary to gain operational and strategic advantage.

*Occasional*

*ECS - Department of Industrial Engineering and Management Systems*



**EIN 6645. Real-Time Simulation Agents**

3(3,0). PR: EIN 5255C. 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.

*Spring*

*ECS - Department of Industrial Engineering and Management Systems*

**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.

*Occasional*

*ECS - Department of Industrial Engineering and Management Systems*

**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.

*Occasional*

*ECS - Department of Industrial Engineering and Management Systems*

**EIN 6935. Advanced Ergonomics Topics**

3(3,0). PR: C.I. Seminar treatment of selected advanced topics in ergonomics.

*Occasional*

*ECS - Department of Industrial Engineering and Management Systems*

**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.

*Occasional*

*ECS - Department of Industrial Engineering and Management Systems*

**ELD 6146. 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.

*Occasional*

*ED - Department of Child, Family and Community Sciences*

**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 - Department of Child, Family and Community Sciences*

**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.

*Occasional*

*ECS - Materials Sci & Engineer*

**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.

*Fall*

*ECS - Materials Sci & Engineer*

**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.

*Occasional*

*ECS - Materials Sci & Engineer*

**EMA 5108. Surface Science**

3(3,0). PHY 2049C and C.I. Methods of chemical and physical analysis of surfaces, with emphasis on ultra-high vacuum spectroscopies utilizing electron, ion and photon probes.

*Occasional*

*ECS - Department of Materials Science and Engineering*

**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.

*Occasional*

*ECS - Materials Sci & Engineer*

**EMA 5317. Materials Kinetics**

3(3,0). PR: C.I. Mass and thermal transport, phase transformations and Arrhenius rate processes.

*Occasional*

*ECS - Materials Sci & Engineer*

**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.

*Occasional*

*ECS - Materials Sci & Engineer*

**EMA 5415. Electronic Principles of Materials Properties**

3(3,0). PR: EGN 3365 or C.I. This course will cover electron theory and band structure; electrical, optical, magnetic, and thermal properties of metals, semiconductors and insulators, including device examples.

*Fall*

*ECS - Materials Sci & Engineer*

**EMA 5504. Modern Characterization of Materials**

3(2,2). 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.

*Occasional*

*ECS - Department of Materials Science and Engineering*

**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.

*Occasional*

*ECS - Materials Sci & Engineer*



**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.  
*Even Spring*  
 ECS - Materials Sci & Engineer

**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.  
*Odd Fall*  
 ECS - Materials Sci & Engineer

**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.  
*Occasional*  
 ECS - Materials Sci & Engineer

**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.  
*Occasional*  
 ECS - Materials Sci & Engineer

**EMA 5588. Biocompatibility of Materials**

3(3,0). PR: EGN 3365 or C.I. Biocompatibility and bioactivity; cell-biomaterials interactions; engineering bone and cartilage; soft-tissue replacements; total hip replacements; nanostructured biomaterials, imaging techniques, preservation techniques for biomaterials, MSDS and FDA compatibility data.  
*Occasional*  
 ECS - Materials Sci & Engineer

**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.  
*Occasional*  
 ECS - Materials Sci & Engineer

**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.  
*Occasional*  
 ECS - Materials Sci & Engineer

**EMA 6017. Nanostructured Materials**

3(3,0). PR: EMA 5104 or C.I. The course deals with the structure, processing, properties, and potential and existing applications of nanostructured inorganic materials.  
*Occasional*  
 ECS - Materials Sci & Engineer

**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.

*Fall*

ECS - Materials Sci & Engineer

**EMA 6129. Solidification and Microstructure Evolution**

3(3,0). EML 4142, EMA 5104, or C.I. Cooling process, nucleation, spinodal decomposition, interface instability, cells, dendrites, eutectic and peritectic microstructures, solute segregation, modeling project.

*Occasional*

ECS - Department of Materials Science and Engineering

**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.

*Occasional*

ECS - Materials Sci & Engineer

**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.

*Occasional*

ECS - Materials Sci & Engineer

**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.

*Occasional*

ECS - Materials Sci & Engineer

**EMA 6319. Colloids and Interface Engineering**

3(3,0). PR: EMA 5104 or EMA 5060 or C.I. Surface and interfacial tension of liquids, self-assembled monolayers, applications of scanning probe microscopes in interfaces, forces in colloidal systems, stability of macro emulsions, formation and properties of microemulsions, self-assembly.

*Occasional*

ECS - Materials Sci & Engineer

**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.

*Occasional*

ECS - Materials Sci & Engineer

**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.

*Occasional*

ECS - Materials Sci & Engineer

**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.

*Occasional*

*ECS - Materials Sci & Engineer*

**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.

*Occasional*

*ECS - Materials Sci & Engineer*

**EMA 6611. Optoelectronics Materials Processing**

3(3,0). PR: EMA 4413, graduate standing or C.I. Electronic Theory for Materials Preparation, Doping, Metallization, Effect of Materials Properties on Device (eg. Solar Cells, LEDs, and Detectors) Performances.

*Occasional*

*ECS - Materials Sci & Engineer*

**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.

*Spring*

*ECS - Materials Sci & Engineer*

**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.

*Occasional*

*ECS - Materials Sci & Engineer*

**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.

*Fall, Spring*

*ED - Department of Educational and Human Sciences*

**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.

*Fall*

*ED - Department of Educational and Human Sciences*

**EME 5053. 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.

*Fall*

*ED - Department of Educational and Human Sciences*

**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 application of instructional and communication theories.

*Spring*

*ED - Department of Educational and Human Sciences*

**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 adults? informational and recreational needs; analysis, evaluation, and utilization of print and non-print materials.

*Spring*

*ED - Department of Educational and Human Sciences*

**EME 5811. 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 used in the degree program a maximum of 4 times.

*ED - School of Teaching, Learning, and Leadership*

**EME 6055. Current Trends in Instructional Technology**

3(3,0). . Survey of current trends and issues of importance to the field of instructional technology.

*Fall*

*ED - Department of Educational and Human Sciences*

**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.

*Summer*

*ED - Department of Educational and Human Sciences*

**EME 6062. Research in Instructional Technology**

3(3,0). PR: EDF 6481 and PR or CR: EME 6055 or EME 6613. Critical review and evaluation of landmark research in the areas of educational media, instructional design, and instructional systems.

*Fall, Spring, Summer*

*ED - Department of Educational and Human Sciences*

**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.

*Fall*

*ED - Department of Educational and Human Sciences*

**EME 6207. Multimedia Instructional Systems I**

3(3,0). PR: Basic computer literacy. 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.

*Fall, Spring*

*ED - Department of Educational and Human Sciences*

**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.

*Spring*

*ED - Department of Educational and Human Sciences*

**EME 6226. Instructional Development and Evaluation**  
3(3,0). PR: EME 6613 Instructional Systems. The course addresses basic instructional development skills and formative and summative evaluation methods for training in business and industry with application to training educational settings.

*Spring*

*ED - Department of Educational and Human Sciences*

**EME 6405. Application Software for Educational Settings**  
3(3,0). PR: EME 5050 or EME 5053 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 to the K-12 curriculum, students, and teacher productivity.

*Spring*

*ED - Department of Educational and Human Sciences*

**EME 6417. Interactive Online and Virtual Teaching Environments**

3(3,0). PR: EME 6507. Explores issues and trends in educational and human to computer interactions theories as applied to virtual and online participatory learning environments.

*Spring*

*ED - Department of Educational and Human Sciences*

**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.

*Occasional*

*ED - Department of Educational and Human Sciences*

**EME 6458. Virtual Teaching and the Digital Educator**

3(3,0). PR: EME 6417. Explores practical applications of instructional theories related to virtual and online participatory learning environments.

*Summer*

*ED - Department of Educational and Human Sciences*

**EME 6459. Course Design for Hybrid and Online**

1(1,0). PR: Angel Instructor Training (AIT) and C.I. Participants will master techniques and best practices for hybrid course development and delivery using tools and methods to foster optimal learner engagement and achievement.

*Even Spring*

*ED - Department of Educational and Human Sciences*

**EME 6507. Multimedia for Education and Training**

3(3,0). PR: Graduate standing or C.I. Emphasis on the elements and applications of multimedia and technology in multiple instructional settings. Includes authoring, design, alternative delivery systems, hardware, and software.

*Fall, Spring, Summer*

*ED - Department of Educational and Human Sciences*

**EME 6601. Instructional Simulation Design for Training and Education**

3(3,0). PR: EME 6613. Integration of ISD methods with simulation systems design, including analysis, design, development and formative evaluation of leading-edge training and educational simulation technologies.

*Occasional*

*ED - Department of Educational and Human Sciences*

**EME 6602. Integration of Technology into the Curriculum**

3(3,0). PR: EME 5050, EME 5053, 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.

*Fall*

*ED - Department of Educational and Human Sciences*

**EME 6605. Role of the Media Specialist in 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.

*Fall*

*ED - Department of Educational and Human Sciences*

**EME 6607. Planned Change in Instructional Technology**

3(3,0). In-depth study of the processes of planned change and adoption/rejection of innovations in educational settings.

*Spring*

*ED - Department of Educational and Human Sciences*

**EME 6613. Instructional System Design**

3(3,0). PR: Graduate standing or C.I. This course focuses on the systematic analysis and design of instruction, including task, learner, and context analyses, objectives and learner assessments, media selection, flowcharting and storyboarding.

*Fall*

*ED - Department of Educational and Human Sciences*

**EME 6614. Instructional Game Design for Training and Education**

3(3,0). PR: EME 6613. Integration of instructional design and game development processes, analysis of existing instructional games and game engines and the design of an instructional game.

*ED - Department of Educational and Human Sciences*

**EME 6646. Learning, Instructional Design, and Cognitive Neuroscience**

3(3,0). PR: C.I. for students not in the Instructional Design and Technology program. The course examines the application of cognitive neuroscience research and physiological explanations of human learning and for designing training and educational systems.

*Summer*

*ED - Department of Educational and Human Sciences*

**EME 6705. Administration of Instructional Systems**

3(3,0). PR: EME 6613. Provides opportunities for students to examine parameters, problems, and areas of importance in the management of instructional systems.

*Occasional*

*ED - Department of Educational and Human Sciences*

**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.

*Summer**ED - Department of Educational and Human Sciences***EME 6707. Technology Leadership and Coordination in the Schools**

3(3,0). PR: EME 5050 or EME 5053 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.

*Spring**ED - Department of Educational and Human Sciences***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.

*Summer**ED - Department of Educational and Human Sciences***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 - Department of Educational and Human Sciences***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.

*Spring**ED - Department of Educational and Human Sciences***EME 7942. Doctoral Internship in Educational Technology**

3(3,0). PR: Completion of PhD core and 75 percent specialization. Higher education teaching assignment as an intern under a senior faculty mentor in Educational Technology or Instructional Systems.

*Occasional**ED - Department of Educational and Human Sciences***EML 5026C. Advanced Engineering Design Practice**

3(2,2). PR: EGM 3601; CR: (EML 3500 or EAS 4200) and (EML 4220 or EAS 4210). Designed to familiarize students with the basic CAD/CAM solid modeling techniques in a project oriented environment. Construct part models, drawings, and assemblies. Use of in-house software.

*Occasional**ECS - Mechanical & Aerospace***EML 5060. Mathematical Methods in Mechanical 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.

*Fall**ECS - Mechanical & Aerospace***EML 5066. Computational Methods in Mechanical and Aerospace Engineering**

3(3,0). PR: EML 3034C. 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.

*Occasional**ECS - Mechanical & Aerospace***EML 5090. Mechanical and Aerospace Seminar**

0(0,0). PR: Graduate standing or C.I. The course is intended to help MAE graduate students practice public speaking, learn skills of scientific communication, expand their width of knowledge, and promote collaborations. May be repeated.

*Odd Spring**ECS - Mechanical & Aerospace***EML 5105. Gas Kinetics and Statistical Thermodynamics**

3(3,0). PR: EAS 4134 or EML 4703. Molecular and statistical viewpoint of gases and thermodynamics; Boltzmann collision integral, partition functions, non-equilibrium flows. Applications in thermo-fluid systems.

*Occasional**ECS - Mechanical & Aerospace***EML 5152. Intermediate Heat Transfer**

3(3,0). PR: EML 4142, 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.

*Occasional**ECS - Mechanical & Aerospace***EML 5228C. Modal Analysis**

3(3,0). PR: EML 3303C, EML 4220, and EML 5060.

Theoretical basis. Measurement techniques, excitation, transducers, data acquisition. Detailed data analysis, modal parameter extraction, curve-fitting procedures. Modeling.

*Occasional**ECS - Mechanical & Aerospace***EML 5237. Intermediate Mechanics of Materials**

3(3,0). PR: EML 3500 or EAS 4200. Elements of elasticity. Failure theories. Bending and torsion. Thin plates. Energy principles. Thick-walled cylinders. Applications to design.

*Fall**ECS - Mechanical & Aerospace***EML 5271. Intermediate Dynamics**

3(3,0). PR: EGN 3321 or EML 3217. Dynamics of particles, rigid bodies, and distributed mass systems. Topics include: Hamilton's principle, Lagrange's equations, Numerical methods, and Mechanisms.

*Occasional**ECS - Mechanical & Aerospace***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.

*Odd Fall**ECS - Mechanical & Aerospace*



**EML 5291. MEMS Materials**

3(3,0). PR: EML 5060, EML 6211, 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.

*Even Spring*

*ECS - Mechanical & Aerospace*

**EML 5292. Fundamental Phenomenon and Scaling laws in Miniature Engineering Systems**

3(3,0). PR: EML 5060, EML 6211, 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.

*Odd Fall*

*ECS - Mechanical & Aerospace*

**EML 5311. System Control**

3(3,0). PR: EML 4312C; CR: EML 5060. Modern control theory for linear and non-linear systems; controllability and observability. Linear state feedback and state estimators, compensator design.

*Occasional*

*ECS - Mechanical & Aerospace*

**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.

*Occasional*

*ECS - Mechanical & Aerospace*

**EML 5403. Science and Technology of Fuel Cells**

3(3,0). PR: EGN 3365, EMA 4102 or C.I. Fundamental knowledge along with hands-on experience with design, manufacturing and operation of fuel cells.

*Occasional*

*ECS - Mechanical & Aerospace*

**EML 5430C. Design for Manufacturing in Turbomachinery: Gas/Steam/Wind Turbines & Generators**

3(2,3). PR: EGN 3365 or EMA 3706. Overall assembly of rotating and stationary components in power generation powertrains; probabilistic design, materials, coatings, manufacturing steps, defects for gas/steam/wind turbines and generators.

*Fall*

*ECS - Mechanical & Aerospace*

**EML 5431C. Design for Mechanical & Dynamic Integrity and Reliability in Turbomachinery**

3(2,3). PR: EGM 3601, EML 4220 or EML 4225, EGN 3365 or EMA 3706. Mechanical & dynamic integrity issues such as creep, fatigue, fracture, rotordynamics, vibration, flutter, as related to turbines and generators; reliability; cost-time-performance trade-off in design.

*Spring*

*ECS - Mechanical & Aerospace*

**EML 5456. Turbines for Sustainable Power**

3(3,0). PR: EGM 3601, (EGN 3365 or EMA 3706), (EML 3701 or EAS 3101); CR: EML 4142. Multidisciplinary aspects of

turbine design for sustainable power generation including aerodynamics to combustion and emissions to reliability; covers multiple applications of convention and green technology.

*Fall*

*ECS - Department of Mechanical and Aerospace Engineering*

**EML 5532C. Computer-Aided Design for Manufacture**

3(2,3). PR: EGN 4535C. Builds on introductory material covered in EML 4535C. Topics include computer modeling for the synthesis, simulation, design and manufacture of mechanical, thermal, and aerospace systems.

*Occasional*

*ECS - Mechanical & Aerospace*

**EML 5546. Engineering Design with Composite Materials**

3(3,0). PR: EML 5237. Mechanics of structural components of composite materials under static, thermal, vibratory loads. Instability. Lamina and laminate theory, energy methods, failure theories, and structural joining methods.

*Occasional*

*ECS - Mechanical & Aerospace*

**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.

*Occasional*

*ECS - Mechanical & Aerospace*

**EML 5587C. Mechanics of Biostructures I**

3(2,3). 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.

*Occasional*

*ECS - Department of Mechanical and Aerospace Engineering*

**EML 5588C. Mechanics of Biostructures II**

3(2,3). 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.

*Occasional*

*ECS - Department of Mechanical and Aerospace Engineering*

**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.

*Occasional*

*ECS - Mechanical & Aerospace*

**EML 5760. Biofluid Mechanics**

3(3,0). PR: MAP 2302, EML 3701, EML 4703. Analysis of biomedical and bioengineering systems using principles of transport phenomena. Governing equations of fluid flow, circulatory systems blood flow, macro and microcirculation, and blood rheology.

*Occasional*

*ECS - Mechanical & Aerospace*

**EML 5761C. Applied and Computational Biofluids**

3(3,2). PR: EML 4304C, EML 4703. Principles and foundations of applied fluid mechanics and computational



methods to the human circulation. In addition to case studies, the course provides laboratory experiences in bioengineering with application to biofluid mechanics.

*Odd Spring*

*ECS - Mechanical & Aerospace*

**EML 5936. Mechanical, Materials, and Aerospace Engineering Graduate Seminar**

1(1,0). . MMAE graduate student seminar. Graded S/U.

*Occasional*

*ECS - Mechanical & Aerospace*

**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.

*Occasional*

*ECS - Mechanical & Aerospace*

**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.

*Spring*

*ECS - Mechanical & Aerospace*

**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.

*Occasional*

*ECS - Mechanical & Aerospace*

**EML 6085. Research Methods in Mechanical and Aerospace Engineering**

3(3,0). PR: EML 5060. Research project is an MAE option under supervision of an adviser. A project report is due at the end of the semester.

*Spring*

*ECS - Mechanical & Aerospace*

**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.

*Occasional*

*ECS - Mechanical & Aerospace*

**EML 6131. Combustion Phenomena**

3(3,0). PR: EML 5152. Physical and chemical aspects of combustion phenomena. Rate processes, chemical kinetics, structure, propagation and stability of premixed and diffusion flames.

*Occasional*

*ECS - Mechanical & Aerospace*

**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.

*Occasional*

*ECS - Mechanical & Aerospace*

**EML 6154. Conduction 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.

*Occasional*

*ECS - Mechanical & Aerospace*

**EML 6155. Convection Heat Transfer**

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.

*Occasional*

*ECS - Mechanical & Aerospace*

**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.

*Occasional*

*ECS - Mechanical & Aerospace*

**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.

*Occasional*

*ECS - Mechanical & Aerospace*

**EML 6211. Continuum Mechanics**

3(3,0). PR: EML 5237. Introduction to tensors; deformation and strain; stress; balance laws; constitutive equations; applications in linear elasticity.

*Spring*

*ECS - Mechanical & Aerospace*

**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.

*Occasional*

*ECS - Mechanical & Aerospace*

**EML 6226. Analytical Dynamics**

3(3,0). EML 5271. Kane method for kinematics and dynamics of particle and rigid bodies is developed and contrasted with Newton and Lagrange methods. Multibody dynamics.

*Occasional*

*ECS - Department of Mechanical and Aerospace Engineering*

**EML 6227. Nonlinear Vibration**

3(3,0). 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.

*Occasional*

*ECS - Department of Mechanical and Aerospace Engineering*

**EML 6233. Fundamentals of Fatigue Analysis**

3(3,0). PR: EML 6211 or C.I. A review of classical and modern methods of fatigue life prediction and the physical process therein. Primary emphasis relates to metallic materials.

*Even Spring*

*ECS - Mechanical & Aerospace*

**EML 6238. Plates and Shells**

3(3,0). EGM 3601, EML 6211, EML 5060. This course introduces the reduction of 3D elasticity to an equivalent 2D counterpart; basic assumptions; field equations of the theory of plates and shells; linear and nonlinear theories; buckling and vibrations; refined plate and shell theories.

*Occasional*

*ECS - Department of Mechanical and Aerospace Engineering*

**EML 6295. Sensors and Actuators for Micro Mechanical Systems**

3(3,0). PR: EML 5060, EML 6211, 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.

*Occasional*

*ECS - Mechanical & Aerospace*

**EML 6296. MEMS Mechanism and Design**

3(3,0). PR: EML 3500, EGM 3601, EML 4142. Miniature Electro Mechanical Systems (MEMS) working mechanisms (mechanical, thermal, electric, piezoelectric, magnetic, etc.). Design rules. May be repeated for credit.

*Spring*

*ECS - Mechanical & Aerospace*

**EML 6297. MEMS Characterization**

3(3,0). PR: EML 5060, EML 6211, 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.

*Occasional*

*ECS - Mechanical & Aerospace*

**EML 6299. Advanced Topics on Miniaturization**

3(3,0). PR: EML 5060, EML 6211, 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.

*Occasional*

*ECS - Mechanical & Aerospace*

**EML 6305C. Experimental Mechanics**

3(2,2). PR: EML 4304C, EML 5237. Selected topics in strain measurements, photoelasticity, holographic interferometry; laser speckle measurement; acoustic emission, measurement of correlation and coherence functions.

*Occasional*

*ECS - Mechanical & Aerospace*

**EML 6308C. Thermofluids Measurements and Instrumentation**

3(2,3). PR: EML 4703, EML 3303C, EML 5152, EML 5060

or C.I.; not open to students that have credit for EAS 6807C. Surface pressure and shear measurements, hotwire anemometry, heat transfer coefficient measurement, LDV, PDPA and PIV flow field measurements.

*Occasional*

*ECS - Mechanical & Aerospace*

**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.

*Occasional*

*ECS - Mechanical & Aerospace*

**EML 6712. Mechanics of Viscous Flow**

3(3,0). PR: EML 5060, EML 5713. Principal concepts and methods for viscous fluid motion. Incompressible and compressible boundary layer analysis for laminar and turbulent flows.

*Odd Fall*

*ECS - Mechanical & Aerospace*

**EML 6725. Computational Fluid Dynamics and Heat Transfer I**

3(3,0). PR: EML 5152 or C.I. Finite Difference methods; error and stability analysis; applications to model equations and further developments; matrix methods.

*Spring*

*ECS - Mechanical & Aerospace*

**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.

*Occasional*

*ECS - Mechanical & Aerospace*

**EML 6808. Analysis and Control of Robot Manipulators**

3(3,0). PR: EML 4312C, EML 5271, or C.I. Kinematics and dynamics of multibody systems, especially robot manipulators. Design and control of robot manipulators.

*Occasional*

*ECS - Mechanical & Aerospace*

**EMR 6235. Nature of Severe and Profound Disabilities: Theory and Educational Practice**

3(3,0). PR: Graduate standing. Overview of theory and teaching applications for students with severe and profound disabilities including major theories and trends, appropriate learning goals, teaching approaches, and environmental arrangements.

*Fall, Spring*

*ED - Department of Child, Family and Community Sciences*

**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.

*Occasional*

*ED - Department of Child, Family and Community Sciences*

**ENC 5225. Theory and Practice of Document Usability**

3(3,0). Graduate status or senior standing or C.I. Presents theory and practice of how document usability is assessed and improved.

*Occasional*

CAH - Department of 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.

*Fall, Spring*

CAH - Department of Writing and Rhetoric

**ENC 5276. Theory and Practice of Tutoring Writing**

3(3,0). PR: Admission to the M.A. in Rhetoric and Composition program, graduate standing or C.I. The theory and practice of assessing and responding to writing as a collaborator (as opposed to evaluator).

*Fall*

CAH - Department of Writing and Rhetoric

**ENC 5337. Rhetorical Theory**

3(3,0). PR: Graduate standing or C.I. Overview of theory and history of classical and modern rhetorical theory and rhetorical instruction.

*Fall, Odd Summer*

CAH - Department of 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.

*Spring*

CAH - Department of Writing and Rhetoric

**ENC 5745. 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.

*Occasional*

CAH - Department of Writing and Rhetoric

**ENC 5930. Current Topics in Professional Writing**

3(3,0). PR: Graduate status or C.I. Students will learn how to produce texts for specialized fields of discourse, including the medical and legal profession, as well as for general publication.

*Occasional*

CAH - Department of Writing and Rhetoric

**ENC 6216. Editing Professional Writing**

3(3,0). PR: Graduate standing or C.I. The study of major issues in editing, includes theory and scholarship of professional editing.

*Spring*

CAH - Department of Writing and Rhetoric

**ENC 6217. Technical Editing**

3(3,0). PR: Graduate standing in English, or C.I. A study of the strategies for editing the prose, design, and illustrations of print and online technical documents.

*Occasional*

CAH - Department of English

**ENC 6244. Teaching Technical Writing**

3(3,0). . The techniques and theories of teaching technical writing.

*Occasional*

CAH - Department of English

**ENC 6245. Teaching Professional Writing**

3(3,0). PR: Graduate standing or C.I. Theory and practice of teaching professional writing in college and the workplace. Includes historical and contemporary approaches.

*Occasional*

CAH - Department of Writing and Rhetoric

**ENC 6247. Proposal Writing**

3(3,0). PR: Graduate standing in English or C.I. Theory and practice of writing proposals.

*Occasional*

CAH - Department of Writing and Rhetoric

**ENC 6257. Graphics in Technical Writing**

3(3,0). Graduate standing in English or C.I. Creation and editing of graphics in technical documents.

*Occasional*

CAH - Department of 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.

*Occasional*

CAH - Department of 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.

*Occasional*

CAH - Department of English

**ENC 6296. Writing and Designing Online Help Systems**

3(3,0). PR: Graduate standing or C.I. The theory and practice of writing and designing online help systems (tutorials, procedures, reference) using selected Help offering tools.

*Occasional*

CAH - Department of English

**ENC 6297. Production and Publication Methods**

3(3,0). PR: Graduate standing in English or C.I. Production of technical documents including typography, visual rhetoric, layout and design, and planning and managing documentation projects.

*Occasional*

CAH - Department of English

**ENC 6306. Persuasive Writing**

3(3,0). PR: Graduate standing in English or C.I. Theory and practice of writing persuasively.

*Occasional*

CAH - Department of Writing and Rhetoric

**ENC 6332. Gendered Rhetoric**

3(3,0). PR: Graduate standing in English 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.

*Occasional*

CAH - Department of Writing and Rhetoric

**ENC 6333. 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 reinist pedagogies. May be used in the degree program a maximum of 3 times.

*Occasional*

CAH - Department of Writing and Rhetoric

**ENC 6335. Rhetorical Traditions**

3(3,0). PR: Graduate standing in English or C.I. Philosophy and techniques of classical rhetoricians such as Isocrates, Aristotle, and Cicero with special attention to their application to contemporary rhetorical situations.

*Fall, Spring*

CAH - Department of Writing and Rhetoric

**ENC 6338. The Rhetorics of Public Debate**

3(3,0). PR: Graduate standing in English or C.I. How rhetorical theories further community goals, including activist, political, legislative, and other significant public debates.

*Occasional*

CAH - Department of English

**ENC 6339. 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 used in the degree program a maximum of 3 times.

*Occasional*

CAH - Department of Writing and Rhetoric

**ENC 6425. Hypertext Theory and Design**

3(3,0). Graduate standing in English or C.I. Theoretical and practical study of the uses and premises of hypertext.

*Occasional*

CAH - Department of English

**ENC 6426. Visual Texts and Technology**

3(3,0). PR: Graduate standing. Studies visual dimensions of the texts of digital discourse.

*Occasional*

CAH - College-CAH

**ENC 6428. Rhetoric of Digital Literacy**

3(3,0). PR: Graduate standing or C.I. Studies Rhetorical dimensions of digital discourse.

*Occasional*

CAH - College-CAH

**ENC 6429. Teaching Writing With Computers**

3(3,0). PR: Graduate standing in English or C.I. Immersion in the theories and practices of writing in electronic spaces including current discourse conventions from speech and print media.

*Occasional*

CAH - Department of English

**ENC 6712. Studies in Literacy and Writing**

3(3,0). PR: Graduate standing in English or C.I. Theories of cultural and critical literacy, definitions of literacy, and current political issues in literacy studies.

*Odd Fall*

CAH - Department of Writing and Rhetoric

**ENC 6720. Research Methods in Rhetoric and****Composition**

3(3,0). PR: Graduate standing or C.I. Study and practice in research methods of Rhetoric and Composition Studies, with emphasis on textual and qualitative approaches.

*Spring*

CAH - Department of Writing and Rhetoric

**ENC 6740. Topics in Rhetoric and Composition**

3(3,0). PR: Graduate standing or C.I. In-depth exploration of important historical, theoretical, and/or pedagogical topics in Rhetoric and Composition Studies. May be used in the degree program a maximum of 2 times only when course content is different.

*Occasional*

CAH - Department of Writing and Rhetoric

**ENC 6945. Community Literacy Practicum**

3(3,0). PR: Graduate standing in English or C.I. Designed to deepen theoretical understanding of literacy through participation in a community literacy project.

*Occasional*

CAH - Department of Writing and Rhetoric

**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.

*Fall*

CAH - Department of English

**ENG 6074. Historical Movements in Literary, Cultural, and Textual Studies**

3(3,0). PR: Graduate standing or C.I. Theories of literature, cultural, and textual formation from ancient Greece to the mid 20th century.

*Occasional*

CAH - Department of English

**ENG 6078. Contemporary Movements in Literary, Cultural, and Textual Theory**

3(3,0). PR: Graduate standing in English or C.I. Theories of literature, cultural, and textual formation since the mid 20th century.

*Fall*

CAH - Department of 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.

*Fall*

CAH - College-CAH

**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 and Technology. We examine how various technologies have influenced the nature of texts they produce.

*Spring*

CAH - College-CAH

**ENG 6802. Literature, Texts, and Technology**

3(3,0). PR: Graduate standing or C.I. The relationship of literature to various modes of theories and technology and the impact of these technologies on literary meaning on a variety of texts.

*Even Spring*

CAH - Department of English



**ENG 6806. Digital Editing and Databases**

3(3,0). PR: Enrollment in Texts and Technology PhD program or Digital Media master's program. Applied aspects of textual reproduction and editing, including scanning (OCR) and XML coding, as such processes relate to database content and use.

*Occasional*

CAH - Department of English

**ENG 6810. Theories of Texts and Technology**

3(3,0). PR: Acceptance into the Texts and Technology program, graduate standing, or C.I. Introduces general theoretical concepts as a basis for the advanced study of Texts and Technology.

*Spring*

CAH - College-CAH

**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. May be used in the degree program a maximum of 2 times.

*Fall*

CAH - College-CAH

**ENG 6812. Research Methods for Texts and Technology**

3(3,0). PR: Acceptance into the Texts and Technologies program, graduate standing, or C.I. Prepares students to design, conduct, and critique empirical research in textual technologies, broadly conceived.

*Fall*

CAH - College-CAH

**ENG 6813. Teaching Online in Texts and Technology**

3(3,0). PR: Graduate standing. Theory and practice for designing electronic courses and curricula in texts and technology, strategies, theories, and best practices.

*Fall*

CAH - College-CAH

**ENG 6814. Gender in Texts and Technology**

3(3,0). PR: Graduate standing. Relationships among text, science, technology and gender.

*Occasional*

CAH - College-CAH

**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 used in the degree program a maximum of 3 times.

*Fall, Spring*

CAH - College-CAH

**ENG 6947. Internship in Texts and Technology**

3(3,0). PR: Admission to Texts and Technology PhD program. Internship in opportunity to integrate practical experience with theory and content from Texts and Technology program. Graded S/U.

*Fall*

CAH - College-CAH

**ENG 6948. Teaching Practicum in Texts and Technology**

3(3,0). PR: Admission to Texts and Technology PhD program. 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.

*Spring*

CAH - College-CAH

**ENG 6950. Capstone Course**

3(3,0). PR: Graduate standing in English and at least 18 graduate credit hours in English. Systematic and comprehensive revision of previous graduate writing with special attention to use of theory and professionalization towards the goal of publication and/or conference presentation.

*Spring*

CAH - Department of English

**ENV 5356. Solid and Hazardous Waste Management**

4(4,0). PR: Grade of "C" (2.0) or better in ENV 3001. Engineering design, planning, and analysis problems associated with storage, collection, processing, and disposal of solid and hazardous wastes.

*Fall*

ECS - Department of Civil, Environmental, and Construction Engineering

**ENV 5410. Water Treatment**

3(3,0). PR: EES 4202C or ENV 5517 or C.I. Potable water regulations, standards, chemical reactors, oxidation, disinfection, disinfection by-products, ultraviolet irradiation. Internal corrosion and microbial control in municipal and industrial water distribution systems.

*Odd Spring*

ECS - Department of Civil, Environmental, and Construction Engineering

**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.

*Occasional*

ECS - Department of Civil, Environmental, and Construction Engineering

**ENV 5517. Engineering Chemical and Biological Processes**

3(3,0). CR: ENV 4561 (or equivalent) or C.I. Coverage of equilibrium/aquatic chemistry, softening and coagulation, and disinfection of water. Microbiology and biochemistry as applied to activated sludge system design.

*Fall*

ECS - Department of Civil, Environmental, and Construction Engineering

**ENV 5636. Environmental and Water Resources Systems Analysis**

3(3,0). PR: ENV 3001 or C.I. Discussion of environmental and water resources systems with the emphasis on cost-effectiveness, pollution prevention, and sustainability to aid in environmental engineering decision-making.

*Occasional*

ECS - Department of Civil, Environmental, and Construction Engineering

**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.  
*Fall*  
 ECS - Department of Civil, Environmental, and Construction Engineering

**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.  
*Spring*  
 ECS - Department of Civil, Environmental, and Construction Engineering

**ENV 6030. Environmental Biotechnology**  
 3(3,0). PR: EES 4111C. Environmental Biotechnology teaches graduate students the management of microorganism-based engineer systems for applications in waste treatment and energy generation.  
*Even Spring*  
 ECS - Department of Civil, Environmental, and Construction Engineering

**ENV 6046. Membrane Mass Transfer**  
 3(3,0). 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.  
*Occasional*  
 ECS - Department of Civil, Environmental, and Construction Engineering

**ENV 6047. Environmental Informatics and Remote Sensing**  
 3(3,0). PR: Graduate standing. Discussion of how the environmental informatics, including hydroinformatics, can be applied for sustainable decision making with the emphasis on remote sensing, GIS, expert systems, decision support systems, data mining, and environmental management.  
*Occasional*  
 ECS - Department of Civil, Environmental, and Construction Engineering

**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.  
*Occasional*  
 ECS - Department of Civil, Environmental, and Construction Engineering

**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.  
*Even Spring*  
 ECS - Department of Civil, Environmental, and Construction Engineering

**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.  
*Odd Spring*  
 ECS - Department of Civil, Environmental, and Construction Engineering

**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.  
*Occasional*  
 ECS - Department of Civil, Environmental, and Construction Engineering

**ENV 6347. Hazardous Waste Incineration**  
 3(3,0). . Theory and applications of design and operations of hazardous waste incinerators. Includes detailed consideration of air pollution control equipment.  
*Occasional*  
 ECS - Department of Civil, Environmental, and Construction Engineering

**ENV 6504L. Unit Operation and Processes 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.  
*Occasional*  
 ECS - Department of Civil, Environmental, and Construction Engineering

**ENV 6515L. Biological Unit Operations and Processes Laboratory**  
 3(1,6). ENV 6016. Unit operations laboratory for biological processes in wastewater treatment, drinking water and remediation including obtaining biokinetic parameters in treatability studies biostability.  
*Occasional*  
 ECS - Department of Civil, Environmental, and Construction Engineering

**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.  
*Occasional*  
 ECS - Department of Civil, Environmental, and Construction Engineering

**ENV 6558. Industrial Waste Treatment**  
 3(3,0). PR: ENV 4561. Theories, methods, unit operations of management, reduction, treatment, disposal of industrial wastes.  
*Occasional*  
 ECS - Department of Civil, Environmental, and Construction Engineering

**ENV 6616. Ecological Engineering and Receiving Water Impacts**  
 3(3,0). ENV 5517 or C.I. Ecological engineering principles, ecosystem restoration and receiving water impacts. Introduction of green building design and integration of new ecosystem associated with green infrastructures and applications for eco-city design.  
 ECS - Department of Civil, Environmental, and Construction

*Engineering***ENY 5006C. Entomology**

4(2,6). PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. Morphology, physiology, ontogeny, behavior, ecology and population biology of insects.

*Occasional*

*COS - Department of Biology*

**EPD 5395. 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 - Department of Child, Family and Community Sciences*

**ESE 5214. Secondary School Curriculum Improvement I**

3(3,0). Regular Certificate or C.I. Secondary School self studies for curriculum projects, accreditation reports, or staff development.

*ED - School of Teaching, Learning, and Leadership*

**ESE 6217. 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.

*Fall*

*ED - School of Teaching, Learning, and Leadership*

**ESE 6256. Critical Issues in Secondary Education**

1(1,0). PR: ESE 6935; CR: Graduate Internship. Examination of critical issues in secondary education including classroom and behavior management, technology, and current issues.

*Fall, Spring*

*ED - School of Teaching, Learning, and Leadership*

**ESE 6416. Curriculum Evaluation**

3(3,0). PR: ESE 6217 or an equivalent curriculum course. .

*ED - School of Teaching, Learning, and Leadership*

**ESE 6935. Introductory Seminar in Secondary Education**

1(1,0). PR: Admission to graduate program or C.I. Overview of Master of Teaching policies and expectations, and exploration on the teaching profession in terms of professional organizations, accomplished practices, publications, issues, and terminology.

*Occasional*

*ED - School of Teaching, Learning, and Leadership*

**ESE 6936. Capstone Seminar in Secondary Education**

2(2,0). PR: ESE 6935 or C.I. As a culminating experience, this seminar provides students with the opportunity to synthesize what they have learned throughout their Master of Arts in Teaching program through completion of a portfolio and reflective analysis of learning.

*Occasional*

*ED - School of Teaching, Learning, and Leadership*

**ESI 5219. Engineering Statistics**

3(3,0). PR: C.I. Discrete and continuous probability distributions, hypothesis testing, regression, nonparametric stats and ANOVA.

*Fall, Spring*

*ECS - Department of Industrial Engineering and Management Systems*

**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.

*Occasional*

*ECS - Department of Industrial Engineering and Management Systems*

**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.

*Fall*

*ECS - Department of Industrial Engineering and Management Systems*

**ESI 5306. 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.

*Fall*

*ECS - Department of Industrial Engineering and Management Systems*

**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.

*Occasional*

*ECS - Department of Industrial Engineering and Management Systems*

**ESI 5419C. Engineering Applications of Linear and Nonlinear Optimization**

3(2,2). PR: ESI 4312 or ESI 5306. Course covers linear and nonlinear optimization applications in production planning, staffing, engineering design, distribution networks, and other engineering areas. Focuses on practicing or analyses.

*Occasional*

*ECS - Department of Industrial Engineering and Management Systems*

**ESI 5531. Discrete Systems Simulation**

3(3,0). PR: STA 3032. Methods for performing discrete systems simulation, including network modeling, will be treated.

*Spring*

*ECS - Department of Industrial Engineering and Management Systems*

**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.

*Odd Spring*

*ECS - Department of Industrial Engineering and Management Systems*

**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.

*Spring*

*ECS - Department of Industrial Engineering and Management Systems*

**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.

*Fall*

*ECS - Department of Industrial Engineering and Management Systems*

**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.

*Spring*

*ECS - Department of Industrial Engineering and Management Systems*

**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.

*Odd Spring*

*ECS - Department of Industrial Engineering and Management Systems*

**ESI 6358. Decision Analysis**

3(3,0). PR: ESI 4312 or ESI 5306. Classical Bayesian analysis; utility and its measurement; multiattribute utility methods; influence diagrams; Analytic Hierarchy Process; behavioral aspects; simulation.

*Fall*

*ECS - Department of Industrial Engineering and Management Systems*

**ESI 6418. Linear Programming and Extensions**

3(3,0). PR: ESI 4312 or ESI 5306. Simplex and Revised Simplex Method; interior-point methods; duality; large-scale optimization; decomposition algorithms; upper bounds; linearization; parametric LP; goal programming.

*Even Spring*

*ECS - Department of Industrial Engineering and Management Systems*

**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.

*Even Spring*

*ECS - Department of Industrial Engineering and Management Systems*

**ESI 6551C. Systems Engineering**

3(2,2). PR: ESI 4312 or ESI 5306. Integration and application of systems science, operations research, systems methodologies, and systems management for the design, production, and maintenance of efficient, reliable systems.

*Fall, Spring*

*ECS - Department of Industrial Engineering and Management Systems*

**ESI 6891. IEMS Research Methods**

3(3,0). PR: ESI 5219. Assist students in producing publishable research and to introduce new tools which may be needed for collection and analysis of research data.

*Fall*

*ECS - Department of Industrial Engineering and Management Systems*

**ETG 6911. MS Technology Capstone**

3(3,0). PR: Completion of 15 hours toward the M.S. Technology degree. This courses is the culmination of the M.S. Technology graduate program. Students will demonstrate their ability to perform research and produce a publication quality document.

*Spring*

*ECS - College-ECS*

**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.

*Occasional*

*CAH - Department of 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.

*Occasional*

*CAH - Department of 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.

*Occasional*

*CAH - Department of History*

**EUH 5419. Colloquium in Roman History**

3(3,0). PR: Graduate standing or C.I. Readings in selected topics in the history of Ancient Rome. May be used in the degree program a maximum of 2 times only when course content is different.

*Occasional*

*CAH - Department of History*

**EUH 5459. Colloquium in French History**

3(3,0). PR: Graduate standing or C.I. Readings in selected topics in French History. May be used in the degree program a maximum of 3 times.

*Even Summer*

*CAH - Department of History*

**EUH 5546. Colloquium: British History**

3(3,0). PR: Graduate status or senior standing or C.I. Selected topics in British history. There is no standard syllabus because content is different with each offering. May be repeated for credit only when course content is different.

*Occasional*

*CAH - Department of 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.

*Occasional*

CAH - Department of History

**EUH 5595. Colloquium in Czarist Russia**

3(3,0). Graduate status or senior standing or C.I. Selected topics on the literature of Russia under the Czars prior to 1917.

*Occasional*

CAH - Department of History

**EUH 5905. European Imperialism**

3(3,0). PR: Graduate standing or C.I. Readings in selected topics in the history of European Imperialism. May be used in the degree program a maximum of 3 times only when course content is different.

*Occasional*

CAH - Department of History

**EUH 5925. Colloquium in Medieval Europe**

3(3,0). PR: Graduate standing or C.I. Readings in selected topics in the history of medieval Europe. May be used in the degree program a maximum of 3 times only when course content is different.

*Occasional*

CAH - Department of History

**EUH 6939. Seminar in European History**

3(3,0). . Research seminar on selected topics in European history. May be repeated for credit only when course content is different.

*Odd Spring*

CAH - Department of History

**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.

*Odd Spring*

COS - Department of Psychology

**EXP 5254. Human Factors and Aging**

3(3,0). PR: Graduate standing, post bac, or senior standing with 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.

*Even Fall*

COS - Department of 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.

*Fall*

COS - Department of 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.

*Spring*

COS - Department of Psychology

**EXP 6255. Human Performance**

3(3,0). PR: EXP 6506 and (EXP 5256 or EXP 6257), or 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.

*Fall*

COS - Department of Psychology

**EXP 6257. Human Factors II**

3(3,0). PR: EXP 5256. The second in the series of basic human factors courses involving an in-depth examination of issues.

*Spring*

COS - Department of 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.

*Fall*

COS - Department of Psychology

**EXP 6506. Human Cognition and Learning**

3(3,0). PR: EXP 3404C and EXP 3604C. Research and theory relating to attention, memory, problem solving, and reasoning.

*Fall*

COS - Department of 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.

*Spring*

COS - Department of Psychology

**EXP 6939. Teaching Seminar**

3(3,0). PR: C.I. Orientation to and supervision in teaching assigned courses.

*Occasional*

COS - Department of Psychology

**EXP 6945. Human Factors Internship**

8(0,12). PR: EXP 5256, EXP 6257, PSY 6216C, PSY 7218C, 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.

*Occasional*

COS - Department of Psychology

**FIL 5406. Theories of Film Production**

3(3,0). PR: Film MFA student or C.I. Comparative analysis of motion picture production methodologies, including the studio industrial model, from a historical/critical perspective.

*Spring*

CAH - School of Visual Arts and Design

**FIL 5414. Film Vision, Scope & Financing**

3(3,0). PR: Acceptance to the MFA Film & Digital Media program. Exploration of the creative and business challenges filmmakers encounter when working on a screenplay, including financing, making, and distributing a digital, microbudget motion picture.

*Spring*

CAH - School of Visual Arts and Design

**FIL 5419. Developing the Film Screenplay**



3(3,0). PR: Admission to MFA Film & Digital Media-Entre Dig Cin track, or C.I. Development of an existing, original screenplay to fit the demands, limits, and possibilities of the microbudget, digital film paradigm.

*Fall*

*CAH - School of Visual Arts and Design*

**FIL 5800. Research Methods in Film and Digital Media**

3(3,0). PR: Admission to Film and Digital Media graduate program or C.I. Research methodology for the study and production of film and new media.

*Spring*

*CAH - School of Visual Arts and Design*

**FIL 5853. Independent Cinematic Forms**

3(3,0). PR: Admission to MFA Film & Digital Media/Entre Dig Cin track, or C.I. Evolution of low budget independent cinematic films through the works of modern and classical filmmakers within and beyond the studio system.

*Fall*

*CAH - School of Visual Arts and Design*

**FIL 5864. Ways of Seeing: The Expressive Potential of Film**

3(3,0). PR: Admission to MFA Film and Digital Media or C.I. A study of multidisciplinary theories that relate to the practice of filmmaking.

*Fall*

*CAH - School of Visual Arts and Design*

**FIL 5924. Graduate Seminar**

1(1,0). PR: Admission to MFA Film & Digital Media/Entrepreneurial Digital Cinema track, or C.I. Strategies for a successful graduate experience, and forum for modes of inquiry, film technique, production and distribution issues; and thesis defense preparation. Graded S/U. May be used in the degree program a maximum of 6 times.

