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Events, activities, programs and facilities of the University of South Florida are available to all without regard to race, color, sex, religion, national origin, handicap or age as provided by law and in accordance with the University's respect for personal dignity.

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COMMUNICATING WITH THE UNIVERSITY

Academic Advising

Office of the Dean of the appropriate college.

Applications and Admissions

Office of Graduate Admissions, SVC 2172 974-3350

College of Medicine: Director of Admissions, MDC Box 3 974-2229

Career Development

Counseling Center for Human Development 974-2838,

SVC 207 974-2831 or 974-2866

Career Resource Center

Alumni Placement Services, SVC 2043 974-2171

Career Planning and Advising, SVC 2043 974-2171

Cooperative Education Program, SVC 2043 974-2171

Continuing Education Courses

Registration, SVC 1001 974-2000

Conferences and Institutes, LLL 012 974-2403

Counseling

Counseling Center for Human Development 974-2838,

SVC 207 974-2831 or 974-2866

Disabled Student Academic Services

Coordinator of Disabled Students, LIB 611

VOICE/TTY 974-4227

Financial Assistance (scholarships, loans, employment)

Office of Financial Aids, SVC 1102 974-4700

Office of Student Employment, SVC 1102 974-2297

Graduate Studies

Graduate School, FAO 126 974-2846

Health Services (Student)

Health Center, CTR 312 974-2331

Housing: Campus Residence Halls

Office of Housing and Food Service, RAR 233 974-4310

Housing: Off-Campus

Student Government Office, CTR 156A 974-3749

International Students

Office of Student Affairs CTR 160 974-5102

Library Resources:

Library Information, LIB 122 974-2727

Tampa Campus: Director of Libraries, LIB 207 974-2721

Fort Myers Campus: ECC/USF Learning Resources Center 489-9220

St. Petersburg Campus: University Librarian 893-9125

Sarasota Campus: Office of the Librarian 359-4300

Mature Student Advising

School of Continuing Education, LLL 012 974-2403

Minority Student Advising

Admissions Advisor, SVC 2172 974-3350

Graduate School, FAO 126 974-2846

Parking and Traffic Services

University Police Department, UPB 002 974-3990

Reading Study Skills

Counseling Center for Human Development, SVC 207 974-2838

Records, Registration

Office of the Registrar, SVC 1001 974-2000

Speakers Bureau

Office of Public Affairs - ADM 264 974-4014

Student Affairs

Office of Student Affairs, ADM 151 974-2151

Transcripts (USF)

Office of the Registrar, SVC 1001 974-2000

A UNIVERSITY WHOSE TIME HAS COME

The University of South Florida is a comprehensive metropolitan university:-in its student body, its faculty, its service to surrounding communities, and particularly in its diversity and range of academic programs. USF graduate students have a choice of two specialist programs, 80 master's programs, and 19 doctoral programs.

Higher education has entered an era in which the traditional role of universities is expanding to include students with a variety of goals and objectives and to provide more diverse services to the communities that support them. Many colleges and universities across the country are just beginning to embrace this shift toward a more comprehensive mission. USF, however, was founded in 1956 with precisely this expanded sense of purpose. In a remarkably short time, it has become an intellectual and cultural force of international standing.

A Distinct Character and Mission

USF was founded in a major metropolitan setting and is at the heart of an increasingly complex urban society, thereby making its educational resources available to the greatest number of people, while simultaneously making available to students and faculty the cultural resources of an educationally fertile urban environment. The resulting "give and take" has propelled the University to a level of excellence and diversity matched by few institutions in so short a time.

The University's goal for the next decade is "to achieve preeminence as a comprehensive metropolitan university dedicated to the pursuit of academic excellence. It will place increasing emphasis upon advanced graduate and professional studies during the next 10 years. Because it serves a densely populated community, USF places particular emphasis upon the instructional, research, and service needs of its several metropolitan areas in planning and implementing its mission.

Teaching and Research Go Hand In Hand

Because USF believes that the best faculty is one composed of men and women who strike a balance between teaching and scholarly research, students in the University are taught by dedicated teachers who are actively pioneering research in their disciplines. At USF, the two go hand-in-hand.

A survey of our faculty at any given moment would bring to light an impressive range of professional activity: a member of the Chemistry faculty is measuring the level of pollutants in Florida's air and water; a Sociology professor is testing the effectiveness of radio in teaching new agricultural methods to subsistence farmers in Guatemala; an English professor is assembling the definitive Machiavelli bibliography; a pair of Engineering professors are using a computer to model the impact of hurricanes on increasingly densely populated coastal areas; faculty members in several departments are editing professional journals. The list goes on and on. In a typical year, USF's faculty generates more than \$50 million in sponsored research, much of it concerned with problems affecting the nation's environment and quality of life. Graduate students are expected to contribute assistance and original research in their areas of interest, and the opportunities to accomplish this are as many and varied as the students themselves.

When Did It All Begin?

The University of South Florida was founded on December 18, 1956, but the first students did not enroll until almost four years later. When USF opened to a charter

class of 1,997 students on September 26, 1960, it became the first major state university in America planned and built entirely in this century. Moreover, as Florida's first state university planned for a major metropolitan center, USF represents the first step in a comprehensive expansion of the State University System of Florida. The SUS, directed by the Florida Board of Regents and administered by a Chancellor and staff in Tallahassee, today consists of nine public universities. Together with 28 public junior and community colleges and a number of vocational-technical centers throughout the state, these universities comprise public post-secondary education in Florida.

Multiple campuses of USF were opened in St. Petersburg (1965), Fort Myers (1974), and Sarasota (1975), and a center was opened in Lakeland in 1987.

Dr. John S. Allen, astronomer and educator, served as USF's first president from 1957 to 1970. Dr. Cecil Mackey, economist and lawyer, was president of the University from 1971 to 1976. Dr. John Lott Brown, psychologist and optical scientist, served as our third president from 1978 to 1988. Dr. Francis T. Borkowski, musician and educator, became our fourth president on February 15, 1988. Continuity in administration has been provided by Dr. Harris W. Dean, acting president, 1970; Wm. Reece Smith, Jr., interim president, 1976; Dr. Carl D. Riggs, acting president, 1977.

Now in its 33rd year of instruction, the University has graduated more than 88,000 students, 90 percent of whom reside in Florida. Enrollment in the fall of 1989 totalled more than 31,000. The University's economic impact on the area is equally significant, now exceeding \$300 million annually.

Programs Offered

A measure of the University's success, one more significant than mere statistics, is the nature of its academic programs. Through them, USF seeks to serve an increasingly urban state and nation. These programs are in the Academic Affairs division of the University and, for the most part, are administered in one of 11 colleges: Arts & Letters, Business Administration, Education, Engineering, Fine Arts, Medicine, Natural Sciences, Nursing, Public Health, Social & Behavioral Sciences, and an Honors College, New College of USF on the Sarasota Campus.

Degrees are offered in more than 100 academic areas by the University's colleges. Graduate degrees are offered in more than 80 of these areas. Additionally, a Master of Architecture degree is offered in cooperation with Florida A&M University.

The University's first Ph.D. program in Biology, with emphasis on Marine Biology, was established in 1968. Since then Ph.D. programs have been established in Applied Anthropology, Business Administration, Chemical Engineering, Chemistry, Civil Engineering, Computer Engineering, Education, Electrical Engineering, English, Engineering Science, Industrial Engineering, Marine Science, Mathematics, Mechanical Engineering, Medical Sciences, Psychology and Public Health. USF also offers the Ed.D. in Education.

The University's teaching and research faculty, numbering more than 1,000, represent all major areas of higher learning.

Accreditation

USF was fully accredited in 1965 by the Southern Association of Colleges and Schools, the official accrediting agency for educational institutions in the South. A self-study of the University's programs and purposes, periodically required for continued accreditation, was reaffirmed in December, 1984. But the University community continues to reexamine its mission and goals to ensure that it never loses sight of its only reason for existence: serving you, the student.

FIELDS OF GRADUATE STUDY

Master's Degree Programs:

College of Arts & Letters - M.A.

American Studies	Classics	Communication
English	French	Liberal Arts
Linguistics (ESL)	Mass Communications	Philosophy
Religious Studies	Rhetoric & Composition	Spanish

College of Business Administration

Accountancy - M.Acc.
Business Administration - M.B.A.
Executive M.B.A. - M.B.A.
Economics - M.A.
Management - M.S.

College of Education

Adult & Vocational Education - M.A.
Adult Education Business & Office Education
Distributive Education Industrial - Technical Education
Art Education - M.A.
Curriculum & Instruction - M.Ed.
Educational Leadership - M.Ed.
Elementary Education - M.A.
Exceptional Child Education - M.A.
Emotional Disturbance Gifted Motor Disabilities
Mental Retardation Specific Learning Disabilities
English Education - M.A.
Foreign Language - M.A.
French German Latin Spanish
Guidance & Counseling Education - M.A.
Junior College Teaching - M.A.
Biology Business Chemistry Economics
Engineering English French Geography
Geology History Mathematics Physics
Political Science Sociology
Spanish Speech Communication
Library & Information Science - M.A.
Measurement & Evaluation - M.Ed.
Mathematics Education - M.A.
Music Education - M.A.
Physical Education - M.A.
Reading Education - M.A.
Science Education - M.A.
Biology Chemistry Physics
Social Science Education - M.A.

College of Engineering

Master of Civil Engineering - M.C.E.
Master of Engineering - M.E.
Master of Science
Chemical Engineering - M.S.C.E. Civil Engineering - M.S.C.E.
Computer Engineering - M.S.C.S. Electrical Engineering - M.S.E.E.
Engineering - M.S.E. Engineering Management - M.S.E.M.
Engineering Science - M.S.E.S. Industrial Engineering - M.S.I.E.
Mechanical Engineering - M.S.M.E.

College of Fine Arts

Art - M.F.A.
Art History - M.A.
Music - M.M.

College of Medicine

Medical Sciences - M.S.M.S.

College of Natural Sciences

Botany - M.A., M.S.

Marine Science - M.S.

Oceanography - M.S.

Chemistry - M.A., M.S.

Mathematics - M.A.

Physics - M.S.

Geology - M.S.

Microbiology - M.A., M.S.

Zoology - M.S.

College of Nursing

Nursing - M.S.

College of Public Health

Master of Public Health - M.P.H.

Environmental Health

Health Policy & Management

Maternal & Child Health

Epidemiology & Biostatistics

Industrial Hygiene/Safety Management

Public & Community Health Education

Master of Science in Public Health - M.S.P.H.

College of Social & Behavioral Sciences

Applied Anthropology - M.A., Ph.D.

Anthropology - M.A.

Communication Science & Disorders:

Audiology - M.S.

Aural Rehabilitation - M.S.

Speech Pathology - M.S.

Criminology - M.A.

Geography - M.A.

Gerontology - M.A.

History - M.A.

Political Science - M.A.

Psychology - M.A.

Public Administration - M.P.A.

Rehabilitation Counseling - M.A.

Social Work - M.S.W.

Sociology - M.A.

FAMU/USF Cooperative Architecture Program

Architecture - M.Arch.

Intermediate Program

College of Education

Education Specialist - Ed.S.

Doctoral Degree Programs

College of Arts & Letters - Ph.D.

English

College of Business Administration - Ph.D.

Business Administration

College of Education - Ed.D., Ph.D.

Education

College of Engineering - Ph.D.

Chemical

Civil

Computer Science

Electrical

Engineering Science

Industrial Engineering

Mechanical

College of Medicine - Ph.D.

Medical Sciences

College of Natural Sciences - Ph.D.

Biology

Chemistry

Marine Science

Mathematics

College of Public Health - Ph.D.

Public Health

College of Social & Behavioral Sciences - Ph.D.

Applied Anthropology

Psychology

ACADEMIC CALENDAR

Spring Semester, 1990

August 1, Tue.	Last day for international applicants to apply for admission and submit all credentials and supporting documents.
November 6, Mon.	Last day to apply for admission (all others).
November 6, Mon.	Former Student Returning Application Deadline.
January 8, Mon.	Classes begin.
January 12, Fri.	Last day to withdraw/drop and receive full refund of registration fees.
January 12, Fri.	Last day to add courses.
January 12, Fri.	Last day for late registration.
January 12, Fri.	Last day to pay fees.
January 15, Mon.	Martin Luther King Day
February 2, Fri.	Graduation application deadline
February 9, Fri.	CLAST registration deadline
March 9, Fri.	Last day to drop or withdraw from courses without Academic Penalty.
March 10, Sat.	CLAST administration day
March 19-23,	Spring Semester Break
April 20, Fri.	Classes end.
April 21-27, Sat.-Fri.	Final Examinations
April 28, Sat.	Commencement (Tampa)
April 29, Sun.	Commencement (St. Petersburg)
April 30, Mon.	Commencement (Ft. Myers)
May 1, Tues.	Commencement (Sarasota)

Summer Term, 1990 Session A (First Seven - Week Session)

January 2, Tue.	Last day for international applicants to apply for admission and submit all credentials and supporting documents.
March 12, Mon.	Last day to apply for admission (all others).
March 12, Mon.	Former Student Returning Application Deadline
May 4, Fri.	CLAST Registration Deadline
May 7, Mon.	Classes begin.
May 11, Fri.	Last day to withdraw/drop and receive full refund of registration fees.
May 11, Fri.	Last day to add classes.
May 11, Fri.	Last day for late registration.
May 11, Fri.	Last day to pay fees.
May 25, Fri.	Last day to drop or withdraw from courses without Academic Penalty.
May 28, Mon.	Memorial Day Holiday
June 1, Fri.	Graduation application deadline
June 2, Sat.	CLAST administration day
June 22, Fri.	Last day of classes.

Session B (Second Seven - Week Session)

January 2, Tue.	Last day for international applicants to apply for admission and submit all credentials and supporting documents.
March 12, Mon.	Former Student Returning Application Deadline
March 12, Mon.	Last day to apply for admission (all others).
June 1, Fri.	Graduation application deadline
June 25, Mon.	Classes begin.

June 29, Fri.	Last day to withdraw/drop and receive full refund of registration fees.
June 29, Fri.	Last day to add courses.
June 29, Fri.	Last day for late registration.
June 29, Fri.	Last day to pay fees.
July 4, Wed.	Independence Day Holiday
July 13, Fri.	Last day to drop or withdraw from courses without Academic Penalty.
August 10, Fri.	Last day of classes.

Session C (Ten Week - Session)

January 2, Tue.	Last day for international applicants to apply for admission and submit all credentials and supporting documents.
March 12, Mon.	Last day to apply for admission (all others).
March 12, Mon.	Former Student Returning Application Deadline.
May 4, Fri.	CLAST Registration Deadline
May 7, Mon.	Classes begin.
May 11, Fri.	Last day to withdraw/drop and receive full refund of registration fees.
May 11, Fri.	Last day to add courses.
May 11, Fri.	Last day for late registration.
May 11, Fri.	Last day to pay fees.
May 28, Mon.	Memorial Day Holiday
June 1, Fri.	Graduation application deadline.
June 2, Sat.	CLAST administration day
June 15, Fri.	Last day to drop or withdraw from courses without Academic Penalty.
July 4, Wed.	Independence Day Holiday
July 13, Fri.	Last day of classes.

Fall Semester, 1990

April 2, Mon.	Last day for international applicants to apply for admission and submit all credentials and documents.
June 25, Mon.	Last day to apply for admission (all others)
June 25, Mon.	Former Student Returning Application Deadline
August 27, Mon.	Classes begin.
August 31, Fri.	Last day to withdraw/drop and receive full refund of registration fees.
August 31, Fri.	Last day to add courses.
August 31, Fri.	Last day for late registration.
August 31, Fri.	Last day to pay fees.
September 3, Mon.	Labor Day Holiday
September 21, Fri.	Graduation application deadline.
October 19, Fri.	Honors Convocation (Classes Cancelled 2:00-5:00 p.m.)
October 26, Fri.	Last day to drop or withdraw from courses without Academic Penalty.
November 9, Fri.	Veterans' Day Holiday
November 22-23	Thanksgiving Holiday
December 7, Fri.	Classes End
December 10-14	Final Examination Week
December 15, Sat.	Commencement

ORGANIZATION AND PERSONNEL

Administration of State Universities

State Board Of Education

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Governor

DOYLE E. CONNER

Commissioner of Agriculture

GERALD A. LEWIS

Comptroller

BILL GUNTER

State Treasurer

BOB BUTTERWORTH

Attorney General

JIM SMITH

Secretary of State

BETTY CASTOR

Commissioner of Education

State Board Of Regents

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Orlando

DUBOSE AUSLEY (1992)*

Tallahassee

THOMAS F. PETWAY, III (1995)*

Jacksonville

ROBERT DRESSLER (1993)*

Fort Lauderdale

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Pensacola

RAUL P. MASVIDAL (1990)*

Miami

JACQUELINE FAITH GOIGEL

Students Regents

ALEC P. COURTELIS (1994)*

Miami

CAROLYN k. ROBERTS (1995)*

Ocala

BETTY CASTOR

Tallahassee

CHARLES B. EDWARDS (1993)*

Fort Myers

CECIL KEENE (1993)*

St. Petersburg

J. CLINT BROWN (1994)*

Tampa

CHARLES B. REED,

Chancellor

*(Term expires)

University Of South Florida

President

FRANCIS T. BORKOWSKI

Academic Affairs

Provost

GERRY G. MEISELS

Graduate School

Dean of the Graduate School

JAMES M. ANKER

College Graduate Program Coordinators

College of Arts & Letters

William J. Heim

College of Education

Evelyn F. Searls

College of Fine Arts

Virginia A. Bridges

College of Natural Sciences

Stewart L. Swihart

College of Public Health

Rita G. Bruce

College of Business Administration

Robert Anderson

College of Engineering

Melvin W. Anderson

College of Medicine

Charles Edwards

College of Nursing

Sue M. Bishop

College of Social & Behavioral Sciences

Curtis W. Wienker

USF: A MODERN METROPOLITAN ENVIRONMENT

USF serves the higher education needs of the rapidly growing west coast of Florida. More than three million people in a sixteen-county region live within convenient commuter access to at least one of the five campuses.

The Tampa campus of the University occupies a 1,700-acre tract ten miles northeast of downtown Tampa, the commercial and cultural hub for the one million citizens of Hillsborough County.

The St. Petersburg Campus, situated on a 24-acre waterfront site surrounding Bayboro Harbor in the heart of St. Petersburg, provides substantial university presence for the 800,000 people of Pinellas County.

The Sarasota Campus, adjacent to the respected Ringling Museum and the Asolo Theatre, stretches from a Gulf frontage to US 41 between Sarasota and Bradenton. This campus offers graduate and undergraduate classes for a four-county area with an expanding population of 450,000.

The Fort Myers Campus gives access to university education to the 475,000 residents of five counties on Florida's lower west coast on the Gulf. This new campus occupies 55 acres on the College Parkway next to Edison Community College. The Lakeland Center, a campus cooperatively shared with Polk Community College, provides university education for the 590,000 people of Polk, Highlands, and Hardee counties. Initially USF at Lakeland will schedule 44 courses on a wooded 130 acre tract on State Road 50 just east of US 98.

While offering many of the pleasant and positive characteristics of a small college, these campuses share access to the impressive resources of a significant major metropolitan university, and they will continue to expand to meet the educational needs of the growing population of Florida's West Coast.

Academic Programs of USF Campuses at Lakeland, Fort Myers, Sarasota, and St. Petersburg

The academic programs of these campuses are designed to serve students of junior, senior, and graduate standing. Classes are offered at times adapted to the special needs of these students, most of whom are residents in the campus area and are employed in full and part-time jobs. Selected courses and programs are offered by the Colleges of Arts and Letters, Business Administration, Education, Engineering, Natural Sciences, Nursing, Public Health, and Social and Behavioral Sciences.

Students may enroll on a part-time or full-time basis on any one of the campuses, and may elect to enroll on more than one USF campus simultaneously.

Resident faculty members and Student Affairs staff provide social, vocational, and academic counseling to all students. The resident staff of each campus is supplemented by professors and other staff members commuting from other USF campuses, thereby bringing additional scope to academic programs and university services.

USF in **Lakeland**, the newest addition to the multi-campus complex, shares the Lakeland Center with Polk Community College. Located on County Road 540 near US Highway 98, the Lakeland Center will provide educational programs to students living in Polk, Highlands, and Hardee counties. Junior, senior, and graduate level courses will be offered in Business Administration, Education, Engineering, and Social and Behavioral Sciences.

USF at **Fort Myers** serves students at the junior, senior, and graduate levels. Undergraduate and graduate degree programs are offered in the Colleges of Business, Education, Social and Behavioral Sciences, and Nursing. Selected course offerings from other colleges within the University are also available at the Campus. Located on a 55-acre site adjacent to Edison Community College in south Fort Myers, the campus is within easy reach of I-75.

In addition to serving the traditional student, the University offers educational opportunities for working professionals seeking advanced degrees, and to non-degree

seeking students wishing to satisfy teacher certification requirements or other professional criteria.

USF at **Sarasota** is an educational and cultural center of local, state, and national significance. Its mission embraces two distinct, academic programs: New College of USF and the University Programs. USF's New College is a highly selective and innovative four-year liberal arts college. The University Programs emphasize junior, senior, and graduate courses, offering degrees in Business, Education, Engineering, Social and Behavioral Sciences, Nursing, and Public Health. The University Programs serve full and part-time commuting students and the continuing educational needs of professionals. The Sarasota Campus also has a significant responsibility for historical and environmental preservation and for the enhancement of the historic Ringling and Caples estates.

USF at Sarasota has 28 buildings, including a student center, classrooms, science laboratories, and student residences. A new \$7 million campus library and a new classroom and conference center, the latter a gift of Sarasota philanthropist Harry Sudakoff, opened in 1985.

USF at **St. Petersburg** is the second oldest campus, having offered upper level and graduate courses since 1968. From its beginning in facilities acquired from the U.S. Maritime Service, the campus has expanded by adding a new library and a classroom/office building. A new student services building - housing a bookstore, cafeteria, and additional classrooms and faculty offices - was completed in February 1984.

Academic programs in a broad variety of disciplines are available on the St. Petersburg Campus; students also may participate in the U.S. Army ROTC program. A number of "Sunshine City" cultural and recreational facilities are within easy walking distance.

The St. Petersburg Campus houses facilities for marine science research and training. The Department of Marine Science, headquartered on campus, is an interdisciplinary venture involving faculty from several departments, in addition to the 24 full-time Marine Science faculty members responsible for graduate research and teaching. Probably no other marine science program has both such excellent facilities for teaching and research, and access to oceanographic vessels. The location of the campus at the central edge of the great continental shelf of the Florida Gulf Coast and in the midst of the metropolitan Sun Coast is a unique advantage. The Florida Institute of Oceanography, a special research institute of the State University System, also is located on the St. Petersburg Campus. With these combined facilities, the University is destined to become one of the nation's leading oceanographic centers.

Facilities and Atmosphere on Campus

The more than 200 major buildings comprising the facilities of the University, valued at more than \$300 million, share a contemporary architectural design.

USF has a wide variety of recreational facilities, including swimming pools, a gym, a weight training room, tennis courts, a golf course, and a well-equipped University Center. Its academic and residential facilities are unsurpassed in Florida.

The atmosphere on campus is one of easy informality. Students and faculty dress casually and enjoy an unusually close relationship for so large a school. Some classes are even held outside to take advantage of the extraordinary climate (average annual temperature 72 degrees F). Most buildings have open hallways, which blend colorful interiors with spacious exteriors, suggesting the casual accessibility that has become USF's trademark.

Organized for Effectiveness

The University is organized into seven broad areas: Academic Affairs, Medical Center, Student Affairs, Administrative Affairs, Development and Alumni Affairs, the Florida Mental Health Institute, and University Relations. The chief administrator in each of these areas, plus the Executive Vice President and the General Counsel, comprise the President's staff; the primary policy-making body of the University. A number of advisory bodies, including committees and organizations representing faculty, staff and students, advise and assist the President in determining policy. At USF, students' views are solicited and given serious consideration. The President is

responsible, through the Chancellor, to the Florida Board of Regents for internal policy and procedures of the University. More detailed information on these matters is available in the Special Collections Room, USF Library.

Equal Opportunity Complaint Procedure

A student or employee who believes that a condition, University policy or procedure, or act by someone connected with the University is unfair, unjust, or a hindrance to his/her race, color, creed, sex, age, marital status, national origin, handicap, or Vietnam veteran status, may file an Equal Opportunity Complaint. This includes sexual harassment. The complaint may be filed with the Director of Equal Opportunity Affairs. Additional information about this procedure may be obtained from the Office of Equal Opportunity Affairs, ADM 281, by calling either (813) 974-4373 or the 24-hour EO Hotline, 974-3159.

It shall be prohibited for any University employee to discriminate or to take any other retaliatory action against an individual who, in good faith, has opposed an alleged unlawful practice or has made a charge, testified, assisted, or participated in any manner in an investigation, proceeding, or hearing.

Grievance Procedure

In order to assure students the right to the redress of grievances, any student may file a question, complaint, or statement of grievance in the Graduate School, in person or in writing.

Student Health Service

The University Student Health Service provides comprehensive health care for all students who have paid the Health Fee. Students taking six hours or more per semester on the Tampa Campus are required to pay a Health Fee. All other USF students are eligible to pay the Health Fee on a voluntary basis.

The Health Center is on the fourth floor of the University Center. A walk-in clinic is maintained for outpatient treatment from 7 a.m. to 11 p.m., Monday through Friday. Medical laboratory hours are 8 a.m. to 11 p.m. Pharmacy hours are 9 a.m. to 6 p.m.

International Student Services

The University welcomes qualified students from other countries. International exchange contributes to the enrichment of campus life, intellectual development, research, and understanding, and further exposes students, faculty, and staff to different cultural and national perspectives, experiences, and ideas.

The International Student Center, located in the University Center, meets the special needs of international students, and assists each student in achieving his or her educational objectives. An adviser is available to counsel students on immigration, as well as on financial, social, personal, and academic aspects of student life. The Center, in cooperation with the Intercultural Organization, regularly schedules social and cultural activities. The American Friend Program is designed to help orient international students to American family life.

Disabled Student Services

The University has facilities for persons with disabilities and encourages their enrollment in the University. Owing to the mild climate, relatively flat terrain, modern architecture, and recent modifications, many persons with significant disabilities have been able to function independently and successfully in the University environment.

All academic programs, campus organizations, and activities are available to disabled students. USF attempts to integrate disabled students into the University as completely as possible.

Disabled Student Academic Services counsels disabled students in the academic elements of student life. Special reading services, tutoring, and other assistance can be found in this office.

Disabled Student Social Services assists disabled students in the social aspects of the University. The Coordinator for Social Services works to maintain campus and

community awareness, provides housing information and special orientations for disabled students, and is available for consultation.

Housing

University residence hall space is limited, but every regularly enrolled single student, graduate or undergraduate, is eligible to apply. No University housing is available for married students.

Residence Halls The 12 halls within the Division of Housing and Food Service are clustered around two centers of community activity - the Argos and Andros complexes. Each of the complexes provides a core of service for its residents, including a central communications desk, mail delivery, TV and study lounges, and complete cafeteria and snack facilities. Although both Argos and Andros complexes provide the same basic services, they offer different options in campus living.

The Argos Complex of three residence halls represents traditional hall living in attractive double-room accommodations designed for both studying and sleeping. The 40-50 residents occupying a living unit share common bath facilities attended daily by the hall's housekeeping staff. Centrally located lobby areas, laundry rooms, and snack machines are provided.

The Andros Complex, consisting of nine small halls, offers suites designed to accommodate eight residents - two sharing a bedroom, four sharing a study area, and eight sharing bath facilities. Most rooms are carpeted throughout and all are furnished with a bed, desk, chair, dresser, closet, and bookshelf for each resident. Two swimming pools and numerous tennis, handball, racquetball, and basketball courts offer leisure-time recreation.

The Village student housing complex consists of 30 buildings with 10 two-student efficiency apartments in each building. These facilities are reserved for students who have attained junior, senior, or graduate class standing. Each apartment has its own outside private entrance and is furnished with a bed, desk, wardrobe, bookcases, and refrigerator. Each apartment has complete cooking and bathroom facilities. Village residents have use of a swimming pool and other outdoor recreation facilities. A small convenience store and laundromat are located within the complex.

Off-Campus Housing The Student Government office, located in the University Center, maintains a list of off-campus housing. Listings are accepted only from householders and landlords who do not discriminate because of race, color, or national origin. Rental arrangements may best be made before the University opens. Fall semester arrangements may be made during the summer.

Food Service Various food service facilities are available to both resident and off-campus students. Food Service offers a variety of meal options to meet the general and specific needs of the USF community, including residence hall cafeterias, the University Center cafeteria, satellite snack bars throughout the campus, convenience stores, and vending facilities. Cash is accepted at all food operations on campus.

Additional information on contract meal plans is available through the office of Food Services at (813) 974-3194.

University Center

The University Center is a focal point of daily activity for students, faculty, administrators, alumni, guests, and visitors. Located at the heart of campus, it is the community center of the University, offering a variety of services and programs. The University Center seeks to add another dimension to the educational experience by providing an environment for informal association outside the classroom.

The University Center houses a cafeteria, fast food counters, soda fountain, The Empty Keg, organizational offices, meeting rooms, Craft Shop, Game Room, study lounges, Campus Bookstore, Student Health Service, and much more. Most of all, the U.C. is the key to USF and can provide information about the entire campus.

The Information desk, located in the lobby, serves as the coordinating center for services and activities in the Center and the University. Services available through the Information Desk include discount ticket sales, recorded campus tours, classified ad placement, Tampa area bus schedules, official USF lost and found, sales board, graduation announcements, and current events information. The Ticket Stub at the

Information Desk is an official Select-a-Seat outlet. Also located in the lobby is an automatic teller machine.

Conference facilities can provide meeting space for up to 280 persons and are available through the Reservations Office on the second floor.

The U.C. Underground, on the basement level, houses the Game Room, Craft Shop, Bike Shop, TV room, vending machines, Graphic Studio and Photo Lab. The Game Room has 14 billiard tables, video and pinball games, foosball, table tennis, chess, checkers, card tables, and a photo machine. The Craft Shop provides instruction in leather craft, batik, macrame, tie dye, copper enameling, ceramics, and print making. Structured classes are offered on a semester basis. The Craft Shop also maintains the Art Gallery and Photo Lab. The Bike Shop is operated by students and provides bicycle repair, supplies, parts, accessories, and electric wheelchair recharging.

The Student Health Service on the fourth floor is fully equipped with a complete clinic and infirmary. The Health Service provides outpatient care, psychiatric counseling, a GYN clinic, routine physicals, medications, antigen injections, a wart clinic, and special lab tests.

The University Center Program Office operates the Sundry School, Flea Market, and Camping Equipment Rentals. The University Center Activities Board, composed entirely of students, offers students the opportunity to participate in planning and implementing a variety of programs for the University. The Office of Student Organizations and Activities provides services — mail, duplicating, advising, promotions — to more than 250 student organizations.

University Bookstores

Textbook Center Textbooks and some Reference Books are located in the Textbook Center on west Holly Drive, just West of the USF water tower. Ample parking is available. This facility provides all required or recommended textbooks for USF classes. Very often textbooks are on the shelves and available the week before classes begin. A good supply of used textbooks are available each term. At designated times each semester, the Textbook Center will buy back used textbooks from students. The Textbook Center is open 8:00 a.m.-4:55 p.m. Monday-Friday with extended hours at the beginning of each term. Purchases may be made with cash, check (with proper ID), and Visa/Mastercard.

USF Bookstore and Campus Shop Located in the University Center, the UC Bookstore serves the University community by providing numerous goods and services. The main floor contains greeting cards and stationery, posters, electronic items including calculators, computers and accessories, the Greek shop, magazines, and other general merchandise. Film developing and college ring ordering services are available. Also located on this floor is the "Green and Gold" Shop which features collegiate clothing, imprinted mugs, glassware, gifts, children's clothing, backpacks, and novelty items.

The General Book Department is located in the lower level of the bookstore and features the very latest in fiction, non-fiction, reference, study aids, and children's books. A copy center and special order services are also located in this area. The lower level also contains all course supplies for art, engineering, and science classes, as well as many hobby and general purpose items. Paints, brushes, art paper, graph paper, drafting supplies, dissecting kits, and lab notebooks are among the many items in this area. All basic school supplies are also found in this lower level.

Throughout the year, the UC Bookstore offers promotional events, special sale items, and giveaways for the University community. The UC Bookstore is open 9:00 a.m.-5:55 p.m. Monday-Friday and 9:00 a.m.-1:00 p.m. on Saturday (during the term). Visa/Mastercard accepted.

Medical Bookstore Located in the Medical Center (MDC 1021), the Medical Bookstore offers medical textbooks, instruments, supplies, and reference books. General goods such as notebooks, school supplies, clothing, greeting cards, and candy are also provided. The Medical Bookstore is open 8:00 a.m.-5:00 p.m. Monday-Friday. Visa/Mastercard accepted.