*Fall*

*CAH - School of Visual Arts and Design*

**FIL 6146. Screenplay Refinement**

3(3,0). Admission to Emerging Media MFA program, FIL 5419 or C.I. Refining a feature film script into an effective, compelling, easy to read, and "marketable" shooting script that forms the foundation for thesis film production. May be used in the degree program a maximum of 2 times.

*Spring*

*CAH - School of Visual Arts and Design*

**FIL 6454. Microbudget Production Design**

3(3,0). PR: Admission to Film and Digital Media graduate program or C.I. Aesthetic principles as applied to production design of low-budget projects.

*Occasional*

*CAH - School of Visual Arts and Design*

**FIL 6596. Advanced Directing Workshop for Film and Digital Media**

3(3,0). PR: Admission to MFA Film & Digital Media-Entre Dig Cin track or C.I. Advanced directorial concepts and techniques used in film to elicit, support and direct compelling film performances. May be used in the degree program a maximum of 2 times only when course content is different.

*Fall, Spring*

*CAH - School of Visual Arts and Design*

**FIL 6614. Domestic and International Models of**

**Distribution**

3(3,0). PR: School of Film and Digital Media master's student. Global media distribution business models, with emphasis on independent film distribution in a variety of markets, including theatrical, home video, and internet.

*Occasional*

*CAH - School of Visual Arts and Design*

**FIL 6619. Guerilla Marketing and Models of Distribution**

3(3,0). Admission to Emerging Media MFA program, graduate standing, or C.I. Grass roots and non-traditional marketing strategies for film and media products. Global media distribution business models in a variety of markets.

*Fall*

*CAH - School of Visual Arts and Design*

**FIL 6640. Microbudget Production Management**

3(3,0). PR: Admission to Film and Digital Media graduate program or C.I. Strategies for budgeting and scheduling low-budget films and digital media products.

*Fall*

*CAH - School of Visual Arts and Design*

**FIL 6644. Microbudget Pre-Production**

3(3,0). Admission to Emerging Media MFA program, FIL 6146, or C.I. Examination of pre-production issues facing filmmakers working with low budgets, with focus on creative concept, design, style, and location selection.

*Fall*

*CAH - School of Visual Arts and Design*

**FIL 6649. Microbudget Post-Production**

3(3,0). Admission to Emerging Media MFA program, FIL 6644, or C.I. Continued examination of production challenges that are unique to filmmakers working with extremely limited budgets, including casting, schedules, and set management.

*Spring*

*CAH - School of Visual Arts and Design*

**FIL 6655. Intellectual Property Issues and Entertainment Law**

3(3,0). PR: or CR: GEB 6115 or C.I. Exploration of evolving intellectual property issues in the digital world, including basic contract requirements for producing independent film and digital media products.

*Occasional*

*CAH - School of Visual Arts and Design*

**FIL 6670. From Screenplay to Deal**

3(3,0). PR: Graduate Standing. Development of a film script to a marketable property, creating a strategy for and assembling the elements necessary to obtain financing.

*Spring*

*CAH - School of Visual Arts and Design*

**FIL 6673. Arts and Media Entrepreneurship**

3(3,0). Admission to Emerging Media MFA program, graduate standing, or C.I. Application of core business concepts to create a company and develop a sales proposal suited to a variety of potential arts and emerging investors.

*Fall*

*CAH - School of Visual Arts and Design*

**FIN 6404. Foundations of Finance**

3(3,0). PR: Graduate Accounting Foundations and Economic Concepts with Math Applications courses. Overview of business finance. Topics include financial



statement analysis, time value of money, stocks, bonds, risk, capital investments, cost of capital, capital structure and dividends.

*BA - Department of 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.

*Fall, Spring*

*BA - Department of Finance*

**FIN 6465. Financial Analysis Seminar**

var(1.5-3,0). PR: Graduate Standing. Seminar in financial analysis; examining financial statements, annual reports and other sources of information. Not open to students who have completed or are enrolled in GEB 6895.

*Occasional*

*BA - Department of 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.

*Fall*

*BA - Department of 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.

*Occasional*

*BA - Department of 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.

*Occasional*

*BA - Department of 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.

*Odd Fall*

*BA - Department of Finance*

**FIN 7808. Introduction to the Theory of Finance**

3(3,0). PR: Admission to Business PhD program and FIN 6406 or equivalent, or C.I. This course provides an introduction to decisions and equilibrium under uncertainty, portfolio theory, asset pricing models, option pricing, capital structure, and agency theory.

*Occasional*

*BA - Department of 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.

*Odd Spring*

*BA - Department of 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.

*Even Fall*

*BA - Department of Finance*

**FIN 7930. Seminar in Market Microstructure**

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.

*Occasional*

*BA - Department of Finance*

**FIN 7935. Finance Research Forum**

1(1,0). PR: Admission to Business PhD program and FIN 6406 or equivalent, or C.I. Research and pedagogical issues in finance, including research presentations by faculty, doctoral students, and invited scholars. May be used in the degree program a maximum of 6 times.

*Occasional*

*BA - Department of Finance*

**FLE 5331. Foreign Language Methods at the Secondary Level**

3(3,0). PR: Graduate standing or C.I. Methods of planning and teaching foreign language at the secondary level. The emphasis is on teaching communicatively and on integrating culture in the 6-12 classroom.

*Summer*

*ED - School of Teaching, Learning, and Leadership*

**FLE 5335. Foreign Language Methods at the Elementary Level**

3(3,0). PR: Graduate standing or C.I. 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.

*Summer*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Even Spring*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Occasional*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Occasional*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Odd Spring*

*RCHM - Department of Foodservices and Lodging Management*

**GEB 5516. Technological Entrepreneurship**

3(3,0). PR: Graduate standing. Focus of the course is on identification, evaluation and commercialization of new technologies. Emphasis will be placed on the legal, financial and strategy aspects of technology transfer and development.

*Occasional*

*BA - Department of Management*

**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.

*Occasional*

*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.

*Fall, Odd Summer*

*BA - Department of Management*

**GEB 6116. Business Plan Formation**

3(3,0). PR: GEB 6115 or GEB 6518 or MBA Foundation Core. Professional development and preparation of company business plan. Full analysis of plan and outside evaluation and ranking.

*Occasional*

*BA - Department of 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.

*Spring*

*BA - Department of Finance*

**GEB 6515. Innovation Management**

1.5(1.5,0). PR: Admission to approved College of Business Administration graduate program, C.I. Course focuses on the management of technological innovation. Topics

include new product development, types of technological change, technology new ventures, and corporate renewal.

*Occasional*

*BA - Department of Management*

**GEB 6518. Strategic Innovation**

3(3,0). PR: Graduate standing or C.I. An in-depth examination of strategic and innovation processes as they relate to emerging technologies from invention to commercialization.

*Occasional*

*BA - Department of Management*

**GEB 6895. Business Intelligence**

3(3,0). Consent of College of Business Graduate Studies. Study of the sources, acquisition, warehousing, analysis, and application of data pertaining to business decision-making in the firm.

*Occasional*

*BA - Department of Management*

**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.

*Occasional*

*BA - Department of Marketing*

**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.

*Occasional*

*BA - Department of Economics*

**GEB 7911. Structural Equation Modeling for Business Research**

3(3,0). PR: ECO 7423, MAR 7626. Applications of structural equation modeling (SEM) for business research including factor analysis, aspects of measurement theory, mathematical and technical issues about model fitting are covered.

*BA - Department of Management*

**GEB 7932. Business PhD Foundations**

3(3,0). PR: Admission to the PhD Program. A multidisciplinary introduction to doctoral-level study of business administration.

*Occasional*

*BA - Department of Economics*

**GEO 6472. World Political Geography**

3(3,0). Graduate standing or C.I. Examination of the theoretical foundations of world political geography, the elements comprising it, and the comparative regional representations.

*Occasional*

*COS - Department of 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.

*Spring*

CON - Department of Nursing

**GEY 5600. Physiology of Aging**

3(3,0). BSC 2010C or PCB 3703C or APK 4110C or equivalent. The purpose of this course is to develop the student's understanding of the effects of human aging on various body systems.

*Occasional*

ED - Department of Child, Family and Community Sciences

**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 an interdisciplinary and multidisciplinary approach spanning the social sciences and health.

*Occasional*

HPA - Social Work

**HFT 6347. Advanced Vacation Ownership Resort Planning**

3(3,0). Graduate standing. In-depth study of the tools and techniques available for project feasibility and investment.

*Occasional*

RCHM - Foodservice & Lodging Mgm

**HFT 6529. Vacation Ownership Resort Sales Management**

3(3,0). 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.

*Occasional*

RCHM - Foodservice & Lodging Mgm

**HFT 6608. Hospitality/Tourism Law and Ethics Seminar**

3(3,0). 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.

*Occasional*

RCHM - Department of Hospitality Services

**HIM 5118C. Health Care Informatics and Information Technology**

4(3,1). PR: Admission to M.S. in Health Care Informatics or C.I. An overview of information systems in healthcare and information technology in healthcare decision making. Ethical, planning and legal issues of informatics will be explored.

*Fall*

HPA - Department of Health Management and Informatics

**HIM 6007. Survey of Health Information Management**

1(1,0). PR: Admission to Health Care Informatics or C.I. Provide students with an understanding of computer information systems utilized in a health care environment.

*Fall*

HPA - Department of Health Management and Informatics

**HIM 6117C. Health Care Informatics Symposium**

4(3,1). PR: Admission to M.S. in Health Care Informatics. The focus of this course is on applying informatics solutions to complex situations facing the U.S. health care industry and found in today's health care organizations.

*Summer*

HPA - Department of Health Management and Informatics

**HIM 6119C. Biostatistics and Decision Analysis**

4(3,1). PR: Admission to M.S. in Health Care Informatics or C.I. This course provides students a solid foundation on descriptive and inferential analyses, including both parametric and nonparametric methods.

*Fall*

HPA - Department of Health Management and Informatics

**HIM 6122C. System Analysis and Design**

4(3,1). PR: Admission to M.S. in Health Care Informatics or C.I. System Analysis and Design focuses on electronic health record applications to provide the tools for successful system implementation.

*Spring*

HPA - Department of Health Management and Informatics

**HIM 6123C. Health Informatics Applications-Administrative, Financial, Clinical Project Mgmt**

4(3,1). PR: Admission to M.S. in Health Care Informatics or C.I. This course integrates clinical, financial and administrative data to resolve managerial and patient care problems.

*Spring*

HPA - Department of Health Management and Informatics

**HIM 6124C. Health Care Data Architecture and Modeling**

4(3,1). PR: HIM 5118C; HIM 6119C or C.I. The course integrates the key issues and techniques surrounding data architecture, modeling and standards in health care informatics.

*Spring*

HPA - Department of Health Management and Informatics

**HIM 6125. Health Care Informatics Capstone**

3(3,0). PR: All courses in the M.S. in Health Care Informatics program. The practicum course addresses the process of transforming data to information, knowledge and practice in a health care setting. An operations management challenge that is amenable to Internet interventions in a health care organization shall be identified.

*Spring*

HPA - Department of Health Management and Informatics

**HIM 6217C. Health Care Database Management**

4(3,1). PR: HIM 5118C. To develop advanced skills necessary for the design and management of health care organization databases and their use in computer-based information systems.

*Fall*

HPA - Department of Health Management and Informatics

**HIM 6267. Foundation of Health Services Administration**

1(1,0). PR: Admission to Health Care Informatics or C.I. Provides students with an understanding of the managerial and administrative aspects in a health care environment, as it relates to health care informatics.

*Spring*

HPA - Department of Health Management and Informatics

**HIM 6293. Health Care Coding and Diagnosis**

4(3,1). PR: Admission to Health Care Informatics master's degree or HIA certificate. Medical Coding and the role it plays in informatics emphasizing document usage and extracting needed data for proper code selection. Data mapping related to ICD-9-CM and ICD-10-CM is explored.

*Fall*

HPA - Department of Health Management and Informatics

**HIM 6464C. Epidemiology, Analytics and Quality Management**

4(3,1). PR: Admission to M.S. in Health Care Informatics or C.I. This course introduces epidemiological principles and analytics for enhancing utilization management, quality improvement and outcome assessment in the service delivery system.

*Summer*

HPA - Department of Health Management and Informatics

**HIM 6477. Medical Terminology for Informatics Professionals**

1(1,0). PR: Admission to Health Care Informatics or C.I. Provides students with medical terminology used or found in the medical environments and discuss the role the language of medicine plays in informatics.

*Fall*

HPA - Department of Health Management and Informatics

**HIM 6935. Seminar on Current Issues in Health Care Informatics and Enterprise Management**

2(2,0). PR: HIM 5118C; HIM 6119C; HIM 6122C; HIM 6123C. This course provides an overview of project management and will expose students to the principles of project management and health care information systems.

*Summer*

HPA - Department of Health Management and Informatics

**HIM 6947. Health Care Informatics Internship**

3(3,0). PR: HIM 5118C, HIM 6122C and HIM 6123C. A supervised placement of students in approved settings. Students must complete required number of hours and a project under the supervision of an organization preceptor.

*Even Spring*

HPA - Department of Health Management and Informatics

**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.

*Occasional*

CAH - Department of History

**HIS 5083. Cultural Heritage Management**

3(3,0). Graduate standing, HIS 5067, or C.I. Readings in the debates and issues of international management of cultural heritage and property, including introduction to UNESCO standards.

CAH - Department of History

**HIS 5095. Readings in Historic Preservation**

3(3,0). HIS 5067 or C.I. Course will expose students to major theoretical conversations in Historic Preservation including law, sustainability, and cultural resource management.

*Occasional*

CAH - Department of History

**HIS 5925. History in the Digital Age**

3(3,0). Graduate standing or C.I. Readings in the history, theory, and methodologies of digital historical practices from precedents in New Social History to the present, including use in Public History.

*Even Fall*

CAH - Department of History

**HIS 6068. Seminar in Documentary Editing and New****Media**

3(3,0). Graduate standing or C.I. The theory and practical skills involved in documentary editing and new media.

*Occasional*

CAH - Department of History

**HIS 6096. Seminar in Historic Preservation**

3(3,0). PR: Graduate standing or C.I. Seminar in the theory and work of historic preservation. Research methods, theory, law, and professional standards will be explored through student generated preservation projects.

*Occasional*

CAH - Department of History

**HIS 6159. Historiography**

3(3,0). . Selected topics in the study of history. May be repeated for credit.

*Fall*

CAH - Department of History

**HIS 6165. Digital Tools for Historians**

3(3,0). Graduate standing or C.I. Background, theory, and methods of digital history. Students will develop a working knowledge for evaluating and employing digital tools for historical research and presentation.

CAH - Department of 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. Graded S/U.

*Occasional*

CAH - Department of History

**HIS 6942. Internship**

3(3,0). PR: Graduate standing. Graduate internship in public history. Subject may vary. May be used in the degree program a maximum of 2 times.

*Occasional*

CAH - Department of History

**HIS 6946. Teaching Practicum**

3(3,0). . Student observation, participation, direction, and leadership in a college survey course. May be repeated for credit.

*Occasional*

CAH - Department of History

**HMG 6227. Advanced Training and Development in the Hospitality Industry**

3(3,0). PR: Graduate Standing or C.I. This course is designed to give students detailed information on developing, delivering, assessing, and evaluating training and development programs for various segments of the hospitality industry.

*Occasional*

RCHM - Department of Hospitality Services

**HMG 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.

*Fall, Spring*

RCHM - Department of Hospitality Services



**HMG 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.

*Fall*

*RCHM - Department of Hospitality Services*

**HMG 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.

*Occasional*

*RCHM - Department of Hospitality Services*

**HMG 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.

*Fall, Spring*

*RCHM - Department of Foodservices and Lodging Management*

**HMG 6267. Case Studies in Restaurant Management**

3(3,0). PR: Graduate standing. This elective course will allow students to apply the principles of management, analysis, and planning that they have learned in their prior coursework to issues in multi-unit restaurant operations.

*Occasional*

*RCHM - Department of Foodservices and Lodging Management*

**HMG 6291. Hospitality Entrepreneurship: Concept Creation to Capitalization**

3(3,0). PR: HMG 6477 or C.I. Focus on creating, developing, and designing a unified concept plan, business plan, and investment proposal for a new hospitality business enterprise.

*Occasional*

*RCHM - Department of Foodservices and Lodging Management*

**HMG 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.

*Fall, Spring, Summer*

*RCHM - Department of Hospitality Services*

**HMG 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.

*Occasional*

*RCHM - Department of Tourism Event and Attractions*

**HMG 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.

*Occasional*

*RCHM - Department of Foodservices and Lodging Management*

**HMG 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.

*Occasional*

*RCHM - Department of Hospitality Services*

**HMG 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.

*Occasional*

*RCHM - Department of Hospitality Services*

**HMG 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.

*Occasional*

*RCHM - Department of Hospitality Services*

**HMG 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.

*Occasional*

*RCHM - Department of Tourism Event and Attractions*

**HMG 6529. 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.

*Occasional*

*RCHM - Department of Foodservices and Lodging Management*

**HMG 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.

*Occasional*

*RCHM - Department of Hospitality Services*

**HMG 6566. Principles of Destination Marketing and Management**

3(3,0). PR: HMG 6596. Examines strategies for creating integrated destination marketing and management systems; concepts and strategies for destination competitiveness and sustainability; trends/challenges influencing destination marketing and management.

*Occasional*

*RCHM - Department of Tourism Event and Attractions*

**HMG 6585. Data Analysis in Hospitality and Tourism**



**Research**

3(3,0). Graduate standing in Hospitality Management or C.I. Examination of quantitative methods applied in hospitality and tourism research, including identification of data analysis strategies and interpretation of finds. Emphasis on univariate data analyses.

*Fall, Spring*

*RCHM - Department of Hospitality Services*

**HMG 6586. Research Methods in Hospitality and Tourism**

3(3,0). PR: Graduate standing in Hospitality Management or C.I. 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 techniques, sampling, data processing, and information analysis.

*Spring*

*RCHM - Department of Hospitality Services*

**HMG 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.

*Fall, Spring, Summer*

*RCHM - Department of Hospitality Services*

**HMG 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.

*Occasional*

*RCHM - Department of Hospitality Services*

**HMG 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.

*Occasional*

*RCHM - Department of Hospitality Services*

**HMG 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.

*Occasional*

*RCHM - Department of Tourism Event and Attractions*

**HMG 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.

*Fall*

*RCHM - Department of Tourism Event and Attractions*

**HMG 6738. Tourism Industry Analysis**

3(3,0). PR: Graduate standing. Quantitative impact analysis of tourism as an industry in the regional/national economy along the Tourism Satellite Accounts concept.

*Occasional*

*RCHM - Department of Tourism Event and Attractions*

**HMG 6756. Mega-Events**

3(3,0). PR: HMG 6797. The organization and administration of mega-events. The tourism impacts of the events on the destinations that host them.

*Occasional*

*RCHM - Department of Tourism Event and Attractions*

**HMG 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.

*Occasional*

*RCHM - Department of Tourism Event and Attractions*

**HMG 7258. Strategies and Tactics: Lodging**

3(3,0). PR: Admission to the Hospitality Education track to the PhD in Education. Extensive review of the theoretical and empirical literature related to current strategies and operations of lodging enterprises throughout the world.

*Occasional*

*RCHM - Department of Foodservices and Lodging Management*

**HMG 7546. Strategies and Tactics: Guest Service Management**

3(3,0). PR: Admission to the Hospitality Education track to the PhD in Education. 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.

*Occasional*

*RCHM - Department of Hospitality Services*

**HMG 7587. Foundations in Hospitality and Tourism Research**

3(3,0). PR: Admission to the Ph.D. Education Hospitality Education track, C.I. Facilitates the introduction of hospitality and tourism research across a broad expanse of industry sectors including but not limited to attractions, events, leisure, foodservice and lodging.

*Odd Fall*

*RCHM - Department of Tourism Event and Attractions*

**HMG 7588. Research Seminar in Hospitality and Tourism**

1(1,0). PR: Admission to the Ph.D. Education Hospitality Education track, C.I. This course includes the presentation of, exposure to and professional critique of current research projects by students.

*Even Fall*

*RCHM - Department of Hospitality Services*

**HMG 7589. Advanced Research Methods in Hospitality and Tourism**

3(3,0). PR: EDF 7403, EDF 7463, C.I. Facilitates creating, developing, and solving research problems through the application of appropriate research methods to contemporary issues in the hospitality and tourism industry.

*Odd Fall*

RCHM - Department of Hospitality Services

**HMG 7715. Strategies and Tactics: Travel and Tourism**  
3(3,0). PR: Admission to the Hospitality Education track to the PhD in Education. An in-depth investigation of the various components of travel and tourism focusing on the role of policy in their operation and development.

*Occasional*

RCHM - Department of Tourism Event and Attractions

**HMG 7876. Strategies and Tactics: Foodservice**  
3(3,0). PR: Admission to the Hospitality Education track to the PhD in Education. Extensive review of the theoretical and empirical literature related to current strategies and operations of food service enterprises throughout the world.

*Occasional*

RCHM - Department of Foodservices and Lodging Management

**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.

*Occasional*

HPA - Department of Health Professions

**HSA 5198. Health Care Decision Sciences and Knowledge Management**  
3(3,0). PR: STA 5206 or passing score on statistics assessment exam. Emphasis on development of a general systematic approach to solving problems under uncertainty. The role of informatics and application of information technology in improving managerial decision making process will be presented.

*Summer*

HPA - Department of 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.

*Occasional*

HPA - Department of Health Professions

**HSA 5436. Foundations of Health Care Economics**  
3(3,0). PR: Admission to HSA graduate program or C.I. Preparatory course for graduate students who are not prepared to take the required health care economics course.

*Fall*

HPA - Department of Health Management and Informatics

**HSA 5509. Health Care Risk Management**  
3(3,0). PR: Admission to M.S. in Health Services Administration or C.I. This course examines the background, history and philosophy of health care risk management including clinical risks, malpractice, interpreting contracts and insurance and ethical decision making.

*Fall*

HPA - Department of Health Management and Informatics

**HSA 6108. Health Care Organization and Management II**  
3(3,0). PR: HSA 6119, HSC 6636 and PHC 6160. Emphasis on planning, development, marketing approaches, and problem solving using computer methods.

*Fall, Summer*

HPA - Department of Health Professions

**HSA 6112. International Health Systems**  
3(3,0). PR: Graduate status. Survey of health care systems in developed and developing countries.

*Occasional*

HPA - Department of Health Professions

**HSA 6119. Health Care Organization and Management**  
3(3,0). PR: Admission to Health Services Administration master's program. Planning, development, and marketing methods.

*Spring*

HPA - Department of 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.

*Occasional*

HPA - Department of Health Professions

**HSA 6128. Health Care Services Management**  
3(3,0). PR: Admission to the Health Services Administration graduate program or C.I. Conceptization and development of customer service in health care organizations. The focus is on the links between theory and practical applications.

*Spring*

HPA - Department of Health Management and Informatics

**HSA 6155. Health Economics and Policy**  
3(3,0). PR: HSA 5436 or passing grade on Economic Assessment Exam 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.

*Spring*

HPA - Department of Health Management and Informatics

**HSA 6156. Health Care Economics and Policy**  
4(4,0). PR: Admission to Health Sciences M.S., Executive Health Services Administration track. Study of the economic foundations of the health care market and policy.

*Fall*

HPA - Department of Health Management and Informatics

**HSA 6175. Advanced Trends in Health Care Finance and Management**  
4(3,1). Admission to the Health Care Informatics master's degree or HIA certificate. Focus on areas related to overall strategy of the health care organization including decision making practices; infrastructure investment; business partnerships; management staff competencies; and financial report analysis.

*Summer*

HPA - Department of Health Professions

**HSA 6178. Financial Management for Health Care Managers**  
4(4,0). PR: Admission to Health Sciences M.S., Executive Health Services Administration track. Application and integration of advanced accounting and financial principles to develop solutions to specific problems encountered in today's health care organizations.

*Summer*

HPA - Department of Health Management and Informatics

**HSA 6179. Financial Accounting for Health Care Managers**

4(4,0). PR: Admission to Health Sciences M.S., Executive Health Services Administration track. Examines accounting and financial management concepts, along with managerial protocols and regulatory constraints affecting health care organizations.

*Spring*

*HPA - Department of Health Management and Informatics*

**HSA 6188. Health Care Capstone and Strategic Management**

4(4,0). PR: Admission to Health Sciences M.S., Executive Health Services Administration track. Concepts and course work through the lens of strategic management.

*Odd Summer*

*HPA - Department of Health Management and Informatics*

**HSA 6189. Health Care Procedural Coding and Reimbursement**

4(3,1). Admission to Health Care Informatics master's degree or HIA certificate. Introduction and analysis of reimbursement systems. Focus on Current Procedural Terminology (CPT) code selection and audit tools; reimbursement methodologies; and revenue cycle management.

*Spring*

*HPA - Department of Health Professions*

**HSA 6195. Management and Health Information Systems**

3(3,0). PR: Admission to Health Services Administration graduate program or C.I. This course is designed to introduce students to health care information systems and current issues related to effective management of these systems and health data.

*Summer*

*HPA - Department of Health Management and Informatics*

**HSA 6197C. Health Care Informatics for Health Care Leaders**

4(3,1). PR: Admission to Health Sciences M.S., Executive Health Services Administration track. Alignment of health information technology advances with the organizational strategy, including improving quality, safety and efficiency.

*Fall*

*HPA - Department of Health Management and Informatics*

**HSA 6342. Health Care Human Resources**

3(3,0). PR: Admission to the Health Services Administration graduate program or C.I. Study of health care organizations, including modern management, human performances, and leadership.

*Fall*

*HPA - Department of Health Management and Informatics*

**HSA 6345. Leadership for Health Care Executives**

4(4,0). PR: Admission to Health Sciences M.S., Executive Health Services Administration track. Addresses current leadership theory focusing on leadership styles, motivation, change management, innovation, and creativity as they relate to management of health services organizations.

*Fall*

*HPA - Department of Health Management and Informatics*

**HSA 6346. Health Care Organizational Behavior and Human Resource Management**

4(4,0). PR: Admission to Health Sciences M.S., Executive Health Services Administration track. Application of human resources and organizational theory in the health care setting for health care managers.

*Odd Spring*

*HPA - Department of Health Management and Informatics*

**HSA 6385. Health Care Quality Management**

3(3,0). PR: Admission to the Health Services Administration graduate program or C.I. Mechanisms of enhancing quality of service and care.

*Summer*

*HPA - Department of Health Management and Informatics*

**HSA 6505. Health Care Quality and Risk Management**

4(4,0). PR: Admission to Health Sciences M.S., Executive Health Services Administration track. Current quality-based management practices within health care organizations and effective risk management strategies for health care managers.

*Summer*

*HPA - Department of Health Management and Informatics*

**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.

*Occasional*

*HPA - Department of Health Professions*

**HSA 6510. Special Issues in Practice Management**

3(3,0). PR: HSA 6508, HSA 6115, or PHC 6160. Methods of dealing with market driven and government initiated changes in medical practices.

*Occasional*

*HPA - Department of Health Professions*

**HSA 6512. Health Care Leadership**

3(3,0). PR: Graduate status or C.I. Practical applications of leadership theory in health services organizations.

*Occasional*

*HPA - Department of Health Professions*

**HSA 6520. Epidemiology and Health Planning**

4(4,0). PR: Admission to Health Sciences M.S., Executive Health Services Administration track. Descriptive and applied methods of managerial epidemiology, including methods for data retrieval and research application.

*Odd Spring*

*HPA - Department of Health Management and Informatics*

**HSA 6536. Health and Medical Terminology for Health Administrators**

3(3,0). PR: Admission to Health Services Administration graduate program or C.I. Designed to introduce students to the language of medicine and its application for health administrators using the Caduceus Medical Terminology software system.

*Spring*

*HPA - Department of Health Management and Informatics*

**HSA 6555. Health Care Ethics and Law**

4(4,0). PR: Admission to Health Sciences M.S., Executive Health Services Administration track. Overview of legal and ethical issues facing health care managers and providers in a variety of health care settings.

*Odd Spring*

*HPA - Department of Health Management and Informatics*

**HSA 6752. Health Care Analytics**

4(3,1). Admission to Health Care Informatics master's degree or HIA certificate. Computer based course focusing on analyzing health care data including using data for decision making, process improvements, efficient health care delivery and preparing reports for other managers.

*Spring*

HPA - Department of Health Professions

**HSA 6759. Health Care Outcomes Management**

4(3,1). Admission to Health Care Informatics master's degree or HIA certificate. Measure and methods of outcomes assessment and evaluation focusing on regulatory policies; use of data to investigate fraud; organizational compliance programs and health information system compliance.

*Fall*

HPA - Department of Health Professions

**HSA 6766. Health Care Statistics and Research**

4(4,0). PR: Admission to Health Sciences M.S., Executive Health Services Administration track. Research method techniques and statistical techniques for problem-solving and decision-making including theoretical, quantitative, and quantitative skills to understand, conduct, and evaluate health care research.

*Fall*

HPA - Department of Health Management and Informatics

**HSA 6925. Capstone in HSA**

3(3,0). PR: HSA 5198, HSA 6108, HSA 6119, HSA 6128, HSA 6342, HSA 6385, HSC 6911, PHC 6164. Case analysis approach to solving current health services administration problems and issues. Prepares students for comprehensive examination experience.

*Fall, Spring*

HPA - Department of Health Professions

**HSA 6930. Health Care Management, Professional Skills Seminar**

3(3,0). PR: Admission to the HSA program or C.I. This seminar serves as a bridge between MSHSA course work and the world of practice, with a focus on developing career planning and professional skills.

*Spring*

HPA - Department of Health Management and Informatics

**HSA 7115. Advanced Health Care Organization Theory**

3(3,0). PR: Admission to PhD program or C.I. New theories of health care management, emphasizing organizational structure, health care leadership, and information management in health care decision-making.

*Occasional*

HPA - Department of Health Professions

**HSA 7116. Theories in Healthcare Management**

3(3,0). PR: Admission to Public Affairs PhD program or C.I. Overview of healthcare management theories/ applications including resource dependence, populations ecology, institutional structure and innovation, network, transaction costs, decision making, power and stakeholder management theories.

*Spring*

HPA - Department of Health Professions

**HSA 7125. Globalization and Health**

3(3,0). Admission to Public Affairs Ph.D. program or C.I. This course examines effects of globalization on health.

A large focus is public health and social determinants of health, including poverty, inequality, environment and culture.

*Spring*

HPA - Department of Health Management and Informatics

**HSA 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. May be repeated for credit only when course content is different.

*Occasional*

HPA - Department of Health Professions

**HSA 7936. Advanced Seminar in Health Economics**

3(3,0). PR: Admission to Public Affairs Ph.D. program or C.I. and Microeconomics or PAF 7315. This advanced seminar in health economics will introduce advanced principles and methods used in economic analysis of health services.

*Odd Fall*

HPA - Department of Health Management and Informatics

**HSA 7938. Advanced Seminar in Health Services Research**

3(3,0). PR: Admission to Public Affairs Ph.D. program or C.I. This is an advanced seminar in health services research. Analytical design and methods used in health services research will be applied.

*Odd Spring*

HPA - Department of Health Management and Informatics

**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.

*Summer*

ED - Department of Educational and Human Sciences

**HSC 6570. Clinical Nutrition**

3(3,0). PR: Admission to Health Sciences MS Clinical and Lifestyle Sciences track or C.I. The role of nutrition in promoting health and wellness: principles and best practices of nutrition therapy in management of chronic diseases of public health concern.

*Spring*

HPA - Department of Health Professions

**HSC 6597. Human and Applied Metabolism**

3(3,0). PR: Admission to Health Sciences MS Clinical and Lifestyle Sciences track or C.I. The contribution of carbohydrate, fat and protein to energy metabolism at rest and during physical stress will be examined.

*Fall*

HPA - Department of Health Professions

**HSC 6607. Lifestyle Medicine**

3(3,0). PR: Admission to Health Sciences MS Clinical and Lifestyle Sciences track or C.I. This class will use scientific evidence to provide studies with the most up-to-date information on successful strategies for preventing and treating numerous chronic diseases, stress and addiction.

*Fall*

HPA - Department of Health Professions

**HSC 6616. Clinical Exercise Physiology**



3(3,0). PR: Admission to Health Sciences MS Clinical and Lifestyle Sciences track or C.I. This course is designed to give the student an understanding of the graded exercise test as a functional and diagnostic modality in normal and diseased people.

*Spring*

*HPA - Department of 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 professions.

*Fall, Spring, Summer*

*HPA - Department of Health Professions*

**HSC 6656. Healthcare Ethics**

3(3,0). PR: Graduate standing or C.I. Examine and analyze central concepts and values in healthcare ethics in order to provide a foundation for sound ethical decision-making.

*HPA - Department of Health Professions*

**HSC 6659. 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.

*Occasional*

*HPA - Department of Health Professions*

**HSC 6911. Scientific Inquiry in the Health Profession**

3(3,0). PR: STA 5206 or passing score on statistics assessment exam. Research design and statistical evaluation in health professions.

*Fall*

*HPA - Department of Health Professions*

**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 relevant to contemporary cultural issues, using Humanities theories and methods.

*Occasional*

*CAH - Department of Philosophy*

**HUM 5803. Theories and Methods of the Humanities**

3(3,0). PR: Senior undergraduate standing and at least one of the following: HUM 3252, 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.

*Fall*

*CAH - Department of Philosophy*

**HUN 5247. Principles of Human Nutrition**

3(3,0). PR: Admission to Health Sciences MS Clinical and Lifestyle Sciences track or C.I. Course promotes in-depth understanding of the role of macronutrients in human nutrition and health enabling graduates to integrate knowledge into other aspects of their work.

*Occasional*

*HPA - Department of Health Professions*

**IDS 5127. Foundation of Bio-Imaging Science**

3(3,0). PR: Graduate standing. Fundamental theory, design, and practice of modern bio-imaging techniques used for basic biomedical research applications.

*COM - Department of Molecular and Microbiology*

**IDS 5145. Interdisciplinary Course in Simulation**

3(3,2). PR: Calculus, matrix algebra, probability and 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.

*Occasional*

*GRDST - Interdisciplinary Grad*

**IDS 6126. Interdisciplinarity**

3(3,0). PR: Graduate standing or C.I. This course examines the history and challenges of interdisciplinary teaching and scholarship. We start by posing the question, "What is a discipline?" Then we will explore various interdisciplinary approaches and scholarship. Our final goal is for each student to present an interdisciplinary research proposal that will guide their work on their Interdisciplinary Studies MA or MS thesis.

*Fall, Spring*

*ALL - Interdisciplinary Grad*

**IDS 6146. Modeling and Simulation Systems**

3(3,0). PR: Graduate standing or C.I. An overview of issues, techniques and tools that impact the design, development, verification, and validation of simulation systems.

*Summer*

*ALL - Interdisciplinary Grad*

**IDS 6147. Perspectives on Modeling and Simulation**

3(3,0). PR: Graduate standing or C.I. Perspectives on the theory and practice of modeling and simulation with emphasis on specific topics of current interest.

*Fall*

*ALL - Interdisciplinary Grad*

**IDS 6148. Human Systems Integration for Modeling and Simulation**

3(3,0). PR: Graduate standing or C.I. Covers general process of the human systems integration approach for modeling and simulation systems. Addresses standards, analysis tools and techniques for developing systems-level solutions.

*Summer*

*ALL - Interdisciplinary Grad*

**IDS 6149. Modeling and Simulation for Test and Evaluation**

3(3,0). PR: Graduate standing and C.I. Modeling and simulation for test planning, execution, and evaluation will be described, characterized, and illustrated with real-world examples and case studies.

*Fall*

*ALL - Interdisciplinary Grad*

**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 part and present works.

*Fall*

*ALL - Interdisciplinary Grad*

**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.



*Fall*

*ALL - Interdisciplinary Grad*

**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.

*Summer*

*ED - Department of Educational and Human Sciences*

**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.

*Fall*

*ED - School of Teaching, Learning, and Leadership*

**IDS 6515. Classroom Management for Mathematics and Science Teachers**

3(3,0). PR: Graduate standing or C.I. Teacher candidates will engage in critical examination of current school and classroom organization and management models, methods, and strategies in middle school. Causes and solutions to disruptive and noncompliant behaviors will be discussed.

*Even Fall*

*ED - School of Teaching, Learning, and Leadership*

**IDS 6516. Leadership Development for Mathematics and Science Teachers**

3(3,0). PR: Graduate standing or C.I. Development of mathematics and science teachers' abilities to assume teacher leadership roles in their schools.

*Even Spring*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Spring*

*ALL - Interdisciplinary Grad*

**IDS 6694. Experimental Design & Analysis in Biomedical Sciences**

2(2,0). PR: Graduate standing in biomedical sciences or C.I. Problem based learning graduate course focused on how to effectively design experiments and analyze data for hypothesis-driven research in biomedical sciences. Graded S/U.

*Spring*

*COM - Department of Molecular and Microbiology*

**IDS 6910. Research in Mathematics and Science Education**

3(3,0). PR: Graduate standing or C.I. Support provided for graduate students in mathematics and science education as they plan and/or implement research projects.

*Even Fall*

*ED - School of Teaching, Learning, and Leadership*

**IDS 6916. Simulation Research Methods and Practicum**

3(3,0). PR: DIG 5875C and DIG 5876 or their equivalents. Interdisciplinary teams of students conduct fundamental and applied research on contemporary issues in modeling, simulation, and training.

*Occasional*

*ALL - Interdisciplinary Grad*

**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.

*Fall, Spring, Summer*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Summer*

*ED - School of Teaching, Learning, and Leadership*

**IDS 6937. Teaching Mathematics and Science Using Reform-Based Practices**

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.

*Fall*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Fall, Spring*

*ED - School of Teaching, Learning, and Leadership*

**IDS 6950. Modeling and Simulation Capstone Report Planning**

1(1,1). Graduate standing. Identify topic and required resources to complete multi-disciplinary Modeling and Simulation capstone project. Develop annotated topical outline for Modeling and Simulation capstone report.

*Summer*

*GRDST - Interdisciplinary Grad*

**IDS 6953. Urban and Regional Planning Capstone I**

3(3,0). PR: Completion of all required Urban and Regional Planning program courses and concentration electives. This Capstone I course synthesizes previous planning coursework through the development of a service learning project proposal.

*Even Fall*

*HPA - Department of Public Administration*

**IDS 6954. Urban and Regional Planning Capstone II**

3(3,0). PR: Completion of Urban and Regional Planning Capstone I. This Capstone II course implements the service learning project proposal where students collect and analyze data and make planning recommendations.

*Odd Spring*

*HPA - Department of Public Administration*

**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.

*Fall, Spring, Summer*  
ED - College-ED

**IDS 7501. Issues and Research in Education**

3(3,0). PR: Admission to PhD in Education or C.I. An examination of major issues impacting education and related practical and methodological issues in research.  
*Odd Fall*  
ED - College-ED

**IDS 7502. Case Studies in Research Design**

3(3,0). PR: Admission into the PhD in Education. A critical analysis of educational research design.  
*Summer*  
ED - College-ED

**IDS 7657. Professional Collaboration Around Language Issues**

3(3,0). PR: Admission to Education Ph.D. program or C.I. Interdisciplinary approach to exploring issues in language and literacy for struggling children and adolescents and development of collaboration competencies in professionals from different disciplines.  
*Odd Fall*  
HPA - College-HPA

**IDS 7690. Frontiers in Biomedical Sciences**

1(1,0). PR: Admission to Biomedical Sciences Ph.D. program. Cross-disciplinary biomolecular research seminar, collaboration between chemistry, biology, and molecular biology and microbiology. May be used in the degree program a maximum of 6 times.  
*Fall, Spring*  
COM - Department of Molecular and Microbiology

**IDS 7691. Structure-Function-Relationships of Biomolecules I**

5(5,0). Admission to Biomolecular Sciences PhD 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.  
*Occasional*  
COM - Department of Molecular and Microbiology

**IDS 7692L. Experiments in Biomedical Sciences**

1-3(0,1-3). PR: Admission to Biomedical Sciences Ph.D. program. Laboratory rotations in one to three research laboratories throughout the first year of the Biomedical Science doctoral program. Graded S/U. May be used in the degree program a maximum of 4 times.  
*Fall, Spring*  
COM - Department of Molecular and Microbiology

**IDS 7693. Structure-Function-Relationships of Biomolecules II**

5(5,0). Admission to PhD 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.  
*Occasional*  
COM - Department of Molecular and Microbiology

**IDS 7938. Research Cluster Seminar**

3(3,0). PR: Admission into the PhD program in Education or C.I. An examination of research issues focusing on interdisciplinary inquiry in education. May be used in the

degree program a maximum of 2 times.  
*Spring, Summer*  
ED - College-ED

**INP 5825. Human-computer Interface (HCI) design: A team approach**

3(3,0). 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.  
*Occasional*  
COS - Department of Psychology

**INP 6058. Job Analysis and Performance Appraisal**

3(3,0). PR: Admission to Industrial Organizational Psychology M.S. or C.I. Theory and practice in collection, analysis, and use of job analysis data; survey of theories, research and practice in the areas of industrial/organizational performance appraisal.  
*Occasional*  
COS - Department of Psychology

**INP 6072. Survey Research Methods and Program Evaluation in Indust. and Org. Psychology**

3(3,0). PR: PSY 6216C and admission to master's program in Industrial and Organizational Psychology or Ph.D. in Psychology or C.I. Applied issues in the evaluation of programs/interventions and survey design, sampling, and data analysis in organizations.  
*Occasional*  
COS - Department of Psychology

**INP 6080. Ethical, Legal, & Professional Issues in Industrial & Organizational Psychology**

3(3,0). PR: Admission to master's program in Industrial and Organizational Psychology, Psychology Ph.D., or C.I. A review of the applied behavioral problems recurrent in the professional practice of Industrial and Organizational Psychology.  
*Occasional*  
COS - Department of Psychology

**INP 6088. Applied Problems in Industrial and Organizational Psychology**

3(3,0). PR: Admission to Industrial and Organizational Psychology master's program or C.I. A review of applied behavioral problems recurrent in the professional practice of industrial and organizational psychology.  
*Occasional*  
COS - Department of Psychology

**INP 6103. Applied Organizational Psychology I**

3(3,0). PR: Graduate standing in the master's program in Industrial and Organizational Psychology. Theory and practice of Industrial and Organizational Psychology, focusing on individual characteristics (e.g., work motivation, attitude theory, and work stress).  
*Occasional*  
COS - Department of Psychology

**INP 6104. Applied Organizational Psychology II**

3(3,0). PR: INP 6103. Theory and practice of Industrial and Organizational Psychology, focusing on group processes (e.g., group dynamics, communication, leadership and decision making).  
*Occasional*  
COS - Department of Psychology

**INP 6110. Applied Industrial Psychology I**

3(3,0). PR: Graduate standing in master's Industrial and Organizational Psychology, C.I. Theory and practice of Industrial and Organizational Psychology, focusing on criterion theory and development, job and task analysis, and employee selection and placement.

*Occasional*

COS - Department of Psychology

**INP 6111. Applied Industrial Psychology II**

3(3,0). PR: INP 6110. Theory and practice of Industrial and Organizational Psychology, focusing on performance appraisal and feedback, and training: theory, program design, and evaluation.

*Occasional*

COS - Department of Psychology

**INP 6215. Assessment Centers and Leadership**

3(3,0). PR: Graduate admission and C.I. Survey of assessment center technology and application with emphasis on leadership theory and practice.

*Occasional*

COS - Department of Psychology

**INP 6317. Work Motivation and Job Attitudes**

3(3,0). PR: Admission to Industrial Organizational Psychology M.S. or Ph.D., or Modeling and Simulation M.S. or Ph.D., or Applied Learning and Instruction M.A., or C.I. Review of theories, research and application of psychological principles to organizational settings, including human motivation and job attitudes.

*Occasional*

COS - Department of Psychology

**INP 6605. Training and Team Performance**

3(3,0). PR: Admission to Industrial Organizational Psychology M.S., Psychology Ph.D., or C.I. Survey and theory of training and small groups including team effectiveness and team performance within applied contexts.

*Occasional*

COS - Department of Psychology

**INP 6933. Seminar in Industrial and Organizational Psychology**

3(3,0). PR: Admission to Industrial and Organizational Psychology Master's, Psychology Ph.D., or C.I. Selected topics in industrial and organizational psychology. May be used in the I/O M.S. degree program one time, and may be used in I/O Ph.D. a maximum of 6 times. May be used in the Ph.D. degree program a maximum of 6 times. May be used in the degree program a maximum of 6 times.

*Occasional*

COS - Department of Psychology

**INP 6945C. Industrial Psychology Practicum**

3(1,6). Admission to Industrial Organizational Psychology M.S. or C.I. Supervised placement in an applied setting. Graded S/U. May be repeated for credit.

*Occasional*

COS - Department of Psychology

**INP 7071. Research Methods in Industrial and Organizational Psychology**

3(3,0). PR: Admission to the doctoral Industrial and Organizational Psychology program and PSY 6216C. A review of research methodology in organizational settings, focusing on hypothesis testing, quasi-experimental

designed, non-experimental designs, and sampling procedures.

*Occasional*

COS - Department of Psychology

**INP 7081. Professional Issues in Industrial and Organizational Psychology**

3(3,0). PR: Graduate standing in the doctoral program in Industrial Organizational Psychology or C.I. Ethical principles, standards, and laws guiding professional behaviors and psychological practice.

*Occasional*

COS - Department of Psychology

**INP 7089. Human Factors Professional Issues**

3(3,0). PR: Admission to the Human Factors PhD 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.

*Even Spring*

COS - Department of Psychology

**INP 7214. Industrial Psychology I**

3(3,0). PR: Admission to the doctoral Industrial and Organizational Psychology program or C.I. Review of the theoretical and practical issues and the research literature related to criterion development and personnel selection.

*Odd Spring*

COS - Department of Psychology

**INP 7251. Industrial Psychology II**

3(3,0). PR: Admission to the doctoral Industrial and Organizational Psychology program or C.I. Review of the theoretical and practical issues and the research literature related to retaining, theory and program design/evaluation and performance appraisal/feedback.

*Occasional*

COS - Department of Psychology

**INP 7310. Organizational Psychology I**

3(3,0). PR: Admission to the doctoral Industrial and Organizational Psychology program. Review of the theoretical and practical issues and research literature related to work motivation theory, attitude theory, and decision theory.

*Fall*

COS - Department of Psychology

**INP 7311. Organizational Psychology II**

3(3,0). PR: Admission to the doctoral Industrial and Organizational Psychology program or C.I. Review of the theoretical and practical issues and research literature related to small group theory and process and organization theory.

*Occasional*

COS - Department of Psychology

**INP 7919. Directed Doctoral Study in Industrial and Organization Psychology**

3(3,0). PR: Admission to the doctoral Industrial and Organizational Psychology program. Directed study in areas of organization development theory, career development theory consumer behavior, individual assessment, or other relevant topics in Industrial and Organizational psychology. May be repeated for credit. Graded S/U.

*Occasional*

COS - Department of Psychology

**INR 6007. Seminar in International Politics**

3(3,0). PR: Admission to a graduate degree-seeking program or C.I. Introduces the student to the advances in international relations theory and research through a broad sampling of approaches and methods.

*Occasional*

*COS - Department of Political Science*

**INR 6039. International Political Economy**

3(3,0). PR: Graduate standing or post bac status. A survey of major themes, concepts, theories, and methods of international political economy, which also entails policy discussion and applications.

*Occasional*

*COS - Department of Political Science*

**INR 6062. Peace Studies**

3(3,0). PR: Admission to degree-seeking program or C.I. Examines how humans manage conflict, fostering justice and creative development. Surveys both international and domestic conflicts, outlining theories of peace and utilizing various case studies.

*Occasional*

*COS - Department of Political Science*

**INR 6065. Seminar on War**

3(3,0). PR: Admission to degree-seeking program or C.I. Examination of theories and empirical evidence locating the cause of war at the systemic, state, and individual levels of analysis.

*Occasional*

*COS - Department of Political Science*

**INR 6068. Politics of Civil Wars**

3(3,0). Admission to degree-seeking program or C.I. Exploration of the causes, the dynamics of violence, the international aspects, and the resolution of civil wars.

*COS - Department of Political Science*

**INR 6086. International Public Policy**

3(3,0). PR: Graduate standing. Examines endogenous and exogenous variables involved in selected issues in the arena of international public policy.

*Occasional*

*COS - Department of Political Science*

**INR 6096. International Drug Policy**

3(3,0). PR: Admission to degree-seeking program or C.I. Overview of drug use/abuse around the globe, debating the issues associated with international drug dealing and trafficking and analyzing the U.S. "War on Drugs".

*Occasional*

*COS - Department of Political Science*

**INR 6108. Seminar in American Foreign Policy**

3(3,0). PR: Admission to a graduate degree-seeking program or C.I. Domestic and international factors influencing the development of selected foreign policy issues.

*Occasional*

*COS - Department of Political Science*

**INR 6136. Seminar in American Security Policy**

3(3,0). PR: Admission to graduate degree seeking program or C.I. Examination of domestic and international factors influencing the development of selected American security policy issues.

*COS - Department of Political Science*

**INR 6137. Terrorism and Politics**

3(3,0). Graduate standing or C.I. Examines terrorism, including its strategic logics, contemporary methodologies, political roots, and the problems of counter-terrorism.

*Occasional*

*COS - Department of Political Science*

**INR 6228. International Politics of the Caspian Sea Region**

3(3,0). PR: Degree-seeking graduate standing or C.I. A comprehensive analysis of the political issues of the Caspian region.

*Occasional*

*COS - Department of 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.

*Even Fall*

*COS - Department of Political Science*

**INR 6346. Politics of International Terrorism**

3(3,0). PR: Admission to degree-seeking program or C.I. Analysis of causes of and political responses to international terrorism. Emphasis on political science approaches to analysis of international terrorism.

*Occasional*

*COS - Department of Political Science*

**INR 6352. Global Environmental Politics**

3(3,0). PR: Admission to Political Science MA or C.I. Unique environmental struggles and issues on the international and global levels.

*Occasional*

*COS - Department of Political Science*

**INR 6356. Environmental Security**

3(3,0). PR: Admission to degree-seeking program or C.I. Examination of the relationship between environmental degradation and both national and international security, introducing students to the technical and political debates on global environmental change.

*Occasional*

*COS - Department of Political Science*

**INR 6365. Seminar on Intelligence**

3(3,0). PR: Admission to degree-seeking program or C.I. Examines the organization and functions of the U.S. intelligence community, its interaction with national security policymakers, and the challenges in defining its future role.

*Occasional*

*COS - Department of Political Science*

**INR 6366. The Intelligence Community**

3(3,0). Admission to a graduate program, or C.I. The intelligence community structure in its relationship to foreign policy decision making, consideration of control and reliability questions, and issues of cooperation and coordination.

*Occasional*

*COS - Department of Political Science*

**INR 6405. International Environmental Law**

3(3,0). Graduate standing. Examination of the international treaty regime governing the global environment, including



biodiversity, the atmosphere, the ocean, and hazardous waste.

*Occasional*

*COS - Department of Political Science*

**INR 6507. International Organization**

3(3,0). 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.

*Occasional*

*COS - Department of Political Science*

**INR 6607. International Relations Theory**

3(3,0). PR: Admission to graduate degree-seeking program or C.I. A survey of primary theoretical approaches to understanding and explaining international relations.

*Occasional*

*COS - Department of Political Science*

**INR 6716. Politics of International Trade Policy**

3(3,0). 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.

*Occasional*

*COS - Department of Political Science*

**INR 6726. Political Behavior in International Conflict**

3(3,0). PR: Graduate standing or C.I. Analysis of the ways in which cognitive and emotional theories of human behavior have been used to explain conflict between nation-state and other non-state actors.

*Occasional*

*COS - Department of Political Science*

**INR 7139. Issues in Domestic Security**

3(3,0). PR: Admission to Security Studies Ph.D. or C.I. Examination of national issues such as domestic terrorism, with a particular emphasis on challenges arising at the state level.

*Even Fall*

*COS - Department of Political Science*

**INR 7337. Issues in International Security**

3(3,0). PR: Admission to Security Studies Ph.D. or C.I. Overview of international issues such as terrorism, genocide, nuclear proliferation, war, the spread of infectious diseases, fragile and failing states, transnational organized crime and gender.

*Even Spring*

*COS - Department of Political Science*

**INR 7687. Theoretical Approaches to Security Studies**

3(3,0). PR: Admission to Security Studies Ph.D. or C.I. Survey of realist, liberal, constructivist, critical and other theories of international security.

*Even Fall*

*COS - Department of Political Science*

**ISC 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.

*Summer*

*ED - School of Teaching, Learning, and Leadership*

**ISC 6416. History of Physical Science and Cultural Connections**

1(1,0). PR: Graduate standing, C.I. This course is designed for graduate students in science who wish to know something about the "who, how, why, when and where" of physics.

*Spring*

*OPT - Department of Optics*

**ISM 6023. Information Systems Usability**

3(3,0). PR: CBA master's program of study foundation core, MS MIS foundation core, or C.I. Students learn and apply the theories and methods of information systems usability, with an emphasis on user-centered design.

*Occasional*

*BA - Department of Management Information Systems*

**ISM 6121. Advanced Information Systems Analysis and Design**

3(3,0). PR: MS MIS technical foundation core and CBA master's program of study foundation core. This course covers advanced topics of information systems development, including analysis of system requirements, design, implementation and operation.

*Occasional*

*BA - Department of Management Information Systems*

**ISM 6158. ERP Implementation**

3(3,0). PR: ISM 6121, ISM 6217. The course is an overview of Enterprise Resource Planning (ERP). It focuses on the impact of ERP systems on organizations.

*Occasional*

*BA - Department of Management Information Systems*

**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.

*Occasional*

*BA - Department of Management Information Systems*

**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.

*Occasional*

*BA - Department of Management Information Systems*

**ISM 6305. Information Resources Management**

3(3,0). PR: CBA master's program of study foundation core. This course provides an investigate of issues relevant to effectively managing IT activities and the challenges facing IT managers and some potential solutions to deal with them.

*Occasional*

*BA - Department of Management Information Systems*

**ISM 6367. Strategic Information Systems**

3(3,0). PR: MBA Professional Core I. Management and strategic use of enterprise digital platforms (i.e., enterprise resource planning, customer relationship management, supply chain management) to support internal and external business partnerships.



*Occasional*

*BA - Department of Management Information Systems*

**ISM 6368. Business Knowledge Management Systems**  
3(3,0). PR: Admission to MS MIS program. Principles of Organization Knowledge Management (KM), focusing on information systems that assist in the creation and management of knowledge.

*Occasional*

*BA - Department of Management Information Systems*

**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.

*Occasional*

*BA - Department of Management Information Systems*

**ISM 6407. Decision Support Systems**

3(3,0). PR: CBA master's program of study foundation core. This course addresses several aspects of organizational decision-making, including: decision support, operation system management, and data mining.

*Occasional*

*BA - Department of Management Information Systems*

**ISM 6422. Intelligent Systems for Business Applications**

3(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.

*Occasional*

*BA - Department of Management Information Systems*

**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.

*Occasional*

*BA - Department of Management Information Systems*

**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.

*Occasional*

*BA - Department of Management Information Systems*

**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.

*Occasional*

*BA - Department of Management Information Systems*

**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.

*Occasional*

*BA - Department of Management Information Systems*

**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.

*Occasional*

*BA - Department of Management Information Systems*

**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.

*Occasional*

*BA - Department of Management Information Systems*

**ISM 7317. Information System Project Implementation and Management**

3(3,0). PR: C.I. Research issues in information systems project implementation and management.

*Occasional*

*BA - Department of Management Information Systems*

**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.

*Occasional*

*BA - Department of Management Information Systems*

**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.

*Occasional*

*BA - Department of Management Information Systems*

**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.

*Fall, Spring*

*BA - Department of Management Information Systems*

**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.

*Occasional*

*BA - Department of Management Information Systems*

**ISM 7938. Theoretical Foundations for Information Systems Research**

3(3,0). PR: Doctoral standing and C.I. This course is a PhD seminar on using theory in information systems research.

*Occasional*

*BA - Department of Management Information Systems*

**LAE 5195. CFWP Teacher Consultant**

3(3,0). 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 - School of Teaching, Learning, and Leadership*

**LAE 5295. Writing Workshop**

1-3(1-3,0). PR: C.I. Students will engage in exploration and practice of effective writing strategies. (May be repeated up to 3 semester hours.) May be repeated for credit.

*Summer*

*ED - School of Teaching, Learning, and Leadership*

**LAE 5319. Methods of Elementary School Language Arts**

3(3,0). PR: Graduate standing. Principles, procedures, organization and current practices in reading, writing, listening, and talking.

*Fall, Summer*

*ED - School of Teaching, Learning, and Leadership*

**LAE 5337. Literacy Strategies for Middle and Secondary Teaching**

3(3,0). PR: EDG 6415 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.

*Fall, Spring*

*ED - School of Teaching, Learning, and Leadership*

**LAE 5338. Teaching Writing in Middle and High School**

3(3,0). PR: EDG 6415 or C.I. Techniques and methods in teaching dialects, semantics, and the various grammars within the context of writing.

*Fall, Spring*

*ED - School of Teaching, Learning, and Leadership*

**LAE 5346. Methods of Teaching English Language Arts**

3(3,0). PR: EDG 6415 and TSL 5085 or CI or admission to Initial Teacher Professional Preparation certificate. Designed for alternative certification and Masters of Arts students to explore the strands, methods and materials related to school curriculum in teaching English.

*Fall, Spring*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Summer*

*CAH - Department of 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.

*Spring, Summer*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Spring, Summer*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Spring*

*ED - School of Teaching, Learning, and Leadership*

**LAE 5496. Disciplinary Literacy in the Content Areas**

3(3,0). Graduate standing. Designed to assist in understanding the adolescent reader and writer, this course will examine theory, strategies, resources, and implementation options of disciplinary literacy specifically in the content areas (Mathematics, Science, Social Studies, and other content areas).

*Spring, Summer*

*ED - School of Teaching, Learning, and Leadership*

**LAE 6296. Advanced Writing Workshop**

1-3(1-3,0). PR: LAE 5295 or C.I. Designed for teachers who have completed a previous writing workshop course. Includes history, theory, research, and strategies for teaching writing. (Course may be repeated up to 3 semester hours. ) Course May be repeated for credit.

*Summer*

*ED - School of Teaching, Learning, and Leadership*

**LAE 6366. Advanced Studies in Adolescent Literature**

3(3,0). PR: LAE 4464 or LAE 5465. Analysis of major works in genre, examination of criticism, instructional strategies, and research in teaching adolescent literature.

*Fall, Summer*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Spring*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Fall*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Spring*

*ED - School of Teaching, Learning, and Leadership*

**LAE 6792. Teacher Researcher**

3(3,0). PR: C.I. Theory, strategies, and research methodologies for teachers studying teaching and learning in classrooms.

*Fall*

*ED - School of Teaching, Learning, and Leadership*

**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 and literacy.

*Summer*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Occasional*

*CAH - Department of History*

**LAH 5920. Colloquium in Latin American History**  
3(3,0). PR: Graduate standing or C.I. Examines the major themes and historiography of recent works on Latin American history. May be used in the degree program a maximum of 2 times only when course content is different.

*Occasional*

*CAH - Department of History*

**LAH 6936. Seminar in Latin American History**  
3(3,0). . Research seminar in selected topics in Latin American history. May be repeated for credit only when course content is different.

*Occasional*

*CAH - Department of History*

**LEI 6443. Recreation**

3(2,1). . A comprehensive study of public, private, and school recreation programs.

*ED - School of Teaching, Learning, and Leadership*

**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.

*Occasional*

*CAH - Department of 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.

*Occasional*

*CAH - Department of English*

**LIN 6932. Problems in Linguistics**

3(3,0). LIN 5137. Study of the application of linguistics to various aspects of teaching and communication.

*Occasional*

*CAH - Department of 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.

*Occasional*

*CAH - Department of English*

**LIT 5389. Studies in Gender and 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.

*Occasional*

*CAH - Department of 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".

*Occasional*

*CAH - Department of English*

**LIT 6039. Studies in Contemporary Poetry**

3(3,0). PR: Graduate standing in MFA Creative Writing program or C.I. English language poetry from 1945 to the present. Emphasis on American poets, but others such as English or Australian will be included.

*Occasional*

*CAH - Department of English*

**LIT 6076. Studies in Contemporary Nonfiction**

3(3,0). PR: Admission to the Creative Writing MFA Program or C.I. based on submission of manuscript. Comprehensive study of nonfiction, including memoir, personal essay, literary journalism, and/or nature writing, with special emphasis on craft.

*Even Fall*

*CAH - Department of English*

**LIT 6097. Studies in Contemporary Fiction**

3(3,0). PR: Graduate standing in MFA in Creative Writing program or C.I. Fiction in the last 20 years in the United States and Britain.

*Occasional*

*CAH - Department of English*

**LIT 6216. Issues in Literary Study**

3(3,0). PR: Graduate standing in English or C.I. Specific issues and controversies in literary study. May be used in the degree program a maximum of 4 times only when course content is different.

*Occasional*

*CAH - Department of English*

**LIT 6276. Teaching College Literature**

3(3,0). PR: Graduate standing in English or C.I. Pedagogical theory and practical techniques for teaching literature in college and university settings.

*Occasional*

*CAH - Department of English*

**LIT 6435. Rhetoric of Science**

3(3,0). PR: Graduate standing in English or C.I. Rhetorical analysis of traditional scientific texts and critically examine the discourse of technology.

*Occasional*

*CAH - Department of English*

**LIT 6936. Studies in Literary, Cultural, and Textual Theory**

3(3,0). PR: Graduate standing and C.I. Specific topics in the study of literature that foreground cultural and theoretical issues. May be used in the degree program a maximum of 4 times only when course content is different.

*Occasional*

*CAH - Department of English*

**MAA 5210. Topics in Advanced Calculus**

3(3,0). PR: MAS 3105, MAP 2302, or equivalent or C.I. Real numbers, epsilon-delta language, limits, continuity, integration, differentiation, Taylor's theorem, series, uniform convergence, inverse and implicit function theorems.

*Fall*

*COS - Department of Mathematics*

**MAA 5228. Analysis I**

3(3,0). PR: MAS 3106 or C.I. Real numbers, limits, differentiation, Riemann integrals, Riemann-Stieltjes integrals, calculus in  $\mathbb{R}^n$ , metric and normed spaces, contraction mapping theorem, inverse and implicit functions.

Fall

COS - Department of Mathematics

**MAA 6229. Analysis II**

3(3,0). PR: MAA 5228 or C.I. Topological Spaces, Banach Spaces, Hilbert Spaces, Bounded Linear Operators, Distribution and Fourier Transform, Measure Theory and Function Spaces.

Spring

COS - Department of Mathematics

**MAA 6238. Measure and Probability I**

3(3,0). PR: MAA 6229 or C.I. The law of large numbers, central limit theorems, random walks, Poisson processes, stopping times, martingales.

Occasional

COS - Department of Mathematics

**MAA 6245. Measure and Probability II**

3(3,0). MAA 6238, or C.I. Martingales, Markov Processes, stopping times, Brownian motion, Weiner measure.

Occasional

COS - Department of 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.

Occasional

COS - Department of Mathematics

**MAA 6404. Complex Analysis**

3(3,0). PR: MAA 6405, MAA 4402, 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.

Occasional

COS - Department of Mathematics

**MAA 6405. Complex Variables**

3(3,0). PR: MAA 5228 or C.I. Complex plane, analytic functions, harmonic functions, Cauchy's theorem and integral formula, maximum modulus principle, Laurent series, singularities, the residue theorem.

Spring

COS - Department of Mathematics

**MAA 6416. Topology**

3(3,0). PR: MAA 4226, MTG 4302. Topological spaces and continuous functions, connectedness and compactness, separation axioms, metrization theorems, Baire spaces and dimension theory, the fundamental group and homotopy paths.

Even Spring

COS - Department of Mathematics

**MAA 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.

Even Spring

COS - Department of 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.

Occasional

COS - Department of Mathematics

**MAA 6531. Analysis of Manifolds**

3(3,0). 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.

Occasional

COS - Department of Mathematics

**MAA 7239. 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 and applications.

Occasional

COS - Department of Mathematics

**MAD 5205. Graph Theory I**

3(3,0). PR: MAD 4203, graduate standing or C.I. Connectivity, Hamilton cycles, spanning trees, network flows, matchings, vertex and edge colorings planar graphs, extremal problems, Ramsey theory, spectral graph theory.

Odd Spring

COS - Department of Mathematics

**MAD 6309. Graph Theory II**

3(3,0). MAD 5205 or C.I. Perfect graphs, structure of 3-connected graphs, matchings, nowhere zero flows, list coloring, extremal problems, Tutte polynomial, Hadwiger conjecture, Erdos-Hajnal conjecture, Vising's conjecture.

Occasional

COS - Department of Mathematics

**MAE 5327. Teaching Middle School Mathematics**

3(3,0). PR: EDG 6415 and TSL 5085 or admission to Initial Teacher Professional Preparation certificate. 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.

Occasional

ED - School of Teaching, Learning, and Leadership

**MAE 5336. Current Methods in Secondary School Mathematics**

3(3,0). PR: EDG 6415, TSL 5085, or admission to MED program or Initial Teacher Professional Preparation certificate. Required special methods course for mathematics 6-12 certification. Assessment, curriculum, technology, practical classroom ideas and activities.

Occasional

ED - School of Teaching, Learning, and Leadership

**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 teaching issues, program issues, and other issues.

*Even Fall*

*COS - Department of Mathematics*

**MAE 6145. Mathematics Curriculum, K-12**

3(3,0). At least 6 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.

*Occasional*

*ED - School of Teaching, Learning, and Leadership*

**MAE 6318. Current Methods in Elementary School Mathematics**

3(3,0). PR: EDE 6933 or C.I. Strategies of instruction of computation and concepts of number, geometry, and measurement; and algebra. Standards for teaching mathematics.

*Fall, Spring*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Even Summer*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Odd Summer*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Odd Summer*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Spring*

*ED - School of Teaching, Learning, and Leadership*

**MAE 6656. Using Technology in the Instruction of K-12 Mathematics**

3(3,0). PR: C.I. The application of computer technology to mathematics instruction including calculators, CAI, CMI, application software, simulators, and video disc technology.

*Even Fall*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Fall*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Even Spring*

*ED - School of Teaching, Learning, and Leadership*

**MAE 7795. Seminar on Research in Mathematics Education**

3(3,2). PR: Doctoral standing. .

*Even Summer*

*ED - School of Teaching, Learning, and Leadership*

**MAE 7945. Internship in Mathematics Education**

3(3,0). PR: Admission to the Math Ed track of the Ph.D. in Education. The focus of this course is on student's participation in teaching and service related to mathematics education. May be used in the degree program a maximum of 2 times.

*Fall, Spring, Summer*

*ED - School of Teaching, Learning, and Leadership*

**MAN 5037. Management Foundations**

1.5(1.5,0). PR: Graduate standing or C.I. Theory and practice of managing organizations to include planning, organizational theory, human behavior, and control.

*Fall, Spring, Even Summer*

*BA - Department of 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.

*Occasional*

*BA - Department of Management*

**MAN 5867. Small Business Consulting**

3(3,0). PR: C.I. Hands-on small business consulting course. Students are assigned teams and work with a local small business.

*Occasional*

*BA - Department of Management*

**MAN 6066. Ethical Leadership**

3(3,0). PR: Graduate standing in the College of Business Administration or C.I. Building on a foundation of basic theories of ethical decision making from organizational and behavioral perspectives. The course examines challenges involved in maintaining exemplary professional ethics.

*Occasional*

*BA - Department of Management*

**MAN 6068. Business Ethics and Social Responsibility**

1.5(1.5,0). PR: Admission to approved an Business Administration graduate program, C.I. A broad understanding of decision making within the context



of ethical, social responsibility, and diversity issues in business.

*Occasional*

*BA - Department of 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.

*Occasional*

*BA - Department of Management*

**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.

*Occasional*

*BA - Department of Management*

**MAN 6244. Organizational Behavior**

1.5(1.5,0). PR: Graduate standing. Study of behavior of individuals, groups, and the interactions between them. Students will be exposed to the theories behind the "people" skills for effective management.

*Occasional*

*BA - Department of Management*

**MAN 6245. Organizational Behavior and Development**

3(3,0). PR: CBA master's program of study foundation core or C.I. The analysis of human behavior in organizations in terms of the individual, small group, intergroup relationships, and the total organization.

*Fall*

*BA - Department of 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.

*Even Fall*

*BA - Department of 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.

*Odd Spring*

*BA - Department of 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.

*Occasional*

*BA - Department of 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.

*Occasional*

*BA - Department of 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.

*Occasional*

*BA - Department of 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.

*Occasional*

*BA - Department of 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.

*Occasional*

*BA - Department of 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.

*Occasional*

*BA - Department of 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.

*Occasional*

*BA - Department of Management*

**MAN 6446. Applied Negotiations in Management**

1.5(1.5,0). PR: Graduate standing. The study and application of negotiation theories and processes to human resource management practices and other management activities in work organizations.

*Occasional*

*BA - Department of 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.

*Occasional*

*BA - Department of 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.

*Occasional*

*BA - Department of Management*

**MAN 6508. Service Organizations and Operations Management**

3(3,0). PR: Acceptance in a graduate business program of study. In-depth study of the unique characteristics, challenges, and quantitative techniques associated with managing organizations in the service sector.

*Occasional*

*BA - Department of 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.  
*Occasional*  
BA - Department of Management

**MAN 6581. Project Management**  
3(3,0). PR: Acceptance into a graduate business program of study. Examination of project management, the role it plays in the strategic focus of the organization, and its importance in satisfying the needs of customers.  
*Occasional*  
BA - Department of 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.  
*Spring*  
BA - Department of Management

**MAN 6774. Executive Leadership**  
1.5(1.5,0). PR: Admission to approved an Business Administration graduate program, C.I. Review of organizational leadership theory and practice. Special attention given to contemporary issues such as transactional and transformational leadership, diversity, and social responsibility.  
*Occasional*  
BA - Department of Management

**MAN 6915. Applied Field Project**  
3-6(3-6,0). PR: All other courses in the selected track in the program. Capstone course; applies concepts, theories and methods learned earlier in program to organizational problems in business settings.  
*Occasional*  
BA - Department of Management

**MAN 7075. Foundations of the Management Discipline**  
3(3,0). PR: PhD standing. Presents seminal contributions that have profoundly affected the evolution of the management discipline, and examines social dynamics that influence the development of ideas.  
*Occasional*  
BA - Department of 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.  
*Occasional*  
BA - Department of 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.  
*Occasional*  
BA - Department of 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, training, performance appraisal and compensation.  
*Occasional*  
BA - Department of 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.  
*Occasional*  
BA - Department of 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.  
*Occasional*  
BA - Department of 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.  
*Occasional*  
BA - Department of Management

**MAN 7916. Seminar in Management Research**  
Var. PR: Admission to PhD program or C.I. Examines empirical and theoretical research in selected management topics. Specific topics may not be repeated for credit. Maximum of 15 hours toward degree. May be repeated for credit only when course content is different.  
*Occasional*  
BA - Department of Management

**MAP 5117. Mathematical Modeling**  
3(3,0). PR: STA 4321, MAP 4303, graduate standing or senior standing, or C.I. Introduction to modeling in industrial and scientific applications; techniques for studying statistical and deterministic models.  
*Even Fall*  
COS - Department of Mathematics

**MAP 5336. Ordinary Differential Equations and Applications**  
3(3,0). PR: MAA 5228 or C.I. Existence and uniqueness of solutions of differential equations, systems of ordinary differential equations, autonomous systems, phase plane analysis, stability, bifurcations.  
*Spring*  
COS - Department of 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.  
*Occasional*  
COS - Department of 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.

*Occasional*

COS - Department of Mathematics

**MAP 5514. Linear and Nonlinear Waves I**

3(3,0). PR: MAP 2302, and graduate standing 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.

*Occasional*

COS - Department of Mathematics

**MAP 5931. Research Seminar**

1(1,0). 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.

COS - Department of Mathematics

**MAP 6111. Mathematical Statistics**

3(3,0). PR: MAA 6238 Measure and Probability 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.

*Spring*

COS - Department of Mathematics

**MAP 6118. Introduction to Nonlinear Dynamics**

3(3,0). PR: MAP 5336, PHY 2048C or equivalent, or C.I. Nonlinear differential equations; bifurcation theory; Hamiltonian dynamics; integrable systems and breakdown of integrability; chaos in conservative and dissipative systems.

*Occasional*

COS - Department of Mathematics

**MAP 6168. Mathematical Modeling II**

3(3,0). PR: MAP 5117, graduate standing, or C.I. Solutions of complex industrial mathematics problems in navigation/guidance, object tracking, pattern recognition, and fluid dynamics.

*Occasional*

COS - Department of 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.

*Occasional*

COS - Department of Mathematics

**MAP 6218. Stochastic Calculus**

3(3,0). MAA 6245, or C.I. Stochastic integration, Stochastic Differential Equations.

*Occasional*

COS - Department of Mathematics

**MAP 6356. Partial Differential Equations**

3(3,0). PR: MAP 4341 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.

*Even Fall*

COS - Department of Mathematics

**MAP 6383. Mathematical Methods for Image Analysis**

3(3,0). PR: MAP 2302, MAS 3106, MAT 5712 or COT 4500, or C.I. Linear spaces, eigenvalue problems, linear and nonlinear optimization methods, calculus of variations and numerical; solutions of partial differential equations, compressive sampling, diffusion maps, graphical models.

*Odd Fall*

COS - Department of Mathematics

**MAP 6385. Applied Numerical Mathematics**

3(3,0). PR: MAT 5712 or C.I. Solution of linear systems, numerical linear algebra, numerical solution of ordinary differential equations, numerical partial differential equations.

*Spring*

COS - Department of Mathematics

**MAP 6398. Multivariate Splines and Surface Fitting**

3(3,0). PR: Graduate standing 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.

*Occasional*

COS - Department of Mathematics

**MAP 6407. Integral Equations and the Calculus of Variations**

3(3,0). PR: MAP 3203 and MAS 3105, or graduate standing , or C.I. Dimensional Analysis and Scaling, Calculus of Variations, Lagrangian and Hamiltonian Mechanics, Noether's Theorem, Equations of Applied Mechanics, Sturm-Liouville Theory, Integral Equations, Similarity Methods.

*Fall*

COS - Department of Mathematics

**MAP 6408. Perturbations and Asymptotic Methods**

3(3,0). PR: MAP 3203, MAS 3105, and MAA 4402, or graduate standing, or C.I. Asymptotic Analysis and Perturbation Methods, Multiple Scales, Boundary Layers, WKB method, Stationary Phase method, Steepest Descents, Riemann-Lebesgue Lemma.

*Spring*

COS - Department of Mathematics

**MAP 6416. Applied and Computational Harmonic Analysis**

3(3,0). MAA 6229 or C.I. Fourier Series, Fourier transform, Littlewood-Paley theory, Heisenberg uncertainty principle, wavelets, frame theory, Karhunen-Loeve transform, comprehensive sensing, matrix completion, phase retrieval, signal processing.

*Occasional*

COS - Department of Mathematics

**MAP 6419. Advanced Transform Methods**

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.

*Occasional*

*COS - Department of Mathematics*

**MAP 6420. Generalized Functions**

3(3,0). PR: MAA 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.

*COS - Department of Mathematics*

**MAP 6421. Integral Equations**

3(3,0). PR: MAA 6405 or C.I. Successive approximations, Volterra equations, Fredholm theory, Hilbert-Schmidt theory, Neumann series, singular integral equations, the Riemann-Hilbert problem.

*Occasional*

*COS - Department of Mathematics*

**MAP 6424. Transform Methods**

3(3,0). PR: MAA 6405 or C.I. Laplace, Fourier, Hankel, and other integral transforms, inversion theorems; the Z transform; applications to physical problems.

*Occasional*

*COS - Department of Mathematics*

**MAP 6438. Mathematical Fluid-Flow Theory I**

3(3,0). PR: MAP 2302, MAP 4303, MAA 4402, PHY 3220 or equivalent, or C.I. Mathematical theory of incompressible fluid flows along with analytical methods in solving the equations of fluid dynamics in various situations.

*Even Spring*

*COS - Department of 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.

*Occasional*

*COS - Department of Mathematics*

**MAP 6463. Doubly Stochastic Measures**

3(3,0). PR: MAA 6506, MAA 6416, MAP 6111, MAA 6238, or C.I. Doubly stochastic matrices, Birkhoff's theorem, double stochastic measures, Douglas-Linden-Strauss theorem, copulas, Frechet bounds, dependence of random variables, Markov operators.

*Occasional*

*COS - Department of Mathematics*

**MAP 6465. Wavelets and Their Applications**

3(3,0). PR: MAP 4341, 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.

*Even Fall, Even Spring*

*COS - Department of 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.

*Odd Spring*

*COS - Department of 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.

*Occasional*

*COS - Department of Mathematics*

**MAP 7386. Numerical Solutions of PDE**

3(3,0). PR: MAP 6356, MAP 6385 or C.I. Numerical solution of linear and nonlinear partial differential equations of parabolic, elliptic and hyperbolic type. Solution of PDE using finite difference and spectral methods.

*Occasional*

*COS - Department of Mathematics*

**MAP 7439. Mathematical Fluid-Flow Theory II**

3(3,0). PR: MAP 6438 or C.I. Mathematical theory of compressible potential flow, nonlinear acoustics, exact solutions to equations of viscous fluid flow, viscous fluid flows at low or high Reynolds numbers.

*Odd Fall*

*COS - Department of Mathematics*

**MAR 6077. Contemporary Marketing Issues**

3(3,0). Master's program of study foundation core or C.I. Investigation of contemporary marketing issues stemming from current social, economic, and political developments.

*Occasional*

*BA - Department of Marketing*

**MAR 6151. Global Marketing Strategy**

3(3,0). Master's program of study foundation core or C.I. Comprehensive study of marketing management and strategy from a global perspective.

*Occasional*

*BA - Department of Marketing*

**MAR 6406. Sales Force Management**

3(3,0). Master's program of study foundation core or C.I. Comprehensive study of the analysis, methods and decisions involved in managing a contemporary sales force.

*Occasional*

*BA - Department of Marketing*

**MAR 6466. Strategic Supply Chain and Operations Management**

3(3,0). PR: Master's program of study foundation core or C.I. Planning and management of all activities involved in designing and managing the processes, assets, and flows of material and information required to meet customers' demands.

*Spring*

*BA - Department of Marketing*

**MAR 6616. Marketing Research and Analysis**

3(3,0). Master's program of study foundation core or C.I. Comprehensive study of primary research methods and analysis tools used to generate information for marketing decision making.

*Occasional*

*BA - Department of Marketing*

**MAR 6646. Marketing Analytics for Strategic Decision Making**

3(3,0). PR: Consent of College of Business Graduate Studies. Study of a variety of data-driven models and techniques used to understand customers, improve results, and facilitate strategic decision making.

*Occasional*



*BA - Department of Marketing*

**MAR 6722. 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.

*Occasional*

*BA - Department of Marketing*

**MAR 6729. 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.

*Occasional*

*BA - Department of Marketing*

**MAR 6816. Strategic Marketing Management**

3(3,0). PR: MBA Professional Core I. Marketing competitive strategy formulation with respect to product, pricing, promotion and distribution. Course aims at developing strategic thinking, functional marketing expertise and analytical skills.

*Fall, Spring*

*BA - Department of Marketing*

**MAR 6849. Services Marketing**

3(3,0). PR: Graduate standing. 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.

*Occasional*

*BA - Department of Marketing*

**MAR 7575. Seminar in Consumer Behavior**

3(3,0). PR: ECO 7423 and admission to the PhD program. Provide doctoral students with a broad exposure to the literature of consumer behavior theories and methods.

*Occasional*

*BA - Department of Marketing*

**MAR 7626. Multivariate Analysis for Business Research**

3(3,0). PR: ECO 7423 or equivalent, C.I. Provides PhD students an in-depth treatment of multivariate analysis applications to marketing and business research problems.

*Occasional*

*BA - Department of Marketing*

**MAR 7638. Seminar in Marketing Theory, Scaling, and Measurement**

3(3,0). PR: ECO 7423 and admission to the PhD program. Provide doctoral students with a foundation in marketing theory, scaling, and measurement.

*Occasional*

*BA - Department of Marketing*

**MAR 7666. Seminar in Marketing Models I**

1.5(1.5,0). PR: ECO 7423 (or equivalent) and admission to the Ph.D. program or C.I. Overview of marketing literature with emphasis on marketing models topics.

*Occasional*

*BA - Department of Marketing*

**MAR 7667. Seminar in Marketing Models II**

1.5(1.5,0). PR: ECO 7423 (or equivalent) and MAR 7666 and

admission to Ph.D. program or C.I. Overview of marketing literature with emphasis on marketing models, beyond those covered MAR 7666.

*Occasional*

*BA - Department of Marketing*

**MAR 7807. Seminar in Marketing Strategy I**

1.5(1.5,0). PR: ECO 7423 (or equivalent) and admission to the Ph.D. program or C.I. Overview of marketing literature with emphasis on marketing strategy topics.

*Occasional*

*BA - Department of Marketing*

**MAR 7808. Seminar in Marketing Strategy II**

1.5(1.5,0). PR: ECO 7423 (or equivalent) and admission to Ph.D. program and MAR 7807, or C.I. Overview of marketing literature with emphasis on marketing strategy topics, beyond those covered in MAR 7807.

*Occasional*

*BA - Department of Marketing*

**MAS 5145. Advanced Linear Algebra and Matrix Theory**

3(3,0). PR: MAS 3106 or C.I. Linear spaces, subspaces, linear transformations, matrices, eigenvalues and eigenvectors, Jordan forms, positive definite matrices, bilinear and quadratic forms, functions of matrices.

*Even Fall*

*COS - Department of Mathematics*

**MAS 5311. Algebra I**

3(3,0). PR: MAS 4301 or graduate standing or C.I. Sets and categories, groups and groupoids, group actions, the class equation, Sylow theorems, Jordan-Holder Theorem, Rings, Modules, Complexes, Factorization, and Irreducibility.

*Occasional*

*COS - Department of Mathematics*

**MAS 6312. Algebra II**

3(3,0). PR: MAS 5311 or C.I. Modules over a principle ideal domain, Fields, Galois theory, Functors, Tensor product, Hom, Ext, Tor, Projective and Injective modules, Complexes, Derived Categories and Derived Functors.

*Even Fall*

*COS - Department of Mathematics*

**MAS 7919. Doctoral Research**

var. . May be repeated for credit. Graded S/U.

*Occasional*

*COS - Department of Mathematics*

**MAS 7980. Doctoral Dissertation**

var. . May be repeated for credit. Graded S/U.

*COS - Department of Mathematics*

**MAT 5712. Scientific Computing**

3(3,0). PR: MAC 2313, MAP 2302, MAS 3105, or C.I. Matlab fundamentals, computer arithmetic, nonlinear equations, polynomial interpolation, divided; differences, splines, curve fitting, least-squares method, numerical differentiation and Integration.

*Even Fall*

*COS - Department of 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.

*Fall*



COM - Department of Molecular and Microbiology

**MCB 5208. Cellular Microbiology: Host-Pathogen Interactions**

3(3,0). PR: Graduate standing, PCB 3522. Examination of the molecular details of host-pathogen interactions. Key areas of cell biology will be considered in relation to microbial pathogenesis.

Spring

COM - Department of Molecular and Microbiology

**MCB 5209. Microbial Stress Response**

3(3,0). PR: Graduate standing or C.I. Examination of the molecular genetic mechanisms, bacterial and fungal pathogens used to adapt to changes in their environment.

Fall

COM - Department of Molecular and Microbiology

**MCB 5225. Molecular Biology of Disease**

3(3,0). PR: Graduate standing or C.I. An in-depth study of the molecular biological mechanism of diseases in experimental animal models and human populations.

Occasional

COM - Department of Molecular and Microbiology

**MCB 5314. Industrial Perspectives Seminar**

1(1,0). PR: Biotechnology MS students. Learning concepts of basic research and drug development in the pharmaceutical industry and technical presentation. May be used in the degree program a maximum of 2 times.

Fall

COM - Department of Molecular and Microbiology

**MCB 5415. Cellular Metabolism**

3(3,0). PR: Graduate standing or C.I. Basic concepts of the mechanisms that define the functioning and regulation of prokaryotic and eukaryotic cell metabolism.

Fall

COM - Department of Molecular and 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.

Occasional

COM - Department of Molecular and Microbiology

**MCB 5654. Applied Microbiology**

3(3,0). MCB 3020C or C.I. Microbial biochemistry of industrial processes including: economics, screening, scale up, quality control and applied genetics.

COM - Department of Molecular and Microbiology

**MCB 5722C. Methods in Biotechnology**

4(2,4). PR: Graduate standing. A laboratory course that will train graduate students in fluorescence and luminescence-based assays used in biopharmaceutical industry for target validation.

Occasional

COM - Department of Molecular and Microbiology

**MCB 5932. Current Topics in Molecular Biology**

VAR(VAR,VAR). 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.

Occasional

COM - Department of Molecular and Microbiology

**MCB 6026. Molecular Biology & Microbiology Capstone**

3(3,0). PR: Admission to the Molecular Biology and Microbiology M.S. program (non thesis track). An in-depth current literature research report on a relevant subject will be developed by student and evaluated by faculty committee. Graded S/U.

Occasional

COM - Department of Molecular and Microbiology

**MCB 6226. Molecular Diagnostics**

3(3,0). PCB 3522, 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.

Occasional

COM - Department of Molecular and Microbiology

**MCB 6273. Adv. Topics in Infectious Processes**

2(2,0). PR: Graduate standing. Data presentations from the primary literature and from the student's original research will focus on the molecular mechanisms of host-pathogen interactions.

Occasional

COM - Department of Molecular and Microbiology

**MCB 6417C. Microbial Metabolism**

3(3,0). C.I. Relationship between microbial metabolism and principal cellular activities, emphasizing transport, respiration, differentiation, and synthesis.

Occasional

COM - Department of Molecular and Microbiology

**MCB 6723. Practice of Biomolecular Science**

2(2,0). Graduate standing. Provides MS and PhD students with an introduction to the practice of Biomolecular Science. Graded S/U.

Occasional

COM - Department of Molecular and 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.

Fall, Spring

ED - Department of Child, Family and Community Sciences

**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.

Spring

ED - Department of Child, Family and Community Sciences

**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.

Fall

ED - Department of Child, Family and Community Sciences

**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.

*Spring*

*ED - Department of Child, Family and Community Sciences*

**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.

*Occasional*

*ED - Department of Child, Family and Community Sciences*

**MHS 6245. Assessment and Treatment in Addictions**

3(3,0). PR: Graduate standing or C.I. Application of assessment and treatment models in addictions, and the ethical application of services to support persons with addictions and chemical dependency and their families.

*ED - Department of Child, Family and Community Sciences*

**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.

*Odd Summer*

*ED - Department of Child, Family and Community Sciences*

**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.

*Even Fall, Summer*

*ED - Department of Child, Family and Community Sciences*

**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.

*Fall, Spring*

*ED - Department of Child, Family and Community Sciences*

**MHS 6401. Techniques of Counseling**

3(1,2). PR: MHS 6400 or C.I. The nature of counseling and its relationships to theoretical concepts.

*Fall, Spring, Summer*

*ED - Department of Child, Family and Community Sciences*

**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.

*Fall*

*ED - Department of Child, Family and Community Sciences*

**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.

*Odd Fall*

*ED - Department of Child, Family and Community Sciences*

**MHS 6420. Foundations of Multicultural Counseling**

3(3,0). PR: MHS 5005 or C.I. Reviews knowledge and research pertaining to multicultural counseling and social justice issues, develops skills and personal awareness, and examines attributes that affect counseling diverse populations.

*Occasional*

*ED - Department of Child, Family and Community Sciences*

**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.

*Summer*

*ED - Department of Child, Family and Community Sciences*

**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.

*Spring*

*ED - Department of Child, Family and Community Sciences*

**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.

*Odd Spring*

*ED - Department of Child, Family and Community Sciences*

**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.

*Fall*

*ED - Department of Child, Family and Community Sciences*

**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.

*Fall*

*ED - Department of Child, Family and Community Sciences*

**MHS 6433. Developmental Process of the Resilient Family**

3(3,0). C.I. This course will examine models that focus on the resiliency of families throughout the life cycle and implications in counseling.

*Occasional*

*ED - Department of Educational and Human Sciences*

**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.

*Summer*

*ED - Department of Child, Family and Community Sciences*

**MHS 6450. Addictions Counseling**

3(3,0). PR: Graduate standing or C.I. Examination within systematic, theoretical framework of the function that a substance, individual, and the environment play in use and abuse of illicit and licit substances.

*Fall, Even Spring*

*ED - Department of Child, Family and Community Sciences*

**MHS 6465. Counseling Victims and Perpetrators of Family Violence**

3(3,0). . Examination of counseling interventions used with victims and perpetrators of family violence.

*Occasional*

*ED - Department of Child, Family and Community Sciences*

**MHS 6470. Human Sexuality and Relationships**

3(3,0). . A basic course in understanding how human beings form intra- and interpersonal relationships and how sexuality develops.

*Fall*

*ED - Department of Child, Family and Community Sciences*

**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.

*Fall, Spring, Summer*

*ED - Department of Child, Family and Community Sciences*

**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.

*Spring*

*ED - Department of Child, Family and Community Sciences*

**MHS 6600. Consultation, Staffing, and Case Management**

3(2,0). MHS 6500 or C.I. Understanding the counselor's role as consultant and staffing team member. Study of case management procedures.

*Occasional*

*ED - Department of Educational and Human Sciences*

**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.

*Odd Summer*

*ED - Department of Child, Family and Community Sciences*

**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.

*Odd Fall, Even Spring, Odd Summer*

*ED - Department of Child, Family and Community Sciences*

**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.

*Fall, Spring, Summer*

*ED - Department of Child, Family and Community Sciences*

**MHS 6930. Current Trends in Counselor Education**

3(3,0). MHS 5005 or 6500 or C.I. Current trends affecting the rapid changes in the counseling field.

*Occasional*

*ED - Department of Educational and Human Sciences*

**MHS 7311. Technology Issues in Counselor Education**

3(3,0). PR: Admission to PhD in Education--Counselor Education track. Technology issues in counselor education including ethics, use of on line counseling, on line supervision, and addiction.

*Spring*

*ED - Department of Child, Family and Community Sciences*

**MHS 7340. Advanced Career Development**

3(3,0). PR: Admission to PhD in Education. An advanced study of career development theories, occupational and educational information, approaches to career decision-making, lifestyle and leisure in the development of the whole person.

*Spring*

*ED - Department of Child, Family and Community Sciences*

**MHS 7406. Advanced Theories in Counseling**

3(3,0). PR: Admission to PhD program in Education--Counselor Education track. Examination of counseling theories including historical foundations and emerging theories.

*Fall*

*ED - Department of Child, Family and Community Sciences*

**MHS 7611. Supervision in Counselor Education**

3(3,0). PR: Admission to PhD in Education--Counselor Education track. An examination of the process and various theories of supervision in counselor education.

*Summer*

*ED - Department of Child, Family and Community Sciences*

**MHS 7700. Professional Issues in Counselor Education**

3(3,0). PR: Admission to PhD program in Education--Counselor Education track. Emphasis on professional issues related to counselor education including teaching, research, and service.

*Spring*

*ED - Department of Child, Family and Community Sciences*

**MHS 7730. Research Seminar in Counselor Education**

3(3,0). PR: Admission to PhD in Education. An examination of outcome research design, methodological issues and empirical basis of counseling.

*Even Summer*

*ED - Department of Child, Family and Community Sciences*

**MHS 7801. Advanced Practicum in Counselor Education**

3(3,0). PR: Admission to PhD program in Education--Counselor Education track. This course provides advanced graduate students an opportunity to demonstrate and develop counseling skills.