Bay Campus Bookstore At the St. Petersburg Campus, the Bay Campus Bookstore (Coquina Hall 101) offers textbooks for St. Petersburg classes, general books, clothing, school supplies, and a variety of general merchandise items. The

bookstore is open 9:00 a.m.- 6:00 p.m. Monday-Thursday and 9:00 a.m.- 5:00 p.m. on Friday with extended hours at the beginning of each term. Visa/Mastercard accepted.

Clubs and Other Organizations

Professional staff members are available to assist individuals forming new organizations and to advise currently registered groups. For complete lists and current information regarding all student organizations, please contact the Office of Student Organizations and Activities.

Dance, Music, and Drama Clubs The excellent programs in the College of Fine Arts offer many opportunities for student involvement. Theatre Department productions are open to all qualified student actors and backstage personnel. The Music Department welcomes student participation in its instrumental and choral organizations. Dance productions also are open to all qualified students. Contact the office of Dance, Theatre, or Music, as appropriate, for information.

Cultural Events

Each year a variety of outstanding visual and performing artists visit the University of South Florida campus. The Artist Series provides unusual opportunities for enjoying the finest professional talents in dance, music, and theatre. A quality Exhibitions Program brings varied and significant works of art annually to the University's three galleries. The College of Fine Arts arranges a full schedule of concerts, plays, lectures, films, and workshops featuring students, faculty, and visiting artists. These and other programs conducted by the college of Fine Arts contribute significantly to the general vitality of the campus.

Most events are open to the general public and are presented both during the day and in the evening. Special ticket privileges are available to USF students. For more information, contact the Department of Fine Arts Management and Events.

Religious Organizations

The University encourages student religious organizations to develop associations and centers. The Episcopal Center was dedicated in the fall of 1962, and the Baptist Center in the spring of 1964. The ecumenical University Chapel Fellowship followed in 1966. The Roman Catholic Center opened in the fall of 1967. The Chabad House is an active Jewish center. Soon to be added is the B'nai B'rith Hillel Foundation, catering to students of all branches of Judaism.

The following student religious organizations are active on campus: Bahai Club, Baptist Campus Ministry, Campus Advance, Campus Bible Fellowship, Campus Crusade for Christ, Canterbury Club-Episcopal Center, Catholic Student Union, Chabad House, Christian Science Organization, Collegiate Association for Research of Principles, Dianetics, Eckankar, Fellowship of Christian Athletes, Hillel, Inter-Varsity Christian Fellowship, Latter-day Saints Student Association, Lutheran Student Movement, Navigators, Students for Non-Denominational Christianity, Transdenominational Prayer Group, Unitarian Universalist Association for Religious Freedom, University Chapel Fellowship, and The Way Campus Fellowship.

Service and Resource

The many service organizations at USF contribute volunteer services to the University and the Tampa Bay area. The resource organizations cater to students' needs and special interests.

These service and resource organizations are the Afro-American Gospel Choir, Alpha Phi Omega, Ambassadors, Association of U.S. Army, Auto Maintenance Club, Bacchus, Bambooche Coutre, Black Student Union, Cause, Circle K, Diamond Dolls, Everywoman's Center, Fourth Forest Recycling Service, FPIRG Local Board, Gay/Lesbian Coalition, Greek Week Committee, Green and Gold Club, The Hunger Project, Off-Campus Term Program, Office of Student Programming, Oracle, Paraprofessional Counseling Center, Physically Limited University Students II, Progressive Student Union, Raiders, Senior Class Committee, Strategic Studies Group, Student International Meditation Society, Student Organizations Advisory Board, Sun Dolls,

University Center Activities Board, University Full Gospel Fellowship, University Disarmament Committee, and the Women's Peer Counseling Center.

Professional, Academic and Departmental The professional societies at USF include Delta Sigma Pi, Florida Nursing Student Association, Iota Phi Lambda, Minority Graduate/Professional Student Organization, Phi Beta Lambda, Pi Sigma Epsilon, Pre-Law Society, Pre-Med Society, Pre-Veterinary Club, Sigma Delta Chi, and the Student National Medical Association. Academic and departmental organizations are categorized by college. **Arts and Letters:** The Advertising Association, American Studies Assembly, Circolo Italiano Culturale, Communications Council, Forensic Union, German Club, Humanities Society, Public Relations Student Society of America, Readers Theatre Guild, and the Russian Club. **Business Administration:** The American Society of Personnel Administration, Black Business Student Organization, Graduate Business Association, Management Information Systems Society, and the Student Finance Association. **Education:** The Association of Childhood Education, Black Organization of Students in Education, Distributive Education Clubs of America, Graduate Library Student Association, Physical Education Association, Student Council for Exceptional Children, Student Guidance Organization, Student Music Educators National Conference, and the Student National Education Association. **Engineering:** The American Institute of Aeronautics and Astronautics, American Institute of Chemical Engineers, American Institute of Industrial Engineers, American Society of Civil Engineers, Arnold Air Society Association for Computing Machinery, Florida Engineering Society, IEEE Computer Society, Institute of Electrical and Electronic Engineers, National Society of Black Engineers, Pi Phi Newton, and the Society for the Betterment of Future Engineers. **Fine Arts:** The Dance Club, Fine Arts Forum, North Tampa Community Performing Alliance, Sigma Alpha Iota, and the Student Theatre Productions Board. **Natural Science:** Affiliated Chapter of The American Chemical Society, AIME/Geology Club, Association of Medical Science Graduate Students, Society of Physics Students, Society for Women Physics Students, and the Student Microbiology Association. **Social Sciences:** Advocates for Social Work, Anthropology Club, National Student Speech, Language and Hearing Association, Psychology Graduate Student Exchequary, and the Sociology Club.

Honor Societies Honor societies recognize outstanding students for scholastic or service achievement. Membership in honor organizations is usually by invitation. Honor organizations are Alpha Epsilon Delta, Alpha Epsilon Rho, Alpha Pi Mu, Alumni Scholars Club, Arts and Letters Honor Society, Beta Alpha Psi, Beta Gamma Sigma, Civil Engineering Honor Society, Council of Honor Societies, Financial Management Association Honor Society, Gamma Theta Upsilon, Kappa Delta Pi, Kappa Tau Alpha, Mortar Board, Omicron Delta Kappa, Phi Eta Sigma, Phi Kappa Phi, Phi Sigma, Pi Gamma Mu, Pi Mu Epsilon, Pi Sigma Alpha, Psi Chi, Sigma Pi Sigma, Sigma Iota Epsilon, and Tau Beta Pi.

College and Residence Hall Councils College and residence hall councils represent student interests to the University and provide an organizational forum for students in each college or residence hall. The college councils are the Arts and Letters Council, Business Student Advisory Board, Education Council, Fine Arts Advisory Board, Medicine Council, Natural Science Council, Nursing Student Council, Social and Behavioral Science Council, Co-op Advisory Council, Engineering College Association, and the Off-Campus Term Advisory Council.

International and Political/Social Change International student organizations at USF are the Arab Student Union, Caribbean Cultural Exchange, Chinese Student Union, Florida High School Model United Nations, Intercultural Organization, Iranian Students Supporting National Council of Resistance, Lebanese Student Union, Model United Nations, Muslim Student Organization, Vietnamese Cultural Club, and the Vietnamese Student Association.

Organizations for political and social change are College Republicans, L-5 Society, Libertarian Alliance, and the Young Democrats.

University Police

The USF Police Department, located at the intersection of Maple and Fletcher, provides the full range of public safety services to the community twenty-four hours a day, seven days a week. All University Police Officers are commissioned Law Enforcement Officers of the State of Florida. The telephone number for on-campus

emergencies (personal injuries, fires, crimes in progress) is 911. The telephone number for on-campus non-emergencies and business is 974-2628.

Recreational Sports

The University of South Florida provides a variety of physical and recreational activities. Because a complete education includes a proper balance of work, study, and physical activity, the University program includes intramural sports competition, sports clubs, and other recreational activities, in addition to basic instructional programs in physical education.

The Intramural Sports Program emphasizes activities especially suited to the Florida climate. Competition is scheduled in such individual sports as swimming, tennis, track, golf, cross country, bowling, racquetball, and wrestling, as well as the team sports of soccer, flag football, basketball, volleyball, and softball. Competition also is sponsored by fraternal societies, residence halls, and independent divisions.

The Sports Club program includes groups of students, faculty, and staff who have a special interest in a particular sport. They are organized for the purpose of sharpening skills through continuing training and competition. Present clubs include aikido, bicycling, bowling, dance fitness, frisbee, karate, lacrosse, rugby, sailing, scuba, parachuting, water skiing, weight lifting, and yoga. More will be added as interest warrants.

Intercollegiate Athletics

The University of South Florida fields intercollegiate teams in both men's and women's sports. The University is a member of the National Collegiate Athletic Association and competes in the University Division I in men's baseball, basketball, cross country, golf, soccer, swimming, tennis, and riflery. The women compete in basketball, golf, tennis, softball, volleyball, and swimming. Schedules include competition with regionally and nationally ranked teams. USF became a charter member of the Sun Belt Conference in 1976.

Student Publications

The University of South Florida has encouraged a program of campus communication through three publications. These publications are all-University in approach and coverage. They are staffed by students under the general supervision of the Office of Student Publications.

A tabloid campus newspaper, the Oracle, is published Monday through Friday during the fall and spring and Monday, Wednesday, and Thursday during the summer. Containing 16 to 20 pages in each issue, it provides professional experience for those students interested in print journalism.

Omnibus, a literary magazine, is published annually and contains prose, poetry, photos, and graphics produced by students. Twentieth Century, USF's official yearbook, is published annually. Interested students are invited to apply for staff positions on any of the aforementioned publications.

Counseling Center for Human Development

The Counseling Center for Human Development provides professional services to USF students in career counseling, personal counseling, psychiatric consultation, and reading/study skills. Special services are provided by the State Division of Vocational Rehabilitation, which maintains an office in the Counseling Center.

Three paraprofessional programs operate out of the Counseling Center. These programs are staffed by volunteer students under the leadership of trained and experienced graduate and undergraduate students. Professional staff provide training and supervision. A student may apply for any of these services by appearing at the Counseling Center and requesting assistance.

The Clinical Psychology Service provides a range of services aimed at the early detection and prevention of student mental health problems and the development of skill-enhancing programs. The following direct services are offered to USF students: intake evaluation, psychiatric consultation, time-limited psychotherapy and behavior therapy, group therapy, skill-enhancing programs and workshops, anxiety management, paraprofessional programs, and referral services. Professional psychologists

also assist students in career guidance, particularly those with identity, motivational, and related personal problems. The Psychiatric Service assists students when psychiatric evaluation, medication, or hospitalization are needed.

The Counseling Center Outreach Program sponsors workshops and structured groups in a variety of career and personal growth areas. Although most of these programs are regularly scheduled, they are often organized at the request of special student or staff organizations. Outreach is instrumental in informing students of available services.

Offices of Veterans Affairs

Veterans Services are provided at each of the USF campuses. Veteran advisors work closely with the staff of the Veterans Administration (VA) in St. Petersburg to provide special services to all eligible veterans, dependents, active duty personnel, and members of the Selective Reserve. The Veterans Services staff actively encourages persons who have a desire to start, continue, or resume higher education course work to visit the Veterans Services office. Applications for veterans benefits are completed in Veterans Services, processed through the Certifications Section of the University Registrar's Office, and sent directly to the VA.

Services are available to help solve financial problems experienced by veteran students as follows: registration and tuition fee deferment, advance payment, and part-time work opportunities through the VA Work-Study program. The VA Tutorial Program allows eligible VA students to be reimbursed for tutorial costs, not to exceed a maximum set by the VA. Developmental course work can be accomplished through cooperative efforts with local community colleges. Guidance and referral services are provided with student financial assistance, job placement, student housing, personal and family counseling, career planning, academic advising, military service school credit, and discharge review.

The University of South Florida is a Service members Opportunity College (SOC) and encourages active duty personnel to attend the University. For more information on degree completion and tuition assistance, in-service students should first check with their installation's education officer.

Institute on Black Life

The University of South Florida's Institute on Black Life was established in the Fall of 1986 with a mission to serve as a "bridge" between the University and the Black community. The main purpose of the Institute is to serve as a vehicle to utilize faculty, staff and student expertise with identified university and community needs for research, training and program development.

Through its three major components; Research, Development and University/Community Service the Institute seeks to enhance the economic, educational, social, political, and religious life of the Black community.

Research The Institute maintains an active and highly professional applied research program with faculty representation from various disciplines. It serves as the center for generating research and creative activity. Funds are sought through contracts, grants and private foundations to initiate new projects and provide resources to faculty, staff and student research that is already in progress.

Development The Development component provides links with the private sector to establish support of Black students through scholarships, fellowships, book funds and program development. The Development Committee assists in fundraising efforts to provide programs which will enhance the quality of life for the Black community.

University/Community Service The Institute develops community enhancement programs concerned with minority issues. These programs include a Speaker's Bureau, lectures, workshops, seminars, forums, and consultants. These programs may be offered in conjunction with civic, non-profit organizations, local government agencies, and businesses/corporations.

ACADEMIC POLICIES AND PROCEDURES, PROGRAMS AND SERVICES

The Office of the Registrar maintains the official academic records for all students and course registrations for currently enrolled students. Students are encouraged to contact this office with general questions concerning academic policies and procedures pertaining to their current registration or academic record. NOTE: Each student must be aware of the University's academic policies and procedures insofar as they are affected.

USF and all its colleges, departments, and programs establish certain academic requirements that must be met before a degree is granted. These requirements concern such things as curricula and courses, majors and minors, and academic residence. Advisers, directors, department chairs, and deans are available to help the student understand and arrange to meet these requirements, but the student is responsible for fulfilling them. If at the end of a student's course of study, requirements for graduation have not been satisfied, the degree will not be granted. For this reason it is imperative that all students acquaint themselves with all regulations, remain currently informed throughout their college careers, and be responsible for completing requirements. Courses, programs, and requirements described in the Catalog may be suspended, deleted, restricted, supplemented, or changed in any manner at any time at the sole discretion of the University and the Florida Board of Regents.

General Academic Regulations and Information

Semester System

The University of South Florida operates on a semester system. Semesters begin in August and January, with summer sessions beginning in May and June.

In the fall of 1981, the USF, as well as the other institutions in the State University System of Florida, converted from a quarter system to a semester system. During the history of USF, the institution operated under semester and trimester credit systems from the institution's inception in 1960 until fall, 1967, after which it was under the quarter system until the fall of 1981.

Catalog

A student is entitled to one USF Graduate Catalog per issue. Students wanting additional copies may purchase them from the University Bookstore.

Prospective students may obtain general University information concerning admissions, fees, and degree programs by requesting the graduate brochure from the Admissions Office.

Availability of Courses

The University does not commit itself to offer all the courses, programs, and majors listed in this Catalog, unless there is sufficient demand to justify them. Some courses, for example, may be offered only in alternate semesters or years, or even less frequently if there is little demand.

Course Attendance at First Class Meeting

Policy, Purpose, and Intent To allow the University to use classroom space effectively and to ensure all students the opportunity to enroll in classes in which demand exceeds availability of seats, the following policy has been promulgated.

Statement of Policy Students are required to attend the first class meeting of all 5000 level classes for which they have registered in order to ensure their enrollment. Students not in attendance at the first class meeting will be dropped from the course. Students who are unable to attend the first class meeting because of extenuating cir-

cumstances beyond their control must inform the college or department, preferably in writing, that they will be in attendance at subsequent meetings. This attendance policy may also apply to 6000 level classes at the option of the instructor and/or college.

Adds

After students have completed their registration on the date assigned, they may add courses until the add deadline specified in the Academic Calendar. See the appropriate semester's University Class Schedule for detailed instructions and dates.

Drops

A student may drop a course(s) during the Drop/Add period (first five days of classes). No entry of the course(s) will appear on any records and a full refund of fees is due for a course(s) dropped within this period.

A student also may drop a course(s) between the second and ninth week of the semester (except for summer sessions – see University Class Schedule for dates). Registration fees must be paid for the course(s) and the academic record will reflect a "W" grade for the dropped course(s). Courses dropped after the ninth week (see Academic Calendar for deadline) will result in an automatic "F" grade.

Auditing Privilege

A student who wishes to sit in on a class to review the course material may do so; however, the student is not allowed to take exams, nor will any grades or credit be given. The student's status for that class is an audit and her/his presence in the classroom is as a listener.

A student must register to audit courses during the late registration period. (No audit registrations are processed during regular registration periods.) Fees for audit are the same as for full enrollment for credit, except that out-of-state tuition is not charged. See University Class Schedule for detailed instructions and dates.

Cancellation Before First Class Day

Students may cancel their registration by notifying the Office of the Registrar in writing prior to the first day of classes. If fees already have been paid, students may request a full refund of fees from the Office of Finance & Accounting.

Withdrawal

Students may withdraw from the University without academic penalty during the first nine weeks of any term (except for summer sessions – see Class Schedule for date). They must submit a completed Withdrawal Form to the Office of the Registrar. No entry is made on the academic record for withdrawals submitted during the first week of the term. All subsequent withdrawals are posted on the academic record with a grade of "W". A grade of "F" will be assigned automatically for all course work from which a student withdraws after the end of the ninth week of the term.

Students who withdraw during the Drop/Add period as stated in the Academic Calendar may receive a full refund of fees paid by the student.

All refunds must be requested in writing from the Office of Finance and Accounting. No refund is allowed after this period, except for specified reasons. See "Refund of Fees" under Financial Information for complete details.

Transcript Information

Transcripts of a student's USF academic record may be requested by the student through the Office of the Registrar. A student's academic record can be released only upon authorization by the student. Students requesting transcripts may do so in person or by writing to the Office of the Registrar. Include full name, Social Security number, and date of birth, and indicate names and addresses to whom, transcripts are to be sent. If grades for the current term are needed, clearly indicate that the transcript request is to be held for grades. There is no charge for transcripts.

Grades and Scholarship Requirements

Graduate Grading System

Academic achievement is based on the following grading system:

- A — Superior performance
- B — Average performance
- C — Below Average performance
- D,F — Failure
- I — Incomplete
- M — Missing grade
- N — Audit
- S — Satisfactory
- U — Unsatisfactory
- W — Drop or Withdrawal from courses without penalty
- Z — Continuing registration in Thesis/Dissertation courses

Grade Point Average

The University uses a four-point grading system to compute grade point averages (A =4 quality points, B =3, C =2, D =1, F =0). The grade point average (GPA) is computed by dividing the total number of quality points by the total hours attempted at the University of South Florida. The total quality points are figured by multiplying the number of credits assigned to each course by the quality point value of the grade given. Grades of S, U, I, M, IU, and Z are subtracted from the total hours attempted. Degree-seeking students are not eligible for grade forgiveness. All grades earned, regardless of course level, will be posted on the transcript. If a student retakes a course, both grades will be used in the determination of the GPA.

S/U Grade System

Graduate students may not take courses in the major on an S/U basis unless courses are specifically designated S/U in the Catalog. Graduate students may take courses outside of the major on a S/U basis with the prior approval of the course professor, the major professor, and the dean of the college in which the degree is offered. The student may apply a maximum of 4 hours of such credit (excluding those courses for which S/U is designated in the Catalog) toward a master's degree.

Directed Research (master's and doctoral level) and Thesis (Master's, 6971) and Dissertation (Doctoral, 7980) courses are designated as variable credit and are graded on an S/U basis only. Before a student begins work under Directed Research, a written agreement must be completed between the student and the professor concerned, setting forth in detail the requirements of the course.

"I" Grade Policy

An "I" grade indicates incomplete course work and, until removed, is not computed in the grade point average. The time limit for removing the I is to be set by the instructor of the course. Students are not required to re-register for courses in which they are only completing previous course requirements to change an "I" grade. However, if a student wants to audit a course for review in order to complete course requirements, full fees must be paid.

"M" Grade

In the event a grade is lost or not submitted by the instructor, the transcript will reflect a default grade of "M" (missing). This will be treated the same as an "I" grade.

"Z" Grade

The "Z" grade is used to indicate continuing registration in thesis/dissertation courses. Upon satisfactory completion of the thesis/dissertation, the final grade assigned will be an "S".

University Graduate Policies and Procedures

Graduate Council The Graduate Council develops University policies and principles for graduate work. The Council also exercises the right of inquiry and review to ensure that high scholarly standards are maintained, and it is responsible for the establishment of University standards and regulations for graduate students and faculty. The Council reviews all new graduate courses, new degree programs, and modifications of existing courses and programs. The membership of the Graduate Council includes ten faculty members, two graduate students, and two ex-officio members: the Dean and the Associate Dean of the Graduate School. The Council's chairperson and vice-chairperson are elected from among the faculty members.

Major Professor Upon a mutual recommendation from the student and professor concerned, an adviser or major professor will be appointed by the program director/departmental chairperson and approved by the Dean of the Graduate School. The appointment will generally be made during the student's first term.

The Graduate Faculty Members of the Graduate Faculty at the University of South Florida achieve that distinction by being recommended by the faculty and chairs of their respective departments and by the credentialing committees and deans of their respective colleges. Recommendation by these individuals and groups is based on University-wide criteria often supplemented by additional criteria of the department and/or college. Final approval of appointment to the Graduate Faculty is made by the Dean of the Graduate School.

The criteria used include holding the appropriate terminal degree, active performance in research and published scholarship and/or appropriate forms of creativity, and experience and/or demonstrated interest in teaching at the graduate level and fostering and guiding the academic progress and research of graduate students.

Academic Standards Graduate students must maintain an overall average of 3.0 ("B") in all courses. No grade below "C" will be accepted toward a graduate degree, but all grades will be counted in computing the overall average.

Any student who is not in good standing at the end of a semester shall be on probation. Notification of probation shall be made to the student in writing by the department, with a copy to the college dean. At the end of the probationary semester, the department shall recommend to the college dean, in writing, one of three alternatives: (1) removal of probation, (2) continued probation, (3) dismissal from degree program. Concerted effort will be made during the probationary period to aid the student in reestablishing good standing. If the student is unable to reestablish this standing, the student may be dismissed from a degree-seeking status after one semester of probation by the Dean of the Graduate School, upon recommendation by the dean of the student's college.

University Regulations A student taking 9 or more hours toward the degree in a semester will be classified as a full-time student. The normal graduate load is 9-12 hours per semester.

A student who has completed the required course work and continues to occupy space and to receive faculty supervision, but who has not submitted a thesis/dissertation, shall register for a minimum of 2 hours of Thesis/ Dissertation per term. The exact number of hours will be determined by the individual program/department and will be predicated on the staff and facilities needed to support the student. Although minimum and maximum hours required for Thesis/Dissertation will be decided by the individual program/department, many students find it necessary to take more than the required minimum hours.

Students who have completed all requirements except the comprehensive exams or completion of "I" grades will be allowed use of University Library facilities for one semester, with written approval from the Dean of the Graduate School. During the term in which students take the comprehensive exams, they must enroll for a minimum of 2 hours of graduate credit in their disciplines. If all course work has been completed, students should enroll in Independent Study.

Transfer Credit Transfer of credit from another regionally accredited school is limited to 8 semester hours or 3 courses. All transferred credit must (1) be approved by the program or college concerned, and (2) have been completed with grades of "B" or better. These credits should be evaluated and transferred by the time of enrollment.

Appeals Graduate students may appeal actions regarding their academic status:

1. In actions based on departmental requirements, the student may appeal first to the department through the major professor, then to the college dean or representative, and then to the Graduate Dean, if necessary.
2. In actions based on the University minimum requirements, appeal shall be made directly to the Graduate School.

Reports of actions and appeals will be maintained in the student's permanent file.

Change of Graduate Degree Program

Students who wish to change from one degree program to another (at the same level) must obtain a Graduate Change of Program Application from the Office of the Registrar or the College Advising Office. The new department will consider the Change of Program request as a new application and, upon their acceptance, will seek approval by the Dean of the College and Dean of the Graduate School. The new department may elect to accept all, some, or none of the graduate courses previously taken by the student. Courses accepted from the earlier graduate program must be listed by the new program on the Graduate Change of Program Application. If no courses are listed, it is assumed that no courses are accepted from the earlier program. Students wishing to change levels (e.g. Masters to Doctoral) must reapply to the University.

Student's Choice of Catalog

In order to graduate from the University of South Florida, students must meet all of the graduation requirements specified in the USF Catalog of their choice. Students may choose any USF catalog published during their continuous enrollment. Students who have transferred from one Florida public institution to another are affected by the following Board of Regents policy:

Graduation requirements in effect at the receiving SUS institution at the time a student enrolls at a Florida public institution of higher learning shall apply to that student in the same manner that graduation requirements apply to its native students, provided the student has had continuous enrollment as defined in the SUS institution's catalog.

Continuous enrollment is defined as completing a minimum of two terms per year at USF, with grades assigned for courses taken, through time of graduation. Graduate students who are continuously enrolled may select any Catalog within 5 years of their graduation or completion date. Therefore, students cannot choose a USF Catalog published prior to or during an academic year in which they did not complete at least two terms. Each Catalog is considered to be published during the academic year printed on the title page.

If the student cannot meet all of the graduation requirements specified in the Catalog of choice as a result of decisions and changes by the University in policy matters, course offerings, etc., appropriate substitutions will be determined by the chairperson of the department or program of the student's major.

University policies are subject to change and apply to all students regardless of their choice of Catalog. If the student's graduation requirements are affected by changes in University policies, appropriate arrangements will be made to ensure that the student is not penalized.

Application for Degree

Each student who plans to complete degree requirements by the end of a term must submit an Application for Degree to the Office of the Registrar by the deadline noted in the Academic Calendar for the term in which graduation is expected. The application form is available in the Office of the Registrar. (Inquiries regarding approval or denial should be directed to the colleges.)

A student must be enrolled for a minimum of 2 thesis or dissertation hours during the semester of graduation.

Commencement Participation

Graduate students will not participate in commencement exercises until all requirements for the degree sought have been fulfilled.

Exclusions

Members or former members of the faculty who hold or have held the rank of Assistant, Associate, or Full Professor are not eligible to be granted degrees from the USF, except upon prior authorization of the Graduate School.

In cases in which a member of the immediate family of a faculty member is enrolled in a graduate degree program, the faculty member may not serve on any advisory or examination committee or be involved in any determination of academic or financial status of that individual.

Graduate Degree Programs

Master's Degree

Program and Course Requirements During the first term of study, the student and major professor should plan a program of work which, when completed, will satisfy the degree requirements specified. A copy of this program signed by the student and professor should be maintained in the student's department file.

A minimum of 30 hours is required for a master's degree, at least 16 hours of which must be at the 6000 level. At least 20 hours must be in formal, regularly scheduled course work, 10 of which must be at the 6000 level. Courses at the 5000 level are acceptable for credit toward the master's degree when taken as a part of a planned degree program.

Up to 6 hours of 4000-level courses may be taken as part of a planned degree program. Additional graduate credit may be earned in 4000-level courses only if specifically approved by the appropriate dean and by the Graduate School. Students enrolled in undergraduate courses as part of a planned degree program will be expected to demonstrate a superior level of performance.

Graduate students may not enroll for more than 18 hours in any semester without written permission from the college dean.

Supervisory Committee Students working toward a thesis degree will have the benefit of a supervisory committee of credentialed members of the graduate faculty, appointed by the program director and approved by the Dean of the Graduate School. The committee, consisting of the major professor and at least two other members of the department or area in which the degree is sought, will be recommended by the chairperson upon request from the student and the major professor. The director of a thesis must be a USF graduate faculty member with an advanced degree, or equivalent professional qualifications appropriate to the required level of supervision, and must be credentialed for thesis direction. Notification of the committee appointment will be sent to the Dean of the college and to the Dean of the Graduate School. The committee will approve the course of study for the student, supervise the research, and accept the thesis.

Time Limitation All work applicable to master's degree requirements must be completed within 7 years from the time a student is admitted into the program, and graduate students who receive financial support from the University, other than fellowship recipients, will hold their appointments for no more than 4 semesters (excluding Summer Term) while working toward the master's degree (5 semesters for the Master of Fine Arts).

Final Comprehensive Examination Prior to clearance for the degree, candidates must perform satisfactorily on a comprehensive examination in their major fields. When graduate students take their comprehensive examinations, they must be enrolled for a minimum of 2 hours of graduate credit in their disciplines.

Thesis If a thesis is required, it must conform to the guidelines in the Handbook for Graduate Theses and Dissertations available in the University Bookstore. An abstract must accompany the thesis. The thesis must be submitted to the Graduate School by the date established for submission in the semester in which graduation is to occur. The Graduate School will not accept a thesis after the first day of the semester unless the candidate is enrolled in the proper thesis course (6971) for at least 2 hours. If the student elects to submit the final draft of the thesis by the first day of the semester, the student will not be required to register for 2 hours of thesis but must reapply for graduation. In addition, the student must have been enrolled the preceding semester for at least 2 hours of thesis. Only after the thesis has been approved for filing in the University Library can the student be certified for the degree. A binding fee will be charged the student at the time the thesis is submitted.

Dual Master's Degree A student may wish to pursue 2 master's degrees simultaneously. Upon approval by the Graduate Council, credit for core courses required for one degree may be applied to another degree that requires the same core courses, without repetition or alternative courses.

Ed.S. Degree and Ed.D. Degree

The Education Specialist Degree (Ed.S.) and Doctor of Education Degree (Ed.D.) are offered only by the College of Education.

Ph.D. Degree

The degree of Doctor of Philosophy is granted in recognition of high attainment in a specific field of knowledge. It is a research degree and is not conferred solely upon the earning of credit, the completion of courses, or the acquiring of a number of terms of residency. The length of residency and the requirements below are minimums; departments/programs may elect to establish more rigorous requirements. The degree will be granted after the student has shown proficiency and distinctive achievement in a specified field, has demonstrated the ability to do original, independent investigation, and has presented these findings with a high degree of literary skill in a dissertation. A minimum of 90 hours beyond the bachelor's degree is required.

Student Committees An Advisory Committee will be appointed by the chairperson of the appropriate department or program for each student during the first semester of residency at the University of South Florida. This Committee will advise the student on any specific indicated subject matter deficiencies and assist the in choice of a major professor and an area of research. As soon as an area of research is determined and a major professor is chosen, a Doctoral Committee will be approved for the student. The department will request approval of the Doctoral Committee from the Dean of the College and the Dean of the Graduate School. The Doctoral Committee will approve the student's course of study and plan for research, supervise the research and the written comprehensive qualifying examination, read and approve the dissertation, and conduct the dissertation defense examination. The Doctoral Committee will consist of at least five members, at least three of whom must come from the academic area in which the major work for the degree will be done.

Tools of Research Before a student becomes eligible to take the comprehensive qualifying examination, 2 of the "tools of research" requirements designated by the department/college for a given degree program (e.g., a foreign language and statistics) must be completed. Courses used to fulfill "tools of research" requirements earn no credit toward the graduate degree. The choice of the 2 "tools of research" will be the prerogative of the student's dissertation committee.

All foreign language requirements offered as a "tool of research" must be completed before students are admitted to candidacy. The foreign language requirement may be satisfied in one of the following ways. The criteria stated below will be considered a minimum requirement; departments may elect to establish more rigorous requirements.

1. Students who elect to be tested in French, German, Russian, and/or Spanish may, with departmental approval, elect one of the following 3 options:
 - a) The student may take appropriate courses in the Division of Language or Classics Program. Whenever the courses are available, the student should be encouraged to take one of the special one-semester foreign language courses designed for graduate students. When these courses are not available, the student may take two semesters of a beginning foreign language course. These courses may not be taken pass/fail or audit and the student must obtain a "B" or better to fulfill the foreign language requirement. Courses taken to fulfill the foreign language requirement will not count toward the 90 hours necessary for graduation and the grades will not be computed in the student's graduate GPA.
 - b) Students may elect to take the GSFLT (Graduate School Foreign Language Test). The student must achieve a score of 450 or better on the test in order to fulfill the foreign language requirement.
 - c) Students may take a proficiency exam in which they translate materials relevant to their particular disciplines into English. The form of these proficiency exams should be devised by the appropriate language professors from the Division of Language or the Classics Program, in consultation with individual departments; exams must be administered and graded by language professors from either of these two units.

2. Students who elect to be tested in foreign languages other than French, German, Russian, and/or Spanish may, with departmental approval, adopt one of the two following options:
 - a) The student may take appropriate courses in the Division of Language or the Classics Program. All requirements stated in paragraph 1.a above apply.
 - b) Students may take a proficiency exam in which they translate materials relevant to their particular disciplines into English. See paragraph 1.b above.

Residency The minimum requirement will be 3 academic years of work beyond the bachelor's degree. At least one academic year of residence must be on a University of South Florida campus. An academic year's residency will be defined as a minimum of 9 hours of graduate work per term, 2 terms per calendar year. Deviations from this rule must be recommended by the student's supervisory committee and approved by the Dean of the Graduate School.

Time Limitations After admission to candidacy, any graduate work counted toward the fulfillment of the requirements for the Ph.D. degree must be completed within 7 calendar years. Doctoral students who receive financial support from the University, other than fellowship recipients, will hold their appointments for no more than 6 semesters beyond receipt of a master's degree.

Comprehensive Qualifying Examination As soon as all required course work is completed, the student must pass a written comprehensive qualifying examination covering the subject matter in the major and related fields. This examination may be supplemented by an oral examination. If the degree is not conferred within 5 calendar years of the comprehensive examination, a second comprehensive examination must be taken.