*Occasional*

*ED - Department of Child, Family and Community Sciences*

**MHS 7808. Practicum in Counseling Supervision**

3(3,0). PR: Admission to PhD program in Education. Integration of theory and practice in counseling supervision.

*Summer*

*ED - Department of Child, Family and Community Sciences*

**MHS 7840. Internship in Counselor Education**

3(3,0). PR: Admission to PhD program in Education--Counselor Education track. Examine and practice the various roles within a Counselor Education program under direct supervision.

*Fall, Spring*

*ED - Department of Child, Family and Community Sciences*

**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.

*COM - Department of Molecular and 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.

*COM - Department of Molecular and Microbiology*

**MLS 6942. Advanced Specialization in Immunematology; 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.

*COM - Department of Molecular and Microbiology*

**MLS 6943. Advanced Specialization in Immunoematology: Practice**

3(3,0). 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.

*COM - Department of Molecular and 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.

*Occasional*

*COS - Nicholson School of Communication*

**MMC 6266. Communications Convergence and Media Planning**

3(3,0). PR: Admission to Communication M.A. or program consent. Communications convergence and organizational change: new paradigms and media management techniques in a digital age.

*Occasional*

*COS - Nicholson School of 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.

*Occasional*

*COS - Nicholson School of Communication*

**MMC 6402. Mass Communication Theory**

3(3,0). . A study of mass communication theory and research traditions.

*Fall*

*COS - Nicholson School of Communication*

**MMC 6407. Visual Communication Theory**

3(3,0). . A study of the visual world as it relates to theories of visual interpretation.

*Occasional*

*COS - Nicholson School of Communication*

**MMC 6445. Quantitative Research Methods in Mass Communication**

3(3,0). PR: Admission to Communication MA or program consent. Examination of quantitative methods in mass communication. Topics include experimental research design, sampling procedures, and introduction to data analysis.

*Fall*

*COS - Nicholson School of Communication*

**MMC 6446. Qualitative Research Methods in Mass Communication**

3(3,0). PR: Admission to Communication M.A. or program consent. Examination of qualitative research methods in mass communication with emphasis on interviewing, observational methods, and data interpretation.

*Spring*

*COS - Nicholson School of Communication*

**MMC 6567. Seminar in New Media**

3(3,0). . A study of the development and convergence of new technologies and their mediation.

*Occasional*

*COS - Nicholson School of 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.

*Occasional*

*COS - Nicholson School of Communication*

**MMC 6607. Communication and Society**

3(3,0). . The importance of the mass media, their structure, role, and problems.

*Occasional*

*COS - Nicholson School of Communication*

**MMC 6612. Communication and Government**

3(3,0). . A study of the relationship between the media and government.

*Occasional*

*COS - Nicholson School of Communication*

**MTG 5253. Introduction to Differential Geometry**

3(3,0). PR: MAC 2313 or equivalent or C.I. Curves and surfaces in 2D and 3D, covariant derivative of a vector field, geodesics, Gauss-Bonnet Theorem.

*Fall*

*COS - Department of Mathematics*

**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.

*Occasional*

*COS - Department of Mathematics*

**MUC 5112. Composition V**

2(1,0). PR: Graduate standing in music education or C.I. Advanced music composition at the graduate level. May be used in the degree program a maximum of 4 times.

*CAH - Department of Music*

**MUC 6251. Composition VI**

2(1,1). PR: Admission into MA in Music degree program



and audition. Intensive advanced study in musical composition. May be used in the degree program a maximum of 4 times.

*Odd Fall*

*CAH - Department of Music*

**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.

*Spring*

*CAH - Department of Music*

**MUE 5921. Music Education Workshop**

2(2,0). PR: Graduate standing or C.I. Variable topics in Music Education to offer hands-on instruction in a workshop format. May be used in the degree program a maximum of 4 times only when course content is different.

*Summer*

*CAH - Department of Music*

**MUE 6080. Foundations of Music Education**

3(3,0). PR: Graduate standing in music. Study of significant historical events that have shaped music education along with important research and philosophical writings. Designed for online delivery.

*Odd Fall*

*CAH - Department of Music*

**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.

*Summer*

*CAH - Department of Music*

**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.

*Summer*

*CAH - Department of Music*

**MUE 6746. Assessment and Evaluation in Music Education**

3(3,0). PR: Graduate standing in Music or C.I. Music learning theory and assessment in the K-12 music classroom.

*Summer*

*CAH - Department of Music*

**MUE 6785. Introduction to Research in Music Education**

3(3,0). PR: Graduate standing or C.I. Basic concepts of research in Music Education. Students will read, analyze, and discuss current research literature, and write research reports.

*Occasional*

*CAH - Department of Music*

**MUE 6936. Current Topics in Music Education**

3(3,0). PR: Graduate Standing in Music or C.I. Study and application of current topics and issues in music education.

May be used in the degree program a maximum of 2 times only when course content is different.

*Summer*

*CAH - Department of Music*

**MUE 6945. 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.

*CAH - Department of Music*

**MUG 6106. Advanced Conducting I**

3(3,0). PR: Graduate standing in MEd or MA in Music Education or C.I. Basic conducting practices including the application of theory and personal musicianship skills.

*Occasional*

*CAH - Department of Music*

**MUG 6306. Conducting VI**

2(1,1). PR: Admission in MA in Music degree program and audition. Individual study of conducting large ensembles. Participation in assigned ensemble required. May be used in the degree program a maximum of 4 times.

*Odd Fall*

*CAH - Department of Music*

**MUH 5326. Medieval and Renaissance Music**

3(3,0). PR: Graduate standing in music education or C.I. Music and culture of Western Europe in the era c. 450-1600.

*Occasional*

*CAH - Department of Music*

**MUH 5345. Music of the Baroque**

3(3,0). PR: Graduate standing in music or music education or C.I. Baroque music, 1600-1750. Investigates Baroque musical styles and composers within their diverse historical, musical, and cultural contexts.

*Even Spring*

*CAH - Department of Music*

**MUH 5356. Eighteenth-Century Music**

3(3,0). PR: Graduate standing in music education or C.I. Music and culture of Western Europe in the era c. 1700-1800.

*Occasional*

*CAH - Department of Music*

**MUH 5365. Music of the 19th Century**

3(3,0). PR: Graduate standing in Music or C.I. Western Art Music of the 19th Century.

*Odd Fall*

*CAH - Department of Music*

**MUH 5375. Music Since 1900**

3(3,0). PR: Graduate standing in Music Education or C.I. Music and culture of Western and American art Music from c. 1900 to the present.

*CAH - Department of Music*

**MUH 5665. Development of Opera**

3(3,0). PR: Graduate standing in Music or C.I. An in-depth examination of Western European opera, from its origins around 1600 until the present day.

*Even Spring*

*CAH - Department of Music*

**MUH 5816. Jazz Styles and Analysis**

3(3,0). PR: Graduate standing or C.I. Advanced study of



historical style periods and master artists in jazz music.

*Odd Fall*

CAH - Department of Music

**MUH 6916. Music Bibliography and Research**

3(3,0). PR: Admission into MA in Music degree program or C.I. Materials and techniques used in scholarly research in music.

*Odd Fall*

CAH - Department of Music

**MUH 6935. Music History Seminar**

3(3,0). PR: MUH 6916 or C.I. Seminar on selected topics in music history and literature. May be used in the degree program a maximum of 3 times.

*Odd Fall*

CAH - Department of Music

**MUL 5436. Guitar Literature and Pedagogy**

3(3,0). PR: Graduate standing in Music or C.I. Survey of significant repertoire and pedagogy for classical guitar.

*Odd Spring*

CAH - Department of Music

**MUL 5439. String Literature and Pedagogy**

3(3,0). PR: Graduate standing in Music or C.I. Study of string literature from the Baroque period to the 20th century, along with prominent pedagogical principles.

*Odd Fall*

CAH - Department of Music

**MUL 5447. Woodwind Literature and Pedagogy**

3(3,0). PR: Graduate standing in Music or C.I. Major works written for woodwind instruments, as well as the study of the basic concepts and techniques fundamental to teaching woodwind instruments.

*Odd Spring*

CAH - Department of Music

**MUL 5448. Brass Literature and Pedagogy**

3(3,0). PR: Graduate standing in Music or C.I. Significant brass repertoire, study materials and a review of teaching techniques for artistic brass performance.

*Even Fall*

CAH - Department of Music

**MUL 5555. Band Literature**

3(3,0). Graduate standing or C.I. Survey of materials for use in the public school band classroom, including beginning band methods, technique books, and musical selections appropriate for concert performance.

*Occasional*

CAH - Department of Music

**MUL 5645. Choral Literature**

3(3,0). Graduate standing or C.I. Survey of choral music from its beginnings to the present with consideration of historical perspective; genres, styles and performance practice; major composers and representative works.

*Occasional*

CAH - Department of Music

**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.

*Spring*

CAH - Department of Music

**MUN 5125. Concert Band**

1(0,3). PR: Open to all graduate students by audition. Study and performance of music for large ensembles. May be used in the degree program a maximum of 4 times.

*Odd Fall*

CAH - Department of Music

**MUN 5145. Wind Ensemble**

1(0,4). PR: Open to all graduate students by audition. Study and performance of music for wind ensemble and band. May be used in the degree program a maximum of 4 times.

*Odd Fall*

CAH - Department of Music

**MUN 5215. Symphony Orchestra**

1(0,5). PR: Open to all graduate students by audition. Rehearsal and performance of works from the symphonic repertoire. May be used in the degree program a maximum of 4 times.

*Odd Fall*

CAH - Department of Music

**MUN 5325. Women's Chorus**

1(0,3). PR: Open to all graduate students by audition. Study and performance of choral music for women's voices. May be used in the degree program a maximum of 4 times.

*Odd Fall*

CAH - Department of Music

**MUN 5368L. Graduate Madrigal Singers**

1(0,3). PR: Graduate standing in Music Education and C.I. Study of varied literature for small vocal ensembles. May be used in the degree program a maximum of 5 times.

CAH - Department of Music

**MUN 5385L. Graduate University Chorus**

1(0,3). PR: Graduate standing in Music Education and C.I. Study and performance of large ensemble music. May be used in the degree program a maximum of 5 times.

CAH - Department of Music

**MUN 5445. Percussion Ensemble**

1(0,2). PR: Open to all graduate students by audition. Study and performance of music for small percussion ensembles. May be used in the degree program a maximum of 4 times.

*Odd Fall*

CAH - Department of Music

**MUN 5465L. Graduate Chamber Music**

1(0,2). PR: Graduate standing in Music Education and C.I. The study and performance of vocal and/or instrumental chamber ensemble literature. Flexible instrumentation to meet student needs. May be used in the degree program a maximum of 5 times.

CAH - Department of Music

**MUN 5478L. Early Music Ensemble**

1(0,3). PR: Graduate standing in Music Education and C.I. Graduate ensemble experience with instruments and repertoire of the Medieval, Renaissance, and Baroque periods. May be used in the degree program a maximum of 5 times.

CAH - Department of Music

**MUN 5715L. Jazz Ensemble**

1(0,4). PR: Audition, graduate or senior standing, and C.I. Study and performance of jazz big band music. May be used in the degree program a maximum of 4 times only when course content is different.

*Fall, Spring*

CAH - Department of Music

**MUN 5716L. Jazz Chamber Group**

1(0,2). PR: Audition, graduate standing or senior standing, and C.I. Study and performance of jazz small group music. May be used in the degree program a maximum of 4 times.

*Fall, Spring*

CAH - Department of Music

**MUO 5505L. Graduate Opera Workshop**

1(0,3). PR: C.I. and audition. Study of audition techniques, operatic roles and repertoire, and characterization through performance. May be used in the degree program a maximum of 5 times.

CAH - Department of 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.

*Occasional*

CAH - Department of Music

**MUS 5677. Wellness for the Performing Musician**

3(3,0). PR: Graduate standing in music education or C.I. Various techniques and methods of maintaining physical health and wellness for musicians.

CAH - Department of Music

**MUS 6105. Musicianship I**

3(3,0). PR: Admission into MEd in Music Education or C.I. An integrated study of music history with applications of theory and aural skill development.

*Odd Summer*

CAH - Department of Music

**MUS 6106. Musicianship II**

3(3,0). PR: Admission into MEd in Music Education or C.I. A continual and integrated study of music history with applications of music theory and aural skill development.

*Odd Summer*

CAH - Department of Music

**MUS 6107. Musicianship III**

3(3,0). PR: Admission into MEd in Music Education or C.I. Advanced integrated study of history with applications of theory and aural skill development.

*Occasional*

CAH - Department of Music

**MUS 6975L. Graduate Project**

2(0,1). PR: Two semesters of graduate study in the appropriate area or C.I. Planning, researching, and creating a written document in a non-performance area in music, designed to serve as a cumulative synthesis of learning. Graded S/U.

*Fall, Spring*

CAH - Department of Music

**MUS 6976L. Graduate Recital**

2(0,1). PR: Two semesters of graduate level study in the appropriate area or C.I. Public performance in an area such as instrumental/vocal performance, conducting or composition, designed as a capstone experience. Graded S/U.

*Fall, Spring*

CAH - Department of Music

**MUT 5316. Orchestration**

3(3,0). PR: Graduate standing in Music or C.I. Study of the various instruments commonly found in orchestras and wind ensembles and how to write for these instruments in combination.

*Odd Spring*

CAH - Department of Music

**MUT 5381. Arranging and Composing Music**

3(3,0). 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.

CAH - Department of Music

**MUT 5445. Counterpoint**

3(3,0). PR: Graduate standing in Music or C.I. Principles of counterpoint and the study of contrapuntal styles in Western music from the 16th century to the present day.

*Even Spring*

CAH - Department of Music

**MUT 5620. Analysis of Twentieth Century Music**

3(3,0). PR: Graduate standing in Music or C.I. Analysis of music in a selection of the different styles practiced in the 20th century, with an emphasis on Western art music.

*Fall*

CAH - Department of Music

**MUT 5936. Music Theory Seminar**

3(3,0). PR: Graduate standing in music education or C.I. One or more issues of importance in music theory with emphasis on recent scholarly literature and debates. May be used in the degree program a maximum of 4 times.

CAH - Department of Music

**MUT 6621. Techniques and Concepts of Musical Analysis**

3(3,0). PR: Admission into MA in Music or C.I. Advanced techniques in musical analysis.

*Odd Fall*

CAH - Department of Music

**MVB 5451. Trumpet V**

2(1,0). PR: Graduate status or senior standing and C.I. May be repeated for credit.

*Fall, Spring*

CAH - Department of Music

**MVB 5452. French Horn V**

2(1,0). PR: Graduate status or senior standing and C.I. May be repeated for credit.

*Fall, Spring*

CAH - Department of Music

**MVB 5453. Trombone V**

2(1,0). PR: Graduate status or senior standing and C.I. May be repeated for credit.

*Fall, Spring*

CAH - Department of Music

**MVB 5454. Baritone V**

2(1,0). PR: Graduate status or senior standing and C.I. May be repeated for credit.

*Fall, Spring*

CAH - Department of Music

**MVB 5455. Tuba V**

2(1,0). PR: Graduate status or senior standing and C.I. May be repeated for credit.

*Fall, Spring*

CAH - Department of Music

**MVB 6461. Trumpet VI**

2(1,1). PR: Admission into MA in Music degree program and audition. Intensive advanced study of trumpet performance. May be used in the degree program a maximum of 4 times.

*Odd Fall*

CAH - Department of Music

**MVB 6462. French Horn VI**

2(1,1). PR: Admission into M.A. in Music degree program and audition. Intensive advanced study of French Horn performance. May be used in the degree program a maximum of 4 times.

*Odd Fall*

CAH - Department of Music

**MVB 6463. Trombone VI**

2(1,1). PR: Admission into MA in Music degree program and audition. Intensive advanced study of trombone performance. May be used in the degree program a maximum of 4 times.

*Odd Fall*

CAH - Department of Music

**MVB 6464. Euphonium VI**

2(1,1). PR: Admission into MA in Music degree program and audition. Intensive advanced study of euphonium performance. May be used in the degree program a maximum of 4 times.

*Odd Fall*

CAH - Department of Music

**MVB 6465. Tuba VI**

2(1,1). PR: Admission into MA in Music degree program and audition. Intensive advanced study of tuba performance. May be used in the degree program a maximum of 4 times.

*Odd Fall*

CAH - Department of Music

**MVJ 5350C. Jazz Piano V**

2(1,1). PR: Audition, graduate standing or senior standing, and C.I. Study of jazz piano literature, styles, and techniques. May be used in the degree program a maximum of 3 times.

*Fall, Spring*

CAH - Department of Music

**MVJ 5353C. Jazz Guitar V**

2(1,1). PR: Audition, graduate standing or senior standing, and C.I. Study of jazz guitar literature, styles and techniques. May be used in the degree program a maximum of 3 times only when course content is different.

*Fall, Spring*

CAH - Department of Music

**MVJ 5354C. Jazz Bass V**

2(1,1). PR: Audition, graduate standing or senior standing, and C.I. Study of jazz bass literature, styles and techniques. May be used in the degree program a maximum of 3 times only when course content is different.

*Fall, Spring*

CAH - Department of Music

**MVJ 5359C. Jazz Drum Set V**

2(1,1). PR: Audition, graduate standing or senior standing, and C.I. Study of jazz drum set literature, styles, and techniques. May be used in the degree program a maximum of 3 times only when course content is different.

*Fall, Spring*

CAH - Department of Music

**MVJ 6369C. Jazz Drum Set VI**

2(1,1). PR: Admission into the MA in Music and an audition. Advanced study of jazz drum set literature, styles and techniques; continuation of Jazz Drum Set V. May be used in the degree program a maximum of 3 times only when course content is different.

*Fall, Spring*

CAH - Department of Music

**MVJ 6460C. Jazz Piano VI**

2(1,1). PR: Admission to MA in Music and an audition. Advanced study of jazz piano literature, styles, and techniques; continuation of Jazz Piano V. May be used in the degree program a maximum of 3 times.

*Fall, Spring*

CAH - Department of Music

**MVJ 6463C. Jazz Guitar VI**

2(1,1). PR: Admission to the MA in Music and an audition. Advanced study of jazz guitar literature, styles and techniques; continuation of Jazz Guitar V. May be used in the degree program a maximum of 3 times only when course content is different.

*Fall, Spring*

CAH - Department of Music

**MVJ 6464C. Jazz Bass VI**

2(1,1). PR: Admission into the MA in Music and an audition. Advanced study of jazz bass literature, styles and techniques; continuation of Jazz Bass V. May be used in the degree program a maximum of 3 times only when course content is different.

*Fall, Spring*

CAH - Department of Music

**MVJ 6952. Jazz VI**

2(1,1). PR: Admission into MA in Music degree program and audition. Intensive advanced study of jazz performance. May be used in the degree program a maximum of 4 times.

*Odd Fall*

CAH - Department of Music

**MVK 5451. Piano V**

2(1,0). PR: Graduate status or senior standing and C.I. May be repeated for credit.

*Fall, Spring*

CAH - Department of Music

**MVK 5650. Piano Pedagogy**

2(2,0). PR: Graduate standing in Music or C.I. Techniques, methods, and experiences of former and current pedagogues to equip students for current or future piano teaching.

*Even Spring*

CAH - Department of Music

**MVK 6461. Piano VI**

2(1,1). PR: Admission into MA in Music degree program and audition. Intensive advanced study of piano performance. May be used in the degree program a maximum of 4 times.

*Odd Fall*

CAH - Department of 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.

*Occasional*

CAH - Department of Music

**MVP 5451. Percussion V**

2(1,0). PR: Graduate status or senior standing and C.I. May be repeated for credit.

*Fall, Spring*

CAH - Department of Music

**MVP 6461. Percussion VI**

2(1,1). PR: Admission into MA in Music degree program and audition. Intensive advanced study of percussion instruments. May be used in the degree program a maximum of 4 times.

*Odd Fall*

CAH - Department of Music

**MVS 5451. Violin V**

2(1,0). PR: Graduate status or senior standing and C.I. May be repeated for credit.

*Fall, Spring*

CAH - Department of Music

**MVS 5452. Viola V**

2(1,0). PR: Graduate status or senior standing and C.I. May be repeated for credit.

*Fall, Spring*

CAH - Department of Music

**MVS 5453. Cello V**

2(1,0). PR: Graduate status or senior standing and C.I. May be repeated for credit.

*Fall, Spring*

CAH - Department of Music

**MVS 5454. Bass V**

2(1,0). PR: Graduate status or senior standing and C.I. May be repeated for credit.

*Fall, Spring*

CAH - Department of Music

**MVS 5455. Harp V**

2(1,0). PR: Graduate status or senior standing and C.I. May be repeated for credit.

*Fall, Spring*

CAH - Department of Music

**MVS 5456. Guitar V**

2(1,0). PR: Graduate status or senior standing and C.I. May

be used in the degree program a maximum of 4 times.

*Fall, Spring*

CAH - Department of Music

**MVS 6461. Violin VI**

2(1,1). PR: Admission into MA in Music degree program and audition. Intensive advanced study of violin performance. May be used in the degree program a maximum of 4 times.

*Odd Fall*

CAH - Department of Music

**MVS 6462. Viola VI**

2(1,1). PR: Admission into MA in Music degree program and audition. Intensive advanced study of viola performance. May be used in the degree program a maximum of 4 times.

*Odd Fall*

CAH - Department of Music

**MVS 6463. Cello VI**

2(1,1). PR: Admission into MA in Music degree program and audition. Intensive advanced study of cello performance. May be used in the degree program a maximum of 4 times.

*Odd Fall*

CAH - Department of Music

**MVS 6465. Harp VI**

2(1,1). PR: Admission into MA in Music degree program and audition. Intensive advanced study of harp performance. May be used in the degree program a maximum of 4 times.

*Odd Fall*

CAH - Department of Music

**MVS 6466. Classical Guitar VI**

2(1,1). PR: Admission into MA in Music degree program and audition. Intensive advanced study of classical guitar performance. May be used in the degree program a maximum of 4 times.

*Odd Fall*

CAH - Department of Music

**MVS 6467. Bass VI**

2(1,1). PR: Admission into MA in Music degree program and audition. Intensive advanced study of string bass performance. May be used in the degree program a maximum of 4 times.

*Odd Fall*

CAH - Department of Music

**MVV 5451. Voice V**

2(1,0). PR: Graduate standing or senior standing and C.I. May be used in the degree program a maximum of 4 times.

*Fall, Spring*

CAH - Department of Music

**MVV 5651. Voice Pedagogy**

2(3,0). PR: Graduate standing in Music or C.I. Vocal function, anatomy, and pedagogical methodology with application to the voice teacher and performer.

*Odd Spring*

CAH - Department of Music

**MVV 6452. Voice VI**

2(1,1). PR: Admission into MA in Music degree program and audition. Intensive advanced study of vocal

performance. May be used in the degree program a maximum of 4 times.

*Odd Fall*

CAH - Department of Music

**MVW 5451. Flute V**

2(1,0). PR: Graduate status or senior standing and C.I. May be repeated for credit.

*Fall, Spring*

CAH - Department of Music

**MVW 5452. Oboe V**

2(1,0). PR: Graduate status or senior standing and C.I. May be repeated for credit.

*Fall, Spring*

CAH - Department of Music

**MVW 5453. Clarinet V**

2(1,0). PR: Graduate status or senior standing and C.I. May be repeated for credit.

*Fall, Spring*

CAH - Department of Music

**MVW 5454. Bassoon V**

2(1,0). PR: Graduate status or senior standing and C.I. May be repeated for credit.

*Fall, Spring*

CAH - Department of Music

**MVW 5455. Saxophone V**

2(1,0). PR: Graduate status or senior standing and C.I. May be repeated for credit.

*Fall, Spring*

CAH - Department of Music

**MVW 6461. Flute VI**

2(1,1). PR: Admission into MA in Music degree program and audition. Intensive advanced study of flute performance. May be used in the degree program a maximum of 4 times.

*Odd Fall*

CAH - Department of Music

**MVW 6462. Oboe VI**

2(1,1). PR: Admission into MA in Music degree program and audition. Intensive advanced study of oboe performance. May be used in the degree program a maximum of 4 times.

*Odd Fall*

CAH - Department of Music

**MVW 6463. Clarinet VI**

2(1,1). PR: Admission into MA in Music degree program and audition. Intensive advanced study of clarinet performance. May be used in the degree program a maximum of 4 times.

*Odd Fall*

CAH - Department of Music

**MVW 6464. Bassoon VI**

2(1,1). PR: Admission into MA in Music degree program and audition. Intensive advanced study of bassoon performance. May be used in the degree program a maximum of 4 times.

*Odd Fall*

CAH - Department of Music

**MVW 6465. Saxophone VI**

2(1,1). PR: Admission into MA in Music degree program and audition. Intensive advanced study of saxophone performance. May be used in the degree program a maximum of 4 times.

*Odd Fall*

CAH - Department of Music

**NGR 5003. Advanced Health Assessment and Diagnostic Reasoning**

2(2,0). PR: or CR: NGR 5141; CR: NGR 5003L. Admission to the M.S. in Nursing or Doctor of Nursing Practice program tracks or C.I. Concepts and skills of advanced health assessment over the lifespan. Application of the diagnostic reasoning process through differential diagnoses. May be used in the degree program a maximum of 2 times.

*Fall, Spring, Summer*

CON - Department of Nursing

**NGR 5003L. Advanced Health Assessment and Diagnostic Reasoning (Lab)**

1(0,1). PR: or CR: NGR 5141; CR: NGR 5003. Admission to the M.S. in Nursing or Doctor of Nursing Practice tracks or C.I. Application of concepts and skills for advanced health assessment and diagnostic reasoning over the lifespan Graded S/U. May be used in the degree program a maximum of 2 times.

*Fall, Spring, Summer*

CON - Department of Nursing

**NGR 5090. Urgent Care for the Advanced Practice Nurse**

3(3,0). NGR 6240 or C.I. Advanced practice evaluation and management of clients in urgent care settings.

*Occasional*

CON - Department of Nursing

**NGR 5141. Pathophysiological Bases for Advanced Nursing Practice**

3(3,0). PR: Admission to M.S. in Nursing or Doctor of Nursing Practice program or C.I. Critical examination of the physiological and pathophysiological mechanisms affecting individuals. May be used in the degree program a maximum of 2 times.

*Fall, Spring*

CON - Department of Nursing

**NGR 5638. Health Promotion**

3(3,0). PR: Admission to M. S. in Nursing or Doctor of Nursing Practice or C.I. Exploration and analysis of concepts, theories, research evidence, clinical assessment and interventions for health promotion and wellness. May be used in the degree program a maximum of 2 times.

*Fall, Spring, Summer*

CON - Department of Nursing

**NGR 5660. Health Disparities: Issues and Strategies**

3(3,0). PR: Graduate standing. Explores disparities in access, utilization, services, outcomes, and status for different U.S. populations: data, research, programmatic issues, and strategies to close the gaps. May be used in the degree program a maximum of 2 times.

*Occasional*

CON - Department of Nursing

**NGR 5690. 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. May be used in the



degree program a maximum of 2 times.

*Fall*

CON - Department of Nursing

**NGR 5720. Organizational Dynamics**

3(3,0). PR: Baccalaureate degree in Nursing or C.I.

Analysis of organizational theories related to health care organizations and the use of leadership, communication and power to influence health care delivery and policy.

May be used in the degree program a maximum of 2 times.

*Fall*

CON - Department of Nursing

**NGR 5745. Professional Obligations and Activities of Advanced Practice Nursing**

1(1,0). PR: NGR 5883 and NGR 5891. Student must be in last or second to last semester of program. Examine professional obligations of advanced practice nursing. Opportunity to develop skills for taking certification exam.

*Fall, Spring, Summer*

CON - Department of Nursing

**NGR 5800. Theory for Advanced Practice Nursing**

3(3,0). PR: Baccalaureate degree in Nursing or C.I.

Conceptual and theoretical bases of nursing practice and research with emphasis on scholarly writing and critique. May be used in the degree program a maximum of 2 times.

*Fall, Spring*

CON - Department of 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.

May be used in the degree program a maximum of 2 times.

*Fall*

CON - Department of Nursing

**NGR 5883. Cultural, Legal, Ethical, and Political Issues of Advanced Practice Nursing**

1(1,0). PR: Admission to MSN program or C.I. Examine legal, ethical and political issues related to advanced practice nursing.

*Fall, Spring, Summer*

CON - Department of Nursing

**NGR 5884. Legal and Professional Behavior in Advanced Practice Nursing**

3(3,0). PR: Graduate standing and admission to the M.S. in Nursing or Doctor of Nursing Practice program. Examination of legal, ethical, cultural, and political issues related to professional advanced practice nursing. May be used in the degree program a maximum of 2 times.

*Fall, Spring, Summer*

CON - Department of Nursing

**NGR 5891. 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.

*Fall, Spring, Summer*

CON - Department of Nursing

**NGR 5894C. International Perspectives of Global Health**

3(2,1). Graduate standing or C.I. An analysis of global health in comparison with that of USA and other nation's health care systems.

*Occasional*

CON - Department of Nursing

**NGR 6063C. Advanced Skills for the Management of Illness and Injuries**

3(2,1). PR: Admission to the Doctor of Nursing Practice program or a Nurse Practitioner certificate track.

Completion of one clinical course or C.I. Development of theoretical, and clinical skills for the evaluation, diagnosis, and management of illnesses and injuries. May be used in the degree program a maximum of 2 times.

*Fall, Spring*

CON - Department of Nursing

**NGR 6105. Management of Symptoms and Outcomes of Disease**

3(3,0). PR: or CR: NGR 5141 or C.I. Focused examination of the concepts, theories and research evidence that provide the basis for assessment and management of the patient experiences related to disease outcomes. May be used in the degree program a maximum of 2 times.

*Summer*

CON - Department of Nursing

**NGR 6172. Pharmacology for Advanced Nursing Practice**

3(3,0). PR: NGR 5141 or C.I. Comprehensive study of medications used in the promotion and maintenance of health across the lifespan. Examination of the implications for advanced nursing practice. May be used in the degree program a maximum of 2 times.

*Fall, Spring*

CON - Department of Nursing

**NGR 6186. Genetics and Genomics in Advanced Nursing Practice**

3(3,0). PR: Baccalaureate degree in Nursing, NGR 5141 or approval of graduate coordinator or C.I. Application of genetics and genomic principles to advanced clinical nursing practice.

*Fall, Spring, Summer*

CON - Department of Nursing

**NGR 6200. Gender Related Primary Care**

2(2,0). PR: or CR: NGR 6172. CR: 6342L. Admission to the Doctor of Nursing Practice program, Family Nurse Practitioner or Adult/Gerontology Nurse Practitioner track; completion of NGR 5003; NGR 5003L; NGR 5141. Development of theoretical skills for evaluation, diagnosis, and management of the gender related health needs of men and women. May be used in the degree program a maximum of 2 times.

*Fall*

CON - Department of Nursing

**NGR 6201. Adult I Primary Care**

3(3,0). PR: Admission to the DNP program FNP or ANP track; completion of NGR 5003, NGR 5003L, NGR 5141, or C.I.; CR: Adult I Primary Care Clinical, NGR 6172, or C.I. Development of theoretical skills for evaluation, diagnosis, and management of the primary care health needs of adults and communities. May be used in the degree program a maximum of 2 times.

*Spring*

CON - Department of Nursing

**NGR 6201L. Adult I Primary Care Clinical**

2(0,2). CR: NGR 6201. Application of theory and skills for evaluation, diagnosis and management of the primary care

health needs of adults and communities. Graded S/U. May be used in the degree program a maximum of 2 times.

*Spring*

CON - Department of Nursing

**NGR 6202. Adult II Primary Care**

3(3,0). PR: NGR 6201, NGR 6201L; CR: NGR 6202L.

Development of theoretical foundation for the evaluation, diagnosis, and management of the complex health needs of adults. May be used in the degree program a maximum of 2 times.

*Fall*

CON - Department of Nursing

**NGR 6202L. Adult II Primary Care Clinical**

2(0,2). PR: NGR 6201, NGR 6201L; CR: NGR 6202.

Development of theoretical and clinical skills for evaluation, diagnosis, and management of the complex and long-term needs of adults. Graded S/U. May be used in the degree program a maximum of 2 times.

*Fall*

CON - Department of Nursing

**NGR 6240. Adult I for APNs**

3(3,0). PR: Admission to the Doctor of Nursing Practice program, Nurse Practitioner certificate, Family Nurse Practitioner or Adult Gerontology Nurse Practitioner tracks, NGR 5003, NGR 5003L. PR: or CR: NR 6172; CR: NGR 6240L. Development of theoretical skills for evaluation, diagnosis, and management of health needs of adults and communities. May be used in the degree program a maximum of 2 times.

*Spring*

CON - Department of Nursing

**NGR 6240L. Adult I Clinical for APNs**

3(0,3). PR: Admission to M.S. in Nursing program, Nursing certificate, Adult Nurse Practitioner or Family Nurse Practitioner track. CR: NGR 6240. Application of skills for evaluation, diagnosis, and management of health needs of adults and communities. Graded S/U.

*Fall*

CON - Department of Nursing

**NGR 6242. Adult II for APNs**

2(2,0). PR: Admission to MSN program or a nursing certificate track; NGR 6240. CR: NGR 6242L (for ANP track). Development of theoretical foundation for the evaluation, diagnosis, and management of the complex health needs of adults.

*Spring*

CON - Department of Nursing

**NGR 6242L. Adult II Clinical for APNs**

2(0,2). PR: Admission to M.S. in Nursing program, Nursing certificate, Adult Nurse Practitioner track, NGR 6240; NGR 6240L (Family Nurse Practitioner, Adult Nurse Practitioner tracks). 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.

*Spring*

CON - Department of Nursing

**NGR 6248. Family Nurse Practitioner/Adult-Gero Nurse Practitioner Practice Practicum**

VAR. PR: Admission to M.S. in Nursing, Doctor of Nursing Practice, Clinical Nurse Specialist or Nurse Practitioner

certificate. Can be started concurrently with final clinical course in program of study. (Varies with plan of study.). Supervised advanced clinical practice in the roles of the nurse practitioner in an individualized preceptorship. Graded S/U. May be used in the degree program a maximum of 2 times.

*Fall, Spring, Summer*

CON - Department of Nursing

**NGR 6249. Management of Common Health Problems of the Adult Patient**

3(3,0). PR: NGR 5141; NGR 5003 & 5003L; PR: or CR: NGR 6801 or C.I. Analysis of current practices in management of adult patients. Incorporates diagnostic reasoning, nursing management, and evidence-based practices. May be used in the degree program a maximum of 2 times.

*Fall, Spring*

CON - Department of Nursing

**NGR 6263. Gerontologic Care for APNs**

3(3,0). PR: Admission to the Doctor of Nursing Practice program, Adult/Gerontology Clinical Nurse Specialist, Family Nurse Practitioner or Adult/Gerontology Nurse Practitioner track; completion of NGR 5003, NGR 5003L, C.I. CR: NGR 6263L, or NGR 6264L. PR or CR: NGR 6172. Development of the theoretical skills for evaluation, diagnosis and management of the health needs of older adults and communities. May be used in the degree program a maximum of 2 times.

*Summer*

CON - Department of Nursing

**NGR 6263L. Gerontologic Care Clinical for NPs**

2(0,2). CR: NGR 6263. Development of clinical skills for evaluation, diagnosis, and management of the gerontologic health care needs common normal and abnormal variations in physical, cognitive, and psychologic states. Graded S/U. May be used in the degree program a maximum of 2 times.

*Summer*

CON - Department of Nursing

**NGR 6264L. Gerontologic Care Clinical for CNS**

2(0,2). PR: NGR 6782 and NGR 6782L or C.I. CR: 6263. Development of Clinical Nurse Specialist skills in management of an elderly population with acute and chronic conditions. Graded S/U. May be used in the degree program a maximum of 2 times.

*Summer*

CON - Department of Nursing

**NGR 6265. Adult/Gerontology CNS I**

3(3,0). PR: NGR 5141; NGR 5003L; NGR 6874. Adult/Gerontology Clinical Nurse Specialist foundation. Role/scope of CNS; direct care/coaching focus. Health promotion and disease prevention across the adult lifespan. May be used in the degree program a maximum of 2 times.

*Spring*

CON - Department of Nursing

**NGR 6265L. Adult/Gerontology CNS I Clinical**

3(0,3). CR: NGR 6265. Introduction to Adult/Gerontology CNS role; emphasis on direct care, coaching, systems leadership for health promotion and managing common problems. Graded S/U. May be used in the degree program a maximum of 2 times.

*Spring*

*CON - Department of Nursing*

**NGR 6266. Adult/Gerontology CNS II**

3(3,0). PR: NGR 6265; NGR 6265L; NGR 6172; NGR 6801; NGR 5720. Continuation of Adult/Gerontology CNS I. Management of acute and/or complex problems; focus on research and ethical decision making. May be used in the degree program a maximum of 2 times.

*Fall*

*CON - Department of Nursing*

**NGR 6266L. Adult/Gerontology CNS II Clinical**

3(0,3). PR: NGR 6265; NGR 6265L; CR: NGR 6266. Continued development of Adult/Gerontology CNS role; emphasis on research, ethical decision making, and management of acute and chronic health problems. Graded S/U. May be used in the degree program a maximum of 2 times.

*Fall*

*CON - Department of Nursing*

**NGR 6267. Adult/Gerontology CNS III**

3(3,0). PR: NGR 6266; NGR 6266L. Continuation of Adult/Gerontology CNS II. Management of acute and/or complex problems. Focus on collaboration, systems leadership, and consultation. May be used in the degree program a maximum of 2 times.

*Spring*

*CON - Department of Nursing*

**NGR 6267L. Adult/Gerontology CNS III Clinical**

3(0,3). PR: NGR 6266; NGR 6266L; CR NGR 6267. Continued development of adult/gerontology Clinical Nurse Specialist role; emphasis on collaboration, systems leadership, consultation in management of acute and chronic problems. Graded S/U. May be used in the degree program a maximum of 2 times.

*Spring*

*CON - Department of Nursing*

**NGR 6305. Pediatric Primary Care**

3(3,0). PR: Admission to the Doctor of Nursing Practice program, Family Nurse Practitioner track; completion of NGR 5003, NGR 5003L, or C.I. PR or CR: NGR 6172. CR: 6305L. Development of theoretical skills for evaluation, diagnosis, and management of the primary care needs of children and their families, including common normal and abnormal variations in physical, cognitive, and psychological development. May be used in the degree program a maximum of 2 times.

*Spring*

*CON - Department of Nursing*

**NGR 6305L. Pediatric Primary Care Clinical**

2(0,2). CR: NGR 6305. Development of clinical skills for evaluation, diagnosis, and management of the primary care needs of children and their families, including common normal and abnormal variations in physical, cognitive, and psychological development. Graded S/U. May be used in the degree program a maximum of 2 times.

*Spring*

*CON - Department of Nursing*

**NGR 6331. Pediatrics I for APNs**

2(2,0). PR: Admission to M.S. in Nursing program, Nursing certificate, or track, NGR 5003, NGR 5003L, NGR 5141. PR or CR: NR 6172. CR: NGR 6331L (for Pediatric Nurse Practitioner, Family Nurse Practitioner tracks). Evaluation,

diagnosis, and management of the primary care needs of children, their families and communities.

*Spring*

*CON - Department of Nursing*

**NGR 6331L. Pediatrics I Clinical for APNs**

2(0,2). PR: Admission to MSN program or nursing certificate, FNP or PNP track. CR: NGR 6331. Evaluation diagnosis and management of the primary care needs of children and their families. Graded S/U.

*Spring*

*CON - Department of Nursing*

**NGR 6332. Pediatrics II for APNs**

3(3,0). PR: Admission to MSN program or nursing certificate program, NGR 6331, NGR 6331L (for FNP and PNP tracks). CR: NGR 6332L (for PNP track). Foundation for the evaluation, diagnosis, and management of the complex health needs of children and their families.

*Fall*

*CON - Department of Nursing*

**NGR 6332L. Pediatrics II Clinical for APNs**

3(0,3). PR: Admission to M.S. in Nursing program, Nursing certificate, Pediatric Nurse Practitioner track, NGR 6332. Evaluation, diagnosis, and management of the complex health needs of children and their families. Graded S/U.

*Fall*

*CON - Department of Nursing*

**NGR 6334. Women's Health for APNs**

2(2,0). PR: Admission to M.S. in Nursing program, Nursing certificate or track, NGR 5003, NGR 5003L, NGR 5141, NR 6172. CR: NGR 6342L (for Adult Nurse Practitioner and Family Nurse Practitioner tracks). Development of theoretical skills for evaluation, diagnosis, and management of women.

*Summer*

*CON - Department of Nursing*

**NGR 6335. Focused Pediatrics for APNs**

2(2,0). PR: Admission to M.S. in Nursing program, Nursing certificate or track, NGR 6331, NGR 6331L (for Pediatric Nurse Practitioner students). CR: 6335L (for PNP students). Development of advanced knowledge in the physical and developmental assessment of children and families across the lifespan.

*Summer*

*CON - Department of Nursing*

**NGR 6335L. Focused Pediatrics Clinical for APNs**

1(0,3). PR: Admission to M.S. in Nursing program, Nursing certificate, Pediatric Nurse Practitioner track, NGR 6331. 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.

*Summer*

*CON - Department of Nursing*

**NGR 6336. Medically Complex Infants and Toddlers**

3(3,0). PR: Admission to the Infant and Toddler Development Specialist Certificate program or the M.S. in Nursing Program. Biomedical risk factors affecting infant/toddler development and the impact on their families. May be used in the degree program a maximum of 2 times.

*Spring*

*CON - Department of Nursing*

**NGR 6342L. Women's Health for APNs Clinical**

1(0,1). PR: Admission to M.S. in Nursing program, Nursing certificate, Adult Nurse Practitioner or Family Nurse Practitioner track. CR: NGR 6334. Application of skills for evaluation, diagnosis, and management of the health needs of women. Graded S/U. May be used in the degree program a maximum of 2 times.

Summer

CON - Department of Nursing

**NGR 6351. Nursing Care of Children and Childbearing Women**

3(3,0). PR: NGR 5141; NGR 5003 & 5003L; CR: NGR 6801 or C.I. Analysis of nursing care of children and childbearing women. Incorporates diagnostic reasoning, nursing management, and evidence-based practices. May be used in the degree program a maximum of 2 times.

Fall, Spring

CON - Department of Nursing

**NGR 6627. Management of Common Health Problems of Communities**

3(3,0). PR: NGR 5141; NGR 5003 & 5003L; CR: NGR 6801 or C.I. Analysis of current practices in management of communities. Incorporates diagnostic reasoning, nursing management, and evidence-based practices. May be used in the degree program a maximum of 2 times.

Fall, Spring

CON - Department of Nursing

**NGR 6713. Curriculum Development in Nursing Education**

3(3,0). PR: Admissions to M.S. in Nursing program or certificate of Nursing Education, or C.I. Analysis of external and internal influences affecting curriculum development for the nursing education. Examination of societal factors impacting nursing education. May be used in the degree program a maximum of 2 times.

Summer

CON - Department of Nursing

**NGR 6714. Clinical Teaching Strategies for Nursing**

3(3,0). PR: NGR 6791 or C.I. Synthesis of research-based literature and best practice in the development, implementation and evaluation of clinical education for nursing students. May be used in the degree program a maximum of 2 times.

Summer

CON - Department of Nursing

**NGR 6715. Application of Instructional Technology for Nursing Education**

3(3,0). PR: NGR 6791 or C.I. Analysis of effective teaching and learning strategies with emphasis on developing techniques for teaching using instructional technology in nursing education. May be used in the degree program a maximum of 2 times.

Spring

CON - Department of Nursing

**NGR 6718. Evaluation in Nursing Education**

3(3,0). PR: NGR 6713; NGR 6791 or C.I. Analysis of the process of systematic evaluation of learning outcomes at individual, class and program levels. May be used in the degree program a maximum of 2 times.

Spring

CON - Department of Nursing

**NGR 6722. Financial Management and Resource Development**

3(3,0). PR: Admission to M.S. in Nursing or Doctor of Nursing Practice program or C.I. Overview of health care financing and economics at the macro and micro level and their influence on health care delivery, resource development and health policy. May be used in the degree program a maximum of 2 times.

Summer

CON - Department of Nursing

**NGR 6723. Nursing Leadership and Management**

3(3,0). PR: Admission to Master of Science in Nursing, Doctor of Nursing Practice, Nursing Ph.D. program, or C.I. Analysis, synthesis and application of health care leadership principles including health and patient care, delivery systems, personnel management and finance, ethical, legal and regulatory requirements.

Fall, Spring

CON - Department of Nursing

**NGR 6723L. Nursing Leadership Role Specialization Practicum**

3(0,3). PR: NGR 6723. Preceptor supervised experience with a nurse leader. Experience will focus on the analysis, synthesis and application of the principles related to leadership in the health care setting, including health care delivery systems, patient care delivery systems, staffing, personnel management, finance and ethical, legal and regulatory requirements. Graded S/U. May be used in the degree program a maximum of 2 times.

Fall, Spring

CON - Department of Nursing

**NGR 6758L. Clinical Nurse Specialist Advanced Practicum**

4(0,4). PR: NGR 6781. Supervised advanced clinical practice in the clinical nurse specialist role. Integration of practice, education, consultation, research and administrative roles. Graded S/U. May be used in the degree program a maximum of 2 times.

Spring

CON - Department of Nursing

**NGR 6772L. Nurse Leadership and Management Internship**

3(0,3). PR: NGR 5720, NGR 5871, NGR 6722, NGR 6723, and NGR 6723L. Percepted advanced leadership and management experience focusing on analysis, synthesis and application of principles related to nurse lead administration of health care systems. Graded S/U. May be used in the degree program a maximum of 2 times.

Fall, Spring

CON - Department of Nursing

**NGR 6773L. CNL Residency**

3(0,3). PR: NGR 6777L, NGR 6775L, NGR 6776L and NGR 6813. Intensive clinical immersion in role of the clinical nurse leader. Graded S/U. May be used in the degree program a maximum of 2 times.