Admission to Candidacy Students may not be admitted to candidacy until a Dissertation Committee has been appointed, and the Committee has certified that the student has successfully completed the comprehensive qualifying examination and demonstrated the qualifications necessary to successfully complete requirements for the degree. Following the completion of the Admission to Candidacy form, the student may enroll in Dissertation: Doctoral (7980). The Admission to Candidacy form will be approved by the Dean of the college and forwarded to the Dean of the Graduate School for final approval.

Final Oral Examination After the Dissertation Committee has determined that the final draft of the dissertation is suitable for presentation, the Committee will complete a form requesting the scheduling and announcement of the dissertation defense

examination. The request form, along with a draft copy of the dissertation, will be submitted via the appropriate department chairperson to the college Dean and the Dean of the Graduate School for approval. The announcement must be received in the Graduate School Office at least 2 weeks prior to the scheduled oral examination. The dissertation defense examination must be held at least 3 weeks before the end of the semester in which the student is to be awarded the degree; therefore, the request for defense of the dissertation must be received in the Graduate School at least 5 weeks before the end of the semester in which the degree is to be granted.

The final Ph.D. Oral Examination is the culmination of the student's graduate education and is a significant formal event. The Chair of the Examination Committee is expected to be a senior and distinguished scholar, nominated by the major professor, approved by the Dean of the Graduate School with the concurrence of the Department Chair and the Dean of the College to serve as the representative of the Graduate School. If the chair is from another institution, this individual should be credentialed in that institution and/or have the equivalent qualifications necessary to be credentialed under University of South Florida criteria.

Dissertation Students must take the appropriate number of credits for dissertation as determined by the department and/or individual requirements.

At least 2 weeks before the end of the semester in which the student is to receive the degree, a candidate must submit to the Dean of the Graduate School a completed dissertation signed by the committee. The dissertation must conform to the guidelines in the Handbook for Graduate Theses and Dissertations available in the University Bookstore. An abstract also is required. The Graduate School will not accept a dissertation after the first day of the semester, unless the candidate is enrolled in the proper dissertation course for at least 2 credit hours. Students who submit the dissertation by the first day of the semester will not be required to register for 2 hours of dissertation but must reapply for graduation. In addition, the student must have been enrolled for at least 2 hours of dissertation during the preceding semester. The dissertation must be approved by the Dean of the Graduate School prior to college certification for the degree. Two copies of the dissertation will then be deposited in the University Library. Each dissertation will be microfilmed, with the student being assessed a fee for this service. A binding fee will be charged the student at the time the dissertation is submitted.

Academic Services and Support

University Library

It is important that a library consider not only the books on its shelves, but also the people it serves. This point of view is central in the philosophy of the University of South Florida Library. The University expects students to become familiar with the University Library book collection, to master the techniques of using it, and to achieve a familiarity with books that will continue into later life.

The University Library building was completed in March 1975. The seven-floor building with its open stacks, adjoining study areas, and many individual carrels has been designed to facilitate study, research, and reading. When fully occupied, it will provide space for 2,500 readers and accommodate over 800,000 volumes.

The present library collection consists of more than 1 million volumes and is constantly growing in order to serve the University community's need for materials for instruction and research, as well as for personal knowledge and cultural advancement. Information about the volumes in the collection can be found by searching the on-line catalog, LUIS, by author, title, or subject. The catalog also contains a record of all the volumes found in the branch campus libraries, the Medical Center library, the Florida Mental Health Institute library, and the University Media Center. Terminals are located on all floors.

Division of Sponsored Research

Research is an essential aspect of the educational programs of the University of South Florida. All faculty members are encouraged to pursue research activities, and many students are afforded the opportunity to participate in research and training projects supported by public and private granting agencies.

The Division of Sponsored Research is the central coordinating unit for research and other sponsored educational activities on all the University's campuses. It provides information about granting agencies to faculty and students and serves as a consultation center for faculty who desire to submit proposals for funding. All proposals for which outside support is sought must be transmitted through this office.

From the beginning, USF faculty and staff have been active in the search for new knowledge and have consistently demonstrated their social concern. With the support of private and public agencies, they have contributed to our knowledge about men and women and the world in which they live, and have applied their discoveries and skills to the solution of many current problems. Since 1960, the rate of growth in external funding has been phenomenal. During the past ten years, USF faculty have received in excess of \$155 million dollars from external sources to pursue research and other sponsored fund activities. Many of their contributions were basic research; others were practical applications of new knowledge; still other projects made the specialized training and knowledge of USF faculty available to public officials, organizations working for social betterment, religious and educational institutions, and business and manufacturing organizations. Through their sponsored activities, USF faculty have made significant contributions to the University's instructional programs.

Division of Educational Resources

The Division of Educational Resources offers the following services to USF faculty, staff, and students:

Audio-Visual Services provides equipment, such as 16mm projectors, film strip projectors, slide projectors, TV Receiver/Monitors, TV Projectors, video equipment, for classroom use, University events and other functions. AV materials, such as microphones, patch cords, projection lamps, overhead transparencies, surge projectors, audio and video cassettes, and splicing tapes are available for purchase. Audio-Visual Services also provides simple and complex public address systems, recording and dubbing services, satellite teleconferencing, as well as maintenance of audio and video equipment.

The **Film Library** houses more than 4,500 films which are available at no charge for use in scheduled USF courses, rental to external agencies or non-academic internal use, and or individual viewing in the Film Library on the Tampa campus.

The **Instructional Video Service (ITFS)** productions are credit courses taught before a class and disseminated live via microwave to any designated location within a 25-mile radius of the downtown Tampa area. The classes are also video taped for use in the Florida Engineering Education Development System (FEEDS) and distributed throughout the state.

The **Photography Department** provides a wide variety of professional services to students, staff, and faculty, from black and white printing and color slide processing to passport photos and University ID's for all campuses.

The **Graphic Design Department** provides creative design, illustration, typesetting, and finished camera-ready art for most printing requirements. Services provided cover three major areas; classroom/research support, University publications, and television/radio. Graphic Design and Photographic Services are available to students, faculty, and staff for classroom use, University events, and other functions.

Media Design and Production produces multi-image slide shows and video presentations for faculty, staff, and student organizations. Creative services offered include script writing, photography, visual design, soundtrack production, and all stages leading to the final product. Creative and technical consultation is available for any audio-visual communications need.

ID's Legal identification must be shown to obtain an ID. ID service is available throughout registration and the first week of classes each semester. During the balance of the semester, ID's are made on Monday from 4 - 6 p.m., Wednesday from 2 - 3 p.m., and on Thursday from 9 - 11 a.m. There is no charge for the original ID

or to replace a damaged ID, providing the damaged card is presented. All other replacements are \$5 each.

The **University Media Center (UMC)** is a resource center for instructional materials and non-book media. Adult non-print materials and print materials for grades K-12 may be checked out on loan with a valid University I.D. A Production Room provides graphics and photography facilities, duplicating equipment, and a laminator for use by all USF personnel.

The **University Media Center Lab (UMC Lab)** provides assorted audio-visual study aids for USF students. Faculty members may convert portions of the subject material being taught to a variety of audio-visual media formats for use in the classroom. This facility is available certain evenings each week, as well as during scheduled daytime classroom hours.

WUSF-TV (Channel 16) is a non-commercial educational television station serving communities in the nine surrounding counties as an important outreach arm of the University. It provides high quality educational, instructional, informational, cultural, and public affairs television programming and services to viewers in the Tampa - St. Petersburg - Sarasota area, including USF faculty, staff, students, and other educational agencies.

WSFP-TV (Channel 30, Fort Myers) is also a non-commercial educational television station providing high quality cultural, informational, entertainment, public affairs, educational, and instructional public television programming for the people of the Greater Fort Myers-Naples area of Southwest Florida, including the University of South Florida at Fort Myers and other educational agencies.

WUSF (FM) 89.7 MHZ and WSFP-FM 90.1 mhz are listener-supported radio stations serving the University, its multi-campus, and the surrounding communities within an 18-county area with 24 hours a day of fine arts, public affairs, and educational programming. They are members of National Public Radio (NPR), American Public Radio, and Florida Public Radio.

The **WUSF and WSFP Radio Reading Service** broadcasts daily newspapers, magazines, and other materials from Tampa and Fort Myers for the "print handicapped" throughout Southwest Florida. A special receiver is loaned to qualified listeners, who hear over 200 volunteers read all programming in this 24 hours a day service. It airs on sub-carrier frequencies of WUSF and WSFP.

Engineering operates and maintains the four broadcast stations and provides the planning and design for their expansion and modification, as well as for the ITFS system and other communications systems on campus. It also prepares and maintains FCC and FAA permits for all the transmission facilities operated by the Division.

O.U. (Open University) provides opportunities for everyone regardless of previous education to earn college credit via television and radio (WUSF-FM and/or WUSF-TV, WSFP-FM and/or WSFP-TV). Courses are approved by the Department of Education for teacher certification or recertification. Course offerings are announced prior to each semester.

University Computing Services

USF is the host institution for the Central Florida Regional Data Center. This facility operates as a computing utility within the State University System and provides administrative, instructional, and research computing support for the University and numerous other agencies. Charges are made at published rates on a "pay for services rendered" basis.

The University Computing Services professional staff includes instruction and research consultants who assist qualified student and faculty working on projects. In the data systems area, services to University administrative units are delivered by project teams composed of systems coordinators, systems analysts, and programmers. The staff also consists of data entry, data control, and computer operations personnel and systems (software) technical specialists. Computing projects are established through UCS Financial Services.

Central site computing equipment located in the Student Services Building on the Tampa campus includes IBM 3081D and 3033 N systems with tape and disk storage subsystems, printers, and plotters. Remote batch job entry and on line keyboard terminals operate at various locations on campus. Remote access units and terminals

are located at the other campuses. Terminals and other associated equipment are also maintained in "open use" areas to give students, faculty, and staff access to central site processing support. These remote open use areas may vary in scheduled hours of operation, but each provides significant access, often seven days a week.

Florida Mental Health Institute

The Florida Mental Health Institute (FMHI), located in a complex of buildings at the northwest corner of the USF Tampa campus, is a multidisciplinary training, research, education, and service facility. The mission of FMHI is to improve mental health services in the State of Florida. FMHI offers training programs, clinical experience, educational information, general and technical publications, and audio visual presentations to professionals in mental health and related areas, undergraduate and graduate students, and members of the general public. FMHI also provides training and community oriented programs in locales throughout the state.

The Institute's programs are conducted by five departments: Aging and Mental Health, Child and Family Studies, Crime and Delinquency, Community Mental Health, and Epidemiology and Policy Analysis.

Direct service programs function as sites for clinical demonstration and research and are designed as models for state and community agencies. FMHI provides residential treatment to approximately 62 persons of all ages who have severe mental or behavioral difficulties. Through its training and research projects, the Institute also offers day treatment to 120 persons, and out-patient and community adjustment services to approximately 200 persons. In cooperation with the Hillsborough County Public Schools, day treatment services are provided to 80 severely emotionally disabled youngsters attending the Colleen Lunsford Bevis School at the Institute.

The Institute's training programs emphasize practical clinical techniques and the application of theory to applied settings. Similarly, FMHI research focuses on finding the most effective, least costly, and highest quality means of delivering mental health services.

FMHI offers undergraduate and graduate students field placements, internships, research assistantships, and volunteer and part-time employment opportunities. Students may earn academic credit for clinical placements, internships, tutorials, or independent research participation performed at the Institute in conjunction with USF courses. The Institute cooperates and collaborates with other State University System units, and FMHI faculty teach undergraduate and graduate courses at the request of USF departments.

FMHI's library, media center, and publications program provide access to information relevant to mental health for students, faculty, mental health professionals, and the public.

GRADUATE ADMISSIONS & RELATED MATTERS

The Graduate School is administered by a Dean, who, assisted by an Associate Dean, coordinates the admission of graduate students, advises on the budgetary request and internal allocation of state funds for the support of graduate training, administers graduate fellowships, allocates graduate tuition waivers and scholarships, credentials graduate faculty, and presides with the President over the conferring of degrees.

Admission to Graduate Study

Application forms for graduate study may be obtained from the Office of Admissions. The University accepts applications as early as one year in advance, and, therefore, prospective graduate students are advised to apply early. Applicants whose credentials are not received by the deadline for a given program will not be considered for that semester. Some departments have earlier deadlines than those listed in the Academic Calendar. Students should check the requirements for the specific programs in which they are interested. A \$15 non-refundable application fee must accompany the application unless the student has previously paid the fee at the University and been enrolled as a degree-seeking student.

Students who seek admission to a graduate degree program in the State University System as first-time or transfer graduate students shall be required to meet minimum system-wide requirements (see below). Programs may impose more restrictive requirements if they so desire. These requirements are listed in the appropriate sections in this Catalog.

In order to be considered for admission, a first-time graduate student or a student transferring from a graduate program at another university must have a bachelor's degree or equivalent from a regionally accredited university, must take the Graduate Record Examination (GRE) or an equivalent measure approved by the Board of Regents, and must meet at least one of the following criteria:

- 1. Shall have earned a graduate degree from a regionally accredited institution, or**
- 2. Shall have earned a "B" (3.0 on a 4.0 scale) average or better in all work attempted while registered as an upper division student working for a baccalaureate degree, or**
- 3. Shall have a total quantitative-verbal GRE General Test score of 1000 or higher, or an equivalent measure approved by the BOR.**

Each student who seeks admission as a first-time or transfer graduate student will be required to present a score on the General Test of the Graduate Record Examination, or an equivalent measure approved by the BOR, taken within five years preceding application. The age of the GRE may be waived in individual cases by the Dean of the Graduate School.

The GRE is given 5 times a year and the GMAT 4 times at locations in the U.S. and in many foreign countries. Candidates must register for this examination at least 4 weeks in advance of the test date and should allow 6 weeks for the receipt of their test scores. The appropriate test score must be received before the student will be considered for admission.

Applicants denied admission will be given timely notice in writing, including the reason for their rejection. Applicants denied admission who meet the minimum system-wide and college standards may write to the Director of Admissions within 30 days of the date of denial to request reconsideration by the department, college, and Dean of the Graduate School. The request will explain why, in the applicant's view, reconsideration is warranted.

Applicants from non-regionally accredited U.S. institutions may apply for special consideration for admission on an individual basis if they score at least 1000 on the

quantitative-verbal portion of the GRE General Test, or 500 on the Graduate Management Admission Test (GMAT), and have a "B" average or better on all work attempted while registered as an upper division student working for a baccalaureate degree.

Evaluation of applicants for the College of Business Administration (except Economics) is based on a combination of indicators, including the GMAT.

Up to 10 percent of the graduate students admitted for a given academic year may be admitted as exceptions to the above criteria. Students admitted as exceptions need not meet any of the criteria listed above except the presentation of test scores, but should meet other criteria devised by the University, such as excellent letters of recommendation from trusted educators, satisfactory performance in a specified number of graduate courses taken as post-bachelor students, or practical professional experience in the discipline for a specific period of time.

Students with a bachelor's degree or the equivalent who do not meet the SUS criteria and wish to enroll in courses, but not in degree programs, at the post-bachelor's level may enroll as non-degree seeking students. Colleges wishing to admit non-degree seeking students to graduate degree programs after the students have satisfactorily completed a certain number of credits may do so, provided that the number so admitted is included as part of the 10 percent exception.

If, on completion of one graduate degree, a student wishes to begin work on another advanced degree at USF, the student must reapply through the Office of Admissions.

Procedure for Applying

- 1. Submit a USF Application for Admission to Graduate Study and a \$15 non-refundable fee to the Office of Admissions, Tampa Campus, prior to the University or program application deadline, whichever is earlier.**
- 2. Two official transcripts from every institution of higher learning attended must be forwarded directly from the issuing institution to the Office of Admissions.**
- 3. Admissions test results are required of every applicant. These must be sent directly from the testing agency to the Office of Admissions.**
 - a) All applicants, except those applying to Business Administration (see below), must submit scores from the GRE General Test taken within 5 years preceding application.**
 - b) All applicants to Business Administration, except those applying to Economics, must submit scores from the GMAT taken within 5 years preceding application. Those applying to Economics may submit either the GMAT or the GRE scores.**
- 4. Applicants whose native language is not English are required to submit scores from the Test of English as a Foreign Language (TOEFL). A minimum score of 550 is required for all colleges and programs. In addition, all students whose native language is not English and who intend to apply for a teaching assistantship must submit scores from the Test of Spoken English (TSE). A minimum score of 220 must be achieved. Applicants are responsible for making arrangements to take the examination(s) and to have their scores sent directly from Educational Testing Service to the Office of Admissions. Student copies are not acceptable.**
- 5. Letters of recommendation may be required by the programs. (See the individual college section for particulars.)**
- 6. All credentials must be received in the Admissions Office before the student will be allowed to register.**
- 7. A student's acceptance to graduate standing is granted for the semester and the particular program specified in the official acceptance notification. The student must validate that acceptance by enrolling for that semester. If admission has not been granted because of a late application or missing credentials, or if the student does not enroll for that specific semester, the student must request that the Office of Admissions update the application for a future semester and specify the new enrollment date. This request must be made in writing within 12 months of the initial requested entry date. If a request for change of semester is not received in the specified**

time, a new application and fee must be submitted. Request for change in entry date must be received no later than the program or University deadline for the semester desired, whichever is earlier.

International Applicants

International applicants must have earned, in an institution of higher learning, a degree equivalent to a bachelor's degree from a regionally accredited university in the United States.

The following items are required as part of the formal application and should be received by USF at least 6 months prior to the desired entry date. Submission of an application does not guarantee admission:

1. A completed USF International Student Application.
2. A \$15 non-refundable fee submitted with the application.
3. Three letters of recommendation sent directly to the program to which the student is applying, attesting academic performance and ability.
4. A certificate of financial ability showing proof of financial resources sufficient to cover tuition, fees, room and board, and other expenses for the full academic year. Travel costs must be assumed by the student. Students who have signed a statement indicating sufficient financial resources cannot expect the University to assume responsibility if their funds prove inadequate.
5. Applicants whose native language is not English are required to submit scores from the Test of English as a Foreign Language (TOEFL). A minimum score of 550 is required for all colleges and programs. In addition, all students whose native language is not English and who intend to apply for a teaching assistantship must submit scores from the Test of Spoken English (TSE). A minimum score of 220 must be achieved. Applicants are responsible for making arrangements with the Educational Testing Service to take the examination(s) and to have their scores sent directly from the testing service to the Office of Admissions. Student copies are not acceptable.
6. All applicants to graduate programs (except those applying to the College of Business Administration) must submit scores from the GRE. Graduate Applicants to the College of Business Administration (with the exception of Economics) must submit scores from the GMAT. Applicants for the program in Economics must submit scores from the GRE.

Application and information for the required tests may be obtained from the addresses listed below:

- a. **Test of English as a Foreign Language and Test of Spoken English:**
Test of English as a Foreign Language
Educational Testing Service
Box 899
Princeton, New Jersey 08540, U.S.A.
 - b. **Graduate Record Examination:**
Graduate Record Examination
Educational Testing Service
Box 955
Princeton, New Jersey 08540, U.S.A.
 - c. **Graduate Management Admission Test:**
Graduate Management Admission Test
Educational Testing Service
Box 966
Princeton, New Jersey 08540, U.S.A.
7. International applicants must request all schools attended to submit directly to the Office of Admissions transcripts of all work attempted. Transcripts and all other documents in a language other than English must be accompanied by a certified English translation signed and sealed by an authorized government or school official. Applicants must submit certificates, diplomas, and transcripts showing subjects and grades from the first year of university work to the time of application. Documents submitted will not be returned to the applicant or forwarded to another institution.

8. International applicants must complete a Pre-Entrance Medical History Form.
9. International students must show proof of basic health insurance coverage.

Non-Degree Seeking Students

Students who are qualified to enroll in specific graduate courses, but who do not intend to work toward a graduate degree, may enroll as non-degree seeking students. Non-degree seeking students may enter classes on a space available basis by obtaining consent of the department chairperson and must meet all prerequisites for courses in which they wish to enroll. Certain classes are available only to degree seeking majors and may not be available for non-degree seeking students. Should a student apply and be accepted to a graduate program, **no more than 12 hours of credit** earned as a non-degree seeking student may be applied to satisfy graduate degree requirements. Any application of such credit must be approved by the degree-granting college and must be appropriate to the program.

Those interested in enrolling as non-degree seeking students are urged to contact the Coordinator of Graduate Studies in the college offering the courses for a description of requirements and procedures. The College of Business Administration will approve non-degree seeking student registration in graduate courses for transient students only (degree-seeking at other accredited institutions).

Graduate Readmission (Former Student Returning)

Degree-seeking graduate students who have not been in attendance at the University during the three semesters immediately preceding the semester that enrollment is desired should complete an Application for Admission to Graduate School and return it to the Office of Admissions to reactivate their graduate standing. Any degree-seeking graduate student who has not been in attendance at the University for two years (6 semesters) must reapply and be readmitted to the Graduate School through the Office of Admissions.

The Traveling Scholar Program

The SUS Traveling Scholar program enables a graduate student to take advantage of special resources available on other SUS campuses. A Traveling Scholar is a graduate student who, by mutual agreement of the appropriate academic authorities in both the sponsoring and hosting institutions, receives a waiver of admission requirements and application fee at the host institution and a guarantee of acceptance of earned credits by the sponsoring institution.

A Traveling Scholar must be recommended by a graduate adviser, who will initiate a visiting arrangement with the appropriate faculty member of the host institution.

After agreement by the Dean of the Graduate School at USF and the student's adviser and the faculty member at the host institution, deans at the other institution will be fully informed by the adviser and have authority to approve or disapprove the academic arrangement.

Registration

Registration dates, information and, instructions are published each term in the Schedule of Classes. Regular registration and early drop/add for continuing degree-seeking students are conducted by telephone or in person at the student's option. Appointment times for regular registration are mailed in advance to eligible students at their local addresses. Continuing degree-seeking students are encouraged to register during this period to avoid standing in lines and to allow time for schedule adjustments by the colleges.

New degree-seeking students receive registration instructions for their first term from the Admissions Office.

Students may also register in person during the week before classes begin. However, no schedule adjustments (drop/adds) are permitted during this week.

Students who have not registered prior to the beginning of the term may register late during the first week of classes. A \$25.00 late registration fee is charged for this privilege.

All registered students may drop and add courses during the first week of classes. Students owe fees for all courses on their records at the end of the fifth day of

classes. Fees must be paid or postmarked by the fifth day of classes to avoid cancellation of registration.

Financial Aid

There are a number of financial aid programs for graduate students. Although scholarships, grants, waivers, and fellowships are administered through the Graduate Scholarships and Fellowships Program Office, the Office of Financial Aid administers several loan programs as well as the College Work-Study Program available to graduate students. This office also coordinates the disbursement of employment papers for students on fellowships or assistantships. In addition, temporary deferments for registration fees, and short-term, interest free loans are available to students whose aid is delayed.

Students apply for loans and work-study by submitting a USF financial aid application and a Family Financial Statement (FFS). Since funds are limited for some programs, it is important to apply early. Application packets are available in early December each year for the following academic year. More comprehensive information is provided in the Financial Aid Bulletin which is included in the packet. Packets are available by contacting the Office of Financial Aid.

Students who qualify for temporary deferments of their registration fees, due to delayed financial aid, are mailed a deferment card prior to the start of a semester. The card must be signed and returned to the Office of Financial Aid by the fifth day of classes in order to activate the deferment.

Financial Aid Short Term (FAST) loans are available to students who have completed the application process, but whose aid is delayed or not processed. These loans are for registration fees and books only.

Other short term loans are available through the Student Disbursements and Collections, and are not contingent upon financial aid. These loans are for registration fees, or for emergency purposes once fees are paid.

Financial aid counselors are available to answer questions, provide information and assist students in the application process.

Information regarding scholarships, fellowships and external financial support is available from the Graduate Scholarships and Fellowships Program Office. Individual colleges have information particular to assistance in individual fields of study.

Graduate Assistantships, Fellowships, and Out-of-State Waivers

1. To be eligible to obtain a graduate assistantship or associateship, a student must be degree-seeking and be registered each semester for a minimum of 9 credit hours toward degree requirements.
2. Although normally only degree-seeking students registered for a minimum of 9 hours are eligible for appointment as graduate research assistants or associates, in special cases a research assistant or associate may be non-degree seeking for one semester only.

Graduate Assistantships and Associateships are awarded by the individual programs/departments. To be eligible, all beginning graduate assistants or associates must have a GRE score of 1000 or better and a GPA of 3.0 or better, unless granted special approval by the Dean of the Graduate School. All continuing graduate assistants and associates must maintain a graduate GPA of 3.0 or better.

The Graduate Council awards University Graduate Fellowships to outstanding beginning and advanced graduate students. A limited number are awarded each year on a competitive basis. Contact the Graduate School for information and applications. The Florida Legislature provides funds for graduate tuition waiver scholarships to attract outstanding students. The details concerning these scholarships are available through the student's academic department. The Federal Tax Reform Act of 1986 has substantially limited the extent to which scholarships, grants, fellowships and tuition waiver scholarships may be excluded from the recipients' income. Only those amounts received by degree-seeking students, which are actually used in accordance with the conditions of the grant for course-related expenses, may be excluded from gross income, unless such amounts (including tuition reductions) represent payment

for services rendered. Students who receive scholarships, grants, fellowships, or tuition waiver scholarships are responsible for record keeping, filing, and for the payment of any income tax that may be due.

External Graduate Scholarships and Fellowships Program

The Graduate Scholarships and Fellowships Program assists current and prospective graduate students in identifying scholarship and fellowship opportunities not generated within USF. It assists students in applying for external awards to support graduate study at USF or at other universities in the United States and abroad. Some of the prestigious awards administered by this program include the Fulbright, Rhodes, the American Scandinavian Society, the German Academic Exchange Service, the Committee on Scholarly Communication with the People's Republic of China, Woodrow Wilson, American Association of University Women, Robert Bosch Foundation, and the Rockefeller Foundation.

Once an appropriate source of external funding is matched to a student's needs, qualifications, and background, the Graduate Scholarships and Fellowships Program will assist at every stage of the application procedure. Many graduate external awards include full tuition, a living stipend, travel, and book expenses for a full year of study or research.

Normally, campus deadlines for submission of application for foreign study fellowships occur around the end of September, while deadlines for domestic awards vary but usually occur from October to December.

The Program maintains a current library of all announcements and applications for external domestic and foreign awards, as well as a computer search for helping students find awards. Students interested in external graduate study awards should contact the Graduate School.

University of South Florida Press

The USF Press publishes quality works that reflect original scholarship, research, and thought in the areas of fine art, natural science, social science, and liberal arts. Topics of local and regional interest and relevance are also published. Wide critical acclaim has greeted the increasing number of publications the USF Press has garnered, and these books have also enjoyed broad commercial appeal with many entering second or third printings.

The USF Press is governed by an editorial board which meets throughout the academic year and consists of distinguished professors from each of the colleges whose expertise encompasses a diverse, eclectic background. USF authors are encouraged to submit manuscripts and may obtain further information by contacting the USF Press, Graduate School, FAO 126, Tampa (813) 974-2846.

Off-Campus Courses and Programs

Graduate courses and programs are offered at locations other than the Tampa, Fort Myers, Sarasota, St. Petersburg, and Lakeland campuses. Classes generally are scheduled once a week.

Both degree and non-degree seeking students may participate in off-campus programs. Degree-seeking students must, however, apply for admission to the University (see page 31-33) at an early date, so that courses taken may be considered for inclusion in a program of studies.

Information on the availability and enrollment procedures for off-campus courses and programs may be obtained from the office of the Dean of the college in which the courses or programs are offered.

FINANCIAL INFORMATION

Florida Residency for Tuition Purposes

This notice summarizes the provisions of 240.1205 Florida Statutes, BOR rule 6C-7.05 and University Policy/Procedure.

In determining residency classification, students fall into one of two categories. They are either *independent students* (students *not* claimed on parent's or legal guardian's federal income tax statement or whose parents do not provide 50% or more of their support) or *dependent students* (students, regardless of age, who are claimed as dependents by parent or legal guardian on federal income tax statement or whose parents provide 50% or more of their support).

The law basically requires that a U.S. citizen/permanent resident alien/independent student's or a dependent student's parent/legal guardian has established and maintained a *LEGAL* Florida residence for at least twelve (12) months before the first day of classes of the term for which Florida status is sought.

The University of South Florida is required to obtain documentation of 12 months' legal residence before a student is classified as a Florida resident for tuition purposes. A student is required to request Florida residency in writing and submit supporting documents no later than the fifth day of classes in the term for which classification is sought.

The following is acceptable, non-conclusive evidence of the establishment of a legal residence in Florida. At least one such document must be dated/issued at least 12 months before the first day of classes of the term for which Florida residency is sought.

1. Proof of purchase of permanent home in Florida.
2. Declaration of domicile.
3. Florida driver's license.
4. Florida voter's registration.
5. Florida vehicle registration.
6. Florida title.
7. Professional/occupational license in Florida.
8. Florida incorporation or other evidence of legal residence in Florida.

PLEASE NOTE: Rent receipts, leases, employment records, tax returns, school/college records are **NOT** evidence of establishing a legal Florida residence. Students who are dependent on out-of-state parents or who come to Florida for educational purposes are generally ineligible for reclassification to Florida status.

In rare cases, the law allows some students (e.g.: military, public school teachers, and administrators, etc.) who do not meet the basic requirements to be classified as Florida residents for tuition purposes. For more information about exceptional categories, contact the Admissions Office, the Office of the Registrar, or the Office of the General Counsel.

Immunization Requirement

The State University System requires all under the age of 40 students to present acceptable proof of immunity to measles and/or rubella or to secure an approved medical or religious exemption as a condition of registration. All students born after December 31, 1956 must submit documented proof of immunity to measles. All students under the age of 40 must present documented proof of immunity to rubella. Acceptable proof of immunity must be received prior to a student's being permitted to register. Students may present the document proof of immunization to:

CAMPUS
USF-Tampa

ADDRESS
Student Health Services
USF Ctr 312
Tampa, FL 33620

USF-St.Petersburg

Records Office
USF Bayboro Hall 126

140 Seventh Avenue South
St. Petersburg, FL 33701

USF-Sarasota

Office of Student Affairs
USF New College at Sarasota
5700 N. Tamiami Trail
Sarasota, FL 33580

USF-Fort Myers

Admissions and Records
USF at Fort Myers
8111 College Parkway S.W.
Fort Myers, FL 33907

USF-Lakeland

University of South Florida
State Road 540
Lakeland, FL 33803

The required Immunization Form may also be obtained at the above locations.

Students registering only for off-campus courses in the following categories are temporarily exempt from the immunization requirement: Bachelor of Independent Studies (BIS), Open University (TV), FEEDS Program, Off Campus Term (OCT), Cooperative Education Work Assignments and Continuing Education and special workshop courses that meet off campus.

Medical questions or questions about acceptable proof may be directed to the Student Health Services, University of South Florida, CTR 321, Tampa, FL 33620.

Fees

The following fee schedule applies to all USF graduate students. All fees are subject to change by action of the State Legislature, without prior notice. The University will make every effort to advertise any such changes if they occur.

- 1. Initial Application Fee \$15** (Each application -- not refundable)
- 2. Registration and Tuition Fee** Students will receive a schedule and bill at the time they register and each time they drop or add during the drop/add period. This bill must be presented when payment is made! The student is responsible for paying fees in full by the appropriate due date stated in the particular semester's "Schedule of Classes".

A. Fee Structure (Approximated)

Fees are assessed by course level--not student classification:

	<u>4000</u>	<u>5000/6000/7000</u>
In-State	\$ 44.00	\$ 73.00
Out-of-State	\$136.00	\$208.00

NOTE:

- There is no maximum amount that a student may be assessed for a single semester.
- Students who register only for a co-op assignment must pay for a minimum of 1 hour at the level of the co-op assignment.
- Cashier's Office Hours** See regular registration dates and times in University Class Schedule. Remainder of Semester, **Monday—Friday, 9 a.m.- 3 p.m.**
- Registration fee payment should be mailed to:**
Division of Finance and Accounting
University of South Florida
4202 Fowler Avenue
Tampa, Florida 33620
- I.D. Card Validation** See current Class Schedule for times during regular registration. Remainder of Semester, 9 a.m.- 3 p.m.; Accounts Receivable, ADM 176, 3 p.m. - 5 p.m.; Information Desk, University Center, 5 p.m. - 10 p.m.
- Off Campus Courses** Same fees as stated in "A" above.
- Florida Public Interest Research Group Fee** The Florida Public Interest Research Group (Florida PIRG) is a non-profit, non-partisan research and advocacy organization controlled and funded by Florida's college students. Florida PIRG conducts independent, policy-oriented research monitors

governmental and corporate actions affecting Florida residents, and advocates reforms that benefit the general public interest. Florida PIRG also provides students with the opportunity to combine their university education with meaningful public interest work. The Florida PIRG fee was established through a petition drive in which a majority of students at the Tampa, New College, and St. Petersburg campuses requested the assessment of a new fee to support such work. This fee of \$3.00 is assessed to all fee-paying students each semester on the Tampa, New College, or St. Petersburg campuses. However, any student may refuse to pay the fee if that student does not support the work of the organization. To refuse the fee, the student should initial the appropriate box on the registration form. Any student can request a refund from the Florida PIRG Office (Andros, Room 208) by appointment during the semester.

3. **Late Registration Fee** All students who initiate (i.e., those who have not enrolled for any courses during early or regular registration) their registration during the late registration period will be assessed a \$25 late registration fee.
 4. **Financial Aid Payments** Financial aid warrants are available in the Administration Building after registering during the first week of classes. Warrants must be picked up and fees paid by the end of the first week of classes.
 5. **Fee Payment** All registration fees and all courses added during the drop/add period must be paid in full by the payment deadline date specified in the current Class Schedule.
 6. **Cancellation for Non-Payment of Fees** Students not on an authorized deferred payment plan and who have not paid their registration fees in full by the published deadline may have their registration cancelled. This means, specifically, that a student will receive no credit for any courses taken during that semester. Students who are allowed to register in error may have their registration cancelled. Any fees paid by that student will be refunded or credited against any charges due the University.
 7. **Intern Certificate of Participation** Students who present Intern Certificates for payment of their registration fees will be required to pay \$3.76 per hour for all credit hours taken during the semester. These students may register for an unlimited number of credit hours during a given semester and will not be charged a Student Health Fee.
 8. **Staff/State Employee Waivers** USPS/Faculty employees of any state agency wishing to enroll in tuition-free courses should obtain a state waiver from their agency and complete it prior to registering. After registering during the state employee registration period, the state waiver and registration form should be brought to the Cashier's Office, ADM 131, during the first week of class. Payment for thesis, dissertation, and directed individual study courses cannot be waived. All hours in excess of 6 must be paid for at the regular rate.
 9. **60-Day Deferment for VA Students** Students receiving VA benefits who have applied in writing no later than the specified date for the 60-day deferment of fees from the Office of Veteran's Affairs have until a date specified in the University Class Schedule to pay registration fees in full.
 10. **Room Rent (*)** Contracts are for two semesters.

Andros per semester	\$648
Argos per semester	\$611/dbl
Village per semester	\$684
 11. **Food Service (*)** Contracts are for two semesters.

10 Meal Plan per semester	\$731
20 Meal Plan per semester	\$786
- (*) rates subject to change

Refund of Fees

The following refunds, less deductions for unpaid debts to the University, are authorized. A Refund Request form must be completed and presented to the Accounts Receivable Department in the Division of Finance and Accounting to initiate the refund process. A two-week waiting period is observed for each refund in the event a check is returned.

- (a) 100% of registration fees and tuition will be refunded if notice of withdrawal from the University is approved prior to the end of drop-add period and written documentation is received from the student.
- (b) 25% of registration fees and tuition paid, less building and capital improvement fees, will be refunded if notice of withdrawal from the University is approved prior to the end of the fourth week of classes (or at an appropriate time as designated by the University for summer sessions) and written documentation is received from the student.
- (c) 100% of registration fees and tuition will be refunded when a student withdraws or drops a course due to circumstances determined by the University to be exceptional and beyond the control of the student, including but not limited to:
 - (1) Illness of a student of such severity or duration, as confirmed in writing by a physician, to preclude completion of the course(s),
 - (2) Death of the student or death in the immediate family (parent, spouse, or sibling),
 - (3) Involuntary call to active military duty,
 - (4) A situation in which the university is in error.
- (d) Students who receive financial aid and subsequently change their enrollment status which results in a refund in accordance with this subsection, may have all or a portion of their refund returned to the University's financial aid programs in accordance with the Financial Aid Policy on Refunds and Repayments.

Payment of Accounts Due the University

Charges against students for loss or breakage of University equipment or books, fines, and other charges are due immediately. Delinquent accounts may be considered sufficient cause for cancellation of registration. University regulations prohibit registration or release of transcript for any student whose account with the University is delinquent. Payments should be brought to the Cashier's Office in the Administration Building. Payments may be mailed to Finance and Accounting, University of South Florida, Tampa, 33620.

Vehicle Regulations and Fees

Motor Vehicles Students may use properly registered motor vehicles on any University campus. Parking facilities are provided for resident and commuter students. All motor vehicles and bicycles must be registered with the campus Parking Services Department, Division of Public Safety. This applies to full time or part-time, day or evening students. To register a vehicle a valid staff, student, or employee identification card will be required. State vehicle registration, indicating owner of vehicle, must be shown to the clerk of the Parking Services Department on request. A booklet entitled "USF Traffic and Parking Regulations" will be issued to each student on registering a motor vehicle. Registration fees for three or four-wheeled motor vehicles will be \$40 for an academic year.

Yearly fees for students registering after the first semester will be adjusted proportionally. Students may park in remote areas for a lesser fee. All decals expire on 30 August.

Motorcycles The fee for motorcycles and mopeds is \$7 per year no matter when they are registered.

Bicycles There is no fee for registering bicycles. A booklet entitled "USF Bicycle Traffic and Parking Regulations" will be issued to each student registering a bicycle.

Handicapped All staff/students with physical disabilities which impede walking may apply to the Parking Services Department of the local campus for a numbered handicapped sticker. Persons will receive vehicle registration decals free of charge if they are wheelchair-bound, legally blind, hold a current State of Florida H.C. Parking Permit, or have military disability of 50% or greater with V.A. certificate or letter. Other disabled registrants will pay the regular fee. Wheelchair-bound registrants are entitled to an exclusively numbered H.C. parking space. Other H.C. registrants shall share spaces marked Reserved Handicapped OMNI.

Evening Students Vehicle registration requirements and fees apply.

Special Services

Veterans Administration Benefits The University of South Florida is approved for the education of veterans, service members, and certain dependents of veterans, who are eligible for benefits under public laws now in effect. All degree programs currently offered at USF are approved by the State Approving Agency.

Students who may be eligible for benefits are urged to contact the Office of Veterans Affairs for information, procedures, and forms as early as possible. To initiate, change, or renew benefits at USF, a request must be submitted through that office. To be eligible for full-time VA benefits at USF, non-degree seeking students must enroll for 12 or more hours, and degree-seeking graduate students must enroll for 9 or more hours each regular semester.

VA regulations require that students take only courses that are applicable to their degree programs or other approved program, that they attend classes, and that they make satisfactory progress toward their degrees. There are many other VA rules and regulations of which students should be aware, including those regarding the following: double major, double degree, major/minor programs, Cooperative Education program, dual enrollment at two institutions, non-degree seeking student enrollment, courses/programs offered off campus, graduate student enrolled in undergraduate courses, independent study courses, open circuit television courses, courses taken by audit (no benefits), and non-punitive grades ("W", "U", "IU") and "I" grade unless removed within a calendar year. It is the student's responsibility to inquire concerning all VA rules and regulations and to report any change in status that affects these benefits. Additionally, VA benefits will be terminated for students who are dismissed for academic or disciplinary reasons and can only be reinstated after counseling and approval by the VA.

Veterans with a service-connected disability requesting benefits under Chapter 31 must present a VA Authorization form for the effective period of enrollment at USF. Those students may contact the Office of Loans and Scholarships no earlier than the respective semester's regular registration date for a book slip and ID card validation.

Other VA benefits include additional amounts of compensation and pension, which may be payable to eligible veterans and widows or widowers of veterans for the enrollment of dependent children. The students, parents, or guardians are responsible for notifying the VA Regional Office (where the veteran's records are located) directly of enrollment and termination of enrollment.

STUDENT SERVICES & STUDENT AFFAIRS

The University is committed to the concept of total student development -- intellectual, social, physical, and moral. The curricular, co-curricular, and extracurricular programs are designed to achieve this end and to offer USF students a wide variety of beliefs, opinions, and ideas in an atmosphere of openness and candor. The programs and activities developed and implemented by the Student Affairs staff at USF are intended to improve the quality of life at the University and to meet the University's goal of total student development. The programs are presented according to guidelines established by the Florida Board of Regents (Section 6-c, Administrative Code of Florida).

Students who attend USF are admitted under BOR guidelines, as well as under the policies and procedures of the University. University officials, particularly the Vice President for Student Affairs and his staff, are charged with interpreting the policies of the BOR to students, their families, and others in the University community.

Division of Student Affairs

The Vice President for Student Affairs and the Student Affairs staff strive to provide a campus environment that is conducive to learning and that enhances the quality of life for students at the University. The staff also offers services to students to help them cope more effectively with the many facets of college life that can affect students' academic work: financial aids, health service, individual and/or group counseling, alcohol/drug education, child care, career planning, bookstore, procedures for redressing grievances, standards for students' conduct, due process in the event of disciplinary action, and advice or assistance in time of trouble. A variety of programs and activities are offered by the staff to provide students opportunities to become involved in campus life outside the classroom: orientation for new students, residence halls, student organizations, University Center programs and activities, student publications, intramural and recreational sports, intercollegiate athletics, the Sun Dome, and events of special interest.

The Office of the Vice President for Student Affairs is responsible for notifying all involved parties in the event of the death of a student.

Standards and Discipline

Just as the University maintains high standards of academic performance, the members of the University community support high standards of individual conduct and human relations. Responsibility for one's own conduct and respect for the rights of others are essential conditions for academic and personal freedom within the University community.

Self-discipline and sensitivity to the rights of others are the principal elements of University discipline. USF reserves the right to deny admission or refuse enrollment to students whose actions are contrary to the purposes of the University or impair the welfare or freedom of other members of the University community.

Disciplinary procedures are followed when a student fails to exercise responsibility in an acceptable manner or commits an offense as outlined in the Student Handbook. University disciplinary procedures afford students the opportunity to discuss alleged infractions and to defend themselves, to seek counsel in their own best interest, and to exercise the right of appeal. Students are entitled to participate in the development of standards of conduct supporting their interests and the purposes of the University. University disciplinary procedures are described in the Student Handbook.

The University does not have a formal dress code, but campus attire is expected to be appropriate for the activities in which the individual is engaged.

Student Government

All regularly enrolled students are voting members of the Student Government of USF. They elect Student Government officers and student representatives to the S.G. Senate and college councils. Student Government is an agency representing student

interests in programs, plans, policies, and procedure of the University, and in securing student representation to University governance. The Student Government office oversees the Activity and Service Fee Fund, offers free legal referral assistance by a staff or attorneys, and aids students with off-campus housing. To receive an off-campus housing list, mail a self-addressed, stamped envelope to the Student Government office. Other areas, such as academic grievances, minority problems, health and accident insurance, refrigerator rental, and programming productions, also are managed in the Student Government office.

Academic Dishonesty and Disruption of Academic Process

Students attending USF are awarded degrees in recognition of successful completion of course work in their chosen fields of study. Each individual is expected to earn his or her degree on the basis of personal effort. Consequently, any form of cheating on examinations or plagiarism on assigned papers constitutes unacceptable deceit and dishonesty. Disruption of the classroom or teaching environment is also unacceptable. This cannot be tolerated in the University community and will be punishable, according to the seriousness of the offense, in conformity with established rules and procedures.

- I. **PLAGIARISM** Plagiarism is defined as "literary theft" and consists of the unattributed quotation of the exact words of a published text, or the unattributed borrowing of original ideas by paraphrase from a published text. On written papers for which the student employs information gathered from books, articles, or oral sources, each direct quotation, as well as ideas and facts that are not generally known to the public at large, or the form, structure, style of a secondary source must be attributed to its author by means of the appropriate citation procedure. Only widely known facts and thoughts and observations original to the student do not require citations. Citations may be made in footnotes or within the body of the text. Plagiarism also consists of passing off as one's own any portion of another person's work.

Punishment The student who submitted the plagiarized item shall receive an "F" with a numerical value of zero on the item(s) submitted, and the "F" shall be used to determine the final course grade. The instructor has the option to fail the student in the course.

- II. **CHEATING** Cheating is defined as: (1) the unauthorized granting or receiving of aid during the prescribed period of a course-graded exercise: students may not consult written materials (notes or books), may not look at the paper of another student, nor consult orally with any other student taking the same test; (2) asking another person to take an examination in his or her place or taking an examination in behalf of another student; (3) stealing visual concepts and/or stealing (copying) computer programs and presenting them as one's own. Such stealing includes using of another student's program as obtained from the magnetic media (or interactive terminals) or from cards, print-out paper, etc. presenting it as one's own (e.g., drawings, sketches, diagrams, musical programs and scores, graphs, maps, etc.); (4) stealing, borrowing, buying, and/or disseminating tests, answer keys, and/or other examination material except as officially authorized, research papers, creative papers, speeches, etc. **Punishments** (1) Students who receive or give such information shall receive an "F" with a numerical value of zero on the test(s), and the "F" shall be used to determine the final course grade. The instructor has the option to fail the student in the course. The use of any prohibited device, such as a cheat sheet, recording, calculator (if forbidden on exam), etc. during the course of a classroom test to assist the student or other students. Normal punishment: "F" in the course. (2) The use of another student (a stand-in) to take an examination for the enrolled student. Normal punishment: "F" in the course and suspension from school for one year for the enrolled student. The stand-in, if a University student, shall also be suspended from school for one year. (3) Stealing of computer programs. (4) Stealing, borrowing, or buying of research papers, creative works/papers, speeches and/or tests and other exam materials, or the receipt of or dissemination of such materials, or the manipulation of recorded grades in a grade book or other class records. Normal punishment: "F" in the course (if enrolled) and expulsion from the University. Punishment: Students who

receive or give such programs shall receive an "F" with a numerical value of zero on the program(s), and the "F" shall be used to determine the final course grade. The instructor has the option to fail the student in the course.

The University drop/withdrawal policies and/or forgiveness policy shall be suspended for a student accused of plagiarism and/or cheating.

III. DISRUPTION OF ACADEMIC PROCESS Disruption of Academic Process is defined as the act(s) or word(s) of a student in a teaching environment that in the reasonable estimation of a faculty member direct attention from the academic matters at hand (e.g., noisy distractions; persistent, disrespectful or abusive interruptions of lecture, exam or academic discussions) or present a danger to the health, safety, or well being of the faculty member or students.

Punishment Punishment will depend on the seriousness of the disruption and will range from a private verbal reprimand to dismissal from class with a final grade of "W" shown on the student record, if the student is passing the course. If the student is not passing, a grade of "F" will be shown on the student record.

Student Violations Involving Alleged Academic Dishonesty/and Disruption of Academic Process

Alleged violations of academic honesty or alleged disruptions of academic process will be handled initially by the instructor, who will discuss the incident with the student: It must be noted that the Faculty Senate considers the traditional relationship between student and faculty member as the primary means of settling disputes that may arise. If the instructor observes the alleged dishonesty during an examination, he/she should, with discretion, notify the student of the fact before the student leaves the examination. In all cases, the instructor must attempt to schedule a meeting with the student to discuss the alleged dishonesty and advise the student in writing of the procedures involved. If the student fails to keep the appointment, the instructor shall file a report outlining the incident with the chairperson of the department responsible for the course.

If the student and instructor agree on a solution to the problem, the instructor shall file a statement with the chairperson of the department responsible for the course, outlining the facts of the incident and the mutually accepted solution, the statement shall be signed by both the instructor and the student. A copy of this statement shall be given to the student. If no solution is reached, both the student and the instructor must file separate statements with the dean of the college that offers the course, with copies to the appropriate chairperson and each other. (If a student fails to file such a statement within a reasonable time, the instructor will initiate the implementation of the proper punishment.) A meeting of the instructor, the student, and the chairperson shall be arranged. If this meeting fails to bring about a satisfactory solution, the student shall ask for a meeting with the dean, with the instructor present. If no solution is reached, the dean shall appoint a student/faculty committee consisting of an equal number of students and faculty to hear the two sides of the incident and to advise the dean regarding the disposition of the case.

Academic Committee Pre-Hearing Procedure: Within a reasonable time following the failure of the student/instructor/dean meetings to bring about a solution, and in no event later than (3) months after such failure, the dean shall cause formal charges to be filed with the appointed academic committee. The charged student shall be provided with a written notice of charges, in sufficient detail to prepare for the hearing, no less than (3) days before the hearing, except in cases of emergency.

Emergency Hearings An expedited hearing may be held before an academic administrator appointed by the dean or by the appointed academic committee in cases which involve the safety, health or welfare of any student or staff member.

Non-Emergency Hearings

- a. **Burden of Proof:** The burden of proof shall be on the complainant. The standard of proof for decision shall be "substantial evidence," that is, whether it is reasonable to conclude from the evidence submitted that the student did commit the violations for which he/she has been charged and shall not be the strict criminal law standard of proof "beyond a reasonable doubt."
- b. **Record:** The proceedings of all hearings shall be recorded.

- c. **Inspection of Evidence:** The student may inspect the evidence that will be presented against him/her.
- d. **Present Evidence:** The student may present evidence on his/her own behalf.
- e. **Question Witnesses:** The student may hear and question adverse witnesses.
- f. **Self-Incrimination:** The student will not be forced to present testimony that would be self-incriminating.
- g. **Advisor:** The student may have an advisor of his choice present.
- h. **Decision Based on Evidence:** The decision of the academic committee or academic administrator shall be based solely on the evidence presented at the hearing.
- i. **Decision in Writing:** The decision of the academic committee or appointed academic administrator, including findings of fact and a determination of penalty or sanction if any, shall be presented to the student in writing within a reasonable period of time following the hearing.
- j. **Enrollment Status:** The student's enrollment status will remain unchanged pending final decision, except in cases of emergency, as described above. If the issue remains open at the end of the semester, the instructor shall give the student an "I" grade in the course until all issues are resolved.
- k. **Closed Hearings:** All hearings shall be closed unless specifically requested otherwise in writing by the charged student prior to hearing.
- l. **Failure to Appear:** If a student against whom charges have been made fails to appear, the academic committee or academic administrator may proceed in his/her absence.
- m. **Hearing on Appeal:** The charged student may appeal the decision of the academic committee or appointed academic administrator within thirty (30) working days of decision to the Dean of the Graduate School. The record of the initial hearing may be considered on appeal and the student is entitled to access to the record when appealing. The decision of the Dean of the Graduate School is final.

Limited Access to Student Records and Release of Student Information

Student records in University custody are generally held confidential and are released only to those persons and under those circumstances authorized by law.

Pursuant to requirements of the Family Educational Rights and Privacy Act (FERPA), the following types of information, designated by law as "directory information", may be released via the official media of the University of South Florida (according to USF policy): Student name, local and permanent addresses, telephone listing, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, full/part-time status, the most recent previous educational agency or institution attended, and other similar information.

The University Directory, published annually, contains the following information: Student name, local and permanent address, telephone number, classification, and major field of study. The Directory and other listings of "directory information" are circulated in the course of University business and, thus, are accessible to members of the public, as well as to other students and members of the faculty and staff.

Students must inform the USF Office of Records & Registration in writing (on forms available for that purpose), if they wish Directory information to be withheld. Such requests will be effective until notice to the contrary is received by the Office of Records & Registration. The Refusal Notification must be received no later than the end of the first week of classes in the Fall Semester to avoid inclusion of student information in the University Directory.

COOPERATIVE PROGRAM

FAMU/USF Cooperative Master of Architecture Program

An 8-semester Master of Architecture program is offered jointly by the School of Architecture of Florida A&M University (Tallahassee) and the University of South Florida. Students apply to, register for, and attend classes at USF; students are admitted to the Cooperative Program and earn an M.Arch. degree sealed by both universities. The FAMU/USF program is administered by an Associate Dean of the FAMU School of Architecture who is responsible for directing program activities in Tampa. Administrative offices and classes are located a short distance south of the USF Tampa campus. See address below.

This Master of Architecture program is intended for students who hold a previous baccalaureate degree and who now wish to pursue the first professional degree in architecture.

It is assumed that students entering the program will have already taken prerequisite courses, such as calculus and physics. Students lacking these must add these courses to curriculum requirements upon admission to the program.

In recognition of the program location in one of the state's large metropolitan areas and the unique opportunity this presents for studying architecture in and for an urban setting, the curriculum emphasizes urban architecture and related topics in the professional coursework, as well as elective course opportunities that focus on urban issues. It is expected that this curriculum emphasis will also be reflected in the topics chosen by students for their Master's projects.

The professional content of the coursework concentrates in areas, such as architectural design, graphics, history of architecture, structures, environmental technology, materials and methods of construction, theory of architecture and methods of design, professional practice, professional philosophy and ethics, building economics, and architectural computer applications.

The M.Arch. degree requires approximately 8 semesters or 120 credit hours of coursework, including a thesis or Master's project. The typical course load per semester is approximately 15 credits. Students who intend to work part-time may wish to take fewer credits per term. Students who have backgrounds in architecture or related disciplines will have their transcripts evaluated for content, and course waivers may be provided. Each student, regardless of the number of courses waived in this manner, must complete a minimum of 76 hours in the program (residency requirement may be varied by action of the faculty) to be eligible for graduation. The program is concluded with a thesis or project that provides the opportunity to undertake a study of personal interest, in-depth application of earlier course material, and to demonstrate professional competence.

Application to the Program Applicants must meet the graduate entry requirements of the State University System. SEE PAGES 31-32.

Special requirements

1. Submit the following to the Program Coordinator, FAMU/USF Cooperative M.Arch Program, University Corporate Park, 10770 N. 46th Street, Tampa, FL 33617:
 - a) Three letters of recommendation from former instructors, employers, or others in a position to assess applicant's work and academic potential.
 - b) A letter of application and statement of intent regarding the applicant's educational and career objectives and choice of program.
 - c) For applicants with prior training in Architecture or related areas: samples of student work (portfolio).
 - d) For applicants without prior architectural training: samples of work demonstrating creative and artistic abilities and problem-solving skills.

All candidates must have an interview with the Assistant Program Director or faculty members responsible for admission. For more program information, interested students can contact the FAMU/USF Cooperative Program at 974-4031.

School of Architecture

Deadline to apply for the program is the same as the prevailing University graduate application deadline. Contact the USF Office of Admissions for specific information.

COLLEGE OF ARTS AND LETTERS

The College of Arts and Letters studies culture in the broadest meaning of the word. The College offers students a sense of themselves and their world, chiefly through courses and programs involving human expression and communication. Students not only receive a liberal education, but also explore vocational interests as they develop both the breadth of knowledge and precision of mind necessary for responsible leadership in our society.

More specifically, the College seeks:

1. To help students investigate new subjects, thereby generating fresh ideas and developing talents enriching to life.
2. To enable students to experiment in several fields as a means of determining the best vocational choice.
3. To foster sufficient development within certain vocational fields to enable students to advance in their chosen careers upon graduation.
4. To join with the other colleges of the University in providing liberal arts courses to augment required training in professional schools.
5. To cultivate independent thinking, creative imagination, and value commitment, so that students may become constructive leaders in their chosen fields.

Accordingly, the College is concerned with arts and letters, both as instruments and as ends in themselves. Language, literature, philosophy, the forms of communication, interdisciplinary studies, and other humanistic subjects are studied not merely for their utility, but also for their intrinsic merit and for what they tell us about what is permanently and universally significant to mankind.

Graduate Degree Programs

Master's Degree Programs

The College of Arts and Letters offers programs leading to the master's degree in:

- *American Studies (AMS)
- *Classics (Cooperative, University of Florida)
- *Communication (SPE)
- *Literature (ENG)
- *French (FRE)
- *Liberal Arts (MLA)
- *Linguistics-English as a Second Language (LIN/ESL)
- *Mass Communications (COM)
- *Philosophy (PHI)
- *Religious Studies (REL)
- *Rhetoric and Composition (ENG)
- *Spanish (SPA)

Doctor of Philosophy

The Department of English offers a program leading to the degree of Doctor of Philosophy. The University requirements for graduate work at the doctoral level apply. Specific requirements for the degree are listed under the Department of English.

Program Descriptions

American Studies (AMS)

Admission Requirements SEE PAGES 31-33.

Special requirements

Arts and Letters

1. Demonstrate a satisfactory knowledge of United States history, literature, and government. Students may be required to take extra undergraduate courses before admission.
2. Students must interview with a departmental adviser.

Requirements for the M.A. Degree

Total required hours (33)

1. 9 hours: AMS 6254, AMS 6805, AMS 6938.
2. 18 hours: To be selected from 5000 or 6000 level courses in related departments, such as: History, Philosophy, English, Sociology, and Humanities. No more than 6 hours from any one department may be credited toward the degree without written consent from the graduate adviser. Work in AMS 6901, AMS 6915, AMS 6934 may be included.
3. 6 hours: Thesis 6971.

Other Requirements During the last semester of course work, each candidate must take a written examination on selected topics, illustrating major aspects of civilization in the U.S.A. from colonial times to the present. Upon completion of the thesis, the subject of which must be determined in consultation with the graduate adviser, the student must take an oral examination which may include relationships between thesis and material covered on the written examination.

Classics (CLA)

USF's Department of Classics is associated with the Classics Department at the University of Florida in a Cooperative Masters Program leading to the master's degree. For a full description of this arrangement, contact the Department.

Communication (SPE)

The Department of Communication is committed to a broad and integrated view of communication studies that embraces the traditions of the humanities, the convergence of rhetorical and communication theory, and the relations among aesthetic, humanistic, and scientific approaches to inquiry. Students are encouraged to examine the pragmatics of rhetorical and communication theory in such settings as business and industry, government, education, medicine and health care, media, the arts, and the family. The department offers course work leading to the Master of Arts degree.

Admission Requirements SEE PAGES 31-33.

Special requirements

1. A 3.2 GPA during last two years of undergraduate work.
2. Two letters of reference from undergraduate professors with whom the candidate has studied during the last two years of the B.A. program;
3. A substantive undergraduate research paper (or other evidence of writing ability) focusing on a topic appropriate to the rubric of communication;
4. A 3-4 page statement, describing the student's background, purpose for attending graduate school, and career goals.

No more than 6 hours may be transferred from another institution.

Requirements for the M.A. Degree

I. Core Requirements (12 hours)

COM 6001 (3) SPC 6231 (3) COM 6400 (3) ORI 6930 (3)

COM 6001 must be taken the first time it is offered after the student is admitted to the graduate program. Remaining core courses must be completed within the first three semesters of admission, summer semester excepted.

II. Program Plans

A. Thesis Program (30 hours)

In addition to the 12 hours of core requirements specified above, each student will complete 15 hours of elective course work, 6 hours of which may consist of a course or courses from other departments within this or other universities,

and must have adviser approval. Each student must complete at least 3 hours of thesis credit and submit an approved thesis.

B. Non-Thesis Program (36 hours)

In addition to the 12 hours of core requirements, 24 hours of elective course work are required, 9 of which may be taken as a cognate area of study pending adviser approval and an approved plan of study.

Grades and Grading Students must achieve a cumulative 3.1 GPA or higher by the conclusion of their first 18 hours of courses. Students with a GPA of less than 3.1 within the first 18 hours of courses will be placed on probationary status. To be eligible for graduation from the program, the student must achieve an overall GPA of 3.2 or higher within the total hours required for the degree. No grade below "C" will be acceptable toward a graduate degree, but all grades will be used to compute the GPA. Students may not graduate with more than two "C" grades within their program.

Comprehensive Examinations All students must pass both written and oral comprehensive examinations.

English (ENG)

Requirements for the M.A. Degree in English with a Specialization in Literature

The M.A. in English is designed primarily to train college teachers. The program requires study of both literature and composition.

Admission Requirements SEE PAGES 31-33. For fall admission, application must be made by June 1; for spring (January) admission, by November 1.

Special requirements

1. An undergraduate English major with a GPA of at least 3.3.
2. 3 letters of recommendation from former literature instructors sent to the Director of Graduate Studies, Department of English, University of South Florida, Tampa, FL 33620.
3. A 3-4 page statement describing the student's background, purpose for attending graduate school, and career goals.

Course Requirements

1. ENG 6009 (3) (this must be taken early in the sequence)
2. 30 additional credit hours, which must include:
 - a) LAE 6375 (3)
 - b) One of the following:
 ENL 6206 (3) ENL 6216 (3) ENL 6227 (3) ENL 6228 (3)
 - c) One of the following:
 ENL 6236 (3) ENL 6246 (3) ENL 6256 (3) ENL 6276 (3)
 - d) One of the following:
 AML 6017 (3) AML 6018(3) AML 6027 (3)
 - e) LIT 6934 (3)
 - f) ENG 6018 (3)
 - g) ENG 6971 (3) Thesis on a literary subject

Options: A student may transfer up to 6 hours of credit from another university. Up to 6 hours may be taken in another department (the courses to be approved in advance by the Department of English Graduate Committee).

A student receiving one grade of "C" or lower in a graduate course will be placed on academic probation. A student receiving two grades of "C" or lower will be eliminated from the program, subject to a review by the departmental Graduate Committee.

Comprehensive Examination The student with a specialization in Literature will be asked to write on 6 of the following areas:

- I. Old English and Medieval
- II. Shakespeare and other Renaissance Drama

Arts and Letters

- III. 16th Century, 17th Century, and Milton
- IV. Restoration and Neo-Classical
- V. Romantics
- VI. Victorians
- VII. American to 1980
- VIII. American 1860-1900
- IX. 20th Century to 1945
- X. 20th Century after 1945
- XI. Criticism

Students who wish to be recommended for admission to the Ph.D. program must take a later Ph.D. Admission Examination. Those selecting the literature option must take an examination over the 5 areas not covered on the M.A. Comprehensive examination.

Requirements for the M.A. Degree in English with a Specialization in Rhetoric and Composition The specialization in rhetoric and composition allows students to do half their M.A. work in this area. The program is designed to train college teachers.

Admission Requirements See M.A. Program above.

Course Requirements

1. ENG 6009 (3) (this course must be taken early in sequence)
 2. LAE 6375 (3)
 3. ENC 6336 (3)
 4. Two of the following:
ENC 6700 (3) ENC 6017 (3) ENC 6720 (3)
 5. LIT 6934 (3)
 6. One of the following:
AML 6017 (3) AML 6018 (3) AML 6027 (3)
 7. One of the following:
ENL 6206 (3) ENL 6216 (3) ENL 6227 (3) ENL 6228 (3)
 8. One of the following:
ENL 6236 (3) ENL 6246 (3) ENL 6256 (3)
 9. One elective in American or British literature.
 10. ENG 6971 (3) Thesis on a Rhetoric and Composition Subject.
- Options** See above.

Comprehensive Examination Students in this program must pass a comprehensive examination. Half of the questions on this exam will concern rhetoric and composition and half will concern literature. The student with a specialization in Rhetoric and Composition will be asked to write on 3 of the 11 areas listed above.

The student must also choose 3 from the following list: one question from I, one question from II, and one question from I, II, or III.

- I. Rhetorical History and Theory, including Stylistics
- II. Composition Theory, Practice, and Research
- III. Pedagogy

Students who wish to be recommended for admission to the Ph.D. program must later take an admission examination. Those selecting the Rhetoric and Composition Option must take an examination over any 5 of the areas not covered on the M.A. Comprehensive Examination.

Requirements for the Ph.D. Degree The goal of this program is to produce teacher-scholars who have a good general knowledge of English and a special knowledge in their fields of concentration. Each student in the program must take courses in teaching college English; these courses include actual teaching experience.

Admission Requirements SEE PAGES 31-33. See above for admission deadlines.

Special requirements

1. One of the following:
 - a. A USF M.A. in English and a graduate GPA of 3.5.
 - b. An M.A. in English from another university (with a graduate GPA of 3.5), in which case the student may be asked to pass a preliminary qualifying exam;
 - c. An M.A. in another discipline, in which case the student will be required to take supplementary graduate work and pass a preliminary comprehensive exam before being officially admitted to the program.
2. A 3-4 page statement, describing the student's background, purpose for attending graduate school, and career goals.
3. Three letters of recommendation sent to the Director of Graduate Studies, Department of English. At least two of these letters should be from instructors who have taught the applicant at the graduate level.

Program Requirements The Ph.D. in English involves a minimum of 30 hours of course work beyond the M.A. degree, exclusive of credits devoted to the foreign language and tools-of-research requirements and the doctoral dissertation. Included in these hours, if not taken on the Master's level, must be ENG 6009 or its equivalent, LAE 7376, ENG 6018, and ENG 7939, which must be taken twice. A dissertation is required.

After completing the necessary course work (which will be selected after consulting with the advisory committee), a student must take a nine-hour written doctoral comprehensive exam. Students passing this exam and fulfilling the foreign language/tools-of-research requirements are admitted to doctoral candidacy. Students failing this exam more than once are removed from the program.

After completion of an approved dissertation, the student will defend this dissertation in a two-hour oral examination and may also be examined in the major field. The doctoral degree is awarded after successful completion of the dissertation and the dissertation defense.

A student may transfer no more than 6 hours of graduate credit from another university. No more than 8 hours of credit may be taken in another department (the courses must be approved in advance by the Department of English Graduate Committee).

A student receiving one grade of "C" or lower in a graduate course will be placed on academic probation. A student receiving two grades of "C" or lower will be eliminated from the program, subject to a review by the departmental Graduate Committee.

Foreign Languages (FRE/SPA)

Admission Requirements SEE PAGES 31-33. Students who do not have an undergraduate major in French or in Spanish may be required to take additional undergraduate courses before being admitted to the M.A. program. All applications must be approved by the Division of Language.