Spring

CON - Department of Nursing

**NGR 6775L. CNL Resources and Outcomes**

1(0,1). CR: NGR 6105 and NGR 6722. Participation in clinical activities related to symptom and disease management and healthcare finance and resource utilization to improve patient outcomes. Graded S/U. May



be used in the degree program a maximum of 2 times.

*Summer*

CON - Department of Nursing

**NGR 6776L. CNL Advocacy and Education**

1(0,1). CR: NGR 5720. Participation in clinical activities related to organizational assessment, patient/staff education and advocacy, and professional development. Graded S/U. May be used in the degree program a maximum of 2 times.

*Fall*

CON - Department of Nursing

**NGR 6777L. CNL Quality and Safety**

1(0,1). CR: NGR 6874. Introduction to role of CNL in clinical setting; participation in clinical activities related to quality improvement and patient safety. Graded S/U. May be used in the degree program a maximum of 2 times.

*Spring*

CON - Department of Nursing

**NGR 6780. Clinical Nurse Specialist I**

3(3,0). PR: NGR 5141; NR 6172, NGR 5720, NGR 5003. Foundation for Clinical Nurse Specialist practice; common clinical problems across the lifespan; role delineation. May be used in the degree program a maximum of 2 times.

*Spring*

CON - Department of Nursing

**NGR 6780L. Clinical Nurse Specialist I Practicum**

3(0,3). PR: Coreq. NGR 6780, Prereq. NGR 6722. Implementation of the clinical expert, educator, and leadership roles of the Clinical Nurse Specialist. Graded S/U. May be used in the degree program a maximum of 2 times.

*Spring*

CON - Department of Nursing

**NGR 6781. Clinical Nurse Specialist II**

2(2,0). PR: NGR 6780, NGR 6780L. Continuation of Clinical Nurse Specialist; management of acute and/or complex patients across the lifespan; consultant, case manager, change agent and research roles. May be used in the degree program a maximum of 2 times.

*Fall*

CON - Department of Nursing

**NGR 6781L. Clinical Nurse Specialist II Practicum**

3(0,3). PR: NGR 6780 and NGR 6780L, CR: NGR 6781. Continuation of CNS 1. Management of acute and/or complex patients across the lifespan. Consultant, case manager, change agent and research roles. Graded S/U. May be used in the degree program a maximum of 2 times.

*Fall*

CON - Department of Nursing

**NGR 6782. Adult CNS I**

3(3,0). PR: Admission to the Doctor of Nursing Practice program, Adult/Gerontology Clinical Nurse Specialist track; completion of NGR 5003, NGR 5003L, NGR 5141, NGR 5720, or C.I. Clinical Nurse Specialist foundation. Common problems relevant to adult acute care. Clinical Nurse Specialist competencies of direct care, coaching, and ethical decision making. May be used in the degree program a maximum of 2 times.

*Spring*

CON - Department of Nursing

**NGR 6782L. Adult CNS I Clinical**

2(0,2). CR: NGR 6782. Development of multi-faceted Clinical Nurse Specialist role. Emphasis on clinical expert, coaching, and ethical decision-making competencies of the Clinical Nurse Specialist. Graded S/U. May be used in the degree program a maximum of 2 times.

*Spring*

CON - Department of Nursing

**NGR 6783. Adult CNS II**

3(3,0). PR: NGR 6172, NGR 6782, NGR 6782L, NGR 6263, NGR 6264L; C.I. Continuation of Adult Clinical Nurse Specialist I. Management of acute and/or complex patients. Clinical Nurse Specialist competencies of collaboration, consultation, systems leadership, and research. May be used in the degree program a maximum of 2 times.

*Fall*

CON - Department of Nursing

**NGR 6783L. Adult CNS II Clinical**

2(0,2). PR: NGR 6782 and NGR 6782L; NGR 6263; NGR 6264L CR: NGR 6783. Continued development of the Clinical Nurse Specialist role. Emphasis on direct care, collaboration, consultation, systems leadership, and research. Graded S/U. May be used in the degree program a maximum of 2 times.

*Fall*

CON - Department of Nursing

**NGR 6791. Teaching Strategies for Nurse Educators**

3(3,0). PR: Admission to a graduate program in the College of Nursing or the graduate certificate in Nursing and Health Professional Education or C.I. Application of evidenced-based practice guidelines to the processes of teaching and learning. Analysis of external and internal influences affecting the educational process of health professionals. May be used in the degree program a maximum of 2 times.

*Fall*

CON - Department of Nursing

**NGR 6801. Research Methods**

3(3,0). PR: NGR 5800. Identify and critically appraise existing scientific evidence, and apply evidentiary findings to nursing practice, population or setting. May be used in the degree program a maximum of 2 times.

*Fall, Spring*

CON - Department of Nursing

**NGR 6813. Evidence Based Nursing Practice**

3(3,0). PR: NGR 5800 and NGR 6801; must be in last 12 hours of M.S. in Nursing program or in Doctor of Nursing Practice plan of study. Apply research, theory and other evidence to advanced practice nursing. Processes for implementation, evaluation and synthesis of evidence-based nursing practice are included. May be used in the degree program a maximum of 2 times.

*Fall, Spring, Summer*

CON - Department of Nursing

**NGR 6819. Client Health Empowerment**

3(3,0). PR: Enrollment in a graduate health program or C.I. Analysis of the research and application of interventions that promote empowerment in health care delivery for diverse populations. May be used in the degree program a maximum of 2 times.

*Occasional*



CON - Department of Nursing

**NGR 6874. Nursing Environment Management**  
3(3,0). PR: Admission to the M.S. in Nursing or Doctor of Nursing Practice track. In-depth analysis of the use of informatics, quality management, risk reduction and patient safety concepts and tools to promote improved patient outcomes for nursing care. May be used in the degree program a maximum of 2 times.

Spring

CON - Department of Nursing

**NGR 6886. Professional Ethics and Rational Decision Making in Medicine & Advanced Nursing**

3(3,0). PR: Graduate standing or C.I. An analysis of ethical theories that guide clinical, policy, and research decision-making in medicine and advanced nursing in a diverse society. May be used in the degree program a maximum of 2 times.

Summer

CON - Department of Nursing

**NGR 6941. Advanced Practice Practicum**

Variable, 1-7. PR: Admission to M.S. in Nursing, Doctor of Nursing Practice, Clinical Nurse Specialist or Nurse Practitioner certificate. Can be started concurrently with final clinical course in program of study. (Varies with plan of study.) Supervised advanced clinical practice in the role of nurse practitioner in an individualized preceptorship. Graded S/U. May be used in the degree program a maximum of 2 times.

Fall, Spring, Summer

CON - Department of Nursing

**NGR 6942C. Internship in Nursing Education**

4(1,3). PR: NGR 6351 or NGR 6627 or NGR 6249; and NGR 6945L. Application of principles of education through guided practice in classroom and clinical settings and assimilation of the nurse educator role. Graded S/U. May be used in the degree program a maximum of 2 times.

Fall, Spring, Summer

CON - Department of Nursing

**NGR 6945L. Clinical Specialty Practicum**

1(0,1). PR: NGR 5141 Pathophysiology; NGR 5003 & 5003L Advanced Health Assessment or C.I. Supervised clinical practice activities related to nursing care of common health problems of specific patient population. Graded S/U. May be used in the degree program a maximum of 2 times.

Fall, Spring

CON - Department of Nursing

**NGR 7065. Advanced Clinical Management for Advanced Practice Nursing**

3(3,0). CR: NGR 7748L. Advanced diagnostic reasoning and analysis of clients with complex health maintenance, health promotion and illness management specific to speciality. May be used in the degree program a maximum of 2 times.

Fall

CON - Department of Nursing

**NGR 7115. Philosophical and Theoretical Foundations of Nursing Science**

3(3,0). PR: Doctoral standing in College 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. May be used in the degree program a maximum of 2 times.

Fall

CON - Department of 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. May be used in the degree program a maximum of 2 times.

Spring

CON - Department of Nursing

**NGR 7163. Illness as a Social Construct**

3(3,0). PR: NGR 7818 or C.I. Focused examination of concepts, theories, and research related to physical expression of disease and its link to individual psychosocial responses, beliefs, relationships and social environment. May be used in the degree program a maximum of 2 times.

Occasional

CON - Department of Nursing

**NGR 7176. Advanced Pharmacology for Advanced Practice Nursing**

3(3,0). PR: Admission to DNP and National Certification for APN Specialty or C.I. Comprehensive understanding and application of pharmacotherapeutics for acute and complex patients throughout the life span. May be used in the degree program a maximum of 2 times.

Spring

CON - Department of Nursing

**NGR 7661. Healthcare for Vulnerable Populations**

3(3,0). PR: Doctoral standing in the College of Nursing or C.I. Health and healthcare issues of vulnerable populations and the influence of social, cultural, political and economic factors. May be used in the degree program a maximum of 2 times.

Fall

CON - Department of Nursing

**NGR 7673. Epidemiology Principles in Advanced Practice Nursing**

3(3,0). PR: Admission to Doctor of Nursing Practice program or C.I. Advanced application of epidemiological concepts in community and public health practice, including disease surveillance, prevalence, prevention and statistical management of patient aggregate data. May be used in the degree program a maximum of 2 times.

Fall

CON - Department of Nursing

**NGR 7748. Advanced Clinical Practice Selective for Advanced Practice Nursing**

3(1-3,0). PR: NGR 7176; CR: NGR 7065. Clinical management of clients with complex health maintenance, health promotion and illness management needs. Graded S/U. May be used in the degree program a maximum of 2 times.

Fall

CON - Department of Nursing

**NGR 7778L. Advanced Leadership Selective for DNP**

3(0,3). PR: Admission to the Doctor of Nursing Practice, Executive Doctor of Nursing Practice track or C.I. Application of evidence-based management processes to support decision making in the health care environment.

Graded S/U. May be used in the degree program a maximum of 2 times.

*Fall*

CON - Department of Nursing

**NGR 7779C. Program Development and Management for DNP**

3(1,2). PR: Admission to the Doctor of Nursing Practice, Executive Doctor of Nursing Practice track or C.I. Application of inquiry, critical thinking and strategic planning skills related to project planning, management, evaluation and dissemination. Graded S/U. May be used in the degree program a maximum of 2 times.

*Fall*

CON - Department of Nursing

**NGR 7793. Leadership and Economics in Advanced Practice Nursing**

3(3,0). PR: NGR 7891. Advanced analysis of change management, leadership theories/strategies, finance and resource management and the health care systems and economic structures in Advanced Practice Nursing.

*Summer*

CON - Department of Nursing

**NGR 7805. Doctoral Scholarship**

3(3,0). PR: Admission to the Ph.D. track or C.I. An introduction to doctoral scholarship in support of beginning a program of research. Includes responsible conduct of science and research ethics consideration. May be used in the degree program a maximum of 2 times.

*Fall, Spring, Summer*

CON - Department of Nursing

**NGR 7806. Doctoral Scholarship II**

3(3,0). PR: NGR 7805 or C.I. A continuation of Doctoral Scholarship with an emphasis on synthesizing the research and theoretical literature related to the students area of research. May be used in the degree program a maximum of 2 times.

*Summer*

CON - Department of Nursing

**NGR 7807. Research Approaches and Designs for Nursing and Healthcare**

3(3,0). PR: Doctoral standing in the College of Nursing or C.I. Quantitative and qualitative approaches to studying nursing and health related phenomena; ethical issues; internal and external validity; comparison of designs. May be used in the degree program a maximum of 2 times.

*Fall*

CON - Department of Nursing

**NGR 7808. Qualitative Methods in Nursing and Healthcare II**

3(3,0). PR: NGR 7815 Qualitative Methods I or equivalent or C.I. Application of qualitative methodologies for in-depth study of nursing and health-related phenomena; hands-on experience with data collection, analysis, and interpretation. May be used in the degree program a maximum of 2 times.

*Fall*

CON - Department of Nursing

**NGR 7815. Qualitative Methods in Nursing Research and Healthcare I**

3(3,0). PR: Doctoral standing in the College of Nursing or C.I. Knowledge of qualitative research designs

and methods for studying nursing and health-related phenomena. Course may be used in the degree program a maximum of 2 times.

*Fall*

CON - Department of Nursing

**NGR 7817. Quantitative Methods for Nursing and Healthcare I**

3(3,0). PR: NGR 7807 or C.I. Designing quantitative studies and related statistical analysis; maximizing statistical power; ethical issues related to nursing research. May be used in the degree program a maximum of 2 times.

*Fall*

CON - Department of Nursing

**NGR 7818. Quantitative Methods for Nursing and Healthcare II**

3(3,0). PR: NGR 7817 Quant Methods I or its equivalent or C.I. Advanced research designs; multivariate and biostatistical data analysis in nursing and health related research. May be used in the degree program a maximum of 2 times.

*Spring*

CON - Department of Nursing

**NGR 7820. Innovative Technologies in Healthcare**

3(3,0). PR: Doctoral standing in the College 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. May be used in the degree program a maximum of 2 times.

*Summer*

CON - Department of 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 psycho social research analysis of psychometric properties of instruments and methods appropriate to theoretical perspectives and scientific rigor. May be used in the degree program a maximum of 2 times.

*Fall*

CON - Department of Nursing

**NGR 7827. Concepts, Measurement, and Data Management**

3(3,0). PR: Admission to Doctor of Nursing Practice program, NGR 6813 or equivalent, C.I. Identification, analysis, and measurement of concepts; analysis and management of clinical data. May be used in the degree program a maximum of 2 times.

*Spring*

CON - Department of Nursing

**NGR 7855C. Evidence-Based Practice Development for DNP**

3(2,1). PR: Admission to the Doctor of Nursing Practice, Executive Doctor of Nursing Practice track or C.I. Critique and synthesis of evidence for practice related questions. Includes analysis of the context where evidence will be applied. May be used in the degree program a maximum of 2 times.

*Fall, Spring*

CON - Department of Nursing

**NGR 7892. Healthcare Systems and Policy**

3(3,0). PR: Doctoral standing in the College of Nursing or

C.I. Underpinnings of healthcare policy; healthcare policy formation and change agency; influences on healthcare systems; related analysis and research. May be used in the degree program a maximum of 2 times.

*Spring*

CON - Department of Nursing

**NGR 7911C. Doctoral Project I**

3(2,1). PR: Doctoral standing in the College of Nursing or C.I. Identification of a practice based problem, integration of existing evidence to propose a project to address the problem. May be used in the degree program a maximum of 2 times.

*Fall*

CON - Department of Nursing

**NGR 7912C. Doctoral Project 2**

3(1,2). PR: NGR 7911C Doctoral Project 1, Doctoral standing in the College of Nursing or C.I. Implementation of a DNP Committee approved practice based project to address a health care problem. May be used in the degree program a maximum of 2 times.

*Spring*

CON - Department of Nursing

**NGR 7913. Doctoral Project 3**

3(3,0). PR: NGR 7912C Doctoral Project 2, Doctoral standing in the College of Nursing or C.I. Completion of implementation, analysis of data, final paper approval and public presentation of DNP project. Graded S/U. May be used in the degree program a maximum of 2 times.

*Fall, Summer*

CON - Department of Nursing

**NGR 7916. Research Grants Process and Proposal Writing**

3(3,0). PR: Doctoral standing or C.I. Grants process include writing elements of research proposal for HHH R-series applications and strategies for successful proposal preparation. May be used in the degree program a maximum of 2 times.

*Occasional*

CON - Department of Nursing

**NGR 7948L. Doctor of Nursing Practice Residency**

VAR(VAR,VAR). PR: NGR 7065; NGR 7748L. Clinical management of clients with complex health maintenance, health promotion and illness management needs focusing on a continuum of care within health care systems or organizations. There is a 6 hour requirement. Graded S/U. May be used in the degree program a maximum of 2 times.

*Spring, Summer*

CON - Department of Nursing

**NGR 7974. Doctor of Nursing Practice Project**

3(3,0). PR: NGR 7176; NGR 7673, NGR 7115; NGR 7817; NGR 7123; NGR 7892; NGR 6874. Analyze health care needs, develop an evidence based intervention and evaluate outcomes for a specific population within an identified health care setting. Graded S/U. May be used in the degree program a maximum of 2 times.

*Even Spring, Odd Summer*

CON - Department of 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.

*Occasional*

OPT - Department of Optics

**OSE 5203. Geometrical Optics and Imaging Systems**

3(3,0). PR: Graduate standing or C.I. Fundamentals of Geometrical Optics, Geometrical Theory of Image Formation, Optical System Layout, Radiometry.

*Fall, Spring*

OPT - Department of Optics

**OSE 5312. Light Matter Interaction**

3(3,0). PR: Graduate standing or C.I. Microscopic theory of absorption, dispersion, and refraction of materials; classical and quantum mechanical description of optical properties.

*Fall, Spring*

OPT - Department of Optics

**OSE 5313. Materials for Optical Systems**

3(3,0). Graduate standing or C.I. Course will review key attributes of optical materials that allow them to be used in a range of applications, devices and components in optical systems.

*Occasional*

OPT - 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.

*Fall*

OPT - Department of 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.

*Occasional*

OPT - Department of Optics

**OSE 6111. 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.

*Fall, Spring*

OPT - Department of Optics

**OSE 6115. Interference and Diffraction**

3(3,0). PR: Graduate standing in Optics or C.I. Interference of light, optical interferometry, Fraunhofer and Fresnel scalar diffraction, diffraction gratings, temporal coherence, spatial coherence, and partial coherence.

*Fall, Spring*

OPT - Department of Optics

**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.

*Occasional*

OPT - Department of Optics

**OSE 6120. Theoretical Foundations of Optics**

3(3,0). PR: Graduate standing or C.I. Mathematical concepts used in Optics. Topics covered include linear

algebra, orthogonal expansions of functions, Fourier transforms, ordinary differential equations, and partial differential equations.

Fall

OPT - Department of Optics

**OSE 6125. Computational Photonics**

3(3,0). PR: Graduate standing, OSE 6111 and OSE 6432, or C.I. Computational methods for photonic guided wave structures, periodic structures, and integrated photonic structures and devices.

Spring

OPT - Department of Optics

**OSE 6143. Fiber Optics Communication**

3(3,0). PR: Graduate standing and OSE 6432 or C.I. Use of fiber optics as a communication channel. Principles of fiber optics. Mode theory, transmitters, modulators, sensors detectors and demodulators.

Occasional

OPT - Department of Optics

**OSE 6211. Fourier Optics**

3(3,0). PR: Graduate standing and OSE 6115 or OSE 5041 or C.I. Application of Fourier transform theory to optical systems design. Development of optical correlation techniques. Holographic techniques and applications.

Occasional

OPT - Department of Optics

**OSE 6225. Radiometry and Detection**

3(3,0). PR: Graduate standing and OSE 5203 or C.I. Radiometry, Planck radiators, spectrometers, photon-counting statistics, detector noise analysis, detector mechanisms.

Occasional

OPT - Department of Optics

**OSE 6234C. Applied Optics Laboratory**

3(1,3). PR: Graduate standing and OSE 5203 or C.I. Laboratory Techniques for observing optical phenomena and quantitative experimental study of geometrical optics, optical interferometry, diffraction, and image processing.

Spring

OPT - Department of Optics

**OSE 6265. Optical Systems Design**

3(3,0). PR: Graduate Standing and OSE 5203 or C.I. Design principles of lens and mirror optical systems; evaluation of designs using computer techniques.

Occasional

OPT - Department of Optics

**OSE 6314. Optics of Low Dimensional Semiconductors**

3(3,0). PR: Graduate standing and OSE 5312 or C.I. Optical properties and semiconductor physics of low-dimensional systems (quantum wells, wires, and dots), nano-photonic devices, and future nano-optical concepts.

Spring

OPT - Department of Optics

**OSE 6315. Liquid Crystal Materials and Devices**

3(3,0). PR: Graduate standing or C.I. Basic liquid crystal materials and their physical, optical, and electro-optic properties; photonic devices for amplitude and phase modulations.

Occasional

OPT - Department of Optics

**OSE 6319. Optical Waves and Materials**

3(3,0). PR: Graduate standing or C.I. Reviews Optics and material properties important for propagation and control of light. This is a review course in preparation for the Ph.D. Qualifying Exam.

Occasional

OPT - Department of Optics

**OSE 6330. Stimulated and Holographic Scattering**

3(3,0). PR: Graduate standing or C.I. The study of those processes in Nonlinear Optics, which are characterized by propagation of light in the media with the size considerably larger than the wavelength.

Occasional

OPT - Department of Optics

**OSE 6334C. Nonlinear Optics**

3(2.5,0.5). PR: Graduate standing and OSE 6111 or C.I. Maxwell's equations in nonlinear media, frequency conversion techniques (SHG, SFG, OPO), stimulated scattering, phase conjugation, wave-guided optics, nonlinear crystals.

Spring

OPT - Department of Optics

**OSE 6335. Nonlinear Guided Wave Optics**

3(3,0). PR: Graduate standing and OSE 6334C or C.I. The physics and applications of nonlinear optical interactions in fibers and planar waveguides is discussed, including parametric processes, all-optical effects and solutions.

Even Fall

OPT - Department of Optics

**OSE 6347. Quantum Optics**

3(3,0). PR: Graduate standing and OSE 5312 or C.I. Semiclassical treatment of light/matter interactions (quantized atomic states plus Maxwell's equations). Density matrix theory, coherent optical transients, pulse propagation.

Even Spring

OPT - Department of Optics

**OSE 6349. Applied Quantum Mechanics for Optics and Engineering**

3(3,0). PR: Graduate standing or C.I. Presents the elements of quantum mechanics that are essential for understanding many areas in modern optics and photonics.

Fall

OPT - Department of Optics

**OSE 6421. Integrated Optics**

3(3,0). PR: Graduate standing or C.I. The propagation and loss characteristics in dielectric optical waveguides, fundamental concepts of both integrated and fiber optic devices, and numerical modeling of complex integrated optical components.

Spring

OPT - Department of Optics

**OSE 6432. Guided Waves and Optoelectronics**

3(3,0). PR: Graduate standing and OSE 6111 or OSE 5041 or C.I. Principles of guided wave optics, electro-optics, acousto-optics and optoelectronics.

Spring, Summer

OPT - Department of Optics

**OSE 6445. High Speed Photonics**

3(3,0). PR: Graduate standing or C.I. Generation,



transmission, detection, and manipulation of high speed optical signals.

Fall

OPT - Department of Optics

**OSE 6455C. Photonics Laboratory**

3(1,3). PR: Graduate standing and OSE 6432 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.

Fall

OPT - Department of Optics

**OSE 6457. Photonic Signal Processing**

3(3,0). PR: Graduate standing and EEL 3470 or PHY 4324 or OSE 5041 or OSE 6111 or C.I. Design, building and testing of photonic information processing systems using fiber-optics bulk polarization optics, acousto-optics, liquid crystals, micromirrors, and integrated optics.

Occasional

OPT - Department of Optics

**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.

Occasional

OPT - Department of Optics

**OSE 6474. Optical Communications Systems**

3(3,0). GS; OSE 5414. Introduces key principles and analysis of optical communication systems. Emphasis on developing the ability to analyze and design digital, analog fiber-based systems and networks.

Spring

OPT - Department of Optics

**OSE 6525. Laser Engineering**

3(3,0). PR: Graduate standing and OSE 5041 or C.I. Principles of laser amplification and oscillations; design of lasers; general characteristics of excitation systems.

Spring

OPT - Department of Optics

**OSE 6526C. Laser Engineering Laboratory**

3(1,3). PR: Graduate standing and OSE 6525 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.

Summer

OPT - Department of Optics

**OSE 6536. Semiconductor Lasers**

3(3,0). PR: Graduate standing and OSE 5312 or OSE 6525 or OSE 5414 or C.I. Light-matter interaction, thermal physics and solid state physics to understand, analyze, and engineer semiconductor lasers with different active region dimensionalities.

Occasional

OPT - Department of Optics

**OSE 6615L. Optoelectronic Device Fabrication Laboratory**

3(0,6). 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-optic modulators.

Fall

OPT - Department of Optics

**OSE 6650. Optical Properties of Nanostructured Materials**

3(3,0). PR: Graduate standing OSE 6111, OSE 5312, or C.I. Theory and application of nanostructured optical materials: Effective medium theory, nanostructured surfaces, plasmon waveguides, nanophotonic circuits, metallic near-field lenses, collective modes in nanoparticle arrays, metamaterials.

Spring

OPT - Department of Optics

**OSE 6820. Flat Panel Displays**

3(3,0). PR: Graduate standing or C.I. Liquid crystal display, projection display, micro display, plasma display, light emitting diodes, organic light emitting display, and field emission display.

Occasional

OPT - Department of Optics

**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 nanometer scales.

Occasional

OPT - Department of Optics

**OSE 7919. Research**

VAR. . Graded S/U. May be repeated for credit.

Fall, Spring, Summer

OPT - Department of Optics

**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.

Occasional

HPA - Department of Public Administration

**PAD 5145. Volunteerism in Nonprofit Management**

3(3,0). PR: Admission to Master of Nonprofit Management degree, Nonprofit certificate or C.I. Volunteer development in nonprofit organizations, including board selection, development and leadership, volunteer recruitment, training, retention and theories of motivation, leadership, ethical issues.

Fall, Spring

HPA - Department of Public Administration

**PAD 5146. Nonprofit Resource Development**

3(3,0). PR: Admission to master of Nonprofit Management degree, Nonprofit Certificate or C.I. Examines human resource development and financial resource development in nonprofit organizations including management issues.

Fall, Spring

HPA - Department of Public Administration

**PAD 5336. Introduction to Urban Planning**

3(3,0). . Issues of urbanization, regional development, land use and comprehensive planning, environmental planning, and social planning.



Fall  
HPA - Department of Public Administration

**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.

Fall  
HPA - Department of Public Administration

**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.

Spring  
HPA - Department of Public Administration

**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.

Spring  
HPA - Department of Public Administration

**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.

Occasional  
HPA - Department of Public Administration

**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.

Occasional  
HPA - Department of Public Administration

**PAD 5807. Local Government Operations**

3(3,0). . Operational Functions of municipal and county governments and the role of the chief executive officer.

Occasional  
HPA - Department of Public Administration

**PAD 5850. Grant and Contract Management**

3(3,0). PR: Admission to the Master of Nonprofit Management degree, Nonprofit certificate 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.

Fall, Spring  
HPA - Department of Public Administration

**PAD 5855. Introduction to Public Procurement**

3(3,0). C.I. Acquisition of knowledge and skills relating to the public procurement process.

Occasional  
HPA - Department of Public Administration

**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.

Fall, Spring, Summer

HPA - Department of Public Administration

**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.

Fall, Spring  
HPA - Department of Public Administration

**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.

Fall, Spring, Summer  
HPA - Department of Public Administration

**PAD 6062. Advanced Concepts and Applications in Public Administration**

3(3,0). PR: PAD 6035, PAD 6037, PAD 6053, PAD 6227, PAD 6417 and PAD 6701 or C.I. An integrative course applying the skills, knowledge, and values considered in the program to selected public problems.

Fall, Spring  
HPA - Department of Public Administration

**PAD 6142. Nonprofit Organizations**

3(3,0). PR: Admission to the Master of Nonprofit Management Degree, Nonprofit Certificate or C.I. Synthesis of best practices and research literature in nonprofit organization management. Instruction method is simulation where students act as nonprofit organization Board Members developing policies and procedures.

Fall, Spring  
HPA - Department of Public Administration

**PAD 6149. Nonprofit Administration**

3(3,0). PR: Admissions to the Master in Nonprofit Management degree, Nonprofit Certificate 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.

Fall, Spring  
HPA - Department of Public Administration

**PAD 6167. Graduate Nonprofit Leadership Seminar**

3(3,0). PR: Admission to Master of Nonprofit Management or Nonprofit certificate program and C.I. Discussion and activity-based course exploring nonprofit competencies to prepare students for management and leadership positions in human services.

Odd Fall  
HPA - Department of Public Administration

**PAD 6207. Public Financial Management**

3(3,0). PR: PAD 6227 and PAD 6700, or C.I. Survey of financial management functions in local government, such as accounting, fund structures, debt and case management, and financial reporting.

Fall, Spring  
HPA - Department of Public Administration

**PAD 6208. Nonprofit Financial Management**

3(3,0). PR: Admission to the Master in Nonprofit Management, Nonprofit Certificate 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.

*Fall, Spring*

*HPA - Department of Public Administration*

**PAD 6227. Public Budgeting**

3(3,0). PR: PAD 6700 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.

*Fall, Spring*

*HPA - Department of Public Administration*

**PAD 6235. Fundraising as a Profession**

3(3,0). PR: Admission to Nonprofit Management degree or certificate program or Fundraising certificate program. Examines principles involved in fundraising profession including current trends and best practices utilized by professional fundraisers. Topics include donor research, psychology of giving and volunteer involvement.

*Spring*

*HPA - Department of Public Administration*

**PAD 6236. Philanthropy, Fundraising and Social Entrepreneurship**

3(3,0). PR: Admission to Nonprofit Management degree or certificate program or Fundraising certificate. History of philanthropy, principles of fundraising, role of professional fundraiser and emerging strategy of social entrepreneurship.

*Occasional*

*HPA - Department of Public Administration*

**PAD 6237. Ethics and Governance in Philanthropy**

3(3,0). PR: Admission to Nonprofit Management degree or certificate program or Fundraising certificate program. Fundamental issues and current smart practices of nonprofit organization governance in a contest of ethical and accountable decision making. Includes board and leadership development and role of volunteers.

*Fall*

*HPA - Department of Public Administration*

**PAD 6254. Economics of Land Use Planning and Development**

3(3,0). Admission to Master of Science in Urban and Regional Planning program or C.I. Links basic growth and economic theory with applied challenges resulting from planning and development. Provides understanding of economic consequences of private market decisions on land use and development.

*Occasional*

*HPA - Department of 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.

*Occasional*

*HPA - Department of Public Administration*

**PAD 6316. Planning Methods**

3(3,0). PR: Admission to the Urban and Regional Planning

M.S. program or C.I. Encompasses two fundamental types of analyses in planning - population and economic analysis for localities and regions. Content covers data collection, analytical methods and techniques of report presentation for population and economic analysis.

*Odd Fall*

*HPA - Department of Public Administration*

**PAD 6327. Public Program Evaluation Techniques**

3(3,0). PR: Admission to Nonprofit Management degree or certificate or Criminal Justice Certificate or C.I. Techniques and skills utilized in the evaluation of public programs.

*Fall, Spring*

*HPA - Department of Public Administration*

**PAD 6335. Strategic Planning and Management**

3(3,0). PR: PAD 6700 or C.I. An examination and analysis of planning, goal setting, and strategic management in public sector organizations.

*Fall, Spring*

*HPA - Department of Public Administration*

**PAD 6339. Housing Development and 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.

*Occasional*

*HPA - Department of Public Administration*

**PAD 6353. Environmental Planning and Policy**

3(3,0). Admission to M.S. in Urban and Regional Planning, Urban and Regional Planning certificate or Emergency Management and Homeland certificate. Underlying concepts, approaches and critical issues in the field of environmental planning and management. Environmental planning processes will be examined from various political/ geographical scales and within a policy content.

*Spring*

*HPA - Department of Public Administration*

**PAD 6355. Growth Management Approaches and Techniques**

3(3,0). PR: Graduate standing or C.I. Regional and metropolitan planning course that focuses on how growth management works in communities.

*Occasional*

*HPA - Department of 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.

*Occasional*

*HPA - Department of Public Administration*

**PAD 6397. Managing Emergencies and Crises**

3(3,0). PR: Graduate standing or C.I. Analyzes and integrates the basic crisis management steps: hazard mitigation, disaster preparedness, disaster response, and recovery --building analytical and practical skills necessary to perform effectively in homeland security/emergency management-related positions.

*Occasional*

*HPA - Department of Public Administration*

**PAD 6399. Foundations of Emergency Management and Homeland Security**

3(3,0). PR: Graduate standing or C.I. Analyzes the policy and organizational design issues confronting managers of emergency management and homeland security programs by: examining the natural and manmade threats; by analysis of the network of actors - national, state, local, and private; and by assessing the policy, plans, and procedures at governmental and community levels.

*Occasional*

*HPA - Department of Public Administration*

**PAD 6417. Human Resource Management**

3(3,0). Admission to any graduate program offered in Public Administration or Criminal Justice certificates, or C.I. Administrator as manager and motivator of public employees with particular emphasis on organizational behavior and contemporary public service legislation.

*HPA - Department of Public Administration*

**PAD 6700. Research Methods in Public Administration**

3(3,0). PR: Admission to Master of Public Administration program or C.I. Statistical methodology and use of computers as a tool for decision making in the public sector.

*Fall, Spring*

*HPA - Department of Public Administration*

**PAD 6701. Analytical Techniques for Public Administration**

3(3,0). PR: PAD 6700 or C.I. Applied analytical tools for administrators in the public sector. Practical use of computers in policy and decision making.

*Fall, Spring*

*HPA - Department of Public Administration*

**PAD 6716. Information Systems for Public Managers and Planners**

3(3,0). PR: C.I. Use of systems concept, software and computers in contemporary public sector management and planning information systems.

*Spring*

*HPA - Department of Public Administration*

**PAD 6741. Research Integrity for Research Administrators**

3(3,0). PR: Admission to Master of Research Administration program. This course provides an overview of research integrity from the perspective of those in the field of research administration.

*Summer*

*HPA - Department of Public Administration*

**PAD 6742. Introduction to Research Administration**

3(3,0). PR: Admission to Master of Research Administration program or C.I. Overview of research administration including history, roles and relationships, partnership, purpose and core value of research and research organizational types.

*Occasional*

*HPA - Department of Public Administration*

**PAD 6743. Leadership and Organization Models in Research Administration**

3(3,0). PR: Admission to Master of Research Administration program or C.I. General management concepts in preparation for leadership roles in Research Administration, the tools of managerial decision-making and team building, and acquaints students with theories and principles of research and development organizations.

*Occasional*

*HPA - Department of Public Administration*

**PAD 6744. Financial Management in Research Administration**

3(3,0). PR: Admission to Master of Research Administration program or C.I. Overview of financial management in research administration to establish an understanding of the complex financial management and reporting environment.

*Occasional*

*HPA - Department of Public Administration*

**PAD 6745. Contracting for Sponsored Programs**

3(3,0). PR: Admission to Master of Research Administration program or C.I. Overview of the contracting mechanisms that are relevant to sponsored program management, including federal regulations; policy-, business- and risk-based decisions impacting sponsored program contracting.

*Occasional*

*HPA - Department of Public Administration*

**PAD 6746. Intellectual Property, Technology Transfer and Commercialization**

3(3,0). PR: Admission to Master of Research Administration program or C.I. Role of research administration in technology transfer and commercialization of new innovations, including intellectual property relating to copyright, patents and trademarks.

*Occasional*

*HPA - Department of Public Administration*

**PAD 6747. Audits in Research Administration**

3(3,0). PR: Admission to Master of Research Administration program or C.I. Overview of financial and non-financial audit process for research contracts and grants. Includes audit process, types of audits and do's and don'ts when an organization is audited.

*Occasional*

*HPA - Department of Public Administration*

**PAD 6748. Governance and Regulatory Issues for Sponsored Programs**

3(3,0). PR: Admission to Master of Research Administration program or C.I. Provides an overview of the governing and regulatory structure for which research organizations must comply and operate to administer and manage research projects and programs.

*Fall*

*HPA - Department of Public Administration*

**PAD 6825. Cross-Sectoral Governance**

3(3,0). PR: Graduate Standing or C.I. Examines the structures, dynamics and processes associated with developing and delivering public services through networks and partnerships involving public, nonprofit, voluntary and private sectors.

*Occasional*

*HPA - Department of Public Administration*

**PAD 6836. 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.

*Occasional*

HPA - Department of Public Administration

**PAD 6847. Planning Healthy Communities**

3(3,0). PR: Admission to the Urban and Regional Planning M.S. program or C.I. Addresses impact of community design on health and provision of health care to the population. Includes land use patterns, transportation, water/air quality, sanitation, mental health, provision of health care services and social capital in maintaining health.

*Even Spring*

HPA - Department of 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 only when course content is different.

*Occasional*

HPA - Department of Public Administration

**PAD 6946. Internship**

3(3,0). PR: Admission to Master of Public Administration and C.I. Graded either S/U or Letter. May be repeated for credit.

*Occasional*

HPA - Department of Public Administration

**PAD 7026. Advanced Seminar in Public Administration**

3(3,0). PR: Admission to Public Affairs Ph.D. program or C.I. Discuss emerging issues in public administration research using current journal articles and exemplary research in areas such as public management.

*Occasional*

HPA - Department of Public Administration

**PAD 7057. Advanced Public Management**

3(3,0). PR: Admission to Public Affairs Ph.D. program. Examines the literature and practice in public organization management focusing on empirical findings and theoretical discussion in critical areas of public management and administration.

*Even Spring*

HPA - Department of Public Administration

**PAD 7317. Program Design and Management**

3(3,0). PR: Admission to Public Affairs Ph.D. program or C.I. Analysis of community-based advanced organizational design and development theories and management techniques utilized in designing and developing public and nonprofit programs.

*Even Summer*

HPA - Department of Public Administration

**PAD 7707. Advanced Research in Public Administration**

3(3,0). PR: Admission to Public Affairs Ph.D. program or C.I. Integration of knowledge and research skills gained through the doctoral program with integrative application to the most current issues in the field of public administration.

*Odd Spring*

HPA - Department of Public Administration

**PAD 7827. Collaborative Public Management**

3(3,0). PR: Admission to Public Affairs Ph.D. program or C.I. Analysis of theory, skills and processes of designing, developing, evaluating and managing networks in a public management setting with emphasis on building capacity

across organization and sectoral boundaries.

*Odd Fall*

HPA - Department of Public Administration

**PAF 7000. Foundations of Public Affairs: People, Places, Policies and Paradigms**

3(3,0). PR: Admission to Public Affairs Ph.D. Program or C.I. Provides an overview of public affairs and is taught from an interdisciplinary perspective focused on the necessary components to effectively address community-based problems.

*Fall*

HPA - Public Affairs Ph.D.

**PAF 7055. Seminar in State and Local Government Policy Research**

3(3,0). PR: Admission to Public Affairs Ph.D. program or C.I. State and local governments explored from a comparative perspective. Focusing upon similarities and differences between states with implications for state and local policy.

*Even Spring*

HPA - College-HPA

**PAF 7110. Ethics and Social Justice in Public Affairs**

3(3,0). PR: Admission to PhD Program or C.I. Basic philosophical principles of theories as they impact practitioner-level ethical demands for managers; the examination of public policy institutions shaping social justice in U.S.

*Summer*

HPA - College-HPA

**PAF 7230. Strategic Change and Management for Public Affairs**

3(3,0). PR: Admission to Public Affairs Ph.D. program or C.I. Course deals with change in: organizations, governance relationships and communities. The course uses a "tools" approach.

*Spring*

HPA - Public Affairs Ph.D.

**PAF 7300. Policy Analysis in Public Affairs**

3(3,0). PR: Admission to PhD Program or C.I. Public policy development and impact analysis in criminal justice, health administration, public administration, and social work.

*Spring*

HPA - College-HPA

**PAF 7315. Public Policy: Microeconomic Applications**

3(3,0). PR: Admission to Public Affairs Ph.D. program or C.I. This is a public policy course that uses microeconomics as a tool for analysis.

*Spring*

HPA - College-HPA

**PAF 7317. Social Inquiry and Public Policy**

3(3,0). Admission to Public Affairs Ph.D. or C.I. Course examines the philosophical foundations of social inquiry and the importance of theory in public policy and evaluation research.

*Fall*

HPA - Public Affairs Ph.D.

**PAF 7325. Policy and Program Evaluation for Public Affairs**

3(3,0). Admission to Public Affairs Ph.D. or C.I. Course is designed to use empirical information to assess the



effectiveness of policies and programs in public and nonprofit settings.

*Fall*

HPA - Public Affairs Ph.D.

**PAF 7510. Seminar in Policy Evaluation and Performance Measurement**

3(3,0). PR: Admission to Public Affairs Ph.D. Program or C.I. Applies quantitative methods to policy evaluation and performance measurement, particularly related to national and global policy changes for human development and growth.

*Odd Fall*

HPA - College-HPA

**PAF 7750. Pedagogy in Public Affairs**

3(3,0). PR: Admission to PhD Public Affairs. Identifies and examines recurrent and salient issues in Public Affairs pedagogy, and how these have affected pedagogy for the discipline.

*Even Spring*

HPA - College-HPA

**PAF 7757. Seminar in Global Governance and Policy Research**

3(3,0). PR: Admission to Public Affairs Ph.D. program or C.I. Comparative analysis in Public Affairs from global perspective examining and comparing U.S. Public Affairs and International Global areas.

*Occasional*

HPA - Public Affairs

**PAF 7802. Advanced Research Methodology for Public Affairs**

3(3,0). Admission to Public Affairs Ph.D. program or C.I. Course focuses on the nature and process of scientific inquiries including specific methods for conducting social science research in a community setting.

*Fall*

HPA - Public Affairs Ph.D.

**PAF 7804. Advanced Statistics for Public Affairs I: Multivariate Analysis**

3(3,0). Admission to Public Affairs Ph.D. Program or C.I. An advanced statistical course that efficiently and effectively perform multivariate modeling and analyze multivariate statistical data to address critical issues in public affairs.

*Spring*

HPA - Public Affairs Ph.D.

**PAF 7805. Advanced Statistics for Public Affairs II: Survey of Statistical Methods**

3(3,0). Admission to Public Affairs Ph.D. program and PAF 7804 or C.I. Introduction to an array of statistical modeling techniques for different types of data and research designs. Coverage of theory and application of each technique.

*Fall*

HPA - Public Affairs Ph.D.

**PAF 7806. Advanced Research Methods in Public Affairs II**

3(3,0). PR: PAF 7802. Advanced critical evaluation of research methods that concentrate on key concepts and procedures. A variety of methodologies will be used with a focus on the strengths and weaknesses of various research strategies.

HPA - College-HPA

**PAF 7810. Seminar in Survey Research in Public Affairs**

3(3,0). PR: Admission to PhD Program or C.I. In-depth analysis of research survey methods and their application. Focus on interviews and questionnaires.

*Even Fall*

HPA - College-HPA

**PAF 7820. Qualitative Methods for Public Affairs**

3(3,0). Admission to Public Affairs Ph.D. program and PAF 7802 or C.I. Course is an overview of qualitative research methods and their application in interdisciplinary and mixed methods community-based public affairs research.

*Fall*

HPA - Public Affairs Ph.D.

**PAF 7855. Seminar in Policy Informatics**

3(3,0). PR: Admission to Public Affairs Ph.D. program or C.I. Decision theory and diagnostic test evaluation fundamentals applied to informatics and public affairs, including formal metrics (e.g., sensitivity and specificity) essential for decision support.

*Occasional*

HPA - Public Affairs

**PAF 7856. Applications of Structural Equation Modeling in Public Affairs**

3(3,0). Admission to Public Affairs Ph.D. program or C.I. Course introduces advanced methods that include causal thinking, predictor tree analysis, propensity source matching and analysis, latent growth curve modeling and multilevel modeling.

*Spring*

HPA - Public Affairs Ph.D.

**PAF 7858. Advanced Seminar in Governance and Policy Research**

3(3,0). PR: PAF 7000, PAF 7300, PAF 7806 or C.I. Integrates theoretical and methodological applications to public policy analysis, particularly related to environmental, science and technological, health and welfare impacts.

*Odd Spring*

HPA - Public Affairs

**PAF 7868. Advanced Statistics for Public Affairs III: Continued Survey of Statistical Methods**

3(3,0). Admission to Public Affairs Ph.D. or C.I. An advanced statistical course that develops expertise in performing geographic information analysis, research syntheses, meta-analyses and economic analysis such as cost effectiveness analysis.

*Spring*

HPA - Public Affairs Ph.D.

**PAF 7925. Symposium on Public Affairs Issues**

3(3,0). PR: Admission to Public Affairs program or C.I. Issues and trends impacting the four subject areas in the U.S. Public Affairs along with the inter-disciplinary characteristics of the respective cognate areas will be explored.

HPA - Public Affairs

**PAF 7947. Practicum in Community-Based Research**

3(3,0). Admission to Public Affairs Ph.D. or C.I. This course provides students an experiential engagement working with interdisciplinary teams and community partners to conduct and report on a community-engaged research study.

*Spring*



HPA - Public Affairs Ph.D.

**PAF 7981. Dissertation Prospectus Seminar in Public Affairs**

3(3,0). Admission to Public Affairs Ph.D. program and C.I. Train and guide students as they begin the dissertation prospectus process. Includes planning the study, conducting the literature review, developing the research questions and choosing theories and methods.

HPA - Public Affairs Ph.D.

**PAZ 5235. Zoo and Aquarium Biology Management**

3(3,0). PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. Conservation, propagation and exhibition of wild animals in captivity.

Summer

COS - Department of Biology

**PCB 5025. Molecular and Cellular Pharmacology**

3(3,0). PR: Graduate standing, PCB 3522. The cellular and molecular events that lead to disease states and the molecular basis of agents that modulate these processes will be covered.

Spring

COM - Department of Molecular and Microbiology

**PCB 5045. Conservation Biology**

4(4,0). PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. Scientific basis of conservation; conservation of ecosystems, populations, exploited species, and endangered species.

Fall

COS - Department of Biology

**PCB 5235. Molecular Immunology**

3(3,0). PR: PCB 3522 or equivalent. Fundamental functions of the human immune system, focusing on cellular and molecular aspects of the innate and adaptive immune response.

Spring

COM - Department of Molecular and Microbiology

**PCB 5236. Cancer Biology**

3(3,0). PR: PCB 4524 and graduate standing. Current knowledge and research on molecular mechanism of tumor development, tumor progression, metastasis and therapy of cancer.

Occasional

COM - Department of Molecular and Microbiology

**PCB 5238. Immunobiology**

3(3,0). PR: PCB 3233, PCB 4280. Advanced topics in immune system dysregulation with special emphasis on innate immunity.