Requirements for the M.A. Degree

1. Reading proficiency in a second foreign language.
2. Satisfactory completion of a written comprehensive examination on French language and literature, or Spanish and Spanish-American language and literature, based on, but not restricted to, a reading list.
3. A thesis written under the direction of a director and two additional readers.
4. Course work following one of the plans listed below:

Plan A 27 hours in one language, plus 6 hours of FRE 6971 or SPW 6971 (thesis).
Plan B 27 hours, consisting of 18-21 hours of course work in one language, plus 6-9 hours in a second language or in another department (the courses to be approved in advance by the Director of the Division of Language), plus 6 hours of FRE 6971 or SPW 6971 (thesis).

Arts and Letters

The Division of Language also sponsors a special 3-summer M.A. track for teachers, with a non-thesis option.

Special Summer Programs Overseas

The Division of Language, in cooperation with the International Affairs Center, offers several summer study programs overseas. These include study in France, Spain, Italy, and Costa Rica. For complete details, contact the program advisers or the International Affairs Center.

Humanities (HUM)

The Humanities Program is an interdisciplinary curriculum that studies the visual arts, music, literature and the culture from which they emerge. Secondary sources are used sparingly; students are encouraged to make a vigorous, personal response to specific works of art, literature, and music.

Master of Liberal Arts (MLA)

The Master of Liberal Arts program is designed to offer students an opportunity to study from an interdisciplinary perspective the ideas and works that have shaped world culture. Two program options are available: the Liberal Studies sequence, though broadly interdisciplinary, focuses on a concept, movement, or idea; the Humanities sequence requires a concentration in the Department of Humanities.

Admission Requirements SEE PAGES 31-33.

I. Liberal Studies option Total required hours: (33)

Courses 30 hours in courses from an approved course list.

Thesis (3)

At least 9 but no more than 12 hours must be taken in a single department.

At least 20 hours must be at the 6000 level; 4 hours may be at the 4000 level.

II. Humanities option Total required hours: (33)

Courses 30 hours from an approved list. 21 hours must be in Humanities courses and 9 in approved outside electives. At least 15 hours must be at the 6000 level; 4 hours may be at the 4000 level.

Thesis (3)

Both options require the student to work closely with an assigned adviser, who will assist in program planning. Students must pass a written comprehensive examination and write and defend a thesis.

Linguistics (LIN/ESL)

Linguistics is primarily an upper-level and graduate discipline with strong interdisciplinary concerns.

Requirements for the M.A. Degree Students interested in graduate study in Linguistics are urged to acquire a language background in their undergraduate programs, regardless of their major field of study. The minor in Linguistics also is strongly advised; undergraduate course work equivalent to the material covered in LIN 3010 is a prerequisite to graduate study. Prospective graduate students who have not completed this course or its equivalent must remedy the deficiency by enrolling in LIN 6407 during their first term as graduate students.

Admission Requirements SEE PAGES 31-33. The Linguistics Program offers two graduate tracks: The Master of Arts in Linguistics (thesis), and The Master of Arts in Applied Linguistics (Teaching English as a Second Language; non-thesis).

Special requirements

1. A minimum of 500 on the Verbal portion, plus a minimum of 500 on either the Quantitative or the Analytic portion of the GRE test; the verbal requirement may be waived for non-English speaking applicants.

2. Foreign students must score 560 on the TOEFL and 230 on the TSE.
3. Students meeting all requirements, but who have not taken the GRE at the time of application, may enroll in courses as a special student pending receipt of acceptable scores.

Requirements for the M.A. Degree in Linguistics (Thesis)

- I. **Core Requirements** (15 hours)
 - Introduction to Graduate Study in Linguistics (3)
 - Syntactic Description (3)
 - Phonological Description (3)
 - Language Acquisition (3)
 - Sociolinguistics (3)
- II. **Additional Requirements** (18 hours)
 - 12 hours of approved electives.
 - A thesis and 6 hours of thesis credit.

Requirements for the M.A. Degree – Applied Linguistics (TESL) Track (non-thesis)

- I. **Core Requirements** (18 hours)
 - Introduction to Graduate Study in Linguistics (3)
 - Applied Linguistics (3)
 - Contrastive Analysis (3)
 - Language Acquisition (3)
 - Sociolinguistics (3)
- II. **Additional Requirements** (21 hours)
 1. **Methods of TESL 1** (3)
 - Methods of TESL 2** (3)
 - ESL Testing** (3)
 2. 6 hours of approved electives
 3. 6 hours of internship through enrollment in TSL 6945

A written and oral comprehensive examination is required for all M.A. degree tracks in the program.

Mass Communications (COM)

Requirements for the M.A. Degree The M.A. degree program in Mass Communications is designed for students who are seeking advanced studies in preparation for professional and academic careers in mass communications.

The program offers one degree, the Master of Arts in Mass Communications. Students may choose to pursue studies in either Mass Communications or Public Relations.

The Mass Communications Studies program emphasizes the principles and research methods of mass communications. The Public Relations Studies program emphasizes the processes, theories and methods of institutional public communications. The Mass Communications Studies program requires 36 hours of course work, including a thesis. Twenty-four hours (including 6 hours of thesis) are taken in the Department of Mass Communications. The remaining 12 hours are taken in graduate-level courses offered in other departments of the University.

The Public Relations Studies program requires 36 hours of course work. Students who choose to complete a thesis are required to take 30 hours of course work plus 6 hours of thesis. Students who choose to complete a non-thesis project are required to take 33 hours of course work plus 3 hours of project.

Students are required to take SYA 6405, or a substitute with departmental approval. Students in either emphasis are required to take a comprehensive examination.

Admission Requirements SEE PAGES 31-33.

Special requirements

1. Submit three letters of recommendation and a written statement of reasons for pursuing a graduate degree in mass communications.

Philosophy (PHI)

Admission Requirements SEE PAGES 31-33.

Special requirements An undergraduate major in Philosophy. All applicants must submit writing samples. Credit toward the M.A. from another department or university can be considered for credit.

Requirements for the M.A. in Philosophy

1. Reading knowledge of a foreign language approved by the student's adviser.
2. 30 hours, including 21 hours of classroom instruction.
3. A written or oral comprehensive examination. This may be waived depending on the performance of a student.
4. A thesis written under the direction of an adviser assigned by the Graduate Coordinator, and approved after an oral defense by a supervisory committee.

Religious Studies (REL)

In Religious Studies, students are afforded the opportunity to study the phenomenon of religion in all its diversity. Students are asked to explore, through a variety of methodologies, the meanings and values attributed to life by the world's religions and to understand the mutual interaction between religions and cultures in a variety of social and historical contexts.

The M.A. degree in Religious Studies is designed to provide graduate education to public and junior college teachers, counselors, community workers and clergy. It also is open to persons who have no professional aim, but who wish to enlarge their personal and/or professional horizons. This degree also is of use to those who plan to pursue a Ph.D. in Religious Studies or related areas. A special program in religion and public policy may be of particular interest to those who are planning careers in the church and society, journalism, or government, as well as college teaching.

Admission Requirements SEE PAGES 31-33.

Special requirement A minimum of 600 on the GRE verbal section. Any undergraduate major is acceptable, but applicants judged weak in Religious Studies may be required to make up deficiencies for no graduate credit.

Requirements for the M.A. Degree Candidates will take 36 hours in Religious Studies, including optional thesis and approved courses from other departments. All candidates are required to take a core of 4 seminars (ProSeminar in Theory and Method, Religion and Culture of the East, Religion and Culture of the West, and Religion and Modernization), for a total of 12 hours. Also required is 3 hours of participation in the departmental Colloquium. The remaining 21 hours may be taken in elective courses.

Students opting for the special program in religion and public policy will be required to take three tutorials (Religion, Ethics, and Public Policy; Buddhism and Politics in Contemporary Asia; and Religion in America: 3 hours each) out of these remaining 21 credits. They also will be required to take a political science seminar on public policy (PUP 6007) and at least two other courses in related areas of the social sciences and/or philosophy.

The comprehensive examination for the master's degree in Religious Studies will be based on the core and the electives that form the candidate's program. One may elect either a thesis or non-thesis option. Candidates who intend to go on to doctoral studies are expected to elect the thesis option with an oral defense. Students will be expected to gain competence in whatever languages are required for their research; those intending to go on to doctoral studies are expected to demonstrate competence in at least one foreign language.

COLLEGE OF BUSINESS ADMINISTRATION

The College of Business Administration offers the following graduate programs: Master of Business Administration, Executive M.B.A., Master of Accountancy, Master of Arts in Economics, Master of Science in Management, and a Ph.D. in Business Administration.

Graduate programs are designed to:

1. Make graduate level professional education available to qualified persons who seek managerial and professional positions in business, government, or education.
2. Support the research activity so vitally necessary to maintain a quality graduate faculty and program.
3. Foster the independent, innovative thinking and action appropriate to a professional individual.

Applicants to graduate programs in the College of Business Administration should apply directly to the University Graduate Admissions Office and must meet the University requirements for admission. General inquiries should be directed to the Office of Graduate Studies, College of Business Administration, University of South Florida, Tampa, Florida 33620.

Accreditation The M.B.A. (including the Executive M.B.A. program), M.S. in Management and Master of Accountancy programs in the College of Business Administration are accredited by the American Assembly of Collegiate Schools of Business (AACSB). The College also is a member of the Graduate Management Admission Council (GMAC).

Admissions SEE PAGES 31-33. Admission to the graduate programs in the College of Business Administration is open to qualified men and women holding undergraduate degrees in arts, letters, science, humanities, engineering, or business from accredited institutions in the United States or from a recognized academic institution in a foreign country. In making admission decisions, the college does not favor any particular academic discipline. While academic credit is not awarded for past work experience and while work experience is not a requisite for admission to the program, it is a meaningful background and will enable the student to understand more readily the subject matter in a curriculum. The important factors, besides the Graduate Management Admission Test (GMAT) and GPA, are the applicant's motivation in undertaking graduate work and the degree of focus in the applicant's career plans. Students are admitted for either the fall or spring semesters, but the fall term is the preferred entrance date for the student who requires all or approximately all of the Common Body of Knowledge courses. Ordinarily, new students will not be accepted in the M.B.A. or M.S. in Management programs for the summer term.

Application Deadline Applicants for masters' level programs in the College of Business Administration should have all necessary materials, including test scores, in the University Graduate Admissions Office by the following deadlines:

M.B.A., M.Acc., and M.S. in Management programs:

Fall Semester	May 15
Spring Semester	October 15
Summer Semester	March 13 (M.Acc only)

M.A. in Economics programs:

See Academic Calendar

Executive M.B.A. program:

Fall Semester	May 15
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Non-Degree Seeking Students The College of Business Administration will approve non-degree seeking student status only for transient students (degree-seeking

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students at another accredited institution) or for students with valid reasons to register in this status and who meet all admission requirements.

Academic Standing All master's candidates are expected to maintain a cumulative grade point average of 3.0 throughout the program. Failure to maintain the "B" average places the student on academic probation. A student on academic probation for two consecutive semesters is subject to dismissal. That is, the student on academic probation must bring the GPA to a cumulative 3.0 in the next two semesters enrolled or be subject to dismissal.

Contact Persons Students interested in specific programs within the college should contact the appropriate graduate studies adviser:

Ph.D., M.B.A., Executive M.B.A. - Robert Anderson, Director of Graduate Studies
M.Acc. - Robert M. Keith

M.A. degree in Economics - Mark Herander

M.S. degree in Management - Jerry Koehler

Graduate Degree Programs

Master's Degree Programs

The College of Business Administration offers graduate programs leading to the master's degree in:

- * Accounting (M.Acc.)
- * Business Administration (M.B.A.)
- * Economics (M.A.)
- * Management (M.S.)

Department requirements are listed under the appropriate program descriptions.

Doctoral Programs

Doctor of Philosophy in Business Administration (Ph.D.) The Ph.D. program offered by the College of Business Administration provides its graduates with high quality preparation for careers as college and university professors and as research and staff personnel in industry and government. The doctoral program provides for intellectual growth as students work closely with faculty in seminars, research projects, and other assignments which develop their teaching and research skills. The curriculum offers breadth of understanding of the integral components of business administration as well as depth of field specialization sufficient to permit the student to make a meaningful contribution to their discipline. The program is sufficiently flexible to allow each student to build upon his or her strengths and to accommodate students with various levels of preparation in a wide variety of fields. The program offers majors in the following fields: Accounting, Finance, Information Systems Management, Marketing, and Management. Secondary fields are offered in these fields, as well as in Economics.

Admission Requirements SEE PAGES 31-33. Courses offered in the Ph.D. program are designed with the assumption that the student is proficient in statistics (through multiple regression), college algebra, matrix algebra, differential calculus, and a computer language (such as BASIC, FORTRAN, COBOL, Assembler). Proficiency must be demonstrated by either passing a proficiency exam or showing evidence of completion of appropriate courses with grades of B or better.

Program Requirements Student normally take 69 hours of coursework as part of the doctoral program. The courses will each carry 3 hours of credit. Students will be permitted to substitute up to 24 hours of previous graduate level work for courses in the Ph.D. program that cover essentially the same material; however, they must pass the course in question with a grade of "B" or better and the College of Business Administration Doctoral Committee must approve all waiver decisions. A minimum of 45 hours of the coursework must be completed at USF.

Foundation Courses These are designed to provide a broad background in

business topics. The student will be required to complete all of the following courses:

ACG 6025	ACG 6075	GEB 6716	GEB 6717
FIN 6406	MAR 6815	QMB 6603	ISM 6021
MAN 6055			

Core Courses These courses are designed to provide a strong background in Economics and to develop the student's quantitative and statistical research skills. These courses are required of all students in the program. The College will waive a course only if the student has passed the same or an equivalent course with a grade of "B" or better within the preceding five years. The core economics courses include the following:

Economics (required)

ECO 6115 ECO 6206

The quantitative and statistical coursework is to be determined by the student's advisory committee in consultation with the student. A 3 course series is required. An appropriate sequence should be chosen from the following:

QMB 7565 QMB 7566 QMB 6375 ECO 5424
ECO 5425

Other appropriate mathematics, statistical and quantitative courses may be approved by the college-wide committee. In addition, students are required to take an additional research elective approved by their advisory committee.

Should a student earn a "C" or lower in one of these courses, the case will be brought before the Doctoral Program Committee for review. After reviewing the case, the Committee will take one of the following steps:

1. Require the student to pass the relevant preliminary examination.
2. Require the student to retake the course.

Major Field All students will take at least 5 courses at the 6000 or 7000 level in an area designated as the student's major. Students are encouraged to identify courses in the major field that will provide experience in applying current research techniques to problems in that field. To accomplish this, the student may propose a combination of formal classroom courses and independent directed-research courses. This combination may include a year-long research seminar in which the groundwork is laid for the student's dissertation. The specific agenda of courses will be determined by the student's advisory committee. The following fields are offered as majors:

Accounting, Finance, Information Systems Management, Marketing and Management. Courses taken as part of the Foundation or Core sections may not be counted as part of the hours required for major field.

Secondary Field The secondary field will consist of a minimum of three courses from one of the other fields listed under the major fields, plus Economics. The secondary field and the major field cannot be taken in the same department. Courses within the secondary field can be selected to complement the major field, and, in special cases, may include courses outside the College of Business. The nature and number of the secondary field courses will be determined by the student's Advisory Committee in consultation with the Ph.D. coordinator of the secondary field discipline department. Courses taken as part of the Foundation or Core courses may not be counted as part of the 9 hours required for secondary fields.

Comprehensive Examination Upon completion of all coursework, students must pass a comprehensive written examination in each of the major and secondary fields. The student's performance on these exams should reflect familiarity with the literature, as well as with current issues and problems related to these fields. A student who fails one or both of the field exams may retake it (or them) within one year. A second failure disqualifies the student from continuing the Ph.D. program. If the degree is not conferred within 5 calendar years of the comprehensive examination, a second different examination must be taken. Students passing the field examinations are eligible for admission to candidacy for the Ph.D. program.

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Normally, field examinations will be administered in October and March of each year. Student who anticipate sitting for a field exam should notify the department chair and the Associate Dean in writing during the first week of the semester in which they plan to take the exam. The major field exams will be a minimum of 8 hours and the secondary field exams will be a minimum of 4 hours. The Associate Dean's Office will coordinate with the relevant department in scheduling and grading.

Admission to Candidacy. See page 26.

Dissertation See pages 25-27.

Residency Requirement See page 26. In addition, Ph.D. students in the College are required to complete a minimum of 15 hours per calendar year. Failure to meet this requirement will result in the student being placed on conditional status.

The Master of Business Administration Degree (M.B.A.)

The Master of Business Administration (M.B.A.) is a professional degree designed to prepare graduates for managerial roles in business and not-for-profit organizations. Graduates will develop the necessary skills and problem-solving techniques that will permit them to make an early contribution to management and eventually to move into broad, general management responsibilities at the executive level. The program is designed to meet the needs of qualified men and women with degrees in the liberal arts, engineering, the sciences, and humanities, as well as those with prior preparation in business administration. The College makes no distinction in the selection process between applicants with experience and those coming directly from academic life. However, experience is a meaningful background and will permit the student to better understand the subject matter to be mastered.

The faculty uses various delivery systems in the classroom: the traditional lecture/discussion, case method, simulation, model building, and laboratory techniques. These methods emphasize an analytical, conceptual, and theoretical balance throughout the program, which helps sharpen students' resourcefulness in solving complex problems and selecting optimal courses of action. Students are given many opportunities to demonstrate their writing and verbal competency and to improve interpersonal communication.

Admission Requirements SEE PAGES 31-33.

Special Requirements

1. Approximately 500 or higher on the GMAT. The two quantitative measures may be considered in combination when one factor is low and the other is high.
2. Interviews are not required, but are desirable.

Program Requirements The M.B.A. degree is a 60 hour program. The full-time student without course waivers will require 4 semesters to complete the program. Part-time students can complete all work within a reasonable time - approximately three years without course waivers. Part-time students are encouraged to take two courses per semester and must complete 12 hours per calendar year to remain in active status as a degree-seeking student. Students who have completed undergraduate or graduate courses in business and economics may receive course waivers and reduce their course loads from the maximum requirement. All M.B.A. candidates must complete all degree requirements within five years of beginning the program. Courses are scheduled to accommodate both full-time and part-time students. All courses are at the graduate level. Students entering the program are expected to have sufficient competency in mathematics (College Algebra and Elementary Calculus) and communication skills (written and verbal).

The curriculum consists of:

The Common Body of Knowledge (CBK) courses, known as the "Core." These courses are designed to provide basic background in the several functional areas in order to prepare for more advanced studies. The courses assume little or no prior knowledge in the field. Students having adequate previous preparation in any of these

courses, except for GEB 6895, may seek a waiver, subject to standards set by the faculty. The conditions for waivers are explained more fully below.

Other Required Courses These courses are extensions of certain core courses, adding depth and breadth.

Elective Courses Breadth is achieved within this cluster of courses, which also allows the student to develop one or more areas of concentration. "Breadth" means that the student must take at least 15 hours or equivalent of work beyond the CBK outside of the field of concentration.

Integrative Course All students are required to take GEB 6895. The course is taken in the last sequence of courses in order to permit the student to integrate the subject matter of earlier courses by studying administrative processes under conditions of uncertainty, including integrating analysis and policy determination at the overall management level.

M.B.A. Course Structure

Common Body of Knowledge Courses: (30 hours)

ACG 6025 (3)	GEB 6716 (3)	FIN 6406 (3)	GEB 6735 (3)
MAR 6815 (3)	QMB 6305 (3)	QMB 6603 (3)	ISM 6021 (3)
MAN 6055 (3)	GEB 6895 (3)		

Other Required: (6 hours)

ACG 6075 (3)	GEB 6717 (3)
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Electives: (24)

Total Hours (60)

Constraints

1. Maximum program -- 60 hours.
2. To insure breadth within the program, each student must take at least 15 hours or equivalent beyond that in the CBK and in two or more disciplines outside the field of concentration.
3. At least one international course must be included within the program.
4. Student must take at least one course within the program in each of the academic departments.
5. Students with an undergraduate degree in Accounting may not take ACG 6025 or ACG 6075 for credit.
6. Student may complete no more than 6 hours of Independent Study/Directed Research for degree credit.
7. A maximum of 6 hours of 5000 level courses will be allowed for degree credit.

Waiver Policy (Effective for students entering January, 1989) A reduction of the 60 hour program may be accomplished by waivers of the CBK courses, except for GEB 6895.

Waiver usually is based on transcript analysis if the student has completed a minimum of 6 hours (departments may require additional hours) in the basic disciplines with a grade of "B" or better from an AACSB accredited school within the last five years.

The waiver of either ACG 6075 or GEB 6717 requires the substitution of another course as an elective.

International Business Students are required to take at least one international business course in their programs.

Concentrations Students may include an area of concentration in their overall graduate programs. These are available in International Business, Economics, Finance, Information Systems, Management, and Marketing. The selection of a concentration usually takes place after the student has completed the CBK. Four elective courses (12 hours) are required for a concentration.

Thesis Students may elect a 6 hour thesis in any of the areas of concentration of the college, subject to departmental approval.

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Non-Tampa Campus Offerings Graduate courses as part of the M.B.A. program are offered at all USF campuses. All required CBK courses and a limited number of electives are offered at the St. Petersburg and Fort Myers campuses. Normally, only required CBK courses are scheduled at Sarasota. In order to complete the entire M.B.A. program, a candidate from Sarasota should expect to take courses on the Tampa, St. Petersburg or Fort Myers campuses. Students at St. Petersburg may want to take courses at Tampa, either to accelerate the program or to have a wider choice of electives.

M.B.A. with Concentration in International Business

Students enrolled in the M.B.A. program can elect to concentrate in International Business. The students must take a minimum of 12 hours in International Business from an approved list. Students who do not have an undergraduate degree in Business Administration with a major in a functional area must also complete a minimum of 12 hours in a functional concentration at the Masters level. The International Business concentration also requires at least one course in an approved area of study that is taught outside the College of Business and deals with international aspects of the discipline. Students must also take two courses (or equivalent) in a foreign language and demonstrate proficiency in the language. Up to 3 hours will be allowed for approved internships. The University will accept up to 9 hours of graduate credit from an approved foreign university.

M.B.A. with Concentration in Finance

Students seeking a graduate education with a concentration in the field of Finance should enroll in the Master of Business Administration Program. In addition to the M.B.A. Core, students would choose a minimum of 12 elective hours in Finance. Topics of interest in the Finance program include corporate and managerial finance, banking and financial institutions, money and capital markets, investments, international finance, and finance theory. A thesis can serve as part of the elective course work, but is not required.

M.B.A. with Concentration in Management Information Systems (MIS)

Students enrolled in the M.B.A. program can take a concentration in MIS. The concentration requires a minimum of 12 graduate MIS hours in addition to ISM 6021, which is a required course in the M.B.A. program.

For an MIS concentration, the student must take ISM 6123, plus three approved graduate electives in MIS.

M.B.A. with Concentration in Marketing

Students seeking a master's degree with a concentration in Marketing should enroll in the M.B.A. program. A concentration in Marketing requires a minimum of 12 elective hours, in addition to the Marketing Management foundation course.

Course topics include: marketing research, sales management, promotional management, logistics and physical distribution management, international marketing, and marketing strategy. A thesis (6 hours) can serve as part of the elective course work, but is not required. Candidates considering a Ph.D. in marketing are particularly encouraged to consider the thesis option.

The Master of Accountancy (M.Acc.) Degree

The objective of the M.Acc. program is to provide candidates with greater breadth and depth in accountancy than is possible in the baccalaureate program.

The Master of Accountancy program is designed to meet the increasing needs of business and government, as well as public accounting, for persons who have in-depth professional training in accounting and a background in the areas of quantitative methodology, economic analysis, management science, etc. Students

completing the requirements for the M.Acc. degree have met the requirements to sit for the Uniform CPA Examination in Florida.

Admission Requirements SEE PAGES 31-33.

Special requirements

1. A score of 475 or higher on the GMAT.
2. Cumulative 3.0 GPA in all upper level undergraduate accounting courses.
3. Students who do not have the equivalent of an undergraduate degree in accounting at USF, including an accounting information systems course, may be required to take additional courses. The number deemed necessary will depend on the academic background of the individual student. Upper-level accounting courses must be completed at a four-year regionally accredited institution. Special consideration may be given to applicants who have an exceptionally high GPA or GMAT scores.

Program Requirements All students are required to complete the CBK outlined for the M.B.A. program. The academic adviser will determine the specific courses and number of hours required.

For the student who has the equivalent of an undergraduate major in accounting at USF (i.e., 23 hours of accounting coursework, excluding Financial and Managerial Accounting I and II), the program consists of 36 hours. A minimum of 15 hours of the program is devoted to the study of professional accounting. Another 12 hours consists of study in the related areas of financial management, economics, management science, quantitative decision models, the social, legal, and political environment of business, and business policy. The remaining 9 hours are elected by the student in consultation with a graduate adviser. Elective courses taken in the area of accounting may not exceed 3 hours. Students enrolled in the M.Acc. program may not take ACG 5805.

M.Acc. students may select either a general track or a tax track in their master's program. Required accounting courses in each track are:

Accounting Courses: General Track (15 hours)

TAX 6065 (3)	ACG 6405 (3)	ACG 6875 (3)	ACG 6346 (3)
ACG 6636 (3)			

Accounting Courses: Tax Track (15 hours)

ACG 6875 (3)	TAX 6065 (3)	TAX 6105 (3)	TAX 6205 (3)
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One of the following:

TAX 6405 (3)	TAX 6445 (3)	TAX 6505 (3)
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Students in either track must also take the following:

Business Courses (12 hours)

GEB 6735 (3)	ECO 6205 (3)	GEB 6895 (3)
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One of the following:

FIN 6246 (3)	FIN 6446 (3)	FIN 6816 (3)
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Electives (9 hours)

One elective course must be outside the field of accountancy

Total Hours (36)

The Executive M.B.A.

The Executive M.B.A. is a 20-month, 60 hour accredited program designed to meet the unique needs of both mid-career managers, who have demonstrated the potential to reach senior management positions, and senior managers, who desire to increase significantly their personal and organizational effectiveness. The program provides an opportunity to broaden and enrich management skills, to extend knowledge of modern business techniques, and to further develop understanding of the social, political, and economic forces that shape the business environment and influence decision making.

Because managerial effectiveness in today's and tomorrow's dynamic, rapidly changing business environment requires more than excellent technical skills, the Executive M.B.A. is structured as an integrative program that will enhance the

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participant's ability to think across functional lines and to better understand the whole enterprise in a competitive situation.

Each semester begins with a three-day residency session; thereafter, classes are scheduled on alternate Fridays and Saturdays. The one-day-a-week format allows the participants to continue carrying full job responsibilities while they master a broad range of managerial skills.

The program leads to the M.B.A. and consists of the following segments:

Managerial Decision Analysis	Business, Government and Society Relations
Financial Accounting	Organizational Assessment and Design
Managerial Accounting	Management Information Systems
Management Process	Quantitative Methods for Managers
Taxation for Managers	Macroeconomic Analysis for Managers
Operational Marketing	Financial Management I
Applied Research Project	Microeconomic Analysis for Managers
Marketing Decision Making	Financial Management II
Decision Support Tools	Business Problems Analysis
International Business	Capital Markets and Investments
Business Policy and Strategy	
Bargaining Behavior and the Management of Conflict	
Human Performance and Organizational Effectiveness	
The Administration of Human Resource Systems	

In addition, Executive M.B.A. students have the opportunity to participate in the annual two-week Overseas Study Module, which involves on-site study of international business practices. A different country/region is selected each year. Past modules have concentrated on the European business community, with visits to such cities as London, Zurich, Geneva, Brussels, Tokyo and Beijing.

Admission Requirements Applicants are considered for admission on the basis of individual application and interviews. Each applicant must be nominated for the program by his or her employer. Applicants are expected to have 8 or more years of organizational experience, including several years in a management or senior professional position. A bachelor's degree from an accredited institution is required for admission. Candidates are required to take the GMAT. For further information, please call the office of the Director of the Executive M.B.A. Program, College of Business Administration, (813) 974-4876.

The Master of Arts (M.A.) Degree in Economics

Admission Requirements SEE PAGES 31-33.

Special requirements

1. Applicants with a minimal background in economics and statistics may be required to take prerequisite courses in addition to the required 30 hours in graduate credits.
2. 1000 on the GRE or 500 on the GMAT.

The primary requisites for success in graduate study in economics are strong motivation, aptitude, and basic intellectual ability. An undergraduate major in economics is not required, but a background in economic theory, mathematics, and statistics normally will permit completion of the master's program in one year.

Program Requirements The M.A. in Economics permits students to select one of three approaches. The first emphasizes terminal professional training to prepare the student for decision making and problem solving roles in business and other organizations. The second approach prepares the student for doctoral work and secondary and junior college teaching. In the third approach, students may emphasize public sector - particularly at state and local levels. The fields of economics stressed are industrial organization, international economics, the economics of natural and human resources, and urban and public economics. Particular attention is devoted to such topics as planning, programming, budgeting, cost-benefit analysis, public revenue sources, issues in fiscal federalism, techniques of income redistribution, models of urban growth and development, intra-urban

location patterns, analysis of urban social patterns and problems, anti-trust and other forms of government business regulation.

All three approaches involve preparation in economic theory and quantitative methods. Students in the professional programs then supplement these skills with courses in applied economics. Students preparing for doctoral studies normally take additional courses in economic theory, mathematics, and statistics. Students selecting public sector economics emphasize applied economics. Work in other areas, such as corporate finance, may be an integral part of these programs. Research and the writing of a thesis may be incorporated into any of these approaches. The subject of the thesis indicates the area of specialization of interest.

The economics department participates in the Junior College Teaching Program jointly with the College of Education. (Refer to College of Education, Department of Curriculum and Instruction, for details.)

Students must satisfy all University requirements for the Master of Arts degree. In addition, the department requires students to complete 30 hours of graduate credit selected with the approval of the graduate adviser of the department. At least 21 hours must be in Economics and must include:

ECO 5424 (3) ECO 6115 (3) ECO 6206 (3) ECO 6305 (3)

Prior to clearance for the degree, each candidate must perform satisfactorily on a comprehensive examination.

The Master of Science (M.S.) Degree in Management

The M.S. Program in Management has been designed to help the student develop the technical, behavioral, and leadership skills that will be needed to pursue successfully a management career in the contemporary business-world. To this end, the program has been created to provide students with the knowledge and opportunity to develop and/or sharpen their skills in: (1) critical thinking and decision-making; (2) strategic planning; (3) human resource management and development; (4) oral and written communication; and (5) interpersonal relations. These five managerial "competencies" will be emphasized through a wide range of traditional and innovative pedagogical procedures, including classroom lectures, readings, case studies, behavioral laboratories, research projects, and a thesis.

The primary reason for entering this program is a specific interest in the management area of business, either public or private sector, national or international. This does not mean that the applicant must come from a business (or business school) background - although business experience and/or an undergraduate degree in the field can facilitate understanding of the subject matter to be mastered. In fact, the program has been created to be relevant for applicants with a wide range of undergraduate degrees (including business, engineering, liberal arts, sciences, humanities, etc.). The course curriculum has been structured to meet the needs of three types of advanced degree-seeking students:

1. Individuals who aspire to managerial careers, but seek post-baccalaureate education before entering the job market;
2. Individuals who are already practicing managers, who desire graduate training to enhance their job performance and/or further their career goals;
3. Individuals who are contemplating an academic and/or research career in management and would like to utilize the M.S. Degree as an opportunity to improve their investigative skills and/or as a stepping stone to a Ph.D. in the discipline.

All interested students should contact the M.S. Management Office, Department of Management, College of Business Administration, University of South Florida, Tampa, FL 33620, or phone (813) 974-4155, for additional information.

Admission Requirements SEE PAGES 31-33.

Special requirements

1. At the Admission Committee's discretion, a personal interview may be required.
2. Approximately 500 or higher on the GMAT

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Program Requirements The M.S. in Management curriculum requires 54 hours which include CBK courses, advanced management courses and a thesis. Any recent coursework that would permit a waiver will be determined by an advisor upon admission to the program.

A student should complete the thesis during the final semesters under the supervision of a faculty advisor. The thesis offers the student the opportunity to further develop research and problem solving skills in the exploration of a single topic of particular interest. When completing their thesis, students will usually be involved in extensive library research, interviews with the persons in organizations directly involved in the area of activity under study, and careful assembly of a data base suitable for computer analysis.

A student in the M.S. in Management Program is required to complete the program within five years from the beginning of coursework. Students are encouraged to complete at least 6 hours each term.

The program of studies normally includes the following courses:

M.S. in Management Course Structure

Common Body of Knowledge Courses: (27 hours)

ACG 6025 (3)	GEB 6716 (3)	FIN 6406 (3)	GEB 6735 (3)
MAR 6815 (3)	QMB 6305 (3)	QMB 6603 (3)	ISM 6021 (3)
GEB 6895 (3)			

Management Courses: (27)

MAN 6204 (3)	MAN 6219 (3)
MAN 6930 Selected Topics: Management Applications I (3)	
MAN 6930 Selected Topics: Management Applications II (3)	
MAN 6930 Selected Topics: Organizational Behavior (3)	
MAN 6930 Selected Topics: Organization and Management Studies (3)	
MAN 6930 Selected Topics: Seminar in Research Design (3)	
MAN 6971 Thesis: Master's (6)	

Total Hours (54)

Financial Aid Applicants may apply for various forms of financial aid. Awards are made to exceptionally well qualified individuals. These awards are:

1. University Fellowships -- Awarded on the basis of outstanding academic credentials. To be considered for fellowships, students must submit all application material no later than March 1.
2. Loans -- Apply to the University Financial Aid Office.
3. Other Financial Aids -- Apply to the Director of Graduate Studies, College of Business Administration, for
 - a) graduate assistantships,
 - b) scholarships (apply by April 1 for the following academic year)
 - c) tuition waivers -- both in-state and out-of-state.

Application for the above should accompany the application for graduate study and will be considered when all credentials are received by the college.

ORGANIZATIONS AND CENTERS

The Center for International Business is designed to create a coordinated, systematic approach to study and to foster enhanced international business activity in Florida, and, in particular, in the Tampa Bay area. The Center for International Business is committed to the following goals: (a) facilitate and unify efforts of public and private organizations concerned with international business in Florida and establish a vital link between the Tampa Bay business community and the international business program of the USF College of Business Administration; (b) engage in research in the field of international business; (c) create a greater awareness of the international business strategy for Florida and the Tampa Bay area; (d) promote and provide high-quality education in international business and develop international business career services for students.

The Management Institute provides the College of Business Administration with a vehicle for making available to the community special services that could not be provided through the traditional academic program. In return for these services, the college receives the benefit of having real world applications available to its faculty and students.

The Institute houses Centers designed to provide teaching, research, information, and service to the public and private sector communities served by the University.

The common objective of these centers is to facilitate two-way communication between the University and the business/governmental communities, with the goal of sharing knowledge and solving problems.

The Small Business Development Center offers assistance in facilitating the initiation and growth of entrepreneurial forms of private enterprise. It offers workshops and individual consultation. A continued support system is provided for its clients to ensure successful implementation. Faculty members and students under faculty direction provide assistance on feasibility studies for new business organizations and for expansions of the product lines of existing firms.

The Center for Economic and Management Research helps private and public enterprises solve contemporary business and regional problems by providing a variety of material and human resources. Three primary means are used to provide this service.

First, through the publication of periodic newsletters and reports, local and statewide data are disseminated on topics including local economic indicators, such as employment figures, building activity, automobile sales, Florida tax data, and descriptions of industrial/business parks in various south and central Florida counties.

Second, through a computerized data base system, the Center's Census Data Service provides custom reports, tape copies, tape extracts and census maps from the 1980 Census of Population and Housing. A computerized system also allows Center staff to tap national data bases to conduct quick and extensive literature searches on business or non-business topics.

Third, the staff of the Center for Economic and Management Research provides Information Network, a consortium of more than 40 public and private agencies designed to disseminate economic and business data. The Network is a joint project of the College of Business Administration and the Tampa Bay Regional Planning Council which sponsors free seminars on a variety of topics throughout the year.

The Professional Development Center provides specialized credit and non-credit training and education opportunities to public and private sector decision-makers in the form of conferences, seminars, and short courses. The Center also offers custom designed in-house programs for professional groups and business organizations.

The Center for Organizational Effectiveness is the newest of the centers within the college and has been created to evaluate the productivity of individuals and organizations and to develop programs to support improvement in managerial efficiency and effectiveness.

The Center for Economic Education, which is not part of the Management Institute, is jointly sponsored by the College of Education and the College of Business Administration. Its purpose is to provide human and material resources to help school teachers and students better understand the American free enterprise system. It offers access to audio-visual and print materials, in-service training in the use of programs such as trade-offs and economic education consultants. The Center facilitates interaction between business persons, teachers, and students.

The Institute of Banking and Finance was established to promote research, training, and development of the financial services industry. The Institute promotes interaction and cooperation among the banking industry, other financial institutions, and the academic community.

Business Administration

The Institute for Information Systems Management (IISM) was established as a partnership between business, government and higher education. Its mission is to establish a major center for research, education and professional networking that will help firms operate effectively in the information age. Each year the Institute presents numerous seminars, workshops, and round-table discussions on important issues in Information Systems Management and conducts applied research on topics of interest to its corporate affiliates. IISM resides in the College of Business Administration and a receptionist can be reached during normal business hours at (813)-974-2001.

The Graduate Business Association (GBA) is composed of graduate students in the College of Business Administration. The goals of the GBA are as follows:

1. To enhance the quality of education for graduate students in the College of Business.
2. To function as liaison between graduate students and the administration/faculty.
3. To provide the framework necessary for continued student involvement at the administrative level in academic affairs affecting graduate programs.
4. To facilitate career planning and placement.
5. To foster fellowship among graduate students.

Graduate students are eligible for Beta Gamma Sigma, the national business honorary society.

Further information regarding the Graduate Business Association may be obtained from the Dean's Office in the College of Business Administration.

COLLEGE OF EDUCATION

The College of Education emphasizes learning relevant to contemporary society and the development of abilities in intellectual inquiry, problem solving, and leadership. The College of Education is committed to a continuous and systematic examination of the professional program of teacher education. Its programs for the preparation of teachers represent cooperative effort in planning and practice by faculties of all academic areas.

The College of Education is accredited by the National Council for the Accreditation of Teacher Education (NCATE).

Departments and Programs

The College of Education is organized into eleven departments and one school.

- *Adult and Vocational Education
- *Childhood/Language Arts/Reading Education
- *Counselor Education
- *Educational Leadership
- *Educational Measurement and Research
- *Instructional Computing
- *Library and Information Science (School)
- *Music Education
- *Physical Education
- *Psychological and Social Foundations
- *Secondary Education
- *Special Education

Each department/school has one or more programs; these are listed alphabetically and by degree level in the Department Program Descriptions section.

Graduate Degree Programs

The College of Education is a professional school offering a variety of graduate degree programs. A major goal is to contribute to the improvement of public schooling through the preparation of teachers, administrators, specialized practitioners, and the training of researchers.

Master's Degree Program

The College of Education offers a Master of Arts and a Master of Education. The M.A. is primarily to increase competence in a teaching specialization or receive professional preparation in one of the service areas of education. Three plans of study are available, depending on the student's background and future goals.

The M.Ed. is designed for professional educators who wish to pursue graduate study in curriculum and instruction, educational administration/leadership, or measurement and evaluation.

Master of Arts (M.A.)

Admission Requirements SEE PAGES 31-33.

Special Requirements Students must meet the college-specified minimum GRE and minimum GPA.

Filling of Program During the first term of graduate study all students must file a planned program of studies. This program is to be completed in consultation with the adviser. The completed program should be filed with the Coordinator of Graduate Advising in the College of Education.

Quality of Work Students in the master's program must maintain a 3.0 GPA. If at any time the student's GPA falls below the minimum, the student will be placed on probation. While on probationary status, the student's academic progress will be

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reviewed to determine: (1) removal from probation; (2) continuation on probation; (3) drop from graduate program.

Comprehensive Examination During the last term of enrollment, students must perform satisfactorily on a comprehensive examination.

Process Core Examination Graduate students with sufficient undergraduate background may take the Process Core Examinations after consultation with their advisers. Successful performance on the examination enables students to waive the course requirement, but they must take elective courses of equal hours. The Process Core Examinations are available in Foundations of Measurement, Psychological Foundations, and Social Foundations of Education. Graduate students on a Plan II Master's Program (see below) are not eligible to take the Process Core Examinations unless they have had a comparable course at the undergraduate level.

Master's of Arts (M.A.) Programs

Program	Code	Department
Adult Education	(AAE)	Adult & Vocational
Art Education	(AAR)	Secondary Education
Behavior Disorders	(ABD)	Special Education
Business and Office	(ABE)	Adult & Vocational
Distributive and Marketing Education	(ADE)	Adult & Vocational
Elementary Education	(AEE)	Childhood/Language Arts/Reading
English Education	(AEN)	Secondary Education
Foreign Language *	(AFE)	Secondary Education
Gifted Education	(AGI)	Special Education
Guidance & Counseling	(AGC)	Counselor Education
Industrial-Technical	(AIT)	Adult & Vocational Education
Junior College Teaching		Educational Leadership
Biology	(BIO 90)	Business (BUS 90)
Chemistry	(CHM 90)	Economics (ECN 90)
Engineering**	(EGP 90)	English (ENG 90)
French	(FRE 90)	Geography (GPY 90)
Geology	(GLY 90)	History (HTY 90)
Mathematics	(MTH 90)	Physics (PHY 90)
Political Sci.	(POL 90)	Sociology (SOC 90)
Spanish	(SPA 90)	Speech Comm (SPE 90)
Library and Information Science	(ALI)	Library and Information Science
Mathematics Education	(AMA)	Secondary Education
Mental Retardation	(AMR)	Special Education
Motor Disabilities	(AMD)	Special Education
Music Education	(AMU)	Music Education
Physical Education	(APH)	Professional Physical Education
Reading Education	(ARD)	Childhood/Language Arts/Reading Education
School Psychology	(ASP)	Psychological & Social Foundations
Science Education***	(ASC)	Secondary Education
Social Science	(ASO)	Secondary Education
Specific Learning Disabilities	(ALD)	Special Education

* French, German, Spanish or Latin.

** Engineering bachelor's degree required.

*** With concentrations in Biology, Chemistry, or Physics.

Program Plans of Study

Plan I. Plan I is a program of graduate studies designed for those with appropriate certification who desire to increase their competence in a subject specialization or receive professional preparation in one of the service areas.

A. Process Core (3-11 hours)

Students take a minimum of one Process Core (Foundations) course. Substitution may be made for the remaining courses with the advice and concurrence of the College Program Policy Committee.

EDF 6432 EDF 6481 EDF 6211 or EDF 6215
EDF 6517 or EDF 6544 or EDF 6606

B. Current Trends Course in Teaching Specialization (3 hours)**C. Specialization (18 hours)**

Programs will vary with student's background, experience, and specific interests.

Plan II. Plan II is a program of graduate studies designed for the holder of a non-education baccalaureate degree who desires to meet initial certification requirements as part of a planned program leading to the Master of Arts degree (not available in all areas; contact departments for more information).

A. Process Core (15 hours)

EDF 6432 EDF 6481 EDF 6211 or EDF 6215
EDF 6517 or EDF 6544 or EDF 6606 EDG 4620

B. Current Trends Course in Teaching Specialization (3 hours)**C. Specialization (18 hours)**

This is an individually planned graduate major in the teaching field or in an appropriate College of Education program for K-12 specialists.

D. Internship (6 hours)

EDG 6947, which involves planned observation and supervision by a member of the University faculty and a secondary school staff member. Inservice teachers are required to complete this assignment over two semesters. Students should have completed the professional requirement (except a and b above) and two-thirds of the graduate requirements in the area of specialization or an equivalency (using undergraduate hours taken in the field of specialization to complete the two-thirds requirement).

Plan III Plan III is a program of graduate studies for holders of a non-education baccalaureate degree who do not wish to meet teacher certification requirements in the State of Florida. The primary difference between this plan and Plan II is that students will not be required to take EDG 4620 and EDG 6947 (not available in all areas; contact departments for information).

A. Process Core (11 hours)

EDF 6432 EDF 6481 EDF 6211 or EDF 6215
EDF 6517 or EDF 6544 or EDF 6606

B. Current Trends Course in Teaching Specialization (3 hours)**C. Specialization (18 hours)**

This is an individually planned graduate major in an educational field.

Master of Education (M.Ed.)

Educational Leadership This degree is designed to prepare administrators and supervisors by providing them with organizational, management, and instructional leadership skills. Successful completion of the program leads to Florida certification in Educational Leadership.

Curriculum and Instruction This degree is designed for the professional educator who wishes to pursue advanced study. Students must have a minimum of two years of relevant educational or professional experience as judged by the program faculty. The primary objective is to prepare instructional leaders through graduate study in a variety of courses in curriculum, methods, supervision, learning principles, human interaction, and areas of specialization. The foundations areas (professional studies) receive greater emphasis in the M.Ed. programs than the M.A. programs. Coursework in the specialization may include courses in colleges other than the College of Education. This degree is offered in the following areas: English Education, Foreign Language Education, Mathematics Education, Science Education, Social Science Education, Theatre Education, Instructional Computing, and Preschool Handicapped.

Measurement & Evaluation This degree is designed to prepare mid-level testing and evaluation personnel for employment in school districts, government agencies, commercial testing, publishing, and educational evaluation enterprises. The program

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prepares personnel with specialized skills in test development, program evaluation, and data analysis.

Advanced Graduate Education

Students must meet the college-specified minimum GRE and minimum GPA in order to be considered for admission to any program. They must also be favorably recommended by program faculty or a program admissions committee.

Educational Specialist (Ed.S.) This degree is offered in Educational Administration/Leadership, and in Curriculum and Instruction, with emphasis in areas, such as Adult Education, Elementary Education, English Education, Guidance and Counseling Education, Interdisciplinary Studies, Library and Information Science, Mathematics Education, Reading and Language Arts Education, School Psychology, Science Education, Special Education, and Vocational Education. This degree consists of a minimum of 36 hours (includes 9 hours specialist project) beyond the master's degree and is flexible in its requirements.

Admission Requirements SEE PAGES 31-33.

Special requirements

1. GPA of 3.5 at master's level if undergraduate 3.0 GPA requirement not met.
2. Three letters of recommendation
3. An earned master's degree from an accredited graduate school*
* School Psychology is an exception to this requirement.

Doctor of Education (Ed.D.) The Doctor of Education degree is available in Administration/Supervision or Educational Program Development with emphasis in Adult Education, Elementary Education, or Vocational/Technical Education. The focus of this degree program is on the improvement of educational practice. Although research skills are recognized as being the basis of any doctoral program, the Ed.D. is considered less a research than a practitioner degree.

Admission Requirements SEE PAGES 31-33.

Special requirements

1. See Ed.S above
2. GRE of 1000 in addition to GPA requirement
3. Favorable recommendation from the program coordinator
4. Certification in the field of study in which the candidate is seeking the Ed.D.

Ed.D. Program Structure

1. Major Area
 - A. Specialization (30 hours)
 - B. Dissertation (18 hours)
2. Statistics/Measurement/Research Design (12 hours)
3. Foundations (12 hours)
- Total ** (72 hours)

Doctor of Philosophy (Ph.D.) The Doctor of Philosophy degree is available in Curriculum and Instruction, with specialization in areas such as Adult Education, Elementary Education, English Education, Guidance and Counseling Education, Higher Education, Interdisciplinary, Mathematics Education, Measurement and Evaluation Education, Music Education, Reading/Language Arts Education, School Psychology, Science Education, Special Education, and Vocational Education.

Admission Requirements SEE PAGES 31-33.

Special requirements (Same as Ed.D above except no. 4 is omitted)

Ph.D. Program Structure

1. Major Area
 - A. Specialization (21 hours)
 - B. Cognate Area* (12 hours)
 - C. Dissertation (18 hours)

2. **Statistics/Measurement/Research Design (12 hours)**
3. **Foundations (8 hours)**
- Total** (71 hours)**

*Supporting courses outside area of specialization

**Post-master's hours

Residency Requirement The purpose of the Ph.D. program is to prepare individuals who aspire to become producers of knowledge (researchers/university faculty). This requires that research training and theory exploration be major factors in the education of the Ph.D. candidate. It is during the residency that much of this training occurs, although not necessarily in formal course work. To accomplish this focus on training, each Ph.D. student is required to spend at least two consecutive semesters (about 30 weeks) in full-time residency on the Tampa Campus. The student should be engaged in no more than half-time work outside the Ph.D. program during this period. Reduction of job responsibilities will allow the student to take advantage of the opportunities for learning that are available in the University community during regular day-time hours, to participate in research projects with faculty and to teach courses at the University level.

The student must declare the semesters of residency as a part of the program of studies. Changes of these dates must be approved by the supervisory committee and must be submitted in writing to the Coordinator of Graduate Advising at least one semester before the residency is to occur. It will be the responsibility of the Coordinator of Graduate Advising to certify, at the time of application for graduation, that the residency requirement has been met.

Some candidates will find it difficult, if not impossible, to arrange time off from their jobs to meet the residency requirement. However, most of these people would probably be practitioners in school systems, for whom the Ed.D., not the Ph.D., degree would be more appropriate.

Program Description

Department of Adult and Vocational Education

The Adult and Vocational Education Department offers M.A. and M.Ed. degrees designed to prepare individuals in the various fields of Vocational and Adult Education, such as Adult Education, Business and Office Education, Distributive and Marketing Education, and Industrial-Technical Education. The degrees of Doctor of Philosophy (Ph.D.) and Doctor of Education (Ed.D.) are offered in Adult and Vocational Education.

Adult Education

Requirements for the M.A. Degree (AAE) The Master's degree in Adult Education is intended to help individuals work with adult learners in a wide variety of settings. It is a Plan III program that includes a minimum of 36 hours for the non-thesis option (30 for the thesis option) and consists of course work in the area of specialization, foundations, and electives.

Area of Specialization (16 hours non-thesis option) Specialization hours are designed to provide competence in areas associated with adult learners: instruction, curriculum development, program planning, organization and administration, and research techniques.

ADE 6385*	ADE 6080*	ADE 5161	ADE 6360
ADE 6160	ADE 6197	ADE 6380	ADE 6370
EVT 5190	ADE 6387	EVT 6563	EVT 6930*

*Required courses or equivalent.

Foundations Two foundations courses, one must come from EDF 6481 or EDF 6432. One must be an approved Psychological or Social Foundations course.

Electives (14-15 hours) Courses in a related area may include those from psychology, sociology, guidance, administration, gerontology, or any related field. At

Education

least one course must be outside the Department of Adult and Vocational Education. A thesis option is available.

Requirements for the M.A. Degree in Adult Education: Emphasis in Training and Staff Development (ADE-TSD) The Training and Staff Development (TSD) program in Adult Education is designed to develop knowledge and specific competencies required to prepare trainers to function successfully in both profit and non-profit organizations. The coursework is interdisciplinary, derived from an analysis of theory and skills recognized as essential in improving employee performance.

Program Description

Foundation Courses In consultation with an adviser, a program will be planned that will include a minimum of 36 hours. The foundation requirements include 6-7 hours in the following:

EDF* 6432 EDF* 6481 and/or EDF* 7485

Other requirements are met through the required Foundations (EDF) courses listed in the Area Specialization.

Area Specialization Requirements of up to 24 hours in the specialization include the following, with substitutions to be made appropriate to the individual's background and experience. A practicum of 3-6 hours (ADE 6946) is required as part of the Area Specialization.

ADE 6385*	EDF 6165*	EDF 6166	MAN 6305 or
MAN 6204 or	SYO 6545	ADE 6946*	EDF 6167*
EDF 6281	ADE 6370	EDF 6288*	EDF 7655
ADE 6360	EVT 5369*		

* Required courses or equivalent.

Business and Office Education

Requirements for the M.A. Degree (ABE) In consultation with the graduate adviser, a program will be planned to include a minimum of 32 hours. In addition, a student entering the program who has not yet met competency requirements for business education certification will complete course work in any needed competency area.

The planned program must meet the Master's Degree Process Core requirements and include a minimum of 16 hours in Business and Office Education or related areas selected from the following:

BTE 5171	BTE 6387	EME 6284	BTE 5245
BTE 6944	ADE 6385	BTE 6385	EME 5403
EVT 6264	BTE 6386	EME 6425	EVT 6265

This degree may be completed with a thesis option.

Distributive and Marketing Education

Requirements for the M.A. Degree (ADE)

1. In consultation with the graduate adviser, a program will be planned to include a minimum of 32 hours as follows:

EDF 6432	EDF 6481	EDF 6211	EDF 6215
EDF 6606	EDF 6517	EDF 6544	

2. Appropriate College of Business Administration Courses in marketing, management, economics, finance, and accounting for Distributive Education teacher certification (15 credits maximum).
3. Specialization requirements of 11 hours in Distributive and Marketing Education are designed to provide competence in administration, supervision, curriculum development, program management, methods of teaching, and research techniques as each of these relate to distributive education programs. Specialization courses will be selected from the following, depending upon the individual's background of experience:

ADE 5385	DEC 5185	EVT 5366	EVT 6386
DEC 4382	DEC 6945	EVT 6300	EVT 6926
DEC 4941	EVT 4065	EVT 6385	EVT 6930

DEC 5175 EVT 5190

4. Selected courses in a related area, such as Business Administration, Administration, Supervision, Guidance, Special Education (3-8 hours).

Industrial/Technical Education

Requirements for the M.A. Degree (AIT)

Plan I. Before being admitted to the degree program, a prospective student must have met the work experience and professional preparation requirements for certification in Industrial, Technical, or Health occupations. Requirements include a process core and specialization area.

Courses totaling a minimum of 32 hours will be a part of the student's programs.

Plan II. This program is designed primarily for non-certified teachers. The candidate is required to complete additional professional education courses, EDG 4620 and EDG 6947, which are in excess of the normal Process Core requirements.

Plan III. This plan is also available in Industrial/Technical Education.

Department of Childhood/Language Arts/Reading Education

The Childhood/Language Arts/Reading Education Department offers the M.A. degree in Elementary Education and Reading Education; the Ed.S. and Ph.D. degrees in Curriculum and Instruction with emphases in Elementary Education and Reading/Language Arts; and the Ed.D. degree in Education Program Development with an Elementary Education emphasis.

M.A. Degree in Elementary Education (AEE)

This program requires full certification as an elementary teacher for admission. A minimum of 33 hours is required. Common core required courses: EDE 6305, EDG 6935, RED 6116, EDF 6432 or EDF 6481, and EDF 6120 or EDF 6215.

The student will choose one of the following areas of emphasis:

A. Elementary Curriculum Emphasis: An individually planned program approved by a departmental adviser.

B. Language Arts Emphasis

LAE 6301 LAE 6415 LAE 6616 RED 6516

C. Early Childhood Emphasis PR: EEC 4203, EEC 4706, or equivalent

EEC 6406 EEC 6926 EEC 6405 EEC 6705
EEC 6261

D. Elementary School Mathematics Emphasis Individually planned program to include four courses from the following:

MAE 5636 MAE 6337 MAE 6356 MAE 6549
MAE 6116 MAE 6338 MAE 6548

E. Elementary School Science Emphasis 12 hours in Science Education from:

SCE 5937 SCE 6616 SCE 6336 SCE 6436
SCE 6634

3 hours of electives in Science Education or related areas.

M.A. Degree in Reading Education (ARD)

The M.A. in Reading Education is designed to prepare special reading teachers, clinicians, supervisors, directors, and coordinators of reading for school systems.

Education core courses include:

Plan 1 EDF 6432, EDF 6481, and LAE 6616.

Reading Education specialization courses

RED 6116 RED 6247 RED 6365 RED 6544
RED 6545 RED 6747 RED 6540

Optional thesis available.

Students entering the program with an undergraduate major outside of elementary education normally will be required to take RED 4310, RED 4515, and LAE 4414 before beginning the specialization sequence. Electives must be chosen in conference with the adviser.

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Selective retention policies require that the student maintain a "B" average, with no more than three hours of "C" work in the major area* courses and a total of no more than 6 hours of "C" work in the program. If either of these requirements is not met, the student will be dropped from the program. Reinstatement may occur when the student retakes one of the courses in which a "C" was earned and receives an "A".

*Major area courses are RED 4310, RED 6116, and all Reading Education courses.

Requirements for the Ed.S. Degree The Childhood Education/Language Arts/Reading Education Department offers the Education Specialist (Ed.S.) degree in Curriculum and Instruction, with an emphasis in Elementary Education or Reading/Language Arts Education. Candidates for admission to Ed.S. study must meet general admission requirements for the College of Education, plus those listed below.

Ed.S. Degree in Curriculum and Instruction with an Emphasis in Elementary Education (SEE) The purpose of the Ed.S. with Emphasis in Elementary Education is to prepare in-school leaders as experts in instruction and program development, in a variety of educational settings.

Admission Requirements SEE PAGES 31-33, 72 for general requirements.

1. Eligibility for certification in Elementary Education.
2. Two or more years of successful work experience with children.
3. One degree must be in Elementary Education.
4. An earned master's degree from an accredited graduate school.
5. Submit a statement of professional history and goals, and three letters of recommendation.
6. Applicants from foreign countries will be appraised individually.

Program of Studies

1. Elementary Education Specialization and related courses (24 hours)*
 2. Project (9 hours)*
 3. Electives (3 hours)
 4. Comprehensive Examination
- Total (36 hours)***

*All represent post-master's credit and are minimum requirements.

Ed.S. Degree in Curriculum and Instruction with an Emphasis in Reading/Language Arts Education (SRD) The purpose of the Ed.S. with emphasis in Reading/Language Arts Education (R/LA) is to prepare in-school leaders in the field. The program is designed to provide expertise in R/LA processes, designing and evaluating R/LA instructional materials and teaching techniques, and the treatment of R/LA problems. The Ed.S. program is separate from the Ph.D. program and is planned as a terminal degree. Applicants should realize that Ed.S. coursework is not necessarily applicable to the Ph.D. degree.

Admission Requirements SEE PAGES 31-33, 72 for general requirements.

1. Have at least one year of successful experience in a professional school role
2. Have a master's degree in education with a minimum of 10 graduate hours in R/LA or related disciplines. If this is not met, admission may be granted if the student is willing to lengthen the program to make up deficiencies
3. Post-baccalaureate work with a 3.25 GPA
4. Have certification in at least one related area of education.
5. Submit a statement of professional history and goals, and three letters of recommendation to the Reading/Language Arts program.
6. Applicants from foreign countries will be appraised individually.

Program of Studies

1. Specialization in R/LA (15 hours)*
 2. Electives (12 hours)
 3. Project (9 hours)*
 4. Comprehensive Examination
- Total (36 hours)***

*All represent post-master's credit and are minimum requirements.

Requirements for Ed.D. Degree The Childhood Education/Language Arts/Reading Department offers the Doctor of Education (Ed.D.) degree in Educational Program Development, with specialization in Elementary Education. The degree is designed to provide educators with an opportunity to study a variety of academic areas.

Admission Requirements SEE PAGES 31-33, 72 for general requirements.

Special requirements

1. Have a master's degree in Elementary Education from an accredited university or college, with a GPA of 3.5 or better.
2. Have two or more years successful work experience in programs for children.
3. Submit three letters of recommendation from persons knowledgeable about the applicant's professional and academic competencies.
4. Applicants from foreign countries will be appraised individually.

Program of Studies

1. Elementary Education Specialization (24 hours)
 2. Dissertation (18 hours)
 3. Curriculum (6 hours)
 4. Statistics, Measurement, and Research (12 hours)
 5. Foundations (12 hours)
- Total (72 hours minimum)**

Requirements for the Ph.D. Degree The Childhood/Language Arts/Reading Education Department offers the Ph.D. degree in Curriculum and Instruction, with an emphasis in Elementary Education or Reading/Language Arts. The purpose of this program is to prepare leaders in the field, such as college and university faculty, directors of programs for school systems, or clinical directors in private or public settings. The programs are designed to provide expertise in research into learning processes, designing and evaluating instructional materials and teaching techniques, university and college teaching, and the treatment of disabled learners. The Ph.D. involves coursework, a written comprehensive examination, and a dissertation.

Ph.D. Degree in Curriculum and Instruction with an Emphasis in Elementary Education (DEE)

Admission Requirements SEE PAGES 31-33, 72 for general requirements.

1. Eligibility for certification in Elementary Education.
2. Grade point average of 3.5 in post baccalaureate coursework.
3. A degree in Elementary Education.
4. Have at least two years experience in a professional role with children.
5. Have a master's degree in education with a minimum of 10 graduate hours in the appropriate area (Elementary or R/LA); if this requirement is not met, admission may be granted with the understanding that the applicant's program will be lengthened to cover deficiencies.
6. Submit a statement of professional history and goals.
7. Submit three letters of recommendation from persons knowledgeable about the applicant's academic potential.
8. Applicants from foreign countries will be appraised individually.

Program of Studies

1. Foundations (8 hours)
 2. Statistics/Measurements/Research Design (4 hours)*
 3. Elementary Specialization (21 hours)
 4. Dissertation (18 hours)
 5. Cognate Area (12 hours)
 6. Language/Computer Science (no credit)
- Total (63 hours minimum)**

* Does not include 8 hours of statistical tool requirement.

Education

Ph.D. Degree in Curriculum and Instruction with an Emphasis in Reading/Language Arts Education (DRD)

Admission Requirements

1. Have at least one year of successful experience in a professional school role.
2. Have a master's degree in education with a minimum of 10 graduate hours in R/LA or related disciplines; if this is not met, admission may be granted if the student is willing to lengthen the program to make up deficiencies.
3. GRE score of at least 1100, with at least 500 on the quantitative section.
4. Official transcript of post-baccalaureate work showing at least a 3.5 GPA.
5. Submit a statement of professional history and goals and three letters of recommendation to the Reading/Language Arts program.
6. Have certification in at least one related area in education.
7. Applicants from foreign countries will be appraised individually.

Program Structure for Reading/Language Arts

1. Specialization R/LA (21 hours)
 2. Cognate Area (12 hours)
 3. Dissertation (18 hours)
 4. Statistics/Measurement/Research Design (4 hours)*
 5. Foundations and Curriculum (8 hours)
- Total (63 hours)**

*Does not include 8 hours of statistical tool requirement.

Department of Counselor Education

The Department of Counselor Education offers graduate programs leading to the Master of Arts (M.A.) degree in Guidance and Counseling, the Educational Specialist (Ed.S.) degree in Curriculum and Instruction, with specialization in Guidance and Counseling, and the Doctor of Philosophy (Ph.D.) degree in Curriculum and Instruction, with specialization in Guidance and Counseling. The general purpose of these programs is to prepare students to become competent counseling professionals -- practitioners, supervisors, educators, or researchers -- in a variety of settings.

Students in this department represent a broad spectrum of undergraduate majors, of vocational experience, of age levels, and of career aspirations. Some intend to work in educational institutions at the elementary, secondary, or college level. Others seek counseling careers in social and vocational agencies, in mental health or rehabilitation facilities, in drug and alcohol abuse treatment programs, in corporate and industrial settings, or in private practice.

Guidance and Counseling (AGC)

Requirements for the M.A. Degree In addition to meeting University and college admission requirements, applicants to the Guidance and Counseling program must present three letters of recommendation and a personal statement of professional goals, and must interview with a member of the Counselor Education faculty.

Applicants are admitted each semester. The deadline for all requirements to be completed is four weeks before the end of the semester preceding the term in which the applicant expects to begin the program. The applicant should contact the Counselor Education department for deadline dates, to obtain instructions regarding the letters of recommendation, and to arrange for an interview.

Plan I and Plan III

Plan I is for students who hold teaching certification. **Plan III** is for those who wish to earn a master's degree, but are not interested in school certification.

Process Core (14 hours)

1. EDF 6432 or EDF 7437
2. One of the following:
EDF 5136 EDF 6213 EDF 6120 EDF 6215
3. EDF 6354
4. One additional foundations course.

Specialization (two options):

1. **Elementary School Guidance Emphasis (28 hours)**
 EGC 6006 EGC 6464 EGC 6830 EGC 6225
 EGC 6509 EGC 6306 EGC 6935
 Three hours minimum of elective credit from the following courses:
 EGC 5101 EGC 6472 EGC 6905 EGC 6105
2. **Secondary and Adult Guidance Emphasis (28 hours)**
 EGC 6006 EGC 6435 EGC 6835 EGC 6225
 EGC 6510 EGC 6306 EGC 6935
 Three hours minimum of elective credit from the following courses:
 EGC 5101 EGC 6472 EGC 6905 EGC 6105

Plan II

Plan II is for students who do not hold teaching certification and who desire certification as counselors in public schools:

Process Core (14 hours)

1. EDF 6432 or EDF 7437
2. One of the following:
 EDF 5136 EDF 6213 EDF 6120 EDF 6215
3. EDF 6354
4. One of the following:
 EDF 6517 EDF 6544 EDF 6606

Specialization: (Same as Plan I)**Additional Requirements (12 hours)**

EDG 4620 EEX 6936 EGC 6948

The M.A. program in Guidance and Counseling has no full-time residency requirement. A student who is employed on a full-time basis is limited to 9 hours per semester. Exceptions are made only with permission of the student's academic adviser.

Requirements for the Ed.S. Degree The Educational Specialist program in Curriculum and Instruction, with specialization in Guidance and Counseling, is designed to improve the skills and competence of practicing counselors. The program comprises 37 hours and can be completed in two years by part-time students through evening course work. Students are admitted once a year, at the beginning of the fall semester. Application must be completed by May 15. In addition to meeting the University and college requirements for admission to Ed.S. programs, applicants must meet the following departmental requirements:

1. A master's degree. The following courses or their equivalents must be completed prior to admission: (1) Principles of Guidance or an overview course in a related field; (2) Appraisal Procedures; (3) Informational Service; (4) Counseling Theories; (5) Group Theories; (6) Practicum in Counseling.
 2. GPA of 3.5 or higher at Masters level and GRE scores of 800 or higher.
 3. Approximately one year post-master's degree experience as a counselor in a professional setting.
 4. Three letters of recommendation.
 5. An interview with a member of the departmental faculty.
 6. An audio-tape recording of a recent counseling session conducted by the applicant.
 7. A personal statement about professional background, interests, and goals.
- The departmental office will offer additional information on the application procedure. The Ed.S. program (37 hours) includes the following courses:

Counselor Education (18 hours)

EGC 6105 EGC 7437 EGC 7935
 EGC 6472 EGC 7446

Research (4 hours)

EDF 6407 EDG 6971 (9 hours)

Cognate Area/Minor (6 hours) To be determined jointly by student and adviser.