Spring

COM - Department of Molecular and Microbiology

**PCB 5265. Stem Cell Biology**

3(3,0). PR: Graduate standing. Introduction to embryonic and adult stem cells, procedures to isolate them, principles and applications of stem cells in animal and human diseases.

Occasional

COM - Department of Molecular and Microbiology

**PCB 5275. Signal Transduction Mechanics**

3(3,0). PR: PCB 3522 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.

Occasional

COM - Department of Molecular and Microbiology

**PCB 5326C. Ecosystems of Florida**

5(3,2). Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. Ecosystems of Florida will be discussed to include geography, geology, climate, energetics, nutrient cycling, community structure and conservation.

Occasional

COS - Department of Biology

**PCB 5435C. Marine Ecology of Florida**

4(2,6). PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, 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.

Odd Spring

COS - Department of Biology

**PCB 5447. Disease Ecology & Ecoimmunology**

3(3,0). A grade of B (3.0) or better in Genetics (PCB 3063 or equivalent) and Ecology (PCB 3044 or equivalent), or C.I., or graduate standing. Examination of how hosts, parasites and environment interact to shape organisms, populations and communities.

COS - Department of Biology

**PCB 5485. Models in Ecology**

3(3,0). PCB 3044, MAC 2311C (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.

Occasional

COS - Department of Biology

**PCB 5527. Genetic Engineering and Biotechnology**

3(3,0). PR: PCB 3522 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.

Fall

COM - Department of Molecular and Microbiology

**PCB 5596. Biomedical Informatics: Sequence Analysis**

3(3,0). PR: PCB 3522 or equivalent or C.I. Introduction of useful bioinformatics tools and resources on sequence analysis.

Fall

COM - Department of Molecular and Microbiology

**PCB 5665C. Human Genetics**

4(3,2). PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. Human Genetics provides a theoretical framework for understanding the biology of the human species.

Occasional

COS - Department of Biology

**PCB 5687. Evolutionary Ecology**

3(3,0). PR: PCB 4683 or equivalent and C.I. Evolution of life history traits (e.g., propagule size/number, age/size at maturity, survivorship and senescence) examined using a quantitative genetic framework.

*Even Fall*

*COS - Department of Biology*

**PCB 5709C. Laboratory Virtual Simulations in Physiology**

3(1,2). CR: PCB 5834C Advanced Human Physiology. Conduct experiments in physiology that enhance the ability to design, collect, analyze data and report results in a scientific manner.

*Occasional*

*COM - Department of Molecular and Microbiology*

**PCB 5807. Comparative Endocrinology**

3(3,0). PR: PCB 3023 and PCB 3044 or equivalent and C.I. Hormonal regulation of animal behavior and physiological responses to the environment.

*Even Fall*

*COS - Department of Biology*

**PCB 5815. Molecular Aspects of Obesity, Diabetes & Metabolism**

3(3,0). PR: PCB 3522 or BCH 4053 or BSC 6432. Biochemical, molecular and physiological aspects of obesity, diabetes and metabolic diseases and how scientific findings can be translated towards prevention and treatment.

*Odd Spring*

*COM - Department of Molecular and Microbiology*

**PCB 5834C. Advanced Human Physiology**

4(3,2). PR: Graduate standing or C.I. Designed to provide graduate students advanced knowledge of physiological processes at the cellular, molecular and system levels.

*Fall*

*COM - Department of Molecular and Microbiology*

**PCB 5837. Cellular and Molecular Neuroscience**

3(3,0). Graduate standing. An advanced and thorough course providing understanding of the cellular components and molecular signaling pathways involved in the nervous system function.

*Spring*

*COM - Department of Molecular and Microbiology*

**PCB 5838. Cellular and Molecular Basis of Brain Functions**

3(3,0). PR: Graduate Standing or C.I. Designed to provide graduate students the concepts required to understand the physiological basis of brain functions at the molecular, cellular and system levels.

*Fall*

*COM - Department of Molecular and Microbiology*

**PCB 5935. Population Genetics**

3(3,0). PR: Admission to the M.S. Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. Population genetics and the study of the various forces that result in evolutionary changes through time.

*Even Spring*

*COS - Department of Biology*

**PCB 6035C. Wetland Ecology**

4(3,3). PR: Admission to the M.S. in Biology, Ph.D. in

Conservation Biology, or Certificate in Conservation Biology, or C.I. Advanced study of ecological structure, function, and diversity of wetlands. Lectures, discussions, and field-based labs, including management, laws, and restoration.

*Occasional*

*COS - Department of Biology*

**PCB 6040. Methods of Data Collection and Analysis in Behavioral Ecology**

1(1,0). PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. Discussion of methodology and data analysis in behavioral ecology. The methods and analyses discussed each semester vary depending on thesis topics and literature reviewed. Graded S/U. May be used in the degree program a maximum of 4 times.

*Even Fall*

*COS - Department of Biology*

**PCB 6042. Conservation Biology Theory**

4(4,0). Graduate standing in Biology or C.I. Review and analysis of the literature of conservation biology.

*COS - Department of Biology*

**PCB 6046. Advanced Ecology**

3(3,0). PR: Graduate standing in Biology, admission to Certificate in Conservation Biology, or C.I. Population and community ecology with emphasis on growth, regulation, species interactions, succession, and community classification.

*Occasional*

*COS - Department of Biology*

**PCB 6047. Advances in Plant Ecological Research**

1(1,0). PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. Current methodological and conceptual developments in plant ecological research. Examination of newly published and on-going research through presentations and group discussions. Graded S/U. May be used in the degree program a maximum of 2 times.

*Occasional*

*COS - Department of Biology*

**PCB 6053C. Restoration Ecology**

4(2,4). PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. Survey of the general ecological principles that guide restoration ecology: the process of assisting the recovery of degraded, damaged or destroyed ecosystems.

*Occasional*

*COS - Department of Biology*

**PCB 6095. Professional Development in Biology I**

1(1,0). PR: Admission to the M.S. in Biology or Certificate in Conservation Biology, or C.I. Methods in experimental design, research, and the ethics of animal research. Graded S/U.

*Occasional*

*COS - Department of Biology*

**PCB 6096. Professional Development in Biology II**

1(1,0). PR: Admission to the M.S. in Biology or Certificate in Conservation Biology, or C.I. Preparation and presentation of research grants, scientific presentations, and scientific papers. Graded S/U.

*Occasional*

*COS - Department of Biology*

**PCB 6107C. Advanced Cell Biology**

4(3,2). PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, 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.

*Occasional*

*COS - Department of Biology*

**PCB 6108. Concepts in Plant Cell Biology**

4(4,0). PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. Survey of current topics in plant cell biology, including cytoskeletal dynamics, cell signaling, cell cycle regulation, protein targeting and organelle structure and function.

*Occasional*

*COS - Department of Biology*

**PCB 6124. Structure Bioinformatics**

3(3,0). PR: PCB 5596 or equivalent. Focus on tools and resources in RNA and protein structure analyses.

*Occasional*

*COM - Department of Molecular and Microbiology*

**PCB 6256C. Advanced Developmental Biology**

4(3,2). PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. Lecture and literature review of emerging areas in plant and animal developmental biology.

*Occasional*

*COS - Department of Biology*

**PCB 6328C. Landscape Ecology**

4(3,2). PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, 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.

*Occasional*

*COS - Department of Biology*

**PCB 6365. Environmental Physiology**

3(3,0). PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. The effects of major environmental factors on the physiology of plants and animals.

*Occasional*

*COS - Department of Biology*

**PCB 6415. Advanced Topics in Behavioral Ecology**

1(1,0). PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, and C.I. Discussion of the most recent literature (research) in behavioral ecology. Graded S/U. May be repeated for credit.

*Occasional*

*COS - Department of Biology*

**PCB 6466. Methods in Experimental Ecology**

3(3,0). PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. An introduction to methods of population ecology. Experimental design, statistics, experimental

variables and treatments and measurements of organisms and the environment.

*Occasional*

*COS - Department of Biology*

**PCB 6480C. Quantitative Conservation Biology**

4(3,2). PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. Current methods of data analysis and modeling to evaluate biological population dynamics. May be used in the degree program a maximum of 2 times.

*Occasional*

*COS - Department of Biology*

**PCB 6528. Plant Molecular Biology**

3(3,0). 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.

*Occasional*

*COM - Department of Molecular and Microbiology*

**PCB 6556. Conservation Genetics**

3(3,0). PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. Applications of genetic models to the understanding and conservation of animal and plant populations.

*Occasional*

*COS - Department of Biology*

**PCB 6585C. Advanced Genetics**

4(3,2). PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. Recent advances in genetics, stressing molecular and developmental trends.

*Occasional*

*COS - Department of Biology*

**PCB 6595. Regulation of Gene Expression**

3(3,0). PR: Advanced course in molecular biology of BSC 6407C. Concepts of molecular biology focusing on major areas in transcriptional and translational processes.

*Occasional*

*COM - Department of Molecular and 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 used in the degree program a maximum of 3 times.

*Fall, Spring*

*COS - Department of Biology*

**PCB 6675C. Evolutionary Biology**

4(3,2). PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. Review of modern concepts and theories in evolutionary biology with emphasis on readings in the primary literature.

*Occasional*

*COS - Department of Biology*

**PCB 6677. Molecular Evolution & Phylogenetics**

3(3,0). PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. Advanced understanding of evolution at the molecular level based on phylogenetic analysis of

changes in DNA, RNA and protein.

*Occasional*

*COS - Department of Biology*

**PCB 6727. Comparative Animal Physiology**

3(3,0). PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. Comparison of structural and functional adaptations of animal organ systems. Emphasis upon maximization of fitness under given environmental conditions.

*Occasional*

*COS - Department of 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.

*Occasional*

*COS - Department of Biology*

**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.

*Occasional*

*COS - Department of Biology*

**PCB 6935. Advanced Topics in Cardiovascular Science**

2(2,0). PR: Graduate standing. Cutting-edge research in cardiovascular science is presented with emphasis on molecular mechanisms of cardiac development, vascular inflammation, oxidative stress, and neural regulation of the cardiovascular system. Graded S/U.

*Occasional*

*COM - Department of Molecular and Microbiology*

**PCB 6936. Current Research in Marine Vertebrate Ecology**

1(1,0). PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, and C.I. Current research in the area of marine vertebrate ecology: readings, presentations and discussions. Graded S/U. May be used in the degree program a maximum of 5 times.

*Occasional*

*COS - Department of Biology*

**PCB 6939. Topics in Genomics**

1(1,0). PCB 3063. Review current literature in Genomics, one of the fastest growing fields in Biology. Graded S/U.

*Occasional*

*COS - Department of 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.

*Occasional*

*COS - Department of Biology*

**PCB 7049C. Conservation Biology Practice**

4(2,4). PR: Acceptance into the Conservation Biology Ph.D. program. Case studies and evaluation of local and regional

conservation issues from a biological perspective.

*Spring*

*COS - Department of Biology*

**PCB 7052. Seminar in Conservation Biology**

1(1,0). PR: Admission to the Ph.D. in Conservation Biology or C.I. Discussions and presentations addressing the history and development of the field of Conservation Biology and its relevance to modern society. Graded S/U. May be used in the degree program a maximum of 3 times.

*Occasional*

*COS - Department of Biology*

**PCB 7090. Advanced Research Communication I**

1(1,0). PR: Admission to the Ph.D. in Conservation Biology or C.I. Philosophy and history of science, scientific ethics, scientific design, and presentation of scientific findings as related to conservation biology. Graded S/U.

*Occasional*

*COS - Department of Biology*

**PCB 7091. Advanced Research Communications II**

1(1,0). PR: Admission to the Ph.D. in Conservation Biology or C.I. Advanced skills for critically evaluating science to prepare and present research grants in the biological sciences. Graded S/U.

*Occasional*

*COS - Department of Biology*

**PEM 5408C. Controlling Classroom Violence**

3(2,1). Graduate standing; certified teacher. A hands-on course dealing with controlling disruption and violence as well as how teachers can protect themselves.

*Occasional*

*ED - Department of Child, Family and Community Sciences*

**PEO 5645C. Coaching Football**

3(2,1). C.I. Advanced principles and methods common to the coaching of football. Includes teaching and training methods, organization, motivation and strategies.

*Occasional*

*ED - Department of Child, Family and Community Sciences*

**PET 5216. Motivational Aspects of Coaching**

3(3,0). PR: Graduate standing or C.I. Assist students to understand and conceptually integrate mental and physical performance, mental rehearsal, motivation, effort, persistence, adherence and compliance, measurement and evaluation, and other related topics of interest.

*Even Summer*

*ED - Department of Educational and Human Sciences*

**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.

*Occasional*

*ED - Department of Educational and Human Sciences*

**PET 5495. Critical Issues: Ethics in Coaching and Sport**

3(3,0). PR: Graduate standing or C.I. Specializes in coaching and sport leadership in self-evaluating, examining, and developing philosophy, values, and moral reasoning skills.



*Even Summer*

*ED - Department of Educational and Human Sciences*

**PET 5766. Advanced Coaching Theory**

3(3,0). PR: C.I. Advanced study of theories and methods of coaching for optimum sports performance.

*Occasional*

*ED - Department of Educational and Human Sciences*

**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.

*Occasional*

*ED - Department of Educational and Human Sciences*

**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 - Department of Child, Family and Community Sciences*

**PET 6086. Exercise As Preventive Medicine**

3(3,0). PET 6388. Prevention of select major risk hazards through exercise intervention.

*Occasional*

*ED - Department of Child, Family and Community Sciences*

**PET 6096. Wellness Development in Children**

3(3,0). . An analysis of wellness characteristics and concepts as they affect the wellness of children.

*Occasional*

*ED - Department of Educational and Human Sciences*

**PET 6135. Historical Aspects of Sport and Physical Education**

3(3,0). PR: Graduate standing. This course examines the development of sport and physical education from historic to modern times. The focus will be on US sport development following 1865.

*Odd Spring*

*ED - Department of Educational and Human Sciences*

**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, effort, and persistence.

*Occasional*

*ED - Department of Educational and Human Sciences*

**PET 6252. Race and Gender in Coaching and Sport Leadership**

3(3,0). PR: Graduate standing or C.I. Combines the content from two major areas of study in sport leadership to prepare students to work in multicultural and diverse settings.

*Odd Fall*

*ED - Department of Educational and Human Sciences*

**PET 6335. 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.

*Occasional*

*ED - Department of Educational and Human Sciences*

**PET 6347. Advanced Coaching Methods**

3(3,0). PR: Graduate standing. Stimulate philosophic thinking and foster a spirit of confidence in the coaching profession by showing coaches various methods they can use to teach their athletes.

*Odd Spring*

*ED - Department of Educational and Human Sciences*

**PET 6357C. Environmental Perturbation and Human Performance**

3(3,2). . A study of physiological adaptation resulting from prescribed physical activity programs.

*Occasional*

*ED - Department of Educational and Human Sciences*

**PET 6363. Dietary and Nutritional Supplementation for Athletic Performance**

3(3,0). PR: Graduate standing or C.I. An in-depth study of the efficacy of dietary and nutritional supplements used to enhance athletic performance and improve activities of daily living.

*Even Spring*

*ED - Department of Educational and Human Sciences*

**PET 6366. Exercise, Nutrition and Weight Control**

3(3,0). PR: Graduate standing or C.I. Explores the interrelationship between nutrition, energy metabolism and exercise performance.

*Occasional*

*ED - Department of Educational and Human Sciences*

**PET 6367. Bioenergetics of Human Movement and Performance**

3(3,0). APK 4110C (or equivalent). Analysis of substrate metabolism at rest, during acute exercise and following exercise training.

*Occasional*

*ED - Department of Child, Family and Community Sciences*

**PET 6376. Sport Nutrition**

3(3,0). PR: Admission to the program or C.I. Study of the proper nutrition for training, the role of macro and micronutrients on the physiological processes of the body, and the importance of nutrient timing.

*Even Fall*

*ED - Department of Educational and Human Sciences*

**PET 6381. Physiology of Neuromuscular Mechanisms**

3(3,0). . Human body morphology and function critical in producing motion, strength, power, and endurance.

*Occasional*

*ED - Department of Educational and Human Sciences*

**PET 6388. Cardiovascular Physiology**

3(3,0). PR: Anatomy and Physiology or equivalent. Operation of the cardiovascular system in vivo.

*Occasional*

*ED - Department of Educational and Human Sciences*

**PET 6389. Physiological Aspects of Sport and Training**

3(3,0). PR: Admission to program or C.I. An in-depth study of adaptations of various physiological systems to exercise training and the effects of environmental factors



on physiological systems and performance.

*Even Fall*

*ED - Department of Educational and Human Sciences*

**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.

*Occasional*

*ED - Department of Educational and Human Sciences*

**PET 6395. Program Design in Strength and Conditioning**

3(3,0). PR: Admission to the program or C.I. An in-depth study of various types of training, including insights on developing athletes' strength, power, anaerobic conditioning, endurance, agility, and speed.

*Odd Spring*

*ED - Department of Educational and Human Sciences*

**PET 6515. Assessment and Evaluation in Sport and Exercise Science**

3(3,0). Admission to the program or C.I. Techniques of assessment and evaluation of human performance and their applications to health, sport, and exercise science.

*ED - Department of Child, Family and Community Sciences*

**PET 6521. 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 - Department of Child, Family and Community Sciences*

**PET 6645. Advanced Studies in Adapted Physical Education**

3(3,1). EEX 5050. Survey course that addresses the development, educational, and socialization needs of exceptional children. A minimum of 15 observation hours are required.

*ED - Department of Child, Family and Community Sciences*

**PET 6646. Methods and Curriculum in Adapted Physical Education**

4(3,1). PET 6645, PET 6655. Individualized educational and developmental programming for exceptional children. Presents models of service delivery and instruction. Practicum required.

*ED - Department of Child, Family and Community Sciences*

**PET 6647. Program Development in Adapted Physical Education**

3(3,1). C.I. Development of appropriate physical education programs for exceptional children. Course includes teacher-consultant, collaboration, in-service training, legislative issues, resource utilization.

*ED - Department of Child, Family and Community Sciences*

**PET 6655. Developmental Aspects of Motor Disabilities**

3(3,1). C.I. Addresses developmental aspects of motor and health disabilities. A developmental focus is presented. Observation required.

*ED - Department of Child, Family and Community Sciences*

**PET 6690. Exercise Prescription for Special Populations**

3(3,0). PR: Admission to the program or C.I. Designed to provide the student the basic understanding of

exercise testing and prescription as it pertains to special populations.

*Odd Fall*

*ED - Department of Educational and Human Sciences*

**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 - Department of Educational and Human Sciences*

**PET 6946. Practicum, Clinical Practice**

3-6(3-6,0). . Field experience in a sport and exercise science organization, association or business. May be repeated for credit.

*Fall, Spring, Summer*

*ED - Department of Educational and Human Sciences*

**PET 7365. Cardiovascular Dynamics During Exercise**

3(3,0). 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.

*Occasional*

*ED - Department of Child, Family and Community Sciences*

**PET 7368. Regulation of Metabolism During Exercise**

3(3,0). Doctoral standing or C.I. An examination of the metabolic regulatory mechanism responsible for the adjustment to acute and chronic exercise.

*Occasional*

*ED - Department of Child, Family and Community Sciences*

**PET 7387. Exercise Endocrinology**

3(3,0). PR: Admission to the program or C.I. An in-depth study of the neuroendocrine system and the hormonal responses to exercise.

*Occasional*

*ED - Department of Educational and Human Sciences*

**PET 7535. Research & Experimental Design in Exercise Physiology**

3(3,0). Doctoral standing or C.I. An examination of different experimental designs and application to exercise physiology research.

*Occasional*

*ED - Department of Child, Family and Community Sciences*

**PGY 5108C. Advanced Techniques and Concepts in Photography**

3(2,4). PR: PGY 2401C, PGY 3410C and PGY 4420C, or admission into MFA graduate program. Advanced techniques and concepts in photography, introducing historic and contemporary photographic works. May be used in the degree program a maximum of 3 times.

*Occasional*

*CAH - School of Visual Arts and Design*

**PHC 6000. Epidemiology**

3(3,0). PR: Admission to the Health Services Administration graduate program or C.I. A study of the distribution and determination of diseases and injuries in human populations.

*Summer*

*HPA - Department of Health Management and Informatics*

**PHC 6003. Epidemiology of Chronic Diseases**

3(3,0). PR: Admission to Health Sciences MS Clinical and Lifestyle Sciences track or C.I. Selected topics in chronic disease with critical analysis of the current epidemiologic literature is covered; opportunity to study methodological issues, contemporary findings and future direction of research.

*HPA - Department of Health Professions*

**PHC 6010. Quantitative Methods in Epidemiology**

3(3,0). PR: Admission to MS Health Sciences graduate program and PHC 6000. Principles of managerial epidemiology, quantitative methods, application of prostatics, use of personal computers to handle data and solve problems.

*Occasional*

*HPA - Department of Health Professions*

**PHC 6020. Introduction to Clinical Trials**

3(3,0). PR: Admission to Health Sciences MS Clinical and Lifestyle Sciences track or C.I. An overview of clinical trials theory and design characteristics provides the background necessary to conduct single center and multi-center studies.

*Spring*

*HPA - Department of Health Professions*

**PHC 6146. Health Planning and Policy**

3(3,0). PR: Admission to Health Services Administration graduate program or C.I. 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.

*Fall*

*HPA - Department of Health Management and Informatics*

**PHC 6160. Health Care Finance**

3(3,0). PR: HSA 5177 or passing score on finance assessment exam. The identification of resources available to health care institutions, allocation of resources, and control of resource expenditures.

*Fall*

*HPA - Department of 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.

*Occasional*

*HPA - Department of Health Professions*

**PHC 6411. Health and Society**

3(3,0). . Understanding health and illness as defined by patients, providers, and other persons in the social system.

*Occasional*

*HPA - Department of Health Professions*

**PHC 6420. Case Studies in Health Law**

3(3,0). PR: Admission to the Health Services Administration graduate program or C.I. Health law including patient care, liability, malpractice, workmen's compensation, and legal responsibilities of health personnel.

*Spring*

*HPA - Department of Health Management and Informatics*

**PHC 6706. Introduction to Clinical Research**

3(3,0). PR: Admission to Health Sciences MS Clinical and Lifestyle Sciences track or C.I. This course offers an introductory overview to clinical research. Course content focuses on key concepts beginning with an overview of the conception of research question.

*Spring*

*HPA - Department of Health Professions*

**PHI 5225. Philosophy of Language**

3(3,0). PR: Admission to graduate certificate in Cognitive Sciences or C.I. Philosophy of the nature of language and relationships between language, reality, cognition, and culture.

*Occasional*

*CAH - Department of Philosophy*

**PHI 5325. Topics in Philosophy of Mind**

3(3,0). PR: Admission into graduate certificate program in Cognitive Sciences or C.I. Contemporary issues in philosophy of mind, including explanatory gap, and the problem of other minds.

*Occasional*

*CAH - Department of Philosophy*

**PHI 5327. Topics in the Cognitive Sciences**

3(3,0). PR: Admission to graduate certificate program in Cognitive Sciences or C.I. Theoretical issues and empirical studies in the cognitive sciences, including contemporary discussions of mind, brain, artificial intelligence, pathologies, behavioral capacities.

*Fall*

*CAH - Department of Philosophy*

**PHI 5328. Philosophies of Embodiment**

3(3,0). PR: Admission to graduate certificate in Cognitive Sciences or C.I. Relations among mind, body, and nature. Knowledge of self, world and others as articulated by Western philosophy, with special emphasis on embodied cognition.

*Occasional*

*CAH - Department of Philosophy*

**PHI 5329. Philosophy of Neuroscience**

3(3,0). PR: Admission to graduate certificate in Cognitive Sciences or C.I. Neurophilosophy, including discussion of promises and limitations of neuroscience for understanding of the mind.

*Occasional*

*CAH - Department of Philosophy*

**PHI 5340. Research Methods in the Cognitive Sciences**

3(3,0). PR: Admission to graduate certificate program in Cognitive Sciences or C.I. Interdisciplinary research methods in the cognitive sciences.

*Spring*

*CAH - Department of Philosophy*

**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 C.I. A seminar in theoretical and applied ethics with emphasis on application in professional fields. Variable content.

*Fall*

*CAH - Department of Philosophy*

**PHI 5634. Medical Ethics**

3(3,0). PR: Graduate standing or C.I. Ethics for practitioners

of clinical medicine, health care delivery and medical research.

*Fall*

CAH - Department of 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.

*Occasional*

CAH - Department of Philosophy

**PHI 5687. Ethics in Science and Technology**

3(3,0). Graduate standing or C.I. The relationship between ethics and the pursuit and application of human knowledge, emphasizing the responsibility of scientists to society.

*Occasional*

CAH - Department of 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.

*Occasional*

CAH - Department of Philosophy

**PHT 5003. Foundations of Physical Therapy I**

2(2,0). PR: Admission to the Physical Therapy program. Introduction to the profession of physical therapy.

*Summer*

HPA - Department of 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.

*Summer*

HPA - Department of 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.

*Summer*

HPA - Department of Health Professions

**PHT 5125L. Clinical Kinesiology Lab**

2(0,4). CR: PHT 5125. Graduate level study of human musculoskeletal movement with an emphasis on joint mechanics and clinical applications.

*Summer*

HPA - Department of Health Professions

**PHT 5218. Theories and Procedures I**

2(2,0). 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.

*Spring*

HPA - Department of Health Professions

**PHT 5218L. Theories and Procedures I lab**

1(0,2). CR: Theories and Procedures I. Lab course on the clinical applications of heat, light, cold, water, sound, and massage.

*Spring*

HPA - Department of Health Professions

**PHT 5240. Physical Assessment**

1(1,0). PR: Physical Assessment Lab. Extensive theory and practice in the examination of the patient. Incorporate a systems approach, utilizing screening, and patient problem solving.

*Fall*

HPA - Department of 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.

*Fall*

HPA - Department of Health Professions

**PHT 5241. Therapeutic Exercises I**

2(2,0). CR: Therapeutic Exercises I Lab. Theory of developing, implementing, and evaluating a therapeutic exercise program for patients with musculoskeletal dysfunction.

*Spring*

HPA - Department of 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.

*Spring*

HPA - Department of 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.

*Fall*

HPA - Department of Health Professions

**PHT 5260L. Patient Care Skills Lab**

1(0,2). CR: Patient Care Skills. Skills of patient care, transfers, mobility skills.

*Fall*

HPA - Department of 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.

*Summer*

HPA - Department of 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.

*Summer*

HPA - Department of Health Professions

**PHT 6070C. Radiology/Imaging for Physical Therapy**  
3(3,1). PR: Admission to DPT program. A diagnostic imaging course focusing on clinical implications in rehabilitation. The focus will be on patients with neurological and orthopedic disorders.

*Fall*

HPA - Department of Health Professions

**PHT 6115C. Gross Anatomy/Neuroscience I**  
6(3,6). PR: Admission to DPT program. Study of human anatomy via lecture and cadaver dissection emphasizing upper and lower extremity, musculoskeletal, peripheral vascular and peripheral nervous systems, thoracic and abdominopelvic cavities.

*Summer*

HPA - Department of Health Professions

**PHT 6118C. Gross Anatomy/Neuroscience II**  
6(3,6). PR: Gross Anatomy/Neuroscience I. Comprehensive study of anatomy and physiology of the nervous system to develop DPT students' improved treatment strategies for patients with neurological problems.

*Fall*

HPA - Department of Health Professions

**PHT 6156C. Applied Human Physiology for Health Sciences**  
5(3,2). PR: Admission to the Doctor of Physical Therapy program. Course provides in-depth study of human cardiovascular, hemopoietic, respiratory, gastrointestinal, renal and reproductive systems with emphasis on mechanisms responsible for maintaining homeostasis.

*Fall*

HPA - Department of 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.

*Summer*

HPA - Department of 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.

*Summer*

HPA - Department of 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.

*Fall*

HPA - Department of 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.

*Fall*

HPA - Department of 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.

*Fall*

HPA - Department of 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.

*Fall*

HPA - Department of Health Professions

**PHT 6306. Pathology/Pharmacology**  
4(4,0). PR: Admission to DPT program. Organized seminars on the pathophysiology and clinical manifestations and treatments of various medical conditions as they relate to medical management in physical therapy practice.

*Spring*

HPA - Department of Health Professions

**PHT 6322C. Pediatric Physical Therapy**  
3(2,2). PR: Admission to DPT program. Study of the normal neurodevelopmental sequences for pediatric clinical assessment and physical therapy intervention provided to clients with abnormal diseases and dysfunction.

*Fall*

HPA - Department of Health Professions

**PHT 6374C. Gerontology in Physical Therapy Practice**  
2(2,1). PR: Admission to the Doctor of Physical Therapy program. This course provides an introduction to physiological aging, the health status, and physical therapy management of the older adult. The course will focus on the normal aging process and its impact on the delivery of physical therapy to this population.

*Spring*

HPA - Department of Health Professions

**PHT 6381C. Cardiopulmonary Physical Therapy**  
2(2,1). PR: Admission to DPT program. Examinations and interventions for the management of chronic and acute cardiopulmonary problems. Teaching patient strategies for preventing/managing dysfunction.

*Fall*

HPA - Department of Health Professions

**PHT 6521. Management of Physical Therapy Services**  
3(3,0). PR: Admission to DPT 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.

*Spring*

HPA - Department of Health Professions

**PHT 6606. Research Methods in Physical Therapy**  
2(2,0). PR: Admission to DPT program. Methods of research applied to clinical environment of physical therapy. Coverage of the language, logic, design and analysis of clinical research.

*Spring*

HPA - Department of Health Professions

**PHT 6618. Research Applications in Physical Therapy**  
2(2,0). PR: Research methods in Physical Therapy - PHT 6606. To evaluate research studies, focus on evidence-based practice. SPSS and principles of epidemiology will be introduced.

*Fall*

*HPA - Department of 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.

*Spring*

*HPA - Department of Health Professions*

**PHT 6717C. Functional Rehabilitation**

2(2,1). PR: Admission to DPT program. Physical therapy assessment and intervention with spinal cord injury clients which include wheelchair, home and business evaluation and modifications. Include prosthetics and orthotics.

*Occasional*

*HPA - Department of Health Professions*

**PHT 6719. Advanced Neurological Physical Therapy**

2(2,0). PR: PHT 5718; CR PHT 6719L. Examinations and interventions for the evaluation and treatment of the neurological patient. Emphasis on patients with spinal cord injury and neurological diseases.

*Fall*

*HPA - Department of Health Professions*

**PHT 6719L. Advanced Neurological Physical Therapy Lab**

1(0,2). PR: PHT 5718L; CR PHT 6719. 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.

*Fall*

*HPA - Department of Health Professions*

**PHT 6720. Wound Care and Professional Issues**

1(1,0). PR: Admission to Physical Therapy program. Instruction in specialized care provided by physical therapists and in professional issues relevant to the contemporary practice.

*Spring*

*HPA - Department of Health Professions*

**PHT 6805C. Clinical Education I**

3(1,15). PR: Admission to DPT program. Collaborative course where students meet to analyze, synthesize and discuss current professional, ethical and moral decision-making in physical therapy setting, culminating in a six-week clinical internship. Graded S/U.

*Fall*

*HPA - Department of Health Professions*

**PHT 7134C. Physical Therapy Integration II**

2(2,1). PR: PHT 7722C - Physical Therapy Integration I. This course focuses on examinations and interventions for the evaluation and treatment of the spine. Various theoretical models explored. Case studies are used for integration of clinical information.

*Spring*

*HPA - Department of Health Professions*

**PHT 7329C. Advanced Pediatric Physical Therapy**

1(1,1). PR: Admission to DPT program. Course provides an advanced look into abnormal motor development, neurological and orthopedic diseases/conditions, interventions, examinations and other aspects of the patient/client management model for the pediatric population.

*Fall*

*HPA - Department of Health Professions*

**PHT 7521C. Management of Physical Therapy Services II**

2(2,1). PR: PHT 6521. Application of management, finance and economic health-related principles for strategy development, implementation and assessment for the physical therapy manager.

*Fall*

*HPA - Department of Health Professions*

**PHT 7702C. Advanced Orthotics and Prosthetics**

2(1,1). PR: PHT 6245, PHT 6245L. Advanced considerations for the amputee patient with regards to rehabilitation. Students will review the primary focal issues surrounding rehabilitation after an amputation and how prosthetics may assist with functional return.

*Spring*

*HPA - Department of Health Professions*

**PHT 7721C. Advanced Orthopedic Physical Therapy II**

1(1,1). PR: PHT 6716C. Designed to correlate all previous coursework in curriculum in study presentations. Advanced evaluation procedures included. Advanced knowledge of differential diagnosis in the orthopedic patient covered.

*Fall*

*HPA - Department of Health Professions*

**PHT 7722C. Physical Therapy Integration I**

2(2,1). PR: Admission to DPT program. This course emphasizes the differential diagnostic skills required of a physical therapist when deciding if physical therapy care is appropriate.

*Fall*

*HPA - Department of Health Professions*

**PHT 7730C. Primary Care for the Physical Therapist**

2(1,2). PR: Admission to DPT program. Students learn higher level diagnostic screening skills to make clinical decisions. The course takes a system approach including system review, clinical signs and symptoms and case studies.

*Fall*

*HPA - Department of Health Professions*

**PHT 7742C. Acute Care Physical Therapy**

2(1,1). PR: PHT 6306, PHT 7730C. Considerations and evidence-based evaluation, treatment, and management of patients in various settings within acute care.

*Spring*

*HPA - Department of Health Professions*

**PHT 7764C. Advanced Neurological Treatment**

2(1,1). PR: PHT 6719, PHT 6719L, PHT 7772C. This course can provide third year students with the opportunity to further explore evidence-based neurological intervention.

*Spring*

*HPA - Department of Health Professions*



**PHT 7772C. Advanced Neurological Physical Therapy II**  
1(1,1). PR: PHT 6719 and PHT 6719L. Problem-based learning provides a team based interdisciplinary problem-solving environment where students devise solutions and approaches to problems encountered by physical therapists treating patients with neurological problems.

*Fall*

HPA - Department of Health Professions

**PHT 7778C. Advanced Manual Therapy**  
2(1,1). PR: PHT 6716C, PHT 7721C. Concepts associated with advanced manipulative interventions in the context of physical therapy care. Indications and contra-indications will be reviewed and applied in a clinical context.

*Spring*

HPA - Department of Health Professions

**PHT 7779C. Sports Physical Therapy**  
2(1,1). PR: Admission to the Doctor of Physical Therapy program. Considerations and evidence-based evaluation, treatment, and management of patients with sport-related injuries.

*Spring*

HPA - Department of Health Professions

**PHT 7780C. Advanced Gerontology in Physical Therapy**  
1(1,1). PR: PHT 6374C. In depth discussion of physical therapist's role with elderly population. Includes examination, evaluation and development of intervention programs focusing on exercise, prevention, education and modification programs.

*Fall*

HPA - Department of Health Professions

**PHT 7822C. Advanced Clinical Education I**  
6(1,40). PR: Admission to the Doctor of Physical Therapy program. Collaborative course for third year students to meet, analyze, synthesize and discuss current ethical, legal, and moral decision-making in physical therapy clinical setting culminating in internship. Graded S/U.

*Summer*

HPA - Department of Health Professions

**PHT 7823C. Advanced Clinical Education II**  
4(1,20). PR: PHT 7822C. Clinical education course to synthesize ethical, legal, and professional contemporary practice with evidence-based intervention, culminating in a full-time, 8-week clinical internship in physical therapy practice setting. Graded S/U.

*Fall*

HPA - Department of Health Professions

**PHT 7829C. Advanced Clinical Education III**  
4(1,20). PR: PHT 7823C. Clinical education course to synthesize ethical, legal, and professional contemporary practice with evidence-based intervention, culminating in a full-time, terminal 8-week clinical internship in physical therapy practice setting prior to graduation. Graded S/U.

*Spring*

HPA - Department of Health Professions

**PHT 7900. Capstone Project in Physical Therapy**  
3(3,0). PR: Admission to DPT program. Directed research culminating in a substantive paper related to the art or science of Physical Therapy.

*Spring*

HPA - Department of Health Professions

**PHY 5015C. Physics for Teachers II**  
3(2,2). Graduate status or senior standing or C.I. "Hands-on" lecture-laboratory course. Dynamics, electricity, magnetism, optics, nuclear radiation.

*Occasional*

COS - Department of Physics

PHY 5140C. Ion-Solid Interactions

**3(3,2). 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.**

COS - Department of Physics

**PHY 5255. Physics of Fluids and Biofluids**

3(3,0). PR: PHY 3513, PHY 3323, and MAP 2302 or C.I. Ideal Fluids; Basic equation of fluid flow; Viscous flow, instability and turbulence; Thermal and mass transfers in fluids, biofluid mechanics of blood circulation.

*Even Spring*

COS - Department of 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.

*Fall*

COS - Department of 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.

*Occasional*

COS - Department of Physics

**PHY 5524. Statistical Physics**

3(3,0). PR: PHY 3513, 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.

*Spring*

COS - Department of 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.

*Fall*

COS - Department of Physics

**PHY 5650. Introduction to Quantum Computation**

3(3,0). PR: C.I. Theoretical fundamentals and physical implementations of quantum computation for science and engineering students.

*Occasional*

COS - Department of Physics

**PHY 5704. Physics of Nanoelectronics Devices**

3(3,0). PR: Graduate standing or C.I. Fabrication techniques of nanoscale electronic devices and understanding of their

charge transport properties.

*Odd Fall*

COS - Department of Physics

**PHY 5705. Physics of Graphene and Carbon Nanotubes**

1(1,0). PR: PHZ 4404 or equivalent, or C.I. Advanced topics in carbon nanotubes and graphene sheets by presentation and discussion of current literature.

*Odd Fall*

COS - Department of Physics

**PHY 5715. Physical Basis of Life**

3(3,0). PR: Graduate standing or C.I. Molecular and physical principles of origin of life, physical and chemical interpretation of life processes.

*Fall*

COS - Department of Physics

**PHY 5817L. Building Physics Apparatus**

1(0,3). PR: Graduate standing or senior standing and C.I. Hands-on shop course. Focus will be machine shop practice with possible extension to printed circuit boards and glass work.

COS - Department of 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.

*Fall*

COS - Department of 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.

*Occasional*

COS - Department of 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.

*Occasional*

COS - Department of Physics

**PHY 6347. Electrodynamics II**

3(3,0). PR: PHY 5346 or C.I. Dynamics of charged particles in electromagnetic fields. Antennas; radiation by moving charges; magnetohydrodynamics; multipole radiation and electrodynamics of materials.

*Odd Spring*

COS - Department of Physics

**PHY 6353. Accelerator Physics**

3(3,0). PHY 6347. Dynamics of charged particles in 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.

COS - Department of Physics

**PHY 6355. Physics of Free Electrons**

3(3,0). 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.

COS - Department of Physics

**PHY 6600C. Theory and Computations of Molecular Wavefunctions**

3(2,2). PR: Undergraduate Quantum Mechanics or Physical Chemistry or C.I. Approximate method of solving electronic Schrodinger equation for molecular systems: Hartree-Fock and semiempirical methods, basis sets, multireference wavefunction theory methods, potential surfaces, and electronic transitions.

*Even Fall*

COS - Department of 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.

*Spring*

COS - Department of Physics

**PHY 6667. Quantum Field Theory I**

3(3,0). PR: PHY 6347 and PHY 6624 or C.I. Second quantization and fields, relativistic equations, path integral quantization, gauge fields.

COS - Department of Physics

**PHY 6673. Advanced Quantum Mechanics**

3(3,0). PR: PHY 6624. Fields, radiation, Klein-Gordon equation, Dirac equation, relativistic quantum scattering, photon propagator.

COS - Department of Physics

**PHY 6939. Physics Research Seminar**

1(1,0). PR: Graduate standing or C.I. Modern experimental and theoretical research methods and current topics will be presented by local and invited researchers in physics. Graded S/U. May be used in the degree program a maximum of 3 times.

*Fall, Spring*

COS - Department of Physics

**PHY 7423. Physics of Nanostructures**

3(3,0). PR: PHY 6624 or C.I. Electronic properties of mesoscopic nanostructures, conductance as transmission, s-matrix and Green's functions, localization, universal conductance fluctuations, single electron tunneling, chaos, nonequilibrium transport.

*Occasional*

COS - Department of Physics

**PHY 7669. Quantum Field Theory II**

3(3,0). PR: PHY 6667 or C.I. Regularization, renormalization, spontaneous symmetry breaking, unification, topological objects, supersymmetry.

COS - Department of Physics

**PHZ 5045. Attosecond Laser Physics**

3(3,0). PR: PHY 5606, PHY 5346 or PHY 4324, or C.I. Technique for generating attosecond optical pulses using both semi-classical models and quantum mechanics theories. Illustrative examples of attosecond applications.

*Odd Spring*

*COS - Department of 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.

*Fall*

*COS - Department of Physics*

**PHZ 5304. Nuclear and Particle Physics**

3(3,0). PHY 4604 or equivalent, and graduate status or senior standing or C.I. Particles and nuclei, symmetries and conservation laws, interactions, models.

*Occasional*

*COS - Department of 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.

*Occasional*

*COS - Department of 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.

*Occasional*

*COS - Department of Physics*

**PHZ 5432. Introduction to Soft Condensed Matter Physics**

3(3,0). PR: PHY 3513 or C.I. Introduction to the physics of polymers, colloids, surfactants using basic tools of statistical mechanics.

*Occasional*

*COS - Department of Physics*

**PHZ 5437. Nanoscale Surface Physics**

3(3,0). PR: Undergraduate Quantum Mechanics at the level of PHY 4604 or C.I. Overview of physical and chemical properties of nanoscale surfaces.

*COS - Department of Physics*

**PHZ 5445. Nanofabrication using Focused Ion Beam**

3(3,0). PR: Graduate standing or C.I. Basic theory of ion-solid interaction; fundamental principle of focused ion beam instrument and its applications in nanofabrication; other ion beam techniques.

*Odd Spring*

*COS - Department of 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.

*Occasional*

*COS - Department of Physics*

**PHZ 5625. General Relativity**

3(3,0). Graduate standing or C.I. Introduction to Einstein's theory of gravitation.

*Odd Spring*

*COS - Department of Physics*

**PHZ 6234. Atomic Physics**

3(3,0). PR: PHY 6624 or OSE 6347. Brief review of spectroscopy, photoionization, inner shell processes, Auger effect, atom-atom collisions, electron-atom collisions, spin polarization.

*COS - Department of Physics*

**PHZ 6420. First Principles Computational Methods in Condensed Matter Physics**

3(3,0). PR: PHY 5606 Quantum Mechanics I. Introduction to density functional theory and first principles computational methods used in modern condensed matter physics with hand-on sessions using computers.

*Occasional*

*COS - Department of Physics*

**PHZ 6426. 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 dynamics.

*Occasional*

*COS - Department of Physics*

**PHZ 6428. Condensed Matter Physics II**

3(3,0). PR: PHZ 6426. Many-body theory: Green's functions, Feynman diagrams, screening in the electron gas, linear response theory, magnetism, conductivity, electron-phonon interactions, superconductivity, superfluids.

*Occasional*

*COS - Department of Physics*

**PHZ 6446. Selected topics in Physics of Semiconductors and Devices**

3(3,0). PR: PHZ 6426 or C.I. Theory of semiconductor physics and devices.

*Odd Fall*

*COS - Department of Physics*

**PLA 5587. Current Issues in Cyberlaw**

3(3,0). PR: Graduate standing or C.I. Advanced examination and discussion of free speech, copyright, trademark, patent and privacy issues in the online environment through interactive class discussions, online discussions, postings, case study reviews, and legal research projects.

*Occasional*

*HPA - Department of Legal Studies*

**PLA 6486. Administrative Law**

3(3,0). PR: Graduate standing or C.I. The study of administrative law and procedure on the federal, state and local levels.

*Spring*

*HPA - Department of Legal Studies*

**PLA 6487. Legal and Ethical Compliance**

3(3,0). PR: Admission to Master of Research Administration program or C.I. Critical compliance issues and the importance of responsible conduct of research including export control, conflict of interest, protection of animal/human subjects and research misconduct.

*Occasional*

*HPA - Department of Legal Studies*

**PLA 6488. Legal and Regulatory Framework**

3(3,0). PR: Admission to Master of Research

Administration program or C.I. Outline the various requirements governing research (OMB Circulars, Federal Acquisition Regulations and other federal state and local regulations).

*Occasional*

*HPA - Department of Legal Studies*

**POS 6045. Seminar in American National Politics**

3(3,0). PR: Admission to a graduate degree-seeking program or C.I. Examines major aspects of the American system, including mass behavior, public opinion, and political institutions.

*Fall*

*COS - Department of Political Science*

**POS 6127. State Politics**

3(3,0). PR: Graduate or post bac status. The graduate course in state politics surveys political behavior, processes, institutions and policies among the fifty states.

*Occasional*

*COS - Department of 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.

*Occasional*

*COS - Department of 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.

*Occasional*

*COS - Department of 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 transfer of this knowledge into the secondary and college level classroom.

*Occasional*

*COS - Department of Political Science*

**POS 6415. The American Presidency**

3(3,0). Graduate standing or C.I. Presidency research with attention to historical, personal, institutional, and political development.

*Occasional*

*COS - Department of Political Science*

**POS 6427. Congress and the Legislative Process**

3(3,0). PR: Graduate standing or C.I. Examination of Congress as a dynamic institution with emphasis on general legislative procedures, legislator recruitment, institutional rules, legislative norms, and the committee system.

*Even Fall*

*COS - Department of 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. It surveys the meaning of the field and its development, using books and articles to illustrate the major research and teaching

concentrations in the subfield.

*Occasional*

*COS - Department of Political Science*

**POS 6736. Conduct of Political Inquiry**

3(3,0). PR: Admission to graduate program or C.I. Research design and quantitative and qualitative analysis in political science.

*Fall*

*COS - Department of Political Science*

**POS 6743. Geographic Tools for Political Science Research**

3(3,0). PR: Graduate standing or C.I. Provides an introduction to the theoretical assumptions, analytical possibilities and application of geographic tools of analysis for political science research.