Education

The Ed.S. program has no full-time residency requirement. The course work listed under Counselor Education is to be taken in sequence. Other course work is to be planned in consultation with the student's adviser.

Requirements for the Ph.D. Degree The formal designation of this degree is Doctor of Philosophy (Ph.D.) in Curriculum and Instruction, with specialization in Guidance and Counseling. The academic program is designed to provide advanced preparation for counselors, supervisors of counseling and guidance programs, counselor educators, and researchers in counseling and guidance. The program comprises 74-76 hours.

The Counselor Education department admits doctoral students once a year, at the beginning of the fall semester. Since applications are carefully evaluated by the departmental admissions committee over a period of time, students are encouraged to apply early in the year; the entire application process must be completed by May 15. In addition to the University and college requirements for admission to Ph.D. programs, applicants must meet the following departmental requirements.

1. A master's degree in guidance and/or counseling from an accredited institution or a master's degree in another field. The course work, to be completed prior to admission, must include the following prerequisites or their equivalents: (1) Principles of Guidance or an overview course in a related field; (2) Appraisal Procedures; (3) Informational Service; (4) Counseling Theories; (5) Group Theories; (6) Practicum in Counseling; (7) Comparative Guidance and Counseling.
2. A minimum of one year of counseling experience gained in a professional setting after earning the master's degree.
3. A grade point average of 3.5 at the master's level and a GRE score of 1000.
4. Three letters of recommendation from former employers, supervisors, or professors addressing the applicant's personal characteristics, ability, motivation for advanced graduate study, and professional leadership in the field of counseling and guidance.
5. Two personal interviews with faculty members of the Counselor Education Department, to be arranged by appointment at the request of the student.
6. An audio-tape recording of a recent counseling session with a client from the applicant's current setting.
7. A personal statement of the applicant's professional background, interests, and goals. Both the evidence of professional commitment and the quality of writing competence will be critically evaluated.

The Ph.D. Program (74-76 hours) includes the following courses:

- A. Foundations and Curriculum: (11-12 hours)
Specified from advanced graduate level courses.
- B. Measurement, Statistics, Research Design: (11-12 hours)
EDF 6407 EDF 7408 EDF 7409
or an elective from advanced graduate level courses.
- C. Counselor Education: (23 hours)
EGC 6472 EGC 7437 EGC 7446
EGC 7935 EGC 7894 (8 hours required)
- D. Cognate Area/Minor: (11 hours)
- E. Dissertation: (18 hours)

The minimum curricular requirements include: (a) at least two years of academic work beyond the master's degree; (b) at least one academic year of residency on the Tampa campus of the University of South Florida. Residency is defined as a minimum of two courses totalling 9 hours of graduate work per semester, and the equivalent of half-time employment in teaching and/or assisting faculty with research over two consecutive semesters.

Department of Educational Leadership

The Department of Educational Leadership prepares students for positions in educational leadership. The major purpose of these programs is to improve performance in school leadership positions. Program content in these degrees

focuses on the functions of administration where relationships between tested practice and applied theory are stressed. Three degrees are offered in Educational Leadership: the degree of Master of Education, the Education Specialist Degree, and the Doctor of Education degree. In addition, the Ph.D. in Higher Education and the Ph.D. in Curriculum and Instruction with a focus on Interdisciplinary Studies are also offered.

The Department also offers a Master of Arts degree in Junior College Teaching in cooperation with the other colleges in the University.

Educational Leadership

Requirements for the M.Ed. Degree (ESA)

Admission Requirements

1. Certification in a teaching field (except Plan III students).
2. At least 2 years of successful teaching experience (Plan III students must have 2 or more years of relevant work experience).
3. Current university and college requirements for admission to graduate study.

Program Requirements The program requires a minimum of 39 hours. Typically, the student's program will consist of the following:

1. Required Courses (24 hours)

EDA 6061	EDA 6192	EDA 6232	EDA 6242
EDS 6050	EDG 6627	EME 6425	EDF 6432

2. Specialization Courses (6 hours)

EDE 6205 and EDG 6693, or EDM 6235 and EDG 6694, or ESE 6215 and EDG 6695, or EEX 6511 and EEX 6025

3. Electives (9 hours)

6 elective hours in Educational Leadership and 3 elective hours in Foundations. Students already holding a masters degree and meeting all admission requirements may have the 9 hours of electives waived.

4. Comprehensive Examination

Requirements for the Ed.S. and Ed.D. Degrees SEE PAGES 31-33, 72.

1. Certification in Educational Leadership.

2. Screening by the Educational Leadership Department.

Applicants should contact the Educational Leadership Department and complete a preliminary application prior to making application to the Graduate School.

Program The major components of study in the Ed.S. and Ed.D. degree programs are:

A. Specialization in Educational Administration/Supervision required courses; Electives; Project/Dissertation; Comprehensive Examination for Ed.S.

B. Foundations

Social Foundations; Psychological Foundations

C. Measurements and Statistics

D. Computer Science

The Department of Educational Leadership also offers an Ed.S. and a Ph.D. in Curriculum and Instruction, with a focus in Interdisciplinary Studies. Admission requirements for this program are the same as those for admission to the Ed.S. and Ed.D. programs (above), except that certification in Educational Leadership is not required. Application for admission begins by completing a preliminary application form available from the Educational Leadership Department.

Junior College Teaching Program

Requirements for the M.A. Degree Areas of specialization in the Junior College program include:

Biology	Business*	Chemistry
English	Engineering**	Economics
French	Geography	Geology
History	Mathematics	Physics

Education

Political Sci. Sociology Spanish
Speech Communication

* Business specialization requires, in addition, a minimum score of 475 on the GMAT.

**Engineering bachelor's degree required.

Admission Because of the unique character of the Junior College program, which integrally involves two colleges of the University, admission and advisory regulations go beyond those listed in the section dealing with Graduate Study.

Application for admission to the program is made via the Office of Admissions. Action on all applications is the joint responsibility of the two colleges involved. Duplicate sets of the student's complete record will be on file in both colleges, with the College of Education given responsibility for making official recommendations for the granting of the degree to the Vice President for Academic Affairs and to the Registrar.

Program A minimum of 32 hours, plus an internship of 6 hours.

1. Specialization

Typically, the student's program will include 24-30 hours of graduate work in a field of specialization. The sequence to be completed will be designed in consultation with a major field adviser. This program is based on the assumption that the student has an undergraduate background in his specialization area that is roughly equivalent to the pattern of the appropriate USF major. Students admitted without such preparation may be required to correct deficiencies. A well prepared student may be permitted to take fewer courses in his specialization area, substituting approved electives from other fields of study.

2. Professional Education

Typically, the student's program will include approximately 15 hours of graduate work in professional education. Additional hours may be required if the student's background is weak in relevant areas. The internship will consist of full-time supervised teaching for one semester or part-time teaching for two semesters. At least one-half of the internship must be in the community college, the other half being left to the discretion of the student's adviser. The internship follows the completion of professional education coursework.

Department of Educational Measurement and Research

The Department of Educational Measurement and Research is a foundational department within the College of Education. It provides support services to graduate programs. It offers courses and consultation in the following areas; Measurement, Statistics, Program Evaluation, Research Design, Systems Approaches to Planning, Evaluation, and Development. Two graduate degrees are offered: Master of Education (M.Ed.) and Doctor of Philosophy (Ph.D.).

Master of Education (M.Ed.) The Master of Education degree prepares personnel to work in school districts, state government agencies, commercial test publishing, and program evaluation enterprises. The program prepares personnel with specialized skills in test construction, program evaluation, and data analysis. Course requirements include:

Process Core

EDF 6432 (3) EDF 6481 (3) EDF 6215 (4) EDF 6606 (4)

Sub-total (14)

Concentration

EDG 6627 (3) EDF 6485 (3) EDF 6288 (3)

Sub-total (9)

Specialization

EDF 6407 (4) EDF 7408 (4) EDF 7488 (1) EDG 6931 (3)

EDF 6437 (3) EDG Computer Elective (3)

Sub-total (18)

Total (41)

Doctor of Philosophy (Ph.D.) The Ph.D. degree in Curriculum and Instruction is available with emphasis in Measurement and Evaluation. Focus in this area is upon developing systematic inquiry skills essential to the objective study and evaluation of educational processes and products. Included are competencies in the fields of measurement, statistical analysis, research evaluation design, and systems approaches to program planning and development.

The intent of the program is to develop personnel who can strengthen the research and development capabilities of agencies concerned with education. Emphasis is placed upon those aspects of design, measurement, and statistical analysis that are particularly relevant to decision-oriented research. In addition to consideration of traditional experimental designs, emphasis is placed on quasi-experimental, survey, policy analysis, historical, ethnographic, case study, and naturalistic approaches.

While the doctoral program in measurement and evaluation emphasizes methodology, concentration in substantive disciplines within education and/or the social sciences is possible. Concentration in a cognate provides a context within which the methods of systematic inquiry may be applied. In sum, methodological skills necessary for systematic inquiry are developed within a programmatic context that encourages growth of knowledge about education, considers important principles of leadership, and provides a clinical setting in which these elements can be fused into professional applications. The program of studies is organized into four areas:

1. Foundations
2. Specialization or Major Emphasis
3. Measurement-Statistics
4. Cognate

Program Requirements

1. Foundations (8)

To be selected from offerings in Educational Psychology and Historical-Philosophical-Social Foundations.

2. Specialization or Major Emphasis (49)

EDG 7980 (18)	EDF 7940 (8)	EDF 7488 (1)	EDF 7493 (4)
EDF 7485 (3)	EDF 7410 (4)	EDF 7655 (4)	EDG 7667 (3)
EDG 7692 (3)	EDG 7910 (3)		

3. Measurement/Statistics (19)

EDF 6407 (4)	EDF 7408 (4)	EDF 7484 (4)	EDF 7437 (3)
EDF 7438 (4)			

4. Cognate (12)

Elective Courses

Total (88)

Department of Instructional Computing

The graduate program in Instructional Computing prepares professionals to work with computers in a variety of instructional settings. It provides a wide range of experience in microcomputer hardware, software, and the educational applications of computers. An M.Ed. in Curriculum and Instruction, with an emphasis in Instructional Computing, is available. In addition, instructional computing cognates are available for other graduate level programs.

Admission Requirements for the M.Ed. Degree SEE PAGES 31-33.

Special requirements

1. Two years of relevant educational or professional experience as judged by the program faculty.
2. Approval by the department.

Course Requirements

1. 21 hours in instructional computing, including: EME 5403, EME 6412, EDF 6284, EME 6425, and CAP 6125.
2. 3 hours in graduate curriculum and instruction (EDG 6627).
3. 12 hours in foundations of education (EDF 6432, EDF 6481, EDF 6215, and EDF 6517 or EDF 6544 or EDF 6606).

Education

Comprehensive Examination The comprehensive examination will consist of a written and/or oral examination covering both theoretical and applied objectives within the degree program.

School of Library and Information Science

Requirements for the M.A. Degree (ALJ) In addition to University and college admission requirements, the School of Library and Information Science asks that the student have an interview with the program director, the program's admission committee, or an individual designated by the director. The school also requires each applicant to submit a typewritten statement expressing personal reasons for wanting to pursue graduate study in librarianship. Graduation requirements include the completion of four core courses, LIS 5404, LIS 6271, LIS 6608, and LIS 6735, plus a planned program of electives developed for each student in conjunction with the advisor. The program requires a minimum of 36 hours and successful completion of a comprehensive examination.

Requirements for the Ed.S. Degree The 6 year Ed.S. degree in Curriculum and Instruction, with an emphasis in library and information science, provides librarians with an opportunity to specialize in particular aspects of library and information services in different types of libraries. In addition to college requirements for admission to Ed.S. programs, the school requires that students have a master's degree from an ALA accredited program, an interview with a professor in the school, and an application letter on file. Graduation requires completion of a minimum of 36 hours of approved coursework, including at least 5 hours in cognate courses outside the school, 9 hours for a thesis or project, and a final comprehensive exam.

Accreditation and Certification The School of Library and Information Science master's degree program is fully accredited by the American Library Association. Completion of the required program of studies for the school library media specialization results in Florida certification as an Education Media Specialist. Students may also plan electives to meet the certification requirements of other states.

Additional Information Even though degree-oriented undergraduate study is not offered by the school, the faculty will counsel those undergraduates interested in exploring the kind of program most appropriate as a basis for graduate study in librarianship at USF. Details concerning the graduate program, including information on the profession, are available from the Director, School of Library and Information Science, University of South Florida, Tampa, Florida 33620.

The goals of the school are to:

1. Serve the needs of library and information agencies and to add to the bodies of knowledge in library science
2. Prepare students to assume a wide variety of service and leadership roles in librarianship
3. Assist students in developing the attitudes necessary for involvement in the social, intellectual, cultural, economic, and scientific interests of the community
4. Encourage students and graduates to establish high standards of intellectual inquiry through research
5. Provide an intellectual environment in which the student may develop creative self-direction
6. Impress upon students the social significance of libraries in a democratic society
7. Foster an understanding of the librarian and libraries in a multi-cultural society
8. Promote the advancement of librarianship through faculty research and publication
9. Uphold the Library Bill of Rights, the First Amendment to the Constitution, and the concept of intellectual freedom which is expressed in the statements on labeling and on freedom to read prepared by the American Library Association in conjunction with other professional organizations and incorporated in the Intellectual Freedom Manual.

Department of Music Education

Master of Arts (M.A.) – Music Education

Admission Requirements SEE PAGES 31-33. Concurrently, the applicant must fulfill the specific acceptance requirements of the Music Education Department in the College of Education. Full acceptance cannot be given until the applicant completes an interview with the Director of Music Education. Dates and times for auditions and examinations may be obtained by calling or writing the Director of the Music Education Department.

Program Requirements Three plans are available to the candidate in general, instrumental, or vocal music: 35 hours coursework; 32 hours plus recital; or 30 hours plus thesis.

Course Requirements:

1. **Professional Education (7)**
EDF 6215 and EDF 6431
2. **Music Education (9)**
MUE 6080 and MUE 6189
3. **Music Theory/History/Literature (6)**
4. **MUS 6793**

Special program requirements also include music theory and successful completion of the comprehensive examination.

USF Music Faculty USF's superior music faculty has been carefully chosen for its training, performing ability, and ability to teach. It is in every sense a team. This achievement has been demonstrated by such fine musical ensembles as the Faculty String Quartet, the Arts Nova (faculty) Wind Quintet, the Faculty Musart Piano Trio and the Faculty Jazz Quartet. USF music graduates are found teaching successfully in public schools and universities around the country and performing in a variety of concert settings.

Doctor of Philosophy (Ph.D.) in Curriculum and Instruction - Emphasis in Music Education The degree Doctor of Philosophy is a research degree. It is granted on the basis of evidence of proficiency and distinctive achievement in music and demonstration of ability to do original independent investigation.

Admission Requirements SEE PAGES 31-33, 72.

Special requirements

1. Master's degree in music or music education from an accredited institution.
2. At least two years of full-time school music teaching experience.

After consulting with the program director, the applicant should contact the College Coordinator of Graduate Advising (EDU 312) for the College Data Form and the University application.

Program Structure

Specialization (21 hours)	Cognate area outside the major (12 hours)
Dissertation (18 hours)	Foundations (8 hours)
Statistics/Measurement/Research Design (12 hours)	
Total (71)	

Other specific requirements can be obtained by contacting the Music Department.

Department of Physical Education

Requirements for the M.A. Degree (PET) The master's degree program in Physical Education is designed to enhance the professional skills of physical education teachers with a focus on the science of human movement and the teaching-learning process. Students may concentrate their program of study in areas of Elementary or Secondary Physical Education or Physical Education for Handicapped students. Completion of a minimum of 30 hours of study is required for the Masters degree. A comprehensive final oral examination is required during the semester in which the student completes 30 hours of coursework.

Education

Admission Requirements SEE PAGES 31-33.

Special requirements

1. Undergraduate degree in Physical Education.
2. Recommendation from the Departmental Admission Committee.

PET 6016C, Professional Assessment, is required, and it is recommended that students enroll in this course during their first semester of study in the program.

Typically students will enroll in courses from the following:

PET 6016	PET 6205	PET 6645	PET 6695
PET 6425	EDF 6432	PET 6496	PET 6305
PET 6910	PET 6906		

Department of Psychological and Social Foundations of Education

School Psychology The School Psychology Program offers 3 graduate degrees which prepare students for the professional practice of school psychology: the Masters (M.A.) degree; the Educational Specialist (Ed.S.) degree and the Doctor of Philosophy (Ph.D.) degree. Designed to meet recognized national and state accreditation standards, the Program is offered through the Department of Psychological and Social Foundations in cooperation with the Department of Psychology. The School Psychology Program is approved by the Florida Department of Education, The National Association of School Psychologists, and the National Council for the Accreditation of Teacher Education. Thus, graduates of the Program, at the Ed.S. level and beyond, are eligible for certification as school psychologists in the State of Florida and in the National Certification System for School Psychology.

Program Philosophy The School Psychology Program is based on three primary philosophies of comprehensive professional practice. These are integrated into all facets of the Program; they are taught, modeled, and reinforced by the Program Faculty to guide our students' professional practices both before and after their entry into the field. These program philosophies involve:

1. **Commitment to Advocacy and Respect for Individual Differences.** The School Psychology Program encourages a special sensitivity to the cultural diversities of all people and a special respect for the uniqueness and human dignity of all individuals. Within this context, advocacy is emphasized as a conscious philosophy and activity whereby school psychologists help others to know, understand, and attain their legal, educational, moral, and individual rights. Initially, advocacy may involve students and their parents. Yet, individual advocacy often involves systemic and community-wide foci and change. Thus, the School Psychology Program is committed to (a) the development of procedures to change educational systems to fit the individual characteristics of students and (b) a comprehensive, system-wide orientation where mental health and educational services are not just school-based, but family and community-based as well.
2. **Commitment to Empirical Knowledge and Professional Competency.** The School Psychology Program is dedicated (a) to teaching professional practices that have been empirically demonstrated as effective and socially valid and (b) to pursuing new knowledge through sound research practices.
3. **Commitment to Self-Awareness and Ethical Practice.** The School Psychology Program promotes students' development of personal and professional skills that influence and ensure sound psychological practice. The Program, therefore, is committed to evaluating students' knowledge and skill and their interpersonal skills and interactions on an ongoing basis. The School Psychology Program adheres to the ethical standards of the American Psychological Association and the National Association of School Psychologists, and adheres to the belief that ethical practice is the only acceptable approach to professional training and service delivery. The School Psychology Faculty reserves the right to require remedial or compensatory experiences or additional course work to address any identified student deficiency in the areas discussed above. The faculty also

reserves the right to recommend a student's dismissal from the Program due to documented deficiencies in necessary skills, e.g., academic or interpersonal areas. Such decisions will be accomplished with full respect for the student's due process rights and in accordance with College and University policies and procedures.

Program Orientation The School Psychology Program is committed to training professionals who have expertise in both psychology and education. This training is accomplished utilizing a **scientist-practitioner** model which emphasizes **comprehensive school psychological services using a social and cognitive behavioral learning orientation** that recognizes the importance of children's **individual differences**. At an applied level, the Program recognizes the **importance of field work, hands-on experience, and supervision in the training process**. Students in the Program receive continuous field experience beginning in their first semester. These experiences complement the more formal coursework in the Program, and students receive close supervision by both University and Field Supervisors who provide ongoing feedback relative to students' specific, professional skills. At the doctoral level, students complete an advanced internship in a hospital, developmental or residential center, community mental health, or correctional setting.

Description of Degree Programs The Master of Arts (M.A.), the Educational Specialist (Ed.S.), and the Doctor of Philosophy (Ph.D.) degrees are awarded with a major in School Psychology. The master's degree is not considered a terminal degree and is not sufficient for certification.

The Ed.S. Program For the beginning graduate student, the entire program through the Ed.S. degree, including conferral of the M.A. degree, consists of three full years of study or approximately 95 graduate hours. These hours include academic and professional coursework, a thesis, relevant practical experiences, and a full-time, full-year internship. For the student who has completed pertinent graduate work the program may be shorter and transfer credit opportunities are available. For the student who already has earned a master's degree with experience in school psychology, the Ed.S. program may be completed with a minimum of 36 hours. Supervised experience in the delivery of comprehensive school psychological services may take the place of internship at this level. No undergraduate course credit will be applied to the Ed.S. (or Ph.D.) Program, and all courses are open exclusively to graduate students. Further, no courses designed to remedy a specific student weakness will be applied to the student's program.

Practicum experiences occur during the first two years of the Ed.S. Program prior to and in preparation for the full-year internship. These experiences are supervised by the School Psychology Faculty and are systematically evaluated to determine the student's readiness to proceed into the internship. All practica experiences are conducted in a manner consistent with the legal and ethical guidelines of the profession of school psychology.

The paid Internship occurs during the last year of the Ed.S. student's program. It is a full-time, full-year experience which consists of at least 1200 clock hours in a local school setting. Utilizing both field-based and program-based supervisors, the internship provides students with a comprehensive experience involving regular and special educational programs across the school-age spectrum. Field-based supervisors are employees of their respective school districts and hold valid school psychology credentials. These supervisors are responsible for only one intern per year, and they meet with the intern at least two hours per week in direct supervision. Each intern is systematically evaluated throughout the internship year, and the entire internship is conducted in a manner consistent with the legal and ethical guidelines of the profession of school psychology.

The Ph.D. Program The curriculum leading to the Ph.D. degree with a major in school psychology consists of approximately 72 hours beyond the Ed.S. degree. These hours include academic and professional coursework including specialization in an advanced area of school psychology practice, an advanced internship beyond the full-year internship during the third year of the Program, and the dissertation. For

Education

the beginning graduate student, the entire program, including the M.A. and Ed.S. degree can be completed in four years, although most students take a fifth year to complete the dissertation. For the student who already has earned an Ed.S. degree in school psychology, the Ph.D. program can be completed in two to three years.

Residency The M.A./Ed.S. program can be completed in 3 calendar years. Since the curriculum is carefully sequenced, full-time study is required of all students. An alternate planned experience may be allowed for students entering with a master's degree and previous school psychology experience. It is assumed that a student will have time for an assistantship or part-time job up to 20 hours per week. The residency requirement for the doctoral program is two consecutive academic years of full-time study, after conferral of the Ed.S. degree, with no more than 20 hours per week employment.

Admission to the Program The primary assumption underlying admission to either the Ed.S. or the Ph.D. program is that every student who is accepted is capable (a) of successfully completing his or her respective program and (b) of performing competently in the field as a school psychologist. For this reason, the selection and admissions procedure is quite rigorous. Applicants are selected based on their potential to benefit from the training program and their potential to contribute to the Program and to the field of School Psychology.

A culturally diverse student body is actively recruited, and applicants of academic and professional promise are not excluded on the basis of race, ethnic origin, sex, age, religion, or physical handicap. The admissions process is highly selective, but flexible. That is, no one piece of information is weighted substantially over another as long as they meet the minimal requirements of the University and College. The evaluation process, however, does involve both academic and interpersonal considerations.

Admission to the Program is based on past academic work; GRE verbal and quantitative scores; a writing sample; pertinent volunteer work, and extracurricular experience; letters of recommendation; and a statement of professional goals that should include a current resume or vita. Students may apply, after conferral or anticipated conferral of their Bachelor's degree, at either the Ed.S. or Ph.D. level depending on their professional aspirations. Admission to the Program is on a space-available basis. Most applications are completed by March 1st, and most acceptances occur during the early Spring. However, some exceptional applicants may be accepted into the program as late as June. All students are accepted to begin their program in the **Fall Semester**; no January admissions are permitted.

The application process begins by securing an application and graduate catalog from the Office of Graduate Admissions, USF, Tampa, Florida 33620 or by contacting the School Psychology Program (Department of Psychological and Social Foundations, FAO 268; 813/974-3246). SEE PAGES 31-33 for general procedures.

Special Requirements

Send to the School Psychology Program (c/o Dr. Howard Knoff for Ph.D. applicants; c/o Dr. James Barnard for Ed.S. terminal applicants);

- a) Three letters of recommendation
- b) A written sample of a research paper or write-up of a psychological study or literature review
- c) A statement of professional goals which also describes past activities or experiences relevant to the application
- d) A current vita/resume

Upon receipt of application material, prospective students are sent acknowledgments so they can keep abreast of their application status and so they know when it is complete. Once complete, the application file is reviewed by faculty members who individually recommend whether the candidate should be invited to campus for a formal interview. Ph.D. interviews involve the entire School Psychology Faculty; Ed.S. interviews involve selected representatives of the Faculty. During the interview, the applicant will have the opportunity to pose questions to the interviewers in order to further familiarize themselves with the Program.

After the interview, an admissions decision is made based on the applicant's

1. career goals and their compatibility with those of the Program
2. potential for successful completion of the Program
3. sensitivity to the needs of children, families, teachers, and systems
4. interpersonal skills
5. oral and written communication skills.

NOTE: If geographic constraints prohibit a personal interview, a telephone interview may be conducted by the faculty or a taped interview may be used. In addition, the Faculty reserves the right to contact all references specified as appropriate by the applicant.

Undergraduate Prerequisites Although no particular undergraduate major is required, students beginning our program must have completed one course in each of the following areas: statistics, experimental (or research methods in) psychology, and psychological (or educational) measurement. In addition, students must complete a course in curriculum and instruction. This course may be completed prior to entry into the program or during the student's completion of the Ed.S. program. Given the latter circumstance, this course will not be considered part of the academic load toward the Ed.S. degree.

Financial Aid Normally, all of our students receive funding through assistantships, fellowships, and/or tuition waivers. Separate forms, where necessary, are forwarded with each acceptance letter. Information concerning other forms of financial aid should be obtained as early as possible from the Office of Financial Aid, SVC 262. The application deadline is February 1 for most forms of assistance through that office.

Continuing Education Elements of the curriculum listed below will be made available to qualified practicing school psychologists who wish to upgrade their knowledge and skills without necessarily working toward a degree. Other courses and workshops will be developed for this purpose as the need arises, and a list of pertinent courses available from other departments will be maintained. The faculty will provide appropriate advising.

Sample Curricula

M.A. and Ed.S. degrees The following outline represents a typical program for a student without prior graduate work. Other courses may be selected on an individual basis to fit background and goals, and equivalent work is acceptable. Minor changes may be made due to routine program development.

A. Academic/Theoretical Bases

Developmental Psychology			
EDF 5136	EDF 6120	SPS 6806	*DEP 6058
Learning and Cognitive Psychology			
EDF 6215	EDF 6217	EDF 6938	*EXP 6406
EXP 6526*	EXP 6608*		
Personality and Abnormal Psychology			
CLP 6166*	CLP 6477*	PPE 6058*	
Biological/Physiological Psychology			
EDF 6213	PSB 6056*		
Social Psychology			
SOP 6059*			

B. Statistics, Measurement, and Professional Research

EDF 6407	EDF 6481	EDF 7408	EDF 7410
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C. Professional School Psychology

SSP 6197	SSP 6198	SPS 6943	SPS 6944
SPS 6936	SPS 6700	SPS 6701	SPS 6702
SPS 6940	SPS 6941	EDF 6166	EDF 6938
SPS 6806			

* Offered in the Department of Psychology

Education

D. Social/Organizational Foundations of Education

EDF 6517 EDF 6544 EDF 6606 EDF 7655

E. Thesis

EDG 6971 Thesis

F. Internship

G. Electives

Selected courses in the Counselor Education, Special Education, and Reading Education programs and in the Department of Psychology.

Ph.D. Degree. With our master's/specialist curriculum forming a foundation, each doctoral student's program additionally will include a full-year advanced professional seminar, required coursework at the College of Education level, two courses in an advanced specialization area as chosen by the student, an advanced supervision course, an advance internship, and the dissertation. At this level, emphasis is on research and on training for leadership positions in school psychology.

Department of Secondary Education

The department offers programs leading to the Master of Arts (M.A.), Master of Education (M.Ed.), Educational Specialist (Ed.S.), and Doctor of Philosophy (Ph.D.).

Master of Arts (M.A.) The M.A. degree is designed for individuals who hold an undergraduate degree in Arts/Arts Education, English/English Education, Foreign Language/Foreign Language Education (or other appropriate undergraduate degree), Mathematics/Mathematics Education, Science/Science Education, or Social Science/Social Science Education. Three plans of study are available, depending upon the candidate's background and future goals (See "Program Plans of Study" described previously).

Master of Education (M.Ed.) The M.Ed. degree in Curriculum and Instruction is a flexible degree program intended to improve the skills of the classroom teacher. The M.Ed. is offered with an emphasis in English Education, Foreign Language Education, Mathematics Education, Science Education, Social Science Education, and Theatre Education. The program will be planned on an individual basis by the student and an advisory committee.

Course Requirements A minimum of 33 hours, with 60 percent or more at the 6000 level.

1. 18 hours in the area of emphasis, to include courses in content and/or the teaching of this content
2. 3 hours in graduate curriculum and instruction (EDG 6627)
3. 12 hours in foundations of education (EDF 6432, EDF 6481, EDF 6211 or EDF 6215, and EDF 6517 or 6544 or 6606)

Comprehensive Examination. The comprehensive examination will consist of a written and/or oral examination in the major area.

Educational Specialist (Ed.S.) The Ed.S. degree programs are designed to prepare specialists in English Education, Mathematics Education, or Science Education for classroom instruction or leadership/supervisory roles.

Admission Requirements SEE PAGES 31-33.

Special requirements

1. A master's degree with an emphasis in English Education, Mathematics Education, or Science Education (or approved related areas) with a 3.25 GPA.
2. Favorable recommendation from the Departmental Admissions Committee.

Course Requirements A minimum of 36 hours. The Ed.S. Program is highly individualized. Within the program structure, candidates' programs are planned on the basis of previous educational and professional experience and future goals. The program of study must be approved by a faculty committee.

1. **Major Area (15 hours)**

Courses in English Education, Mathematics Education, or Science Education, and/or courses in Natural Sciences or Arts and Letters.

2. Cognate Area (12 hours)

Courses in supervision, administration, educational technology, curriculum development, measurement, evaluation, educational research, and/or other approved related areas.

3. Project (9 hours)

Completed under the direction of a faculty committee.

Comprehensive Examination The comprehensive examination consists of a written and/or oral examination. The candidate will be required to make an oral defense of the project.

Doctor of Philosophy (Ph.D.) The Ph.D. in Curriculum and Instruction, with an emphasis in English Education, Mathematics Education, or Science Education, is granted on evidence of proficiency and distinctive academic achievement and by the demonstration of ability to do original, independent investigation culminating in a dissertation. These programs require full-time commitment. Anyone considering applying should first contact the chairperson of the Department of Secondary Education.

Admission Requirements SEE PAGES 31-33.

1. Two years of teaching experience
2. Approval of department chairperson

Course Requirements A minimum of 71 hours is required. This program is highly individualized. Candidates' programs are planned (with approval by a faculty committee) based upon previous experience and future goals. A language requirement must be satisfied and the following areas must be included:

1. Major Area

- a. English, Mathematics, or Science Education (21 hours)
- b. Cognate Area* (12 hours)
- c. Dissertation (18 hours)

2. Statistics/Measurement Research Design (12 hours)

3. Foundations (8 hours)

Total (71 hours)**

- * Supporting courses outside communication, mathematics, or science education.
 **Post master's hours.

Art Education (AAR)

Master of Arts (M.A.) The M.A. degree in Art Education is offered in three different plans, each with a choice of concentration in the following:

1. Studio
2. Arts administration, supervision
3. Research and curriculum development
4. Museum education
5. Certification, Art K-12
6. Community Arts
7. Expressive Arts
8. Health Arts
9. Computer-Media Technology for Visual Learning

Plan I For candidates already certified to teach art and who wish to pursue advanced training.

37 hours minimum:

Art Education (13)	Art Studio (8)	Art History (4)
Foundations in Education (3)	Electives (9)	

Plan II For candidates who wish to gain teacher certification upon completion of the M.A. Program.

56 hours minimum:

Art Education (23)	Art Studio (8)	Art Studio (4)
Foundations in Education (15)	Internship (6)	

Education

Plan III For candidates who do not hold a baccalaureate degree in education and who do not desire teacher certification in the State of Florida.

43 hours minimum:

Art Education (13) Electives (18)

Foundations in Education (12)

All programs are planned by student and graduate adviser. An integrative project is required.

English Education (AEN)

Master of Arts (M.A.)

Admission Requirements

1. Undergraduate degree approved by program advisor
2. A substantial number of undergraduate hours in English

Course Requirements A minimum of 33 hours

Comprehensive Examination Required in both English and English Education
See "Program Plans of Study", pp. 70-71.

Other graduate degrees in Curriculum and Instruction with emphasis in English Education are available (M.Ed., Ed.S., Ph.D.). A general description of these programs appears above. For more information, contact the department.

Foreign Language Education (AFE) (French, German, Spanish, and Latin)

Master of Arts (M.A.)

Admission Requirements

1. Undergraduate degree approved by program advisor
2. Fluency in English and a foreign language

Course Requirements A minimum of 33 hours

Comprehensive Examination

See "Program Plans of Study", pp. 70-71.

Master of Education (M.Ed.) The M.Ed. degree in Curriculum and Instruction is available with emphasis in Foreign Language Education. Additional details may be obtained by contacting the department.

Mathematics Education (AMA)

Master of Arts (M.A.) This M.A. degree in Mathematics Education is designed mainly for high school teachers.*

Admission Requirements SEE PAGES 31-33, 69-71.

1. Undergraduate degree in Mathematics Education or a degree with a strong background in mathematics
2. Recommendation from the Departmental Admissions Committee

Course Requirements A minimum of 33 hours.

1. 18 hours in mathematics approved by the student's advisor
2. 9 hours in foundations of education: EDF 6432, EDF 6481, and EDF 6211 or 6215
3. 3 hours in current trends in secondary school mathematics (MAE 6136)
4. 3 hours of electives in mathematics education

Comprehensive Examination The comprehensive examination will consist of a written and/or oral examination in the major area.

*An M.A. degree (EDE) designed to improve the skills of the classroom teacher in teaching mathematics to elementary school students is also available. (See Dept. of Childhood/Language Arts/Reading Education).

Other graduate degrees in Curriculum and Instruction with emphasis in Mathematics Education are available (M.Ed., Ed.S., Ph.D.). A general description of these programs appears above. For more information, contact the department.

Science Education (ASC)

Master of Arts (M.A.) This M.A. degree (SCE) in Science Education is designed mainly for high school teachers.*

Admission Requirements

1. A strong background in science

Course Requirements A minimum of 33 hours.

Comprehensive Examination

*An M.A. degree (EDE) designed to improve the skills of the classroom teacher in teaching science to elementary school students is also available. (See Dept. of Childhood/Language Arts/Reading Education.)

Other graduate degrees in Curriculum and Instruction with emphasis in Science Education are available (M.Ed., Ed.S., Ph.D.). A general description of these programs appears above. For more information, contact the department.

Social Science Education (ASO)

Master of Arts (M.A.)

Course Requirements A minimum of 33 hours

Comprehensive Examination

Master of Education (M.Ed.) The M.Ed. degree in Curriculum and Instruction is available with emphasis in Social Science Education. A general description of the program appears above. For more information, contact the department.

Theatre Education

Master of Education (M.Ed.) This program is designed to serve the needs of certified teachers who have not completed a degree in theatre (particularly those certified in Speech or English). The courses of study are designed to provide the teacher with a minimum of knowledge and experience considered necessary for a drama teacher.

Program Requirements

Curriculum and Instruction: 15 hours These may be taken at any USF branch campus during any semester (up to 6 hours may be transferred). **Theatre Education: 17-18 hours.** Up to 14 hours may be taken during the summer session; however, 4 courses (12 hours) will be offered only during the summer session. Theatre courses include:

Directing	Theatre Production Practicum
Technical Theatre	Current Trends in Secondary Education
Education through Improvisational Drama	

The courses are scheduled so that the student has the following options for completing degree requirements:

- a) One summer plus 2-1/2 years of part-time evening course work
- b) Two summers and some part-time evening course work
- c) Three full-time summers

Department of Special Education

The programs of study in the Department of Special Education prepare special educational leaders in public and private schools and in state, federal, or community settings at three degree levels: master's, educational specialist, and doctoral. Specific areas of training include behavior disorders, gifted, mental retardation, motor disabilities, and specific learning disabilities. Master's and specialist programs emphasize consultative, supervisory, and multidisciplinary skills intended for students

Education

who wish to assume innovative leadership roles in public or private school settings. The doctoral program builds on proven practitioner expertise and develops students' theoretical and practical skills. Consequently, the doctoral program of study prepares students for research, teacher training, and leadership roles.

After admission to a program, the candidate and the department advisor together chart a program of study incorporating both core requirements and courses of specific interest to the student. All programs stress field based experiences: practica and internships. Students provide their own transportation to practicum and internship sites.

Master of Arts (M.A.)

Plan I -- For students holding valid teaching certificates. Secondary and K-12 students must have previously taken or include in their planned program the basic special education certification courses.

Plan II -- For students not holding valid teaching certificates but who wish to obtain certification through the master's degree.

Plan III -- For holders of a non-education undergraduate degree who do not wish to meet teacher certification requirements in the state of Florida.

Plans II and III are available for all M.A. degrees in Special Education. Contact the department for course requirements.

Behavior Disorders

Requirements for the M.A. Degree (ABD)

Plan I 36 minimum hours

a. Process Core (3 hours)

EDF 6481

b. Program Core (18 hours)

EEX 6025

EED 6221

EEX 6222

EEX 6732

EEX 6245

EEX 6939

c. Specialization (12 hours)

EED 6201

EED 6211

EED 6943

d. Electives (3 hours)

Gifted

Requirements for the M.A. Degree (EGI) The Gifted Child Teacher Training program provides advanced training for certified teachers to work with gifted and talented children and to work with other teachers on a consultant or teacher-leader basis.

Emphasis is on development of specific skills to:

1. identify the gifted
2. make an individual diagnosis of cognitive and affective strengths and weaknesses
3. modify the educational program to develop the gifted child's potential
4. consult and guide the gifted student, family, and teachers to understand and develop the students' unique abilities.

Plan I 36 minimum hours

a. Process Core (3 hours)

EDF 6481

b. Program Core (9 hours)

EEX 6025

EEX 6222

EEX 6939

c. Specialization (18 hours)

EGI 5051

EGI 5325

EGI 6232

EGI 6943

EGI 6939

EGI 6416

d. Electives (3 hours)

Mental Retardation

Requirements for the M.A. Degree (AMD)

Plan I 36 minimum hours

a. Process Core (3 hours)

EDF 6481

b. Program Core (18 hours)

EEX 6025 EED 6221 EEX 6222 EEX 6245
EEX 6732 EEX 6939

c. Specialization (12 hours)

EMR 6052 EMR 6303 EMR 6943 EPH 5051

d. Electives (3 hours)

Motor Disabilities

Requirements for the M.A. Degree (AMD)

Plan I 40 minimum hours

a. Process Core (3)

EDF 6481

b. Program Core (18 hours)

EEX 6025 EED 6221 EEX 6222 EEX 6245
EEX 6732 EEX 6939

c. Specialization (16 hours)

EPH 5051 EPH 6934 EPH 5321 PET 6645
SPA 4333 SPA 4336

d. Electives (3 hours)

Specific Learning Disabilities

Requirements for the M.A. Degree (ALD)

Plan I 36 minimum hours

a. Process Core (3 hours)

EDF 6481

b. Program Core (18 hours)

EEX 6025 EED 6221 EEX 6732 EEX 6222
EEX 6245 EEX 6939

c. Specialization (12 hours)

ELD 6015 ELD 6235

d. Electives (3 hours)

Curriculum and Instruction/Pre-School Handicapped

Requirements for the M.Ed. Degree (Birth - 5 years old) -- For students holding a valid teacher certificate in Special Education. 45-47 hours

a. Process Core

EDG 6627 EDF 6431 EDF 6481 EDF 6120 or
EDF 6215 EDF 6544 or EDF 6606 or EDF 6517

b. Special Education

EEX 6732 EEX 6222 EPH 5051 or EPH 5321
EEX 6706 EEX 6943 EEX 5705

c. Other Departments

EEC 5705 EEC 4203 or EEC 6261; SPA 6401, LAE 6301,
or SPA 5402

Special Education Advanced Programs

Educational Specialist (Ed.S.) The College of Education offers an Educational Specialist (Ed.S.) degree in Curriculum and Instruction, with an emphasis in Special Education.

Admission Requirements Candidates for admission to the Ed.S. Program must meet the entrance requirements of the College of Education, plus the following:

1. Certification in exceptional student education and
2. One year of teaching experience in exceptional student education

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Program Requirements

1. Special Program Courses (25 hours)
 2. EDG 6931 Proposal Development, or (2)
EDF 7410 Design of System Studies in Education, or (4)
EDF 7493 System Approaches for Program Planning
Evaluation & Development (4)
 3. EDG 6971 Independent Project (9 hours)
- Total (36-38 hours)**

Courses will be selected by the student and adviser from those available at the 6000 and 7000 level. Six hours of 5000 level courses may be included with approval of the department chairperson.

During the last term of enrollment, the candidate must perform satisfactorily on a comprehensive examination.

Doctor of Philosophy (Ph.D.) The Special Education Department offers the Ph.D. in Curriculum and Instruction, with specialization in Special Education. The department strives to maintain a quality program and is restrictive and selective of its applicants.

Admission Requirements SEE PAGES 31-33.

Special requirements

1. Three years teaching experience in special education
2. Grade point average of 3.5 at the graduate level
3. Favorable recommendation of the Department Advanced Graduate Admissions Committee and the department chairperson.

Program Requirements The Ph.D. program of study is a full-time commitment. The program is individually planned by the student and a faculty advisory committee and approved by the department chairperson. The program includes, but is not limited to, the following:

Dissertation (18 hours)

Special Education (including EEX 7341 and EEX 7931) (21 hours)

At least 10 hours from the following:

EEX 7203 EEX 7301 EEX 7841 EEX 7930

Cognate Area (12 hours)

Statistics/Measurement/Research (12 hours)

Foundations (8 hours)

Language/Computer Science non-credit

Total (71 hours)

Student Organizations and Activities

Association for Childhood Education International The Association for Childhood Education is a non-profit professional organization concerned with the education and well-being of children two to twelve years of age. Members come from all over the United States and other countries.

The USF chapter works directly with children through observation, projects, and programs. In addition, it provides opportunity for students to attend study conferences throughout the state of Florida, which allows the student an opportunity for professional growth and exchange of professional ideas. Membership is open to all students concerned with children two to twelve years old.

Student Council for Exceptional Children The Student Council for Exceptional Children is an organization of students interested in the education of the exceptional - "different" child. Various exceptions included are gifted, emotionally disturbed, physically handicapped, mentally retarded, and culturally different.

Activities of the USF chapter include field trips to various special educational facilities, prominent speakers, seminars, state and national conventions, and social events. The specific activities are determined by the members and the exceptions in which they are interested. All interested students are invited to join.

Student Music Educators National Conference Student Music Educators Conference is an affiliate of the Music Educators National Conference and the Florida Music Educators Association. It is devoted to the expansion of knowledge and understanding of music education on all levels. Membership is open to any student in the University of South Florida who is interested in the teaching of music.

National Education Association Student Program The National Education Association Student Program is designed to provide professional growth opportunities, leadership training, and membership benefits available to other members of the National Education Association, including \$1 million liability insurance coverage while engaged in student teaching (internship). Membership is open to all students who have been admitted to the College of Education.

Delta Pi Epsilon Delta Pi Epsilon is a national honorary professional graduate society for men and women in business education. Objectives of the society include encouraging and recognizing exceptional research achievement, publishing/research in business education, and promoting professional development of its members. The Gamma Rho chapter at USF was installed in April 1984.

Phi Beta Lambda Phi Beta Lambda is a business fraternity open to all students expressing an interest in business. The emphasis is on promoting free enterprise and instilling leadership qualities.

Kappa Delta Pi Kappa Delta Pi is an international co-educational honor society in education. The society was founded to recognize and encourage excellence in scholarship, high personal standards, improvement in teacher preparation, and distinction in achievement.

Student Counselor Education Organization This is an organization for graduate students presently enrolled in the Guidance program. Social and professional meetings are conducted throughout the year. Members also participate in annual retreats and attend district and state meetings.

Mathematics Education Club The Mathematics Education Club is mission-oriented; it is primarily concerned with children and youth who evidence learning problems in mathematics. However, an important purpose of the club is also to develop hypotheses that can result in generalized professional knowledge that improves the teaching and learning of mathematics.

Clinical, correlation, normative, and experimental approaches are used in the study of the etiology and symptomatology of mathematical learning disabilities. General models and specific teaching strategies are provided the classroom teacher and the student-clinician for implementing effective diagnostic and prescriptive programs.

Close professional relations are maintained between the Mathematics Education faculty and the appropriate faculties in the College of Education whose interests and professional skills are related to the work of the club.

Association of Library and Information Students (ALIS) This is a professional organization associated with the School of Library and Information Science and is open to all members of the University community interested in librarianship.

The USF group provides programs and guest speakers of interest to the campus community and publishes a newsletter for its members. It is the official voice of students in the school, and members of the association are included on faculty-student committees within the school.

The Delta Epsilon Pi of America (DECA) DECA is an integral part of the Distributive and Marketing Education and Marketing Teacher Preparation program at the University of South Florida. It provides Distributive Education majors with leadership opportunities, social experience, learning activities, and professional

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Involvement. Participation in the activities of Collegiate DECA is encouraged for graduate students.

Minority Organization of Students in Education The Minority Organization of Students in Education is organized to provide experience and opportunities that will facilitate the educational professional growth of its members.

COLLEGE OF ENGINEERING

The College of Engineering graduate activity is provided by six departments. Each is responsible for an area of engineering disciplines and the supervision of one or more academic programs. Students are assigned to a specific academic program in a specific department. In addition to the centralized facilities of the college, departments are equipped with their own specialized laboratories and equipment related to their disciplines. The following sections provide more information on the engineering disciplines, academic programs, and resources of each department. For additional information on a specific department, request a copy of the department's Graduate Student Handbook from its Graduate Program Coordinator.

Graduate Degree Programs

The College of Engineering offers graduate programs in both Engineering and Applied Sciences to meet the diverse demands of the future.

This spectrum of program offerings provides the prospective student with a choice of avenues, depending upon individual interests, career objectives, and capabilities for significant technological contributions. These programs are described in detail under their respective Catalog headings.

Laboratory experience, as well as real-world participation in technological problem-solving, is a key aspect of a professional engineer's college education. The College of Engineering, in addressing this need, augments its own modern laboratory and research facilities by close contact with professional societies and the many industries in the metropolitan Tampa Bay area and beyond.

Students interested in particular programs offered by the College of Engineering should direct their inquiries to the specific department or to the Associate Dean for Academic Affairs of the College of Engineering.

Master's Degree Programs in Engineering

- *Master of Science in Chemical Engineering (M.S.Ch.E.)
- *Master of Science in Civil Engineering (M.S.C.E.)
- *Master of Science in Computer Engineering (M.S.Cp.E.)
- *Master of Science in Computer Science (M.S.C.S.)
- *Master of Science in Electrical Engineering (M.S.E.E.)
- *Master of Science in Engineering (M.S.E.)
- *Master of Science in Engineering (Manufacturing Option) (M.S.E.)
- *Master of Science in Engineering Management (M.S.E.M.)
- *Master of Science in Engineering Science (M.S.E.S.)
- *Master of Science in Industrial Engineering (M.S.I.E.)
- *Master of Science in Mechanical Engineering (M.S.M.E.)
- *Master of Civil Engineering (M.C.E.)
- *Master of Engineering (M.E.)

The master's degree is awarded for advanced study beyond the baccalaureate degree within an area of specialty. The College of Engineering offers several programs leading to degrees at the master's level. These programs can be divided into Engineering-oriented and Engineering Science programs.

The Engineering-oriented degree programs offered by the college are: The Master of Science in a designated engineering field, the post-baccalaureate Master of Science in Engineering program, the Master of Engineering program, and the Five-Year Program leading to the simultaneous award of both the bachelor and master degree. Each department determines the degree to be awarded, depending upon the student's background and specific program of study pursued.

Engineering

Master of Science in Designated Engineering Field See previous list of designated fields. For further information on sub-specialization, see information for each department on the following pages.

Master of Science in Engineering

The Engineering Science degree program includes a combination of engineering principles and their application to such varied fields as physical sciences, life sciences, social sciences, environmental sciences, applied mathematics, bio-medical engineering, and ocean engineering. A strong foundation in rigorous scientific and engineering principles and practice is expected. The Master of Science in Engineering Science is awarded for this program of study.

Each department in the College is authorized to offer the Master of Science in Engineering Science and the Master of Science in Engineering. These degrees are individually tailored to student needs.

Manufacturing Option In addition, the departments of Chemical Engineering, Computer Science and Engineering, Electrical Engineering, Mechanical Engineering, and Industrial Engineering offer a Master of Science in Engineering with a Manufacturing Systems Option (consisting of an 18 hours core and 15 hours of electives). The degree is administered by the Industrial Engineering Department and is a true interdisciplinary degree with areas of Robotics, Automation, Computer Aided Design, Computer Integrated Manufacturing, Control Systems, Software Systems, Hardware Systems, and Production Systems available for emphasis.

The student, upon completion of the core courses, may choose electives and concentrate within one of the above departments or may choose to acquire an in-depth knowledge in one of the above emphasis areas by making elective course choices from several departments.

General Entrance Requirements Admission to a master's program is dependent upon a favorable evaluation by the department to which the student is applying. Applicants are expected to meet the minimum requirements of the University (SEE PAGES 31-33) and those of the College. Individual departments may have additional specific and higher requirements. More complete information may be obtained from the Graduate Programs Coordinator for the specific department.

Except when additional requirements are noted, all master's programs in the College of Engineering have the following entrance requirements:

1. A baccalaureate degree in Engineering from an ABET accredited program is generally required for graduate work in the same designated engineering field. However, due to differences in undergraduate programs at different universities some remedial work may be required for students with undergraduate degrees from other schools. Degrees in Mathematics, Physics, Chemistry, and other fields may be accepted on an individual basis. In such cases, it is probable that supplemental remedial work in engineering will be necessary.
2. Those who do not meet the regular requirements may (with prior approval of the appropriate department chairperson) attempt a trial program as a non-degree seeking student. Up to 12 hours of department specified work attempted on this basis may be accepted into a graduate program upon satisfactory completion. Before attempting such a trial program, the student should obtain from the departmental adviser a list of courses and performance criteria for admission. Individual departments may allow fewer than 12 hours of course work taken as a non-degree-seeking student to transfer into a graduate degree program.
3. Students whose native language is not English must have a score of at least 550 on the TOEFL exam.

General Program Requirements Requirements for graduate degrees from the College of Engineering consist of University requirements, College requirements and Departmental requirements. For University requirements refer to the chapter on Academic Policies and Procedures. College requirements are listed below. Refer to the following sections for requirements of each department.

College of Engineering Requirements for Master's Degree:

1. A minimum of 30 credits of approved course work is required.
2. Students must maintain an overall grade point average of 3.0. No grade below "C" will be accepted in a graduate program. If a student's average falls below 3.0, the student will be placed on probation and must obtain a directed program from the appropriate adviser, and approval by the Engineering Associate Dean for Academic Affairs, prior to continuing course work for a degree.
3. All students are required to pass a final oral or written comprehensive examination prior to receiving the degree. These examinations are arranged and administered by the student's department.

Five-Year Programs Leading to Bachelor and Master Degrees Students who, at the beginning of the senior year, clearly are interested in graduate study are invited to pursue a five-year program leading simultaneously to the Bachelor of Science in Engineering or Engineering Science and Master of Science in Engineering or Engineering Science degrees. The keys to this program are:

1. A two-year research program extending through the fourth and fifth years.
2. The opportunity to take graduate courses during the fourth year and deferring senior courses to the fifth year. The requirements of the combined degrees do not differ from those for the two degrees pursued separately.

Students apply for admission to this program through their advisers, who should be consulted when additional information is needed. General requirements include:

1. Senior standing (90 credits) with at least 16 upper-level engineering credits completed at the University of South Florida with a 3.0 GPA.
2. A minimum score of 1000 on the GRE.

Doctoral Programs

The Doctor of Philosophy degree is awarded in recognition of demonstrated scholarly competence and ability to conduct and report original and significant research. Unlike the baccalaureate and master's degrees, the Ph.D. degree can not be earned by an accumulation of course credits over a period of residence alone. After adequate fundamental preparation to gain competence, the student must demonstrate research capability through completion of an authoritative investigation in the chosen engineering field, culminating in a written dissertation. The dissertation must demonstrate that the student possesses the ability to reason logically, the talent for engaging in significant and original research, and the ability to organize and present conclusions in a professional manner.

The doctoral degree programs offered by the College of Engineering are as follows:

- *Doctor of Philosophy in Chemical Engineering
- *Doctor of Philosophy in Civil Engineering
- *Doctor of Philosophy in Computer Science and Engineering
- *Doctor of Philosophy in Electrical Engineering
- *Doctor of Philosophy in Engineering Science
- *Doctor of Philosophy in Industrial Engineering
- *Doctor of Philosophy in Mechanical Engineering

Admission Requirements SEE PAGES 31-33.

1. An undergraduate degree in the respective Engineering discipline.
2. Applicants from other disciplines, non-ABET accredited programs, or foreign institutions may be considered for admission; however, they will be required to engage in additional course work to develop proficiency equivalent to an undergraduate of the discipline in which the student pursues graduate work. The exact number of hours of such remedial work will be determined by the major department.
3. Individual departments may have higher than college standards.
4. Students whose native language is not English must have a score of at least 550 on the TOEFL exam.

Program Requirements

1. An adviser will be appointed by the chair of the appropriate department or program for each student during the first semester of registration at the University of South Florida. The adviser will help determine the student's area of research interest and will delineate preliminary course assignments. At the earliest possible date, a major professor will be appointed and a supervisory committee formed. This committee will monitor the student's program of studies and has full responsibility for conducting the student's qualifying examination. The Supervisory Committee consists of a minimum of five members. One member of the committee must be outside the College of Engineering. (The requirement may be waived if special reasons exist and prior approval is obtained from the Engineering Associate Dean for Academic Affairs). A majority of the committee will be from the College of Engineering, with at least two departments of the college represented.
2. A minimum of 60 hours of course work beyond the baccalaureate degree plus a minimum of 20 hours of dissertation research is required. Total hours of credit must equal or exceed 90 hours. A minimum of 27 hours course work in an engineering area of concentration. The 27 hours need not be coursework in the same department, but must focus directly upon the areas of concentration; at least 20 hours must be at the 6000 level. In addition, a minimum of 8 hours of mathematics or statistics is required. Engineering Mathematics may be approved by the committee if appropriate. Also, a minimum of 8 hours of coursework as defined by the committee outside the major area of concentration is required. Further requirements may be imposed by the candidate's committee.
3. Throughout the student's program of study, independent learning will be emphasized. For the first time in the participant's career, in most cases, the student will be responsible for mastering a new domain of knowledge without the aid of organized lectures and textbooks. The principal information source will be the current literature. Such experience is a necessary preparation for a meaningful career in engineering and other fields where the professional must keep pace with a large, ever-changing body of knowledge.
4. All prospective candidates must pass a Ph.D. diagnostic examination that includes an area of mathematics and a prescribed area of concentration. This examination must be taken after the student has completed appropriate studies, usually equivalent to one year's course work. Students entering with a master's degree must take this examination before the end of the first year after admission to the program.
5. A written and oral qualifying examination, conducted by the supervisory committee, will be taken by each Ph.D. student as soon as a substantial majority of course work is completed. Completion of this examination and the Tools of Research admits the student to candidacy.
6. Students must be admitted to candidacy before they register for dissertation. Before admission to candidacy, students must have: a) passed the diagnostic examination of paragraph 4; b) passed the qualifying examination of paragraph 5; c) demonstrated proficiency in written and spoken English; d) satisfied the Tools of Research requirement; e) been accepted by a department faculty member credentialed to serve as chair of the dissertation committee. It will be the responsibility of the Ph.D. committee for each doctoral student to define the Tools of Research requirement within 2 months after committee formation. It is the responsibility of the Supervisory Committee to certify by letter to the Engineering Associate Dean for Academic Affairs that this has been completed, and the committee shall specify that the Tools/Skills of the candidate are applicable and sufficient for the field of proposed study.
7. The student must carry out an investigation resulting in an original and significant contribution to the knowledge in the field of research. The requirement of uniqueness means that the dissertation research will provide an important creative experience for the student. As the final stage of the student's program, the candidate must prepare a written dissertation covering the research. Student's in the Ph.D. program must take an appropriate number of doctoral

dissertation credits, but not less than 20 hours; the exact number is determined by department and/or individual requirements.

8. The defense of the dissertation will conform to the University' general rules and regulations.
9. Minimum residency requirements may be satisfied by completing at the University of South Florida, beyond the master's degree or equivalent, the following: (1) the University's minimum requirement, or (2) 24 hours in one calendar year, or (3) 30 hours in no more than four semesters within a period of three calendar years. Any graduate work counted toward the fulfillment of the requirement for the Ph.D. degree after admission to candidacy must be accomplished within 7 calendar years.

Doctor of Philosophy in Designated Engineering Field Degree This degree is awarded to students pursuing a program in one of the following Engineering disciplines: Chemical Engineering, Civil Engineering, Computer Science and Engineering, Electrical Engineering, Industrial Engineering, and Mechanical Engineering. Students receiving this degree must demonstrate a thorough foundation in the designated discipline.

Doctor of Philosophy in Engineering Science Degree This program is designed to meet the needs of students who wish to pursue doctoral studies in interdisciplinary areas closely related to engineering. Generally, students in this program are expected to gain proficiency in two disciplines: an area of science and an area of engineering. Consequently, this program is administered jointly by two departments who cooperate in monitoring the student's program of studies, examinations, and dissertation research. To derive maximum benefit, the student's dissertation committee should be constructed to draw on the expertise of the cooperating departments in Engineering and Natural Science or other appropriate discipline.

Chemical Engineering

The department offers graduate degrees leading to M.S. and Ph.D. in Chemical Engineering. The professional degree, Master of Engineering, is also available. The Chemical Engineering program has faculty members with interests in a number of research areas, ranging from classical topics in Chemical Engineering, (e.g. thermodynamics and transport phenomena), to current research areas, (e.g. computer-aided process design and optimization, super-critical extraction, polymeric materials and biotechnology). Other areas of current research include applications of artificial intelligence to chemical engineering problems, computer data acquisition and analysis, development and characterization of polymers for special application, process control, protein denaturation/renaturation kinetics, application of thermodynamics to problems in biological and medical sciences, and development of on-line sensors for process parameter measurements and development of super-critical extraction techniques.

The department offers Chemical Engineering graduate courses in transport phenomena, reactor design, thermodynamics, applied mathematics, computer-aided process design and optimization, electrochemistry, advanced separation, process controls, polymer reaction engineering, and biotechnology.

Chemical engineering research facilities include an electron particle counter, an image analysis system, a mass spectrometer, a differential scanning calorimeter, a UV system, a super-critical fluid processing laboratory, a surface characterization system, and a collection of HPLC and gas chromatographs. Controls and computer-aided process engineering laboratories include a TDC 2000 control system, programmable logic controllers laboratory, micro computers, sun workstations, graphic capabilities, and a rich variety of software for statistical analysis, numerical analysis, optimization, flowsheet simulation, and artificial intelligence applications. The department also has access to a SEM and an X-ray diffraction unit.

Strong collaboration with the Chemistry, Biology, Industrial, Civil, Mechanical, and Electrical Engineering Departments makes research programs in Chemical Engineering truly interdisciplinary.

Civil Engineering and Mechanics

The Civil Engineering and Mechanics Department offers graduate programs at both the master's and Ph.D. levels.

The following areas of study are available: (1) Engineering Mechanics, (2) Environmental Engineering, (3) Geotechnical Engineering, (4) Materials Engineering and Science, (5) Structural Engineering, (6) Transportation Engineering and Planning, and (7) Water Resources Engineering. Over a four-year period, most courses are offered at least once in the evening.

The field of Civil Engineering has long been known for its breadth and ability to adapt to the new technological needs of society. The traditional areas of public works, such as highways, bridges, water supply, building design, and wastewater treatment, remain very important. In addition, the modern area of managing the environment has been included in the Civil Engineering domain. Graduates of the programs are prepared for careers with public agencies or private firms involved in planning, design, research and development, or regulation.

The Engineering Mechanics program, although it resides in a Civil Engineering environment, may be viewed as a separate discipline and is staffed by several specialists in this area. Graduates who select this field find employment in a variety of research and development areas, such as the stress analysis of complex machines and structures.

College computer facilities are available to all departmental students. In addition, the department has a variety of microcomputers available for student use. The department has a high bay structures laboratory, which includes an MTS 250 kip testing machine. There are also well equipped environmental, soils, and hydraulics laboratories. These laboratories include equipment such as an ion chromatograph, atomic absorption unit, environmental chamber, constant rate of stress consolidometer, and triaxial units.

The Center for Environmental Studies and Engineering (part of CEDAR) is headquartered in the department; however, its significant strength is the participants from the Departments of Chemical Engineering, Biology, Chemistry, Geology, and Environmental and Occupational Health (College of Public Health). Faculty work together on distinctive research projects; the interdisciplinary approach gives students a unique breadth of experience. Cooperative efforts extend to course and program offerings that educate students in the wide variety of fields that are integral to environmental work.

The Center for Mathematical Modeling (part of CEDAR) is an integral part of the department. The mathematical modeling effort relating to decision-making is accomplished by graduate students, under the supervision of faculty, as a normal part of their education. The development and evaluation of alternatives for government agencies and private firms provide a valuable learning mechanism for students.

The Department offers the following graduate degrees: M.S.E., M.S.C.E., M.C.E., M.S.E.S, and Ph.D.

The Master of Civil Engineering (M.C.E.) degree is offered as an alternative to the Master of Science in Civil Engineering (M.S.C.E.) in order to provide an option for those students who desire a designated degree oriented toward the professional practice of Civil Engineering. The M.C.E. emphasizes both design and non-technical aspects of engineering practice. The M.C.E. degree requirements consider the applicant's total education from college entrance through the master's degree program. It differs from the M.S.C.E. and M.S.E. degrees by requiring (1) an additional design component, (2) study in non-engineering areas related to professional practice, (3) participation in the Engineer Intern (EI) Examination as a first step toward professional registration, and (4) a minimum of six months work experience or internship prior to receipt of the M.C.E. degree. The Department of Civil Engineering and Mechanics, in cooperation with the Florida Section A.S.C.E., will assist students in locating suitable employment to satisfy the work experience requirement. The internship may be satisfied before, during, or following the academic requirements.

Computer Science and Engineering

The department offers opportunities for study and research in all areas fundamental to Computer Science and Engineering. An excellent selection of courses and laboratories support undergraduate and graduate studies in computer engineering, software engineering, programming languages, computer algorithms, computer system organization, fault-tolerant computing, artificial intelligence, theory of computation, coding theory, expert systems, image processing, and computer graphics.

In addition to the vast array of college-wide computer facilities, the Department's facilities include a software laboratory equipped with two VAX 11/750's running UNIX and VMS operating systems and a VAX 8350; several Sun servers and workstations, two Gould IP 8400 workstations, a microcomputer network laboratory equipped with both tightly coupled and loosely coupled network facilities, a graphics laboratory equipped with a graphics 700 and several modern display devices, a substantial number of graphics-oriented personal computers, and several AT&T 3B2 series systems and a robotics and computer vision laboratory. The college-wide network consist of several Sun servers workstations and several Ardent Titan Systems in various configurations.

Graduate students will find that their studies and research prepare them for making contributions in the computer field. Research interests of the department's faculty are diverse, including such areas as distributed and reliable computing, computer networks, simulation and modeling, image processing, computer architecture, computer-aided design, operating systems, programming languages, real-time software engineering, robot intelligence, computer vision, graphics, data base design, application-oriented VLSI architecture, performance modeling of computers, coding theory, and signal processing. Consequently, students have a wide range of research areas available for theses and projects.

The department administers the master's degrees in Computer Engineering (M.S.Cp.E.) and Computer Science (M.S.C.S.), and a Ph.D. degree in Computer Science and Engineering. Students may select a thesis or non-thesis option for the M.S.C.S. or M.S.Cp.E. programs. Some graduate courses offered by the department are available to practicing engineers through the FEEDS (Florida Engineering Education Delivery System) program.

Electrical Engineering

Ph.D. and Master's degrees are offered by the department. Master's programs include Circuit Theory, Communications and Signal Processing, Control Theory, Microelectronics, and Microwave Engineering options; in addition, other programs may be tailored for students with specific needs. Ph.D. studies emphasize microelectronic design and test (VLSI, VHSIC, MMIC and ASIC design microwave and high frequency analog and digital circuit modeling and testability, interconnection systems, reliability and failure mode studies); communications and signal processing (networks, package switching, digital video and HDTV, ISDN, optical fiber communications, satellite communications, comm-software, comm-terminals); systems and controls; solid state material and device processing and characterization; electro-optics; electromagnetics, microwave and millimeter-wave engineering (antennas, devices, systems); CAD and microprocessors; and biomedical engineering. Special inter-disciplinary study is available through the Engineering Science program.

The Electrical Engineering Department is housed in the College's new engineering building with its excellent graduate research facilities, computing capabilities, and Ethernet and ISN network connections. Laboratories include a compound semiconductor materials processing facility which includes MOCVD reactors and CVD and plasma processing equipment; thin-film and hybrid circuit facilities; extensive