*Odd Spring*

*COS - Department of Political Science*

**POS 6746. Quantitative Methods in Political Research**

3(3,0). PR: Admission to a graduate degree-seeking program or 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.

*Occasional*

*COS - Department of Political Science*

**POS 6747. Advanced Topics in Quantitative Political Analysis**

3(3,0). PR: Admission to the graduate program. Successful completion of POS 6746, or equivalent, or C.I. Advanced topics in quantitative political analysis, including OLS variants, regression problems, time series, limited dependent variables and SPSS.

*Occasional*

*COS - Department of 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 only when course content is different.

*Occasional*

*COS - Department of Political Science*

**POS 7267. Professional Development in Security Studies II**

1(1,0). PR: Admission to Security Studies Ph.D. program or C.I. Addresses ethics in political science, specifically from a security studies perspective. Graded S/U.

*Odd Spring*

*COS - Department of Political Science*

**POS 7707. Advanced Qualitative Methods in Political Research**

3(3,0). PR: Admission to Security Studies Ph.D. or C.I. Advanced qualitative methods employed in political science research, including case studies, the logic of comparison, and archival and interview-based research.

*Odd Spring*

*COS - Department of Political Science*

**POS 7745. Advanced Quantitative Methods in Political Research**

3(3,0). PR: Admission to Security Studies Ph.D. or C.I. Survey of advanced quantitative methods used in political



science research, including problems in regression analysis and nonlinear models.

*Even Spring*

*COS - Department of Political Science*

**POS 7930. Professional Development in Security Studies I**

1(1,0). PR: Admission to Security Studies Ph.D. program or C.I. Prepares students for teaching, submission of articles to peer-reviewed journals, grant writing, and other questions related to an academic career. Graded S/U.

*Even Spring*

*COS - Department of Political Science*

**POT 6007. Seminar in Political Theory**

3(3,0). PR: Admission to a graduate degree-seeking program or C.I. An examination of analytic and normative theories of politics and society, using selected topics as a substantive focus.

*Occasional*

*COS - Department of 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.

*Occasional*

*COS - Department of 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.

*Occasional*

*COS - Department of 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.

*Occasional*

*COS - Department of Psychology*

**PSY 5605. History and Systems of Psychology**

3(3,0). PR: Acceptance to Clinical Psychology PhD 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 PhD in Clinical Psychology; in certain instances graduate students in other programs may enroll.

*Odd Fall*

*COS - Department of Psychology*

**PSY 6216C. Research Methodology**

4(3,2). PR: Admission to Industrial Organizational Psychology M.S., Clinical Psychology M.A., or Clinical Psychology M.S., or 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.

*Occasional*

*COS - Department of Psychology*

**PSY 6308C. Psychological Testing**

4(3,2). PR: Admission to Industrial Organizational Psychology M.S. or C.I. Theory of test construction, including test reliability and validity.

*Occasional*

*COS - Department of Psychology*

**PSY 6318. Recruitment, Placement and Selection**

3(3,0). PR: PSY 6308C and admission to Industrial Organizational Psychology M.S., or C.I. Issues recruiting, placing, and selecting employees and an examination of currently used tests in industry.

*Occasional*

*COS - Department of Psychology*

**PSY 6918. Directed Research**

var. PR: Graduate standing and C.I. Directed Research. Graded S/U. May be repeated for credit.

*Occasional*

*COS - Department of 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 of technical report. May be repeated for credit.

*Occasional*

*COS - Department of Psychology*

**PSY 7217C. Advanced Research Methodology I**

4(3,2). PR: Admission to Psychology Ph.D. or 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.

*Occasional*

*COS - Department of Psychology*

**PSY 7218C. Advanced Research Methodology II**

4(3,2). PR: PSY 7217C or 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.

*Occasional*

*COS - Department of Psychology*

**PSY 7219C. Advanced Research Methodology III**

4(3,2). PR: PSY 7217C and PSY 7218C, or C.I. Application of research design and statistical problems to selected human factors, industrial and/or clinical settings.

*Occasional*

*COS - Department of Psychology*

**PSY 7315. Psychometric Theory and Practice**

3(3,0). PR: PSY 6216C 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.

*Spring*

*COS - Department of 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, welfare or other policy.

*Occasional*



*COS - Department of Political Science*

**PUP 6015. Comparative Public Policy**

3(3,0). PR: Graduate standing or C.I. Comparative public policy theories applied to immigration, education, trade, taxation, and fiscal policy.

*Occasional*

*COS - Department of 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.

*Occasional*

*COS - Department of Political Science*

**PUP 6208. Environmental Politics**

3(3,0). PR: Admission to a graduate degree-seeking program or C.I. Examines the political ideas and practices which have shaped environmental politics and practices in the U.S.

*Occasional*

*COS - Department of Political Science*

**PUP 6247. Contemporary Issues in Environmental Politics**

3(3,0). 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.

*Occasional*

*COS - Department of Political Science*

**PUP 6324. Women and Public Policy**

3(3,0). Graduate standing. Analyzes U.S. public policies with differential impact on women, including policies regarding employment, family, health, reproduction and sexuality. Strong theoretical emphasis.

*Occasional*

*COS - Department of 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.

*Occasional*

*COS - Department of Political Science*

**PUP 6938. Special Topics/Public Policy**

3(3,0). Admission to graduate program or C.I. 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 only when course content is different.

*Occasional*

*COS - Department of Political Science*

**PUR 6005. Theories of Public Relations**

3(3,0). PR: Admission to Communication M.A. program or C.I. Focus on theories of public relations with implications for communications practices in corporate and other organizations and government agencies.

*Occasional*

*COS - Nicholson School of Communication*

**PUR 6215. Communicating Corporate Social Responsibility**

3(3,0). Graduate standing or C.I. Communication processes required for developing, implementing, publicizing, and evaluating corporate social responsibility program in organizations.

*Occasional*

*COS - Nicholson School of Communication*

**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.

*Occasional*

*COS - Nicholson School of Communication*

**QMB 6755. Models for Business Decisions**

3(3,0). PR: Acceptance into a graduate business program of study. Examines quantitative techniques useful for the solution of business problems. Mathematical model building to aid the decision-making process is stressed. Techniques applied through case analysis.

*Occasional*

*BA - Department of Management*

**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.

*Occasional*

*BA - Department of Economics*

**QMB 7567. Measurement Theory in Business Research**

3(3,0). Admission to Business Administration Ph.D. program. This course provides doctoral students with a foundation in psychometrics and general measurement theory for economic, psychological and sociological-based business research.

*BA - Dean's Office - BA*

**RED 5147. Developmental Reading**

3(3,0). Graduate standing or C.I. Principles, procedures, organization, and current practices in the elementary reading program. Materials and methods of instruction.

*ED - School of Teaching, Learning, and Leadership*

**RED 5517. 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.

*Even Fall, Spring*

*ED - School of Teaching, Learning, and Leadership*

**RED 5948. Practicum in Reading Assessment and Instruction**

3(3,0). PR: RED 5517. Practicum that requires application of reading assessment and instruction in order to increase reading proficiency of struggling readers. Concurrent K-12 field experiences required.

*Fall, Spring, Summer*

*ED - School of Teaching, Learning, and Leadership*

**RED 6116. Advanced Study in Foundations of Reading**

3(3,0). PR: RED 5147 or C.I. Historical development and current research-based practice related to language and cognitive foundations of reading components: phonemic awareness, phonics, vocabulary, fluency, comprehension,

investigation of research.

*Fall, Spring, Summer*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Occasional*

*HPA - Department of Communication Sciences and 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.

*Fall*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Spring*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Spring*

*ED - School of Teaching, Learning, and Leadership*

**RED 6845. Advanced Evaluation and Instruction in Reading**

3(3,0). PR: RED 5517 or C.I. Administration and interpretation of formal and informal evaluation strategies. Factors and instructional techniques contributing to reading achievement. Case studies, parent involvement.

*Summer*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Summer*

*ED - School of Teaching, Learning, and Leadership*

**RED 6946. Practicum, Clinical Practice**

3(3,0). . .

*ED - School of Teaching, Learning, and Leadership*

**RED 7648. Analysis and Evaluation of Trends and Issues in Literacy Education**

3(3,0). PR: RED 7797. Critical analysis and evaluation of trends and issues in literacy education: research, policy, and instruction.

*Even Summer*

*ED - School of Teaching, Learning, and Leadership*

**RED 7697. Literacy for the Twenty-First Century**

3(3,0). PR: RED 6116, RED 7797, RED 7648. Investigates changing role of literacy in a technology-based world; explores issues of literacy in an increasingly diverse world.

*Spring*

*ED - School of Teaching, Learning, and Leadership*

**RED 7743. Reading and Writing Processes**

3(3,0). PR: RED 5147 or equivalent. Investigates reading and writing as interrelated processes; focuses on research that shapes reading and writing instruction in the U.S.

*Spring*

*ED - School of Teaching, Learning, and Leadership*

**RED 7745. Research in Reading Education Seminar**

3(3,0). PR: RED 5147 or equivalent; RED 6116. The study of the reading research process and the design of a research proposal in the reading education field.

*Even Fall*

*ED - School of Teaching, Learning, and Leadership*

**RED 7797. Theoretical Processes of Reading Comprehension**

3(3,0). PR: RED 5147 or equivalent. Investigates theoretical processes and factors related to comprehension. Studies relevant issues and research.

*Fall*

*ED - School of Teaching, Learning, and Leadership*

**RED 7947. Internship in Reading Education**

3(3,0). PR: Admission to the PhD in Education--Reading Education Track. College teaching of reading education courses under supervision of reading education faculty mentor. Graded S/U. May be used in the degree program a maximum of 3 times.

*Fall, Spring*

*ED - School of Teaching, Learning, and Leadership*

**REE 6006. Real Estate Markets and Institutions**

3(3,0). PR: Acceptance into the MS Real Estate program. Overview of the core real estate concepts, property fundamentals, and the role of various institutions in real estate transactions and operations.

*Occasional*

*BA - Department of Finance*

**REE 6147. Real Estate Market Analysis and Appraisal**

3(3,0). PR: FIN 6406, acceptance into the MS Real Estate program. An applied introduction to the major concepts, principles and methods used in appraising commercial real estate, performing market analysis, and basic economic analysis.

*Occasional*

*BA - Department of Finance*

**REE 6209. Real Estate Finance and Investment Analysis**

3(3,0). PR: FIN 6406, acceptance into the MS Real Estate program. Direct real estate investing in the apartment, office, industrial and retail sectors. Financing real estate transactions, real estate capital markets, and investment analysis.

*Occasional*

*BA - Department of Finance*

**REE 6455. Real Estate Law**

3(3,0). PR: Acceptance into the MS Real Estate program. Overview of the legal system and key laws affecting real estate. Emphasis on property rights, contracts, development law, theory of title, and commercial leases.

*Occasional*

*BA - Department of Finance*

**REE 6737. Real Estate Development**

3(3,0). PR: Must take in final term of the MS Real Estate program. Capstone project course covering the real estate development process, regulatory considerations, financial and market feasibility, management control, and environmental aspects of real estate development.

*Occasional*

*BA - Department of Finance*

**SCE 5325. Teaching Middle School Science**

3(3,0). PR: EDG 6415, TSL 5085 or admission to MED program or Initial Teacher Professional Preparation certificate. This course will provide experiences that promote effective science teaching in grades 5-9 including interdisciplinary teaming, technology use, ESOL, and inquiry in science.

*Occasional*

*ED - School of Teaching, Learning, and Leadership*

**SCE 5337. Issues and Methods in Secondary School Science**

3(3,0). PR: EDG 6415, TSL 5085, or admission to MED program or Initial Teacher Professional Preparation certificate. Secondary science education special methods course is designed to augment students' understanding of instructional methods and their applications to middle and high school science curriculum.

*Fall, Spring*

*ED - School of Teaching, Learning, and Leadership*

**SCE 5836. Space and Physical Science for Educators**

3(3,0). PR: Graduate standing or C.I. Introduction to space and physical science, manned space flight, and space education curriculum.

*Summer*

*ED - School of Teaching, Learning, and Leadership*

**SCE 6115. 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.

*Occasional*

*ED - School of Teaching, Learning, and Leadership*

**SCE 6137. Science Programs in Secondary School**

3(3,0). Basic Teacher Certificate or C.I. Study of historical development and current trends; analysis of science curricula, materials.

*ED - School of Teaching, Learning, and Leadership*

**SCE 6315. Methods in Elementary School Science**

3(3,0). PR: EDE 6933 or C.I. Organization of instruction in elementary school science including methods, evaluation, materials, strategies, and current practices.

*Fall, Spring, Summer*

*ED - School of Teaching, Learning, and Leadership*

**SCE 6338. Inquiry in the Sciences**

3(3,1). Graduate standing or science certification. Teaching science by inquiry in the secondary school and development of inquiry lessons.

*ED - School of Teaching, Learning, and Leadership*

**SCE 7145. Design of Post Secondary Science Curriculum**

3(3,0). PR: Doctoral standing, admission to the PhD or EdD Education programs, and C.I. Successful completion of ESE 6217 or an approved equivalent. This course will examine

issues of curriculum theory, research, and practice at the post-secondary level situated in science education.

*Odd Fall*

*ED - School of Teaching, Learning, and Leadership*

**SCE 7146. Professional Issues in Science Education**

3(3,0). PR: Admission to the PhD in Education or C.I. Students will study issues and forces that have shaped science education policies, classroom practices, ethics development, and professional identity.

*ED - School of Teaching, Learning, and Leadership*

**SCE 7242. Assessment in Science Teaching, Learning and Research**

3(3,0). PR: Doctoral standing, admission to the PhD or EdD Education programs, and C.I. This course will examine current instruments/tools used in science assessment covering standardized science testing and authentic and performance-based science assessments.

*Odd Fall*

*ED - School of Teaching, Learning, and Leadership*

**SCE 7746. Teaching Theory and Research in Science Education**

3(3,0). PR: Admission to the PhD in Education or C.I. Course will provide students means to become familiar with trends and current status of research in science teaching and learning.

*ED - School of Teaching, Learning, and Leadership*

**SCE 7864. Science Technology and Society**

3(3,0). PR: Admission to the PhD in Education or C.I. The course is focused on the history of science in the U.S. with particular emphasis on institutional configurations that emerged in the period since nationhood.

*ED - School of Teaching, Learning, and Leadership*

**SCE 7935. Seminar--Professional Writing/Grants in Science Education**

3(3,0). PR: Admission to the PhD in Education or C.I. The focus of the course is on scholarly writing and grant writing in science teaching, learning, assessment and relationships.

*ED - School of Teaching, Learning, and Leadership*

**SCE 7942. Internship/Practicum in Science Education**

6(6,0). PR: Admission to the PhD in Education or C.I. The focus of this course is students' participation in current research projects in science/science education.

*ED - School of Teaching, Learning, and Leadership*

**SCE 7980. Doctoral Dissertation**

0-12(0-12,0). PR: Taken and passed comprehensive exam. Approval of Education Ph.D SCE?track program coordinator. May be repeated for credit. Graded S/U.

*ED - School of Teaching, Learning, and Leadership*

**SDS 6200. Procedures for Group Testing**

3(2,1). 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.

*Occasional*

*ED - Department of Educational and Human Sciences*

**SDS 6347. Career Development**

3(3,0). PR: C.I. A 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.

*Odd Fall, Even Spring*

*ED - Department of Child, Family and Community Sciences*

**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.

*Spring*

*ED - Department of Child, Family and Community Sciences*

**SDS 6620. Coordination of Comprehensive Professional School Counseling Programs**

3(3,0). PR: MHS 5005, MHS 6400, MHS 6401, MHS 6500, MHS 6702. In-depth analysis of comprehensive developmental professional school counseling programs, including the coordination of these programs.

*Odd Spring, Summer*

*ED - Department of Child, Family and Community Sciences*

**SDS 6947. Internship in Professional School Counseling**

1-6(1, 1-6). PR: MHS 5005, MHS 6400, MHS 6401, MHS 6500, MHS 6702, MHS 6803, SDS 6620. Supervised fieldwork experience in professional school counseling, emphasizing experiences that support the development of student interns' counseling competencies and delivery of comprehensive services to all students. Graded S/U. May be repeated for credit.

*Even Fall, Even Spring, Even Summer*

*ED - Department of Child, Family and Community Sciences*

**SOP 5059. Advanced Social Psychology**

3(3,0). PR: SOP 3004C, graduate status or senior standing, or C.I. The major findings and theories in social psychology including an in-depth review of relevant research.

*Occasional*

*COS - Department of 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.

*Fall*

*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.

*Spring*

*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.

*Spring*

*HPA - Social Work*

**SOW 5149. Military and Veteran Culture with Historical Frameworks**

3(3,0). PR: Admission to Master of Social Work program or C.I. Thorough analysis of military and veteran systems. Provides the frameworks to assist social workers in better understanding, communicating and practicing with veterans and their families.

*Spring, Summer*

*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.

*Fall*

*HPA - Social Work*

**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.

*Fall*

*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.

*Spring*

*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.

*Occasional*

*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.

*Fall*

*HPA - Social Work*

**SOW 5532. Generalist Field Education I**

2(2,0). PR: Admission to MSW program. Supervised practice of social work in an agency for 224 clock hours. Graded S/U.

*Fall, Even Spring*

*HPA - Social Work*

**SOW 5538. Full-Time MSW Generalist Field Education and Seminar I**

3(3,0). Admission to Master of Social Work program or C.I.; CR: SOW 5305. Field education for full-time MSW generalist students; includes seminar and supervised practice of social work in an agency for 200 clock hours. Graded S/U.

*Fall*

*HPA - School of Social Work*

**SOW 5539. Full-Time MSW Generalist Field Education and Seminar II**

3(3,0). PR: SOW 5538; CR: SOW 5306. Field education for full-time Master of Social Work generalist students; includes seminar and supervised practice of social work in an agency for 200 clock hours. Graded S/U.



*Spring*  
HPA - School of Social Work

**SOW 5565. Part-Time MSW Generalist Field Education and Seminar I**

2(2,0). PR: SOW 5305; CR SOW 5306. Field education for part-time Master of Social Work generalist students; includes seminar and supervised practice of social work in an agency for 150 clock hours. Graded S/U.

*Fall*  
HPA - School of Social Work

**SOW 5566. Part-Time MSW Generalist Field Education and Seminar II**

2(2,0). PR: SOW 5565; CR: SOW 5306. Field Education for part-time Master of Social Work generalist students; includes seminar and supervised practice of social work in an agency for 150 clock hours. Graded S/U.

*Spring*  
HPA - School of Social Work

**SOW 5567. Part-Time MSW Generalist Field Education and Seminar III**

2(2,0). PR: SOW 5566. Field Education for part-time Master of Social Work generalist students; includes seminar and supervised practice of social work in an agency for 100 clock hours. Graded S/U.

*Summer*  
HPA - School of 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.

*Occasional*  
HPA - Social Work

**SOW 6109. Violence Against Women: A Global Perspective**

3(3,0). PR: Graduate standing or C.I. An introduction to the types of violence imposed on women around the world. Social, political and economic issues related to women and violence are reviewed.

*Summer*  
HPA - Social Work

**SOW 6123. Psychosocial Pathology**

3(3,0). PR: Completion of all Master of Social Work core courses or advanced standing. Study of psychosocial dynamics of dysfunctional behavior in individuals.

*Summer*  
HPA - School of Social Work

**SOW 6155. Human Sexuality in Social Work Practice**

3(3,0). PR: Admission to Master of Social Work program, Graduate Certificate in Gender Studies or C.I. Study of human sexuality with emphasis on assessment and intervention skills for social workers with clients experiencing problems involving sexual issues.

*Occasional*  
HPA - Social Work

**SOW 6246. Policy Analysis and Social Change**

3(3,0). PR: Advanced standing in the Master of Social Work program. Study of urban problems, policies, and planning from the perspective of their impact on individuals and families.

*Spring*

HPA - Social Work

**SOW 6324. Clinical Practice with Groups**

3(3,0). PR: SOW 6123. Group work theories, interventions and techniques applied to persons with emotional, social and psychological problems.

*Fall, Spring*  
HPA - School of Social Work

**SOW 6348. Clinical Practice with Individuals**

3(3,0). PR: SOW 6123. Behavioral, crisis, and psychosocial theories applied to persons with emotional, social, and psychological problems.

*Fall*  
HPA - School of Social Work

**SOW 6373. Clinical Supervision**

3(3,0). PR: MSW graduate student, PhD status or C.I. Supervisory theory and practice in clinical settings.

*Occasional*  
HPA - Social Work

**SOW 6383. Social Work Administration**

3(3,0). Admission to Master of Social Work program or C.I. Designed as a general introduction to the multi-faceted nature of social work administration in public and private non-profit settings.

*Occasional*  
HPA - School of 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.

*Occasional*  
HPA - Social Work

**SOW 6386. Seminar in Social Welfare Planning and Implementation**

3(3,0). PR: Admission to PhD program or C.I. Social welfare planning, implementation, and evaluation at the community and organizational levels. Emphasizes planning needs of oppressed groups.

*Occasional*  
HPA - Social Work

**SOW 6399. Advanced Administration in Social Welfare**

3(3,0). PR: Admission to PhD program or C.I. Attributes, skills, behaviors, and problems with executive roles in public human service organizations. Emphasizes the mission of the organization as well as mobilization of resources.

*Occasional*  
HPA - Social Work

**SOW 6424. Theories for Evidence-Based Clinical Practice in Social Work**

3(3,0). PR: Completion of all Master of Social Work core courses or advanced standing. Theoretical perspectives including: Cognitive; Cognitive Behavioral; Feminist Therapy; Psycho-dynamic Therapy; Motivational Interviewing; Rational Emotive Behavioral Therapy; Solution-focused Therapy; and Narrative Therapy.

*Summer*  
HPA - School of Social Work

**SOW 6531. Full Time MSW Clinical Field Education and Seminar I**



4(4,0). PR: SOW 6123 and SOW 6424. Field education for full-time Master of Social Work students; includes seminar and supervised practice of social work in an agency for 300 clock hours. Graded S/U.

*Fall*

*HPA - School of Social Work*

**SOW 6536. Full Time MSW Clinical Field Education and Seminar II**

4(4,0). PR: SOW 6531. Field education for full-time Master of Social Work clinical students; includes seminar and supervised practice of social work in an agency for 300 clock hours. Graded S/U.

*Spring*

*HPA - School of 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.

*Fall, Spring, Odd Summer*

*HPA - Social Work*

**SOW 6561. Part-Time MSW Clinical Field Education and Seminar I**

3(3,0). PR: SOW 5567; SOW 6123 and SOW 6424. Field education for part-time Master of Social Work students; includes seminar and supervised practice of social work in an agency for 225 clock hours. Graded S/U.

*Fall*

*HPA - School of Social Work*

**SOW 6562. Part Time MSW Clinical Field Education and Seminar II**

3(3,0). PR: SOW 6561. Field education for part time Master of Social Work clinical students; includes seminar and supervised practice of social work in an agency for 225 clock hours. Graded S/U.

*Spring*

*HPA - School of Social Work*

**SOW 6563. Part-Time MSW Clinical Field Education and Seminar III**

2(2,0). PR: SOW 6562. Field education for part-time MSW clinical students; includes seminar and supervised practice of social work in an agency for 150 clock hours. Graded S/U.

*Summer*

*HPA - School of Social Work*

**SOW 6603. Social Work in Health Settings**

3(3,0). Admission to Master of Social Work program or C.I. Study of social work roles, interventions, and issues related to helping clients in health care settings.

*Occasional*

*HPA - School of Social Work*

**SOW 6604. Medications in Social Work Practice**

3(3,0). PR: Admission to Master of Social Work program and SOW 6123, or C.I. The study of the effects that psychotropic medications can have within the counseling/helping relationship.

*Occasional*

*HPA - School of Social Work*

**SOW 6608. Understanding and Managing Combat Related Behavioral and Mental Health Disorders**

3(3,0). PR: SOW 5149. Advances students' knowledge about the unique nature of trauma, PTSD and other mental health disorders as they relate to combat-exposed soldiers, veterans, their families and other military experiences.

*Spring*

*HPA - Social Work*

**SOW 6610. Clinical Practice with Military and Veteran Families or Groups**

3(3,0). PR: SOW 5149. Theoretical/practical approaches to clinical practice with military families and groups. Examines the demands of military service on family/group dynamic, composition and related issues.

*Spring*

*HPA - Social Work*

**SOW 6612. Clinical Practice with Families**

3(3,0). PR: SOW 6123. Family-focused models of intervention applied to families in transition and to problems such as divorce, single parenting, and blended families.

*Fall*

*HPA - School of Social Work*

**SOW 6635. Social Work Practice in Schools**

3(3,0). PR: Admission to MSW program or Social Work Graduate Certificate or C.I. Enhance clinical knowledge and skills that are essential to effective school based practice with students, teachers, families, schools and communities.

*Summer*

*HPA - Social Work*

**SOW 6644. Interventions with Older Adults and Their Families**

3(3,0). Admission to Master of Social Work program or C.I. Study of concepts, skills, models and theories for intervening with the elderly. Special attention is given to minority populations.

*Occasional*

*HPA - School of Social Work*

**SOW 6652. Children Services in Social Work**

3(3,0). PR: Admission to Master of Social Work program or C.I. Study of societal responses to children's needs. Critical analysis of social and organizational systems as it relates to delivery of child welfare services.

*Occasional*

*HPA - School of Social Work*

**SOW 6655. Child Abuse: Treatment and Prevention**

3(3,0). PR: Admission to MSW degree or SW or Criminal Justice Certificate program. Study of various forms of child abuse, the social worker's role and interventions with victims of child abuse and their family members.

*Occasional*

*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.

*Spring*

*HPA - Social Work*

**SOW 6670. Gay and Lesbian Experience in American Society**

3(3,0). PR: Graduate standing or C.I. Study of sexual

orientation in a cultural context, the effects of social policy on the Gay and Lesbian community and the role of social work advocacy.

*Summer*

HPA - Social Work

**SOW 6689. Sex Therapy**

3(3,0). . Intervention approaches for sex-related problems.

*Occasional*

HPA - Social Work

**SOW 6712. Interventions with Substance Abusers**

3(3,0). Admission to Master of Social Work program, Juvenile Justice certificate, or Corrections Leadership certificate, or C.I. Empirically based interventions for working with persons who abuse alcohol and other drugs. Course will focus on social work treatment with this population.

*Occasional*

HPA - School of Social Work

**SOW 6713. Prevention and Treatment of Adolescent Substance Abuse**

3(3,0). PR: Graduate standing or C.I. An in-depth critical analysis of prevention, intervention, treatment, recovery and relapse issues and public policy regarding adolescents with substance abuse problems.

*Summer*

HPA - Social Work

**SOW 6726. Social Work Practice with Children from Birth to Age Five and their Families**

3(3,0). PR: Graduate standing or C.I. Social Work practice and treatment of children from birth to five years of age and their families.

*Spring*

HPA - Social Work

**SOW 6727. Core Concepts of Child and Adolescent Trauma**

3(3,0). PR: Graduate standing or C.I. Trauma informed concepts applied to practice with children and adolescents.

*Fall, Spring, Summer*

HPA - Social Work

**SOW 6735. Documentation Skills for Helping Professionals**

3(3,0). PR: MSW students, C.I. Study of documentation skills and record keeping for helping professionals.

*Odd Spring, Even Summer*

HPA - Social Work

**SOW 6756. Forensic Social Work**

3(3,0). PR: Admission to MSW program or Social Work Certificate. Course studies theories and practice of forensic social work focusing on roles, ethics, skills and functions.

*Occasional*

HPA - Social Work

**SOW 6846. Spirituality in Clinical Social Work Practice**

3(3,0). PR: Admission to MSW or Social Work Certificate program. Faith development theory, study of spirituality in various settings and development of strategies for use in practice designed to heighten sensitivity to spiritual dimensions of life.

*Occasional*

HPA - Social Work

**SOW 6914. Integrative Research Project in Clinical Practice**

3(3,0). PR: Advanced standing in MSW program. Student-selected research on an issue of clinical practice in urban settings.

*Odd Spring*

HPA - Social Work

**SOW 7397. Social Entrepreneurship in Public and Social Sectors**

3(3,0). PR: Admission to Public Affairs Ph.D. or C.I. This advanced seminar in social entrepreneurship will teach design, tools and methods used in social entrepreneurship research and practice.

*Odd Spring*

HPA - Social Work

**SOW 7492. Theory Building in Social Work and Applied Social Science Disciplines**

3(3,0). PR: Admission to Public Affairs Ph.D. program or C.I. This advanced seminar in theory building will teach design, tools and methods used in social theory building.

*Odd Fall*

HPA - Social Work

**SOW 7494. Conducting Evidence-based Practice Research in Social Work and Allied Fields**

3(3,0). PR: Admission to Public Affairs Ph.D. program or C.I. This is an advanced seminar in conducting evidence-based practice research. Analytical design and methods used in such research will be applied.

*Even Spring*

HPA - Social Work

**SPA 5473. Multicultural Aspects of Communication Differences and Disorders**

3(3,0). PR: Graduate standing. Introduction to cultural and linguistic diversity among individuals with communication differences and disorders. Special emphasis on African, Hispanic, Asian, and Native-American cultures.

*Occasional*

HPA - Department of Communication Sciences and Disorders

**SPA 5554. Counseling in Communicative Disorders**

3(3,0). PR: Senior Status or C.I. Interviewing and counseling for individuals with communication disorders and their families.

*Spring*

HPA - Department of Communication Sciences and Disorders

**SPA 6057. Methods in School Speech-Language Pathology**

3(3,0). PR: Admission to M.A. in Communication Sciences and Disorders or C.I. The study of essential concepts, methods and procedures used in school-based, speech-language pathology.

*Occasional*

HPA - Department of Communication Sciences and 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.

*Occasional*

HPA - Department of Communication Sciences and Disorders

**SPA 6204. Articulation/Phonological Disorders**  
3(3,0). PR: Admission to M.A. in Communication Sciences and Disorders or C.I. Advanced theory, diagnosis, and treatment of articulation/phonological disorders including developmental apraxia of speech, dysarthria, and cleft palate; communicative differences vs. disorders emphasized.

*Fall, Spring, Summer*

*HPA - Department of Communication Sciences and Disorders*

**SPA 6211C. Voice Disorders**

4(3,1). PR: Admission to M.A. in Communication Sciences and Disorders or C.I. Study of the etiology, evaluation, and management of voice disorders in children and adults, with laboratory demonstration and participation.

*Fall, Spring*

*HPA - Department of Communication Sciences and Disorders*

**SPA 6225C. Fluency Disorders**

4(3,1). PR: Admission to M.A. in Communication Sciences and Disorders or C.I. Study of the theories, etiology, symptomatology and development of fluency disorders as well as assessment, differential diagnosis and management of disorders of fluency in children and adults with fluency failures.

*Fall, Spring*

*HPA - Department of Communication Sciences and Disorders*

**SPA 6236. Motor Speech Disorders in Adults and Children**

3(3,0). PR: Admission to M.A. in Communication Sciences and Disorders and SPA 6204 or C.I. Evaluation and treatment of dysarthrias, apraxias, and other motor speech disorders in adults and children associated with neurological problems, brain injury and systemic disease.

*Fall, Spring, Summer*

*HPA - Department of Communication Sciences and Disorders*

**SPA 6245. Communication Disorders in Cleft Palate-Velopharyngeal Dysfunction**

3(3,0). PR: SPA 6204, SPA 6211C, or C.I. Introduction to the management of communication and feeding disorders related to cleft palate and/or velopharyngeal dysfunction.

*Fall*

*HPA - Department of Communication Sciences and 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.

*Occasional*

*HPA - Department of Communication Sciences and Disorders*

**SPA 6327. Aural Habilitation/Rehabilitation**

3(3,0). PR: Admission to the Communication Sciences and Disorders master's program or C.I. Principles and procedures involved in speech and language acquisition, management, utilization of residual hearing, speech reading, and the use of hearing aids.

*Fall, Spring, Summer*

*HPA - Department of Communication Sciences and Disorders*

**SPA 6401. Language Disorders in Infants and Toddlers**

3(3,0). PR: SPA 6496. Assessment and intervention of communication disorders in infants and toddlers incorporating transdisciplinary and family-centered models.

*Fall*

*HPA - Department of Communication Sciences and Disorders*

**SPA 6402. Preschool Language Disorders**

3(3,0). PR: SPA 4400 or equivalent. Application of the normal process of early language acquisition to the evaluation and management of preschool children with spoken and written language disorders.

*Fall, Spring*

*HPA - Department of Communication Sciences and Disorders*

**SPA 6403. School-Aged Language Disorders**

3(3,0). PR: SPA 4400 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.

*Fall, Spring*

*HPA - Department of Communication Sciences and Disorders*

**SPA 6410. Aphasia and Related Disorders**

3(3,0). PR: Admission to M.A. in Communication Sciences and Disorders or C.I. Evaluation and treatment of language disorders in adults with damage to the central nervous system, with an emphasis on etiology and differential diagnosis.

*Fall, Spring*

*HPA - Department of Communication Sciences and Disorders*

**SPA 6417. Cognitive/Communicative Disorders**

3(3,0). PR: SPA 6410 or C.I. 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.

*Spring*

*HPA - Department of Communication Sciences and Disorders*

**SPA 6432. Issues in Autism**

3(3,0). PR: SPA 6402 or C.I. Study of the diagnosis, assessment and intervention strategies for autism and related disorders.

*Occasional*

*HPA - Department of Communication Sciences and Disorders*

**SPA 6437. Communication Foundations and Assistive/Instruct Technology for Communication**

3(3,0). PR: Graduate standing or C.I. Classroom approaches involving assistive/instructional technology used to meet communication needs of students with autism spectrum disorders and other communicative disorders.

*Occasional*

*HPA - Department of Communication Sciences and Disorders*

**SPA 6451. Theory and Clinical Aspects Cognitive-Comm Disorders in Traumatic Brain Injury**

3(3,0). PR: Admission to M.A. in Communication Sciences or C.I. Impact of traumatic brain injury on neurological, cognitive-communication and social performance of school-aged and post-secondary students, including identification of co-morbid conditions, recovery patterns and interviewing.

*Occasional*

*HPA - Department of Communication Sciences and Disorders*

**SPA 6452. Assessment of Cognitive-Communication Disorders in Traumatic Brain Injury**

3(3,0). PR: SPA 6451 or C.I. Assessment of cognitive-communication disorders in traumatic brain injury of school-aged and post-secondary students, including

measurement theory, test selection, administration and interpretation, and reporting.

*Occasional*

*HPA - Department of Communication Sciences and Disorders*

**SPA 6474. Assessment and Management of Culturally and Linguistically Diverse Populations**

3(3,0). PR: Admission to MA in Communication Sciences or C.I. Role of native and second languages, dialects and culture in the assessment and management of individuals from culturally and linguistically diverse backgrounds.

*Fall, Spring*

*HPA - Department of Communication Sciences and Disorders*

**SPA 6496. Language Disorders in Children and Adolescents**

6(6,0). PR: Admission to M.A. in Communication Sciences and Disorders or C.I. The nature, assessment and management of spoken and written language disorders in children and adolescents.

*Fall, Spring, Summer*

*HPA - Department of Communication Sciences and Disorders*

**SPA 6503. Foundations of Clinical Practice Level II**

1(1,0). PR: 6551 or C.I.; CR 6503L. Seminar preparing graduate clinicians for practicum with pediatric/adolescents across varied communication disorders: clinical decision-making, generalization, transfer, maintenance, service delivery, ethics, public policy and professional issues.

*Fall, Spring, Summer*

*HPA - Department of Communication Sciences and Disorders*

**SPA 6503L. Foundations of Clinical Practice: Level II Application**

1(0,2). PR: SPA 6551 or C.I.; CR SPA 6503. Supervised practicum across a variety of communication disorders within the pediatric and adolescent population. May be repeated for credit. Minimum of 20 clock hours required.

*Fall, Spring, Summer*

*HPA - Department of Communication Sciences and Disorders*

**SPA 6551. Foundations of Clinical Practice: Level I**

1(1,0). PR: Admission to Communication Sciences and Disorders master's program or C.I. Strategic application of knowledge in normal communication sciences and development to clinical practice through creating, testing and developing hypotheses about the nature of communication disorders.

*Fall, Spring, Summer*

*HPA - Department of Communication Sciences and Disorders*

**SPA 6553. Differential Diagnosis In Speech and Language**

3(3,0). PR: SPA 6943C; CR: SPA 6553L. Procedures for diagnosing speech and language disorders in children and adults, with emphasis on interviewing, test administration and interpretation, and report writing.

*Fall*

*HPA - Department of Communication Sciences and Disorders*

**SPA 6553L. Clinical Practice in Differential Diagnosis in Speech and Language Pathology**

1(1,1). PR: SPA 6503, SPA 6503L or C.I. Clinical application of diagnostic process and assessment procedures for a variety of communication disorders across the life span. May be repeated for credit.

*Fall, Spring, Summer*

*HPA - Department of Communication Sciences and Disorders*

**SPA 6559. Augmentative and Alternative Communication**

3(3,0). PR: Admission to M.A. in Communication Sciences and Disorders or C.I. The total integrated network of techniques, aids, strategies, and skills individuals use to supplement or replace inadequate natural speaking ability.

*Fall, Spring, Summer*

*HPA - Department of Communication Sciences and Disorders*

**SPA 6565. Feeding and Swallowing Disorders**

3(3,0). PR: Admission to M.A. in Communication Sciences and Disorders and SPA 6211C or C.I. Evaluation and management of feeding and swallowing disorders in children and adults.

*Fall, Spring, Summer*

*HPA - Department of Communication Sciences and Disorders*

**SPA 6569. Management of Upper Airway and Aerodigestive Disorders**

3(3,0). PR: SPA 6211C; SPA 6565. Overview of the presentation, diagnosis, management and potential complications of common upper airway and aerodigestive disorders in adults and children.

*Occasional*

*HPA - Department of Communication Sciences and Disorders*

**SPA 6805. Research in Communicative Disorders**

3(3,0). PR: Admission to M.A. in Communication Sciences and Disorders and STA 2014C or STA 2023 or equivalent or C.I. Introduction to empirical research in communicative disorders, with emphasis on hypothesis testing, research design, data analysis, and interpretation of results.

*Fall, Spring, Summer*

*HPA - Department of Communication Sciences and Disorders*

**SPA 6820. Leadership Project in School Speech-Language Pathology**

3(3,0). PR: Admission to M.A. in Communication Sciences and Disorders or C.I. Development and completion of a clinical or research project pertaining to school-based practice.

*Occasional*

*HPA - Department of Communication Sciences and Disorders*

**SPA 6843. Severe Language-Based Reading and Writing Disabilities**

3(3,0). PR: Admission to M.A. in Communication Sciences and Disorders or C.I. Development, assessment, and instruction of reading, writing, and spelling, with emphasis on phonemic awareness, decoding, text comprehension, spelling, and written expression.

*Spring*

*HPA - Department of Communication Sciences and Disorders*

**SPA 6942. Foundations of Clinical Practice: Level III**

1(1,0). PR: SPA 6503, SPA 6503L or C.I.; CR SPA 6942L. Seminar preparing graduate clinicians for practicum with adults who have acquired disorders: clinical decision-making, generalization, transfer, maintenance, service delivery models, ethics, public policy and reimbursement.

*Fall, Spring, Summer*

*HPA - Department of Communication Sciences and Disorders*

**SPA 6942L. Foundations of Clinical Practice: Level III Application**

1(0,2). PR: SPA 6503, SPA 6503L or C.I.; CR: SPA 6942. Supervised practicum including acquired disorders



with the adult population. May be repeated for credit.  
Minimum of 20 clock hours required.  
*Fall, Spring, Summer*  
HPA - Department of Communication Sciences and Disorders

**SPA 6943C. Clinical Practice Level I**

3(1,4). PR: SPA 6942, SPA 6942L. Clinical practicum for the demonstration of knowledge and skill application in the diagnosis, treatment and management of persons with complex communication disorders across the lifespan.  
*Fall, Spring, Summer*  
HPA - Department of Communication Sciences and Disorders

**SPA 7490. Advanced Studies in Language Disorders**

3(3,0). PR: Doctoral standing or C.I. Evaluation and management of language impairment and associated disorders in preschool and school-age children.  
*Occasional*  
HPA - Department of Communication Sciences and Disorders

**SPA 7491. Advanced Studies in Language Development**

3(3,0). PR: Doctoral standing or C.I. Linguistic theories and their implications for language learning in children and youth.  
*Fall*  
HPA - Department of Communication Sciences and Disorders

**SPA 7492. Evidence-Based Research and Practice in Speech Language Pathology**

3(3,0). PR: Doctoral standing or C.I. Systematic review of evidence-based research, with emphasis on concepts, methods and procedures from problem formulation to consumer reporting.  
*Fall*  
HPA - Department of Communication Sciences and Disorders

**SPA 7493. Advanced Studies in School Speech-Language Pathology**

3(3,0). PR: Doctoral standing or C.I. Theoretical foundations, advanced program design, team-based practice and leadership practices in school speech-language pathology.  
*Spring*  
HPA - Department of Communication Sciences and Disorders

**SPA 7494. Doctoral Seminar 1: Spoken & Written Language Disorders Preschool and Early Elem**

3(3,0). PR: Doctoral standing or C.I. Research, theory and practice on spoken and written language disorders in preschool through early elementary school.  
*Fall*  
HPA - Department of Communication Sciences and Disorders

**SPA 7495. Doctoral Seminar II: Spoken and Written Language Disorders**

3(3,0). PR: Doctoral standing or C.I. Research, theory and practice on spoken and written language disorders in upper elementary, secondary and post-secondary students.  
*Spring*  
HPA - Department of Communication Sciences and Disorders

**SPA 7945. Internship in Clinical Supervision**

2(2,0). PR: Doctoral standing or C.I. Supervised experience in observing, supervising and evaluating internship performance in a clinical or school practicum in communication sciences and disorders.  
*Occasional*  
HPA - Department of Communication Sciences and Disorders

**SPA 7947. Internship in College Instruction**

2(2,0). PR: Doctoral standing or C.I. Supervised experience in the design, delivery and evaluation of a college course in communication sciences and disorders.  
HPA - Department of Communication Sciences and Disorders

**SPA 7948. Internship in Professional Development**

2(0,2). PR: Admission to PhD in Education Communication Sciences and Disorders Track. Supervised experience in the design, delivery and evaluation of professional development for educators in the area of communication sciences and disorders.  
*Fall*  
HPA - Department of Communication Sciences and Disorders

**SPB 6406. Sport Law**

3(3,0). PR: CBA master's program of study foundation core and admission 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.  
*Fall*  
BA - College-BA

**SPB 6506. 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.  
*Fall*  
BA - College-BA

**SPB 6605. 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 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. Lab required.  
*Spring*  
BA - College-BA

**SPB 6606. Diversity and Social Issues in Sport Business Management**

1.5(1.5,0). PR: CBA master's foundation core and admission to the Master of Sport Business Management. The impact of diversity and social issues in sport as business imperative to achieve social responsiveness and financial performance in professional, collegiate, and Olympic sport.  
*Occasional*  
BA - College-BA

**SPB 6607. Service Learning in Sport**

1(1,0). PR: Admission to Master of Sport Business



Management. Designed to help students understand how the power of sport can affect meaningful social change through project-based service-learning course.

*Occasional*  
BA - College-BA

**SPB 6608. The Sport Industries in the US: Challenges and Opportunities**

1.5(1.5,0). PR: Admitted to Master of Sport Business Management Program. Examines the factors that have created the American Sport Industry and those factors that sustain and insure its prosperity and survival.

*Summer*  
BA - College-BA

**SPB 6706. Sport Analytics**

3(3,0). Completion of foundation core modules and admission to Master of Sport Business Management program. Analysis and application of statistics, operations research, and economic theory to current business challenges and opportunities within the sport business industry.

*Summer*  
BA - Dean's Office - BA

**SPB 6715C. Professional Selling in Sport**

1.5(1.5,1). 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 area. An overview of sales theory and its applications in sports are examined.

*Summer*  
BA - College-BA

**SPB 6716C. Strategic Sport Marketing**

3(3,1). PR: CBA Masters Program of Study Foundation Core, and admission to the Sport Business Management program. This course offers a comprehensive understanding of the marketing of sport and marketing through sport. Theoretical and practical applications of sport marketing are examined.

*Occasional*  
BA - College-BA

**SPB 6725. 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. Lab Required.

*Spring*  
BA - College-BA

**SPB 6735. The Global Environment of Sport**

3(3,0). PR: CBA master's 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.

*Occasional*  
BA - College-BA

**SPB 6806. 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.

*Odd Spring*  
BA - College-BA

**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.

*Spring*  
COS - Nicholson School of Communication

**SPC 6442. Small Group Communication**

3(3,0). . A study of communication and its effect on small group behavior.

*Occasional*  
COS - Nicholson School of Communication

**SPM 5155. 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.

*Occasional*  
ED - Department of Educational and Human Sciences

**SPM 5308. 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.

*Occasional*  
ED - Department of Educational and Human Sciences

**SPM 5506. Financial Issues in Sports and Fitness**

3(3,0). 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.

*Occasional*  
ED - Department of Child, Family and Community Sciences

**SPM 6106. 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.

*Occasional*  
ED - Department of Educational and Human Sciences

**SPM 6108. Event & Facility Management in Sport Business**

1.5(1.5,0). 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.

*Summer*

*BA - College-BA*

**SPM 6158. Leadership and Management in Sports and Fitness Programs**

3(3,0). 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.

*Occasional*

*ED - Department of Child, Family and Community Sciences*

**SPM 6726. 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.

*Occasional*

*ED - Department of Educational and Human Sciences*

**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.

*Occasional*

*CAH - Department of Modern Languages and Literatures*

**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.

*Occasional*

*CAH - Department of Modern Languages and Literatures*

**SPN 5506. Spanish American Culture and 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.

*Occasional*

*CAH - Department of Modern Languages and Literatures*

**SPN 5705. Introduction to Spanish Linguistics**

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.

*Odd Fall*

*CAH - Department of Modern Languages and Literatures*

**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.

*Occasional*

*CAH - Department of Modern Languages and Literatures*

**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.

*Occasional*

*CAH - Department of Modern Languages and Literatures*

**SPN 5920. AP Spanish Language**

3(3,0). 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.

*Occasional*

*CAH - Department of Modern Languages and Literatures*

**SPN 6805. Spanish Morphosyntax**

3(3,0). . A study of Spanish morphology and syntax from different perspectives.

*Occasional*

*CAH - Department of Modern Languages and Literatures*

**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. Graded S/U.

*Occasional*

*CAH - Department of Modern Languages and Literatures*

**SPS 5177. Enhancing Individual and Student IQ**

3(3,0). PR: Graduate standing or C.I. Students will understand IQ malleability and methods of enhancing IQ. Students will analyze acquisition of knowledge gained from methods of scientific inquiry regarding individual differences.

*Even Spring, Even Summer*

*ED - Department of Child, Family and Community Sciences*

**SPS 5605. Building and Improving Relationship and Emotional Intelligence**

3(3,0). PR: Graduate standing or C.I. Students will learn to develop and improve relational and emotional intelligence and demonstrate an understanding of social emotional learning and how it enhances psychosocial wellbeing.

*Odd Spring, Odd Summer*

*ED - Department of Child, Family and Community Sciences*

**SPS 6125. Preschool Psychoeducational Assessment**

3(3,0). PR: Graduate standing and C.I. Analysis of test theory and practice in administration, scoring, and interpretation of instruments assessing cognitive, visual-motor ability and adaptive behavior with preschool children.

*Spring*

*ED - Department of Child, Family and Community Sciences*

**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.

*Occasional*

*ED - Department of Child, Family and Community Sciences*

**SPS 6191. Individual Psychoeducational Diagnosis I**

4(4,0). PR: Graduate admission and C.I. CR: SPS 6946L. Measurement of students' achievement and cognitive functioning. Administration, scoring, and interpretation of contemporary iterations of achievement and processing measures used in school psychology.

*Spring*

*ED - Department of Child, Family and Community Sciences*

**SPS 6192. Individual Psychoeducational Diagnosis II**

4(4,0). PR: Graduate admission and C.I. CR: SPS 6946L.

Measurement of students' intellectual and cognitive functioning. Administration, scoring, and interpretation of contemporary iterations of IQ measures used in school psychology.

*Fall*

*ED - Department of Child, Family and Community Sciences*

**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.

*Occasional*

*ED - Department of Child, Family and Community Sciences*

**SPS 6206. Psychoeducational Interventions**

3(3,0). PR: Graduate admission and C.I. This course will enable school psychology students to link psychoeducational assessment results to systematic, evidence-based psychoeducational interventions to improve student functioning.

*Spring*

*ED - Department of Child, Family and Community Sciences*

**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.

*Summer*

*ED - Department of Child, Family and Community Sciences*

**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.

*Fall*

*ED - Department of Child, Family and Community Sciences*

**SPS 6606. Consultation in School Psychology**

3(3,0). PR: Graduate standing and C.I. School Psychology theories and models of school consultation and clinical practice in the consultative role.

*Summer*

*ED - Department of Child, Family and Community Sciences*

**SPS 6608. Seminar in School Psychology**

3(3,0). PR: C.I. Diagnostic, instructional, and prescriptive intervention techniques.

*Spring*

*ED - Department of Child, Family and Community Sciences*

**SPS 6700. Advanced Psychoeducation and Data-Based Decision Making**

3(3,0). PR: Graduate standing and C.I. Principles of advanced psychoeducation for teaching, response to intervention, and data-based decision making in schools.

*Fall*

*ED - Department of Child, Family and Community Sciences*

**SPS 6703. Child and Adolescent Deviant Behavior and 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.

*Summer*

*ED - Department of Child, Family and Community Sciences*

**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.

*Spring*

*ED - Department of Child, Family and Community Sciences*

**SPS 6815. Legal and Ethical Issues in Professional School Counseling**

3(3,0). PR: MHS 5005 and MHS 6400. Ethical and legal standards, their evolution, and application specific to professional school counseling will be presented in the form of case studies and ethical dilemmas.

*Summer*

*ED - Department of Child, Family and Community Sciences*

**SPS 6931. Ethical and Legal Issues in School Psychological Services**

3(3,0). PR: Graduate standing and C.I. Introduction to ethical codes, professional standards, ethical-legal decision-making models and case studies impacting the delivery of school psychological services.

*Summer*

*ED - Department of Child, Family and Community Sciences*

**SPS 6946L. Practicum in School Psychology**

3(0,3). PR: Graduate admission and C.I. 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. Graded S/U. May be used in the degree program a maximum of 2 times.

*ED - Department of Child, Family and Community Sciences*

**SPS 6948. School Psychology Internship**

6(0,6). PR: Graduate standing and C.I. Supervised placement in school setting. Graded S/U. May be used in the degree program a maximum of 6 times.

*Fall, Spring, Summer*

*ED - Department of Child, Family and Community Sciences*

**SPW 5741. Contemporary Spanish American Southern Cone Literature**

3(3,0). PR: Enrolled in Spanish M.A. Program or C.I. Regional as well as international literary cultures and disciplines in southern cone literature.

*CAH - Department of Modern Languages and Literatures*

**SPW 5795. Jewish Culture in Latin America**

3(3,0). PR: Spanish M.A. program or graduate student proficient in Spanish. History of the arrival of Jews in Latin America and studies of Latin American Jewish authors and literature. Will be taught in Spanish, including all readings.

*Occasional*

*CAH - Department of Modern Languages and Literatures*

**SPW 6216. Spanish Golden Age Prose and Poetry**

3(3,0). PR: Admission into Spanish M.A. program. Outstanding authors of the Spanish Renaissance and Spanish Baroque periods.

*Occasional*

*CAH - Department of Modern Languages and Literatures*

**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.

*Occasional*

CAH - Department of Modern Languages and Literatures

**SPW 6218. Spanish American Prose II**

3(3,0). . A study of the principal characteristics of Spanish American prose from modernism to the present.

*Occasional*

CAH - Department of Modern Languages and Literatures

**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.

*Occasional*

CAH - Department of Modern Languages and Literatures

**SPW 6306. Spanish American Drama**

3(3,0). PR: Admission into Spanish M.A. program. Critically recognized Spanish American Theater texts and pre-Hispanic theatrical works.

*Occasional*

CAH - Department of Modern Languages and Literatures

**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.

*Occasional*

CAH - Department of Modern Languages and Literatures

**SPW 6356. Spanish American Poetry**

3(3,0). . A study of the different movements and their contribution to Spanish American poetry.

*Occasional*

CAH - Department of Modern Languages and Literatures

**SPW 6358. Modernismo**

3(3,0). Admission to Spanish M.A. program. The first Spanish American literary movement (approximately 1880-1910) that impacted the 20th century Spanish language and culture.

*Occasional*

CAH - Department of Modern Languages and Literatures

**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.

*Occasional*

CAH - Department of Modern Languages and Literatures

**SPW 6485. Contemporary Peninsular Literature**

3(3,0). . A study of the major writers and literary movements from the Generation of 1927 to the present.

*Occasional*

CAH - Department of Modern Languages and Literatures

**SPW 6725. The Generation of 1898**

3(3,0). . An analysis of the major works of writers of the Generation of 1898 such as Ganivet, Unamuno, Baroja, Azorin, and Machado.

*Occasional*

CAH - Department of Modern Languages and Literatures

**SPW 6775. Spanish Caribbean Prose**

3(3,0). PR: SPW 6919. Spanish Caribbean writers from Colonial times to the present.

*Fall*

CAH - Department of Modern Languages and Literatures

**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.

*Occasional*

CAH - Department of Modern Languages and Literatures

**SPW 6919. Advanced Spanish Graduate Research**

3(3,0). PR: Graduate student in Spanish MA 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 linguistics, literary criticism and culture.

*Occasional*

CAH - Department of Modern Languages and Literatures

**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.

*Spring*

ED - School of Teaching, Learning, and Leadership

**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.

*Fall*

ED - School of Teaching, Learning, and Leadership

**SSE 5790. Inquiry and Instructional Analysis in Social Science Education**

3(3,0). PR: EDG 6415 or admission to Teacher Leadership MEd program or Initial Teacher Professional Preparation certificate. 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.

*Summer*

ED - School of Teaching, Learning, and Leadership

**SSE 6115. Methods in Elementary School Social Science**

3(3,0). PR: Graduate standing or C.I. Study of instructional programs in social sciences; objectives; materials; techniques; current research; and their application in elementary school setting.

*Fall, Spring*

ED - School of Teaching, Learning, and Leadership

**SSE 6348. Foundations and Fundamentals of Teaching History in the K-12 Classroom**

3(3,0). PR: Graduate standing or C.I. This course examines empirical research and pedagogical approaches related to the teaching of history in the K-12 classroom environment.

*Odd Fall*

ED - School of Teaching, Learning, and Leadership

**SSE 6387. Teaching with Film**

3(3,0). PR: Graduate standing or C.I. Selected strategies, trends, methods, materials, and legal issues for effectively incorporating film in the K-12 classroom. Selected topics include media literacy, film research, and making movies



appropriate to educational settings.

*Spring*

*ED - School of Teaching, Learning, and Leadership*

**SSE 6388. Digital History in the K-12 Classroom**

3(3,0). PR: Graduate standing or C.I. This course looks at the concept of digital history and how this pedagogical approach can and should be applied in the K-12 social studies classroom environment.

*Fall*

*ED - School of Teaching, Learning, and Leadership*

**SSE 6396. Teaching with Primary Sources in the History Classroom**

3(3,0). Graduate standing or C.I. This course focuses on the creation, teaching, and evaluation of history-specific, content-informed and effective instructional practices that integrate primary sources.

*ED - School of Teaching, Learning, and Leadership*

**SSE 6617. Trends in Elementary School Social Studies Education**

3(3,0). Basic Teacher Certificate or C.I. Historical development and current trends, strategies for inquiry instruction, intellectual, social, and personal dimensions of social studies.

*Occasional*

*ED - School of Teaching, Learning, and Leadership*

**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.

*Occasional*

*ED - School of Teaching, Learning, and Leadership*

**SSE 7700. Critical Issues in Social Studies Teacher Education**

3(3,0). PR: Doctoral standing. An examination of the relevant literature surrounding the research and practice of social studies teacher education. The course examines the major themes, ideas, perspectives, and programs.

*Even Fall*

*ED - School of Teaching, Learning, and Leadership*

**SSE 7740. History of Social Studies Education**

3(3,0). PR: Doctoral standing. Major themes, ideas, and personalities in the historical development of curriculum and instruction in social studies in the United States since 1880.

*Odd Fall*

*ED - School of Teaching, Learning, and Leadership*

**SSE 7796. Research in Social Science Education Seminar**

3(3,0). PR: Doctoral standing. Analysis and evaluation of scholarly research in social studies education.

*Odd Spring*

*ED - School of Teaching, Learning, and Leadership*

**SSE 7797. Content and Program Analysis in Social Science Education**

3(3,0). PR: Doctoral standing. Analysis of social science instructional programs including development of content, materials, processes, and assessment procedures in light of current research and practice.

*Even Fall*

*ED - School of Teaching, Learning, and Leadership*

**SSE 7947. Internship in Social Science Education**

3(3,0). PR: Doctoral standing. Student teaching in a classroom under supervision of a certified classroom teacher. May be used in the degree program a maximum of 3 times.

*Fall, Spring, Summer*

*ED - School of Teaching, Learning, and Leadership*

**STA 5045. Statistical Analysis of Communication Data**

3(3,0). PR: STA 2023 or C.I. Descriptive statistics; correlation; bivariate, multiple and logistic regression; reliability and validity; effect size, power, confidence intervals; one and two sample tests; ANOVA; categorical data analysis.

*Fall, Spring*

*COS - Nicholson School of Communication*

**STA 5104. 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.

*Fall*

*COS - Department of 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.

*Fall*

*COS - Department of 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.

*Spring*

*COS - Department of Statistics*

**STA 5176. Introduction to Biostatistics**

3(3,0). 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.

*Occasional*

*COS - Department of 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.

*Spring*

*COS - Department of 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.



Fall

COS - Department of 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.

*Occasional*

COS - Department of 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.

*Occasional*

COS - Department of Statistics

**STA 5703. Data Mining Methodology I**

3(3,0). PR: STA 5104 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.

Fall

COS - Department of 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.

*Spring*

COS - Department of Statistics

**STA 6106. Statistical Computing I**

3(3,0). . Computer systems, approximating probabilities/percentiles, random number generation, linear model computations, and density estimation.

Fall

COS - Department of Statistics

**STA 6107. Statistical Computing II**

3(3,0). 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.

*Occasional*

COS - Department of Statistics

**STA 6207. Response Surface and Mixture Experiments**

3(3,0). STA 5205. Approximating response functions; first-order and second-order response surfaces; ridge systems; mixture problems, component proportions, and the analysis of mixture data.

*Occasional*

COS - Department of 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.

*Occasional*

COS - Department of 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.

Fall

COS - Department of 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.

*Occasional*

COS - Department of 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.

*Spring*

COS - Department of 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.

*Spring*

COS - Department of Statistics

**STA 6326. Theoretical Statistics I**

3(3,0). PR: MAC 2313. Distribution of random variables, conditional probability and independence, some special distributions, distributions of functions of random variables, limiting distributions.

Fall

COS - Department of 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.

*Spring*

COS - Department of 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.

Fall

COS - Department of 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.

*Occasional*

*COS - Department of Statistics*

**STA 6347. Advanced Statistical Inference II**

3(3,0). STA 6346. Minimax analysis, invariance, admissibility, maximal invariants, sequential analysis.

*Occasional*

*COS - Department of 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.

*Occasional*

*COS - Department of 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.

*Occasional*

*COS - Department of Statistics*

**STA 6673. Risk Management and Actuarial Applications**

3(3,0). PR: STA 6326. Risk management theory and practice in actuarial science.

*Occasional*

*COS - Department of 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, and insurance pricing models.

*Spring*

*COS - Department of Statistics*

**STA 6704. Data Mining Methodology II**

3(3,0). PR: STA 5703. Statistical techniques for data mining that include discriminant analysis, logistic regression, and factor analysis.

*Spring*

*COS - Department of Statistics*

**STA 6705. Data Mining Methodology III**

3(3,0). PR: Graduate standing and STA 5703. Current topics in data mining.

*Occasional*

*COS - Department of 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-Squared, multivariate analysis of variance, canonical correlations and principal components.

*Occasional*

*COS - Department of Statistics*

**STA 6714. Data Preparation**

3(3,0). PR: STA 5104. Variable reduction, variable clustering, missing value imputation, and data survey. Additional data preparation topics associated with data mining techniques.

*Spring*

*COS - Department of 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.

*Occasional*

*COS - Department of Statistics*

**SYA 5625. ProSeminar**

3(3,0). PR: Graduate 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.

*Fall*

*COS - Department of Sociology*

**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.

*Spring*

*COS - Department of Sociology*

**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.

*Fall*

*COS - Department of Sociology*

**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.

*Occasional*

*COS - Department of Sociology*

**SYA 6425. Design and Conduct of Social Surveys**

3(3,0). PR: Graduate standing or C.I. Advanced social survey research methods, including sampling theory and applications, measurement, data collection modalities, questionnaire construction, and data reduction strategies.

*Occasional*

*COS - Department of Sociology*

**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.

*Spring*

*COS - Department of Sociology*

**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.

*Occasional*

*COS - Department of Sociology*

**SYA 6657. Program Design and Evaluation**

3(3,0). PR: SYA 6305 and SYA 6455 or C.I. Techniques of system and policy assessment, evaluation, and design.

Determination of consequences and implications of policies and practices in applied settings.

*Spring*

*COS - Department of Sociology*

**SYA 6660. Seminar in Teaching Sociology**

3(3,0). PR: Graduate standing or C.I. Pedagogical theories and Practices for sociologists.

*Occasional*

*COS - Department of Sociology*

**SYA 6933. Topics in Sociological Theory**

3(3,0). Graduate standing or C.I. In-depth examination of a particular area of sociological theory, emphasizing major developments, current uses, implications for research, and overall impact on the field.

*Occasional*

*COS - Department of Sociology*

**SYA 7019. Advanced Sociological Theory**

3(3,0). PR: SYA 6126 and doctoral standing or C.I. Research seminar in sociological theory.

*Fall*

*COS - Department of Sociology*

**SYA 7309. Advanced Sociological Research Methods**

3(3,0). PR: SYA 6305 and doctoral standing or C.I. Applied research, incorporating aspects of project design, budgeting, grants and contracts, methodological techniques, report writing, and ethical issues.

*Fall*

*COS - Department of Sociology*

**SYA 7407. Advanced Data Analysis**

3(3,0). PR: SYA 6305 and SYA 6455 and doctoral standing or C.I. Multivariate statistical techniques and the development of computer skills.

*Spring*

*COS - Department of Sociology*

**SYA 7457. Topics in Data Analysis**

3(3,0). PR: SYA 7407 and doctoral standing or C.I. Application of multivariate statistical techniques.

*Occasional*

*COS - Department of Sociology*

**SYA 7658. Social Policy and Research Analysis**

3(3,0). PR: Doctoral standing or C.I. Sociological perspectives on creation, development, implementation, and consequences of social policy.

*Fall*

*COS - Department of Sociology*

**SYD 5517. Environment and Society**

3(3,0). PR: Graduate standing or C.I. The application of sociological theory and methods to the relationships between communities, societies, and the environment.

*Occasional*

*COS - Department of Sociology*

**SYD 5795. Class, Race, and Gender in American Society**

3(3,0). PR: Graduate 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.

*Occasional*

*COS - Department of Sociology*

**SYD 6417. Contemporary Urban Sociology**

3(3,0). PR: Graduate standing or C.I. Contemporary issues in urban sociology.

*Occasional*

*COS - Department of Sociology*

**SYD 6418. Issues in Urban Sociology**

3(3,0). Graduate standing in Sociology or related field, or C.I. Development and current condition of urban residents.

*Occasional*

*COS - Department of Sociology*

**SYD 6428. Poverty, Homelessness and the Cities**

3(3,0). PR: Graduate standing in sociology or related discipline or C.I. Poverty, homelessness and their impact on American cities in the 21st century.

*Occasional*

*COS - Department of Sociology*

**SYD 6515. Race, Class and Environmental Justice**

3(3,0). PR: Graduate standing or C.I. The sociological study and analysis of the distributional impacts of environmental degradation on poor people and people of color.

*Occasional*

*COS - Department of Sociology*

**SYD 6516. Human Dimensions of Natural Resource Management**

3(3,0). PR: Graduate standing or C.I. The dynamic relationship between social and ecological systems, and the integral role of natural resource agencies.

*Occasional*

*COS - Department of Sociology*

**SYD 6538. Topics in Social Inequalities**

3(3,0). PR: Graduate standing or C.I. Examines cutting-edge research in an area of social inequalities, with an emphasis on how social inequalities are created and maintained in contemporary society. May be used in the degree program a maximum of 3 times.

*Occasional*

*COS - Department of Sociology*

**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.

*Occasional*

*COS - Department of Sociology*

**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.

*Occasional*

*COS - Department of Sociology*

**SYG 7919. Doctoral Research**

VAR(VAR,VAR). PR: Doctoral standing. Doctoral research. May be repeated for credit. Graded S/U.

*Fall, Spring, Summer*

*COS - Department of Sociology*

**SYG 7980. Doctoral Dissertation**

VAR(VAR,VAR). PR: Candidacy status. Doctoral dissertation. Graded S/U. May be repeated for credit.

*Fall, Spring, Summer*

*COS - Department of Sociology*

**SYO 6175. Social Research in the Family**  
3(3,0). PR: Graduate standing 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.

*Occasional*

*COS - Department of Sociology*

**SYO 6205. Religion and Society**  
3(3,0). PR: Graduate standing. Research in the sociology of religion.

*Occasional*

*COS - Department of Sociology*

**SYO 6405. Sociology of Health and Illness**  
3(3,0). PR: Graduate standing or C.I. Sociological models of health and illness.

*Occasional*

*COS - Department of Sociology*

**SYO 6515. Issues in Social Disorganization**  
3(3,0). PR: Graduate standing or 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.

*Occasional*

*COS - Department of Sociology*

**SYP 5005. Sociological Social Psychology**  
3(3,0). PR: Graduate 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.

*Occasional*

*COS - Department of Sociology*

**SYP 5525. Sociological Criminology**  
3(3,0). PR: Graduate 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.

*Occasional*

*COS - Department of Sociology*

**SYP 5566. 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.

*Occasional*

*COS - Department of Sociology*

**SYP 5615. Sociology of Culture**  
3(3,0). PR: Graduate standing or C.I. Major theoretical approaches and empirical studies in the sociology of culture and analysis of cultural processes.

*Occasional*

*COS - Department of Sociology*

**SYP 5738. Seminar on the Welfare State and Aging**  
3(3,0). PR: Graduate standing or C.I. A sociological examination of old policies from a cross-cultural perspective.

*Occasional*

*COS - Department of Sociology*

**SYP 6515. Deviant Behavior Issues**  
3(3,0). PR: Graduate standing or C.I. An examination and evaluation of the forms of social deviance, and the organizations designed to respond to them.

*Occasional*

*COS - Department of Sociology*

**SYP 6518. Guns, Crime and Violence**  
3(3,0). PR: Graduate standing in sociology or related discipline or C.I. Role of firearms in America: Guns in history; civilian gun ownership; guns, crime and criminals; and guns and public policy.

*Occasional*

*COS - Department of Sociology*

**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.

*Occasional*

*COS - Department of Sociology*

**SYP 6524. Social Organization of Homicide**  
3(3,0). PR: Graduate standing or C.I. An in-depth analysis of the social and cultural context of homicide and of intervention strategies. The primary emphasis is on the contemporary U.S.

*Occasional*

*COS - Department of Sociology*

**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.

*Occasional*

*COS - Department of Sociology*

**SYP 6555. Sociology of Alcohol and Drugs**  
3(3,0). PR: Graduate standing in sociology or related fields or C.I. Themes and research literatures in the sociology of alcohol and drug use, misuse and abuse and the social policy response.

*Occasional*

*COS - Department of Sociology*

**SYP 6561. Child Abuse in Society**  
3(3,0). PR: Graduate standing or C.I. A sociological examination of literature and current research pertaining to child abuse and neglect.

*Occasional*

*COS - Department of Sociology*

**SYP 6563. Reactions to Domestic Violence**  
3(3,0). PR: Graduate standing or 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.

*Occasional*

*COS - Department of Sociology*

**SYP 6565. Elder Abuse and Neglect**  
3(3,0). PR: Graduate standing or C.I. A sociological examination of elder abuse and neglect in the family and other social settings.

*Occasional*

*COS - Department of Sociology*

**SYP 6735. 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.

*Occasional*

*COS - Department of Sociology*

**TAX 5015. Advanced Tax Topics**

3(3,0). PR: Graduate standing, TAX 4001 with a "C" (2.0) or better. Advanced tax issues affecting business entities and their owners, with a primary focus on corporations and partnerships.

*Occasional*

*BA - Kenneth G. Dixon School of Accounting*

**TAX 6065. Tax Research**

3(3,0). PR: TAX 4001 and graduate standing. Legal and ethical guidelines governing tax practice.

*Fall, Spring*

*BA - Kenneth G. Dixon School of 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.

*Occasional*

*BA - Kenneth G. Dixon School of 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.

*Occasional*

*BA - Kenneth G. Dixon School of Accounting*

**TAX 6317. Taxation of Flow-thru Entities**

3(3,0). PR: Graduate standing and TAX 5015. Federal taxation relating to operations, formation, distribution, retirements and liquidations of flow-thru entities such as partnerships, limited liability companies, and S corporations.

*Occasional*

*BA - Kenneth G. Dixon School of Accounting*

**TAX 6405. Taxation of Estates and Gifts**

3(3,0). PR: TAX 4001 and graduate standing. Federal transfer taxes affecting gifts and estates.

*Occasional*

*BA - Kenneth G. Dixon School of 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.

*Occasional*

*BA - Kenneth G. Dixon School of Accounting*

**TAX 6527. Multi-jurisdictional Taxation**

3(3,0). PR: Graduate standing and TAX 4001. Study of tax issues involved when business enterprises operate in multiple taxing jurisdictions. Principles of both multi-state and international income taxation.

*Occasional*

*BA - Kenneth G. Dixon School of Accounting*

**TAX 6845. Tax Planning and Consulting**

3(3,0). PR: TAX 4001 and graduate standing. Individual and business tax planning.

*Occasional*

*BA - Kenneth G. Dixon School of Accounting*

**TAX 6875. Contemporary Tax Topics**

3(3,0). PR: Graduate standing and TAX 5015. Advanced study of current tax issues affecting both business and individual taxpayers, including tax policy, pending tax legislation and tax reform.

*Occasional*

*BA - Kenneth G. Dixon School of Accounting*

**THE 5205. American Theatre**

3(3,0). PR: THE 5910, and MA or MFA Theatre Graduate.

Examination of performance and historical perspectives of American drama.

*Spring*

*CAH - Department of Theatre*

**THE 5215. Global Theatre**

3(3,0). PR: Admission into the MFA/MA Theatre programs or C.I. Theatrical arts and traditions of various countries with an emphasis on non-western countries.

*Occasional*

*CAH - Department of Theatre*

**THE 5237. Cultural Diversity in Theatre**

3(3,0). PR: Admission into the MFA/MA Theatre programs or C.I. Commonality of human experience among various groups through the study of dramatic literature.

*Occasional*

*CAH - Department of Theatre*

**THE 5248. Musical Theatre in History**

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.

*Fall*

*CAH - Department of Theatre*

**THE 5288. Period Costumes, Architecture and Decor I**

3(3,0). PR: Admission into Theatre MFA Design track. Costumes, architecture and decor from antiquity to the renaissance.

*Fall*

*CAH - Department of Theatre*

**THE 5289. Period Costumes, Architecture and Decor II**

3(3,0). PR: THE 5288. Costumes, architecture and decor from the Renaissance to present.

*Spring*

*CAH - Department of Theatre*

**THE 5307. Contemporary Theatre Practice**

3(3,0). PR: THE 3311, THE 3312, THE 3313, Restricted to Theatre majors or departmental consent. Contemporary trends in plays and theatre production in the late 20th century.

*Spring*

*CAH - Department of 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.



*Even Fall*

CAH - Department of Theatre

**THE 5425. Women in Theatre**

3(3,0). PR: Admission into the MFA/MA Theatre programs or C.I. An overview of women's contributions to theatre.

*Occasional*

CAH - Department of Theatre

**THE 5545. Theatre for Social Change**

3(3,0). PR: Admission into the MFA/MA Theatre programs or C.I. Theatre activists' impact on theatrical art forms.

*Occasional*

CAH - Department of Theatre

**THE 5910. Research Methods in Theatre**

3(3,0). PR: MFA and MA in Theatre. Practice knowledge, skills and techniques needed by students to conduct research to include organization, styles, footnotes, and bibliographic forms.

*Fall*

CAH - Department of Theatre

**THE 5945L. Theatre Practicum I**

1(0,20). PR: Graduate status or C.I. A laboratory course designed to develop students' practical working knowledge in Theatre.

*Occasional*

CAH - Department of Theatre

**THE 5946L. Theatre Practicum II**

1(0,20). PR: Admission into the graduate program, Theatre Practicum I. A laboratory course designed to develop students' practical working knowledge in theatre.

*Occasional*

CAH - Department of Theatre

**THE 6086C. Careers in Professional Theatre**

3(2,2). PR: Admission to the graduate program in Theatre or C.I. Practical courses focusing on job search skills and other aspects of marketing yourself.

*Spring*

CAH - Department of 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.

*Fall*

CAH - Department of 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.

*Fall*

CAH - Department of Theatre

**THE 6726. Advanced TYA Seminar**

3(3,0). PR: THE 5910 and THE 6756. Historical, theoretical, and international contexts shaping the field of Theatre for Young Audiences.

CAH - Department of Theatre

**THE 6756. Methods of Teaching Drama**

3(3,0). PR: Admission to Theatre graduate program or C.I. Methods of teaching drama in contained classroom settings to youth.

*Fall*

CAH - Department of Theatre

**THE 6947L. Theatre Practicum III**

1(0,20). PR: Admission into the graduate program, Theatre Practicum II. A laboratory course designed to develop students' practical working knowledge in theatre.

*Occasional*

CAH - Department of Theatre

**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.

*Occasional*

CAH - Department of Theatre

**TPA 5029C. Lighting Design Studio**

3(2,2). PR: TPA 5042C and TPA 5062C. Advanced work in the process of designing light for the stage with an emphasis on the use of light as artistic expression.

*Occasional*

CAH - Department of Theatre

**TPA 5042C. Costume Design Studio**

3(2,2). PR: Admission to the graduate program in Theatre or C.I. Project oriented course in the advance study of Costume Design.

*Occasional*

CAH - Department of Theatre

**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.

*Spring*

CAH - Department of Theatre

**TPA 5081C. Design Concepts for Youth Theatre**

3(3,3). PR: Admission to the graduate program in Theatre or C.I. A study of design elements (lighting, costume, set) as they apply to youth theatre.

*Odd Spring*

CAH - Department of Theatre

**TPA 5085C. Design Seminar for Theatre**

2(2,2). PR: Admission into Theatre MFA Design track. Scenic, costume, lighting and sound design for theatre.

*Occasional*

CAH - Department of Theatre

**TPA 5095C. Rendering for Theatre I**

1(1,1). PR: Admission to the graduate program in Theatre or C.I. Traditional visual communication skills necessary for scenic, costume, and lighting design.

*Fall*

CAH - Department of Theatre

**TPA 5175C. Rendering for Theatre II**

1(1,1). PR: TPA 5095C. Software and technology available for visual communication and documentation.

*Spring*

CAH - Department of Theatre

**TPA 5345C. 2D Computer Assisted Design for Theatre**

2(2,2). PR: Admission into the Theatre MFA Design track. Two-Dimensional computer drafting and editing techniques applicable to theatre design.

*Occasional*

*CAH - Department of Theatre*

**TPA 5346C. 3D Modeling for Theatre**

2(2,2). PR: TPA 5345C. Three-dimensional computer modeling and editing techniques applicable for theatre design.

*Occasional*

*CAH - Department of Theatre*

**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.

*Fall*

*CAH - Department of Theatre*

**TPA 5885C. Puppetry**

2(2,2). PR: Admission to MFA graduate program or C.I. Puppetry as an art form in design and performance.

*Odd Spring*

*CAH - Department of Theatre*

**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.

*Occasional*

*CAH - Department of Theatre*

**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.

*Occasional*

*CAH - Department of Theatre*

**TPA 6087C. Advanced Design Seminar for Theatre**

3(3,2). PR: TPA 5085C. Continuation of Design Seminar for Theatre.

*Spring*

*CAH - Department of Theatre*

**TPA 6096C. Advanced Rendering and Modeling for Theatre I**

3(2,2). PR: TPA 5095C. Technology relating to visual communication as well as 3 dimensional communication tools. May be used in the degree program a maximum of 3 times.

*Fall*

*CAH - Department of Theatre*

**TPA 6097C. Advanced Rendering and Modeling II**

3(2,2). PR: TPA 6096C. A continuation of Advanced Rendering and Modeling I with an emphasis on creating a professional portfolio of advanced work. May be used in the degree program a maximum of 3 times.

*Spring*

*CAH - Department of Theatre*

**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.

*Occasional*

*CAH - Department of Theatre*

**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.

*Occasional*

*CAH - Department of Theatre*

**TPA 6288C. Mask Making**

3(2,2). Admission to MFA graduate program or C.I. Masks as an art form in design and performance.

*Occasional*

*CAH - Department of Theatre*

**TPA 6406C. Theatre Management**

3(1,6). Admission to MFA graduate program or C.I. Study and application of concepts and tools of theatre management.

*CAH - Department of Theatre*

**TPA 6947. Design Practicum III**

1(0,20). 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.

*Occasional*

*CAH - Department of Theatre*

**TPA 6948L. Design Practicum IV**

1(0,20). 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.

*Occasional*

*CAH - Department of Theatre*

**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.

*Odd Fall*

*CAH - Department of Theatre*

**TPP 5156C. Acting Studio I**

3(2,2). PR: Admission to Theatre MFA Acting or Musical Theatre Track. An advanced scene study course with emphasis on scene analysis and character development and application of acting techniques in modern contemporary American plays.

*Fall*

*CAH - Department of Theatre*

**TPP 5157C. Acting Studio II**

3(2,2). PR: TPP 5156C. Advanced scene study course applying acting methodologies to the works of modern (1850-) European playwrights with emphasis on the works of Ibsen/Chekhov/Shaw.

*Spring*

*CAH - Department of Theatre*

**TPP 5246C. Circus Arts**

2(2,2). PR: Admission to Theatre graduate program or C.I. Circus skills and history.

*Even Spring*

CAH - Department of Theatre

**TPP 5248C. Storytelling as a Theatrical Art Form**

2(2,2). PR: Admission to Theatre graduate program or C.I. Application of storytelling as an art form.

Spring

CAH - Department of Theatre

**TPP 5273. Musical Theatre Acting I**

2(2,0). PR: TPP 5157C. 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.

Occasional

CAH - Department of Theatre

**TPP 5278C. Musical Theatre Lab**

1(1,1). PR: TPP 5157C. Practical course in developing musical theatre skills for the actor.

Spring

CAH - Department of Theatre

**TPP 5289C. Acting Methodologies**

2(2,3). PR: Admission to the graduate program in Theatre or C.I. Approaches to acting.

Even Fall

CAH - Department of Theatre

**TPP 5386C. Directing for Young Audiences**

3(3,3). PR: THE 5910 and THE 5385. Study of the principles, procedures, and practices of stage direction as it applies to theatre for young audiences.

Odd Spring

CAH - Department of 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.

Fall

CAH - Department of 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.

Spring

CAH - Department of 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.

Fall

CAH - Department of 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.

Spring

CAH - Department of 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.

Fall

CAH - Department of 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.

Spring

CAH - Department of 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.

Fall

CAH - Department of 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 used in the degree program a maximum of 5 times.

Odd Spring

CAH - Department of 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.

Fall

CAH - Department of Theatre

**TPP 6186C. Advanced Scene Study**

3(3,1). PR: TPP 5156C. Acting process and craft techniques related to the commercial theatre.

Occasional

CAH - Department of Theatre

**TPP 6216C. Theatre for Young Audiences Tour**

3(3,6). PR: Admission to the graduate program in Theatre or C.I. Performance, administration and technical work on a touring production for young audiences.

Even Spring

CAH - Department of 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.

Even Spring

CAH - Department of Theatre

**TPP 6267. Acting Studio V: TV/FILM**

3(3,0). PR: TPP 6518C and MFA Theatre Graduate. Technical and practical aspects of acting for Film and Television.

Spring

CAH - Department of Theatre

**TPP 6274. Musical Theatre Acting II**

2(2,0). PR: TPP 5273. Advanced and integrated study with emphasis on the development of skills in musical theatre characterization.

*Spring*

CAH - Department of Theatre

**TPP 6279. Musical Theatre Master Class**

2(2,0). PR: Admission to Theatre MFA Musical Theatre Track. Master classes conducted by permanent staff members and guest artists of the Seaside Music Theatre Company.

*Fall*

CAH - Department of Theatre

**TPP 6344. Musical Theatre Directing**

3(3,0). PR: Admission to MFA Musical Theatre program. A comprehensive study and practical application of the unique problems of directing for the musical stage.

*Spring*

CAH - Department of 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.

*Fall*

CAH - Department of 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.

*Spring*

CAH - Department of 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.

*Fall*

CAH - Department of 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.

*Spring*

CAH - Department of 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.

*Odd Fall*

CAH - Department of Theatre

**TPP 6717C. 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.

*Fall*

CAH - Department of 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.

*Spring*

CAH - Department of 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.

*Spring*

CAH - Department of 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.

*Fall*

CAH - Department of Theatre

**TPP 6757. Musical Theatre Voice IV**

2(2,0). PR: Admission to MFA Musical Theatre program. Continuation of Musical Theatre Voice III placing particular emphasis on synthesizing scene-to-song vocal production.

*Spring*

CAH - Department of Theatre

**TSL 5085. Teaching Language Minority Students in K-12 Classrooms**

3(3,0). PR: Admission to College of Education Master of Arts Program or C.I. Teaching K-12 limited English proficient (LEP) students. Florida standards regarding cross-cultural communication, ESOL curriculum, and materials, ESOL methodology, testing and evaluation of ESOL students, applied linguistics.

*Fall, Spring*

ED - School of Teaching, Learning, and Leadership

**TSL 5325. ESOL Strategies**

3(3,0). PR: Graduate status or senior standing or C.I. This 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.

*Occasional*

CAH - Department of Modern Languages and Literatures

**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.

*Fall, Spring*

ED - School of Teaching, Learning, and Leadership

**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.

*Occasional*

CAH - Department of Modern Languages and Literatures

**TSL 5380. 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.

*Even Summer*

CAH - Department of Modern Languages and Literatures

**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.

*Summer*

*ED - School of Teaching, Learning, and Leadership*

**TSL 5601. Second Language Vocabulary Learning**

3(3,0). PR: Graduate standing or C.I. Considers lexical issues encountered by second language learners; explores best practices for learners and their teachers and examines current research for pedagogical application.

*Occasional*

*CAH - Department of Modern Languages and Literatures*

**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.

*Spring*

*CAH - Department of Modern Languages and Literatures*

**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.

*Fall*

*CAH - Department of Modern Languages and Literatures*

**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.

*Spring*

*CAH - Department of Modern Languages and Literatures*

**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.

*Fall*

*CAH - Department of Modern Languages and Literatures*

**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.

*Occasional*

*CAH - Department of Modern Languages and Literatures*

**TSL 6374. TESOL Listening, Speaking and Pronunciation**

3(3,0). Graduate standing or C.I. Applications of second language acquisition theories, principles, and current research as they relate to the teaching of ESL listening, speaking and pronunciation.

*Even Fall*

*CAH - Department of Modern Languages and Literatures*

**TSL 6379. Second Language Literacy**

3(3,0). PR: TSL 5085 or TSL 5345 AND TSL 62250. An overview of literacy issues and literacy instruction for second language learners.

*Even Fall*

*ED - School of Teaching, Learning, and Leadership*

**TSL 6440. Assessment Issues in TESOL**

3(3,0). PR: Graduate standing or C.I. This course provides for the development of sound assessment knowledge necessary to prepare students to apply second language assessment theories, principles, and current research.

*Even Fall, Even Spring*

*CAH - Department of Modern Languages and Literatures*

**TSL 6600. Second Language Vocabulary Acquisition**

3(3,0). PR: Graduate standing or C.I. and one of the following graduate research courses: TSL 6640, EDF 6481, EDF 7475, EDF 7403. Research on how learners acquire new vocabulary in a second language. Course requires extensive reading as well as original field research.

*Even Spring*

*CAH - Department of Modern Languages and Literatures*

**TSL 6602. Second Language Vocabulary Research Seminar**

3(3,0). PR: Admission to Teaching English to Speakers of Other Languages M.A. or Teaching English to Speakers of Other Languages Ph.D. programs. Trains students in conducting original primary research of current lexical issues, based on extant secondary research studies pertaining to English language learners.

*Even Spring*

*CAH - Department of Modern Languages and Literatures*

**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.

*Occasional*

*CAH - Department of Modern Languages and Literatures*

**TSL 6642. Issues in Second Language Acquisition**

3(3,0). PR: TSL 6250, TSL 6640. Focuses on second language acquisition theories, principles, and current research as they relate to language-minority students acquiring English as a Second Foreign Language.

*Even Spring*

*CAH - Department of Modern Languages and Literatures*

**TSL 6643. Diachronic Analysis of Second Language Acquisition Processes**

3(3,0). PR: Graduate standing or C.I. Analysis of current research on second language acquisition (SLA) processes across the life span.

*Odd Fall*

*CAH - Department of Modern Languages and Literatures*

**TSL 6940. ESOL Practicum**

3(3,0). PR: C.I. Techniques and strategies for creating affective lesson plans for ESOL classroom activities. Graded S/U.

*Occasional*

*CAH - Department of Modern Languages and Literatures*

**TSL 6971. Thesis**

VAR. . This course is intended for graduate students in the TESOL MA program who wish to exercise the option of writing a thesis. Graded S/U. May be repeated for credit.

*Occasional*

*CAH - Department of Modern Languages and Literatures*



**TSL 7006. Second Language Teacher Preparation**  
3(3,0). PR: Admission to TESOL Ph.D. track or C.I. Examines the history of general and second language teacher preparation and provides a theoretical and practical rationale for the development of knowledge, skills, and dispositions necessary to prepare ESL and other teachers of English learners.

*Even Spring*

*ED - School of Teaching, Learning, and Leadership*

**TSL 7948. Doctoral Internship**

3(3,0). PR: Graduate standing or C.I. Students work with faculty members to develop teaching competency and research focus through a professional teaching experience. May be used in the degree program a maximum of 2 times.

*Fall, Spring*

*CAH - Department of Modern Languages and Literatures*

**TSL 7980. Dissertation Research**

VAR(0-99). PR: Student must be in candidacy. This is a dissertation research course. Graded S/U. May be repeated for credit.

*Fall, Spring, Summer*

*ED - School of Teaching, Learning, and Leadership*

**TTE 5204. Traffic Engineering**

3(3,0). PR: TTE 3810 or C.I. Study of operator and vehicle characteristics, and design for street capacity, signals, signs, and markings.

*Occasional*

*ECS - Department of Civil, Environmental, and Construction Engineering*

**TTE 5805. Geometric Design of Transportation Systems**

3(3,0). PR: TTE 3810 or C.I. Study of highway geometric design in the engineering of transportation systems.

*Occasional*

*ECS - Department of Civil, Environmental, and Construction Engineering*

**TTE 5835. Pavement Design**

3(3,0). PR: CEG 4011C. Pavement types, wheel loads, stresses in pavement components; design factors such as traffic configurations, environment, and economy.

*Occasional*

*ECS - Department of Civil, Environmental, and Construction Engineering*

**TTE 6205. Highway Capacity**

3(3,0). PR: TTE 6256 or TTE 5204 or C.I. Highway capacity for all functional classes of highway. Traffic signalization including traffic studies, warrants, cycle length, timing, phasing and coordination.

*Fall*

*ECS - Department of Civil, Environmental, and Construction Engineering*

**TTE 6256. Traffic Operations**

3(3,0). PR: TTE 4274 or C.I. Fundamentals of traffic flow theory and applications to traffic operations on highways and streets. Work on real life traffic operations project and report results.

*Fall*

*ECS - Department of Civil, Environmental, and Construction Engineering*

**TTE 6270. Intelligent Transportation Systems**

3(3,0). PR: TTE 6256 or TTE 5204 or C.I. Theories and

applications of intelligent vehicle highway systems in transportation engineering.

*Odd Spring*

*ECS - Department of Civil, Environmental, and Construction Engineering*

**TTE 6315. Traffic Safety Analysis**

3(3,0). PR: TTE 5805 or TTE 5204 or C.I. Understanding crash research concepts, and identifying factors contributing to traffic crash occurrence.

*Spring*

*ECS - Department of Civil, Environmental, and Construction Engineering*

**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.

*Occasional*

*ECS - Department of Civil, Environmental, and Construction Engineering*

**TTE 6625. Mass Transportation Systems**

3(3,0). PR: C.I. Planning, design, construction, operation, and administration of mass transportation systems.

*Occasional*

*ECS - Department of Civil, Environmental, and Construction Engineering*

**WST 5347. Research in Women and Gender Studies**

3(3,0). PR: Graduate standing or senior standing, or C.I. To explore feminist research methodologies and investigate relationships among feminist theory, research, social change, and gender equality as experienced at the workforce in private, public and non-profit spheres.

*Even Fall*

*CAH - Program in Women's Studies*

**WST 5601. Theories in Gender Studies**

3(3,0). PR: Graduate standing, Gender Studies graduate certificate standing, or C.I. Foundational scholarship in gender studies, with emphasis on theoretical and interdisciplinary approaches to gender and sexuality.

*Even Fall*

*CAH - Women's Studies*

**ZOO 5456C. Ichthyology**

4(2,6). PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. Introduction to the biology of the fishes, their classification, evolution, and life histories.

*Occasional*

*COS - Department of Biology*

**ZOO 5463C. Herpetology**

4(2,4). PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. Introduction to the biology of the amphibians and reptiles, their classification, evolution, and life histories.

*Odd Spring*

*COS - Department of Biology*

**ZOO 5475L. Field Ornithology**

3(0,6). PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. Introduction to the identification,

taxonomy, natural history, and biology of birds, with emphasis on survey techniques and systematics.

*Occasional*

*COS - Department of Biology*

**ZOO 5486. Mammalogy**

4(4,0). PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. Study of the diversity and biology of mammals from an evolutionary perspective.

*Even Spring*

*COS - Department of Biology*

**ZOO 5745C. Essentials of Neuroanatomy**

4(3,3). 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.

*Occasional*

*COM - Department of Molecular and Microbiology*

**ZOO 5748C. Clinical Neuroanatomy**

5(3,2). PR: ZOO 3733C Human Anatomy. Provides the necessary knowledge to understanding the complexities of human nervous system, its normal and pathologic functions, relevant to practice of general medicine and/or neuroscientists.

*Fall*

*COM - Department of Molecular and Microbiology*

**ZOO 5749C. Clinical Neuroscience**

5(3,2). PR: ZOO 3733C and ZOO 3744, or ZOO 3733C and ZOO 4743C or ZOO 5748C, or equivalents.

Clinically oriented teachings of neuroscience areas including selected topics in neuropathology, neuro-oncology, neuroimmunology, neuropharmacology, and neurodiagnostics.

*Spring*

*COM - Department of Molecular and Microbiology*

**ZOO 6520. Behavioral Ecology**

3(3,0). PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. Introduction to the field of Behavioral Ecology, which studies evolution of animal behavior in the wild.

*Even Fall*

*COS - Department of Biology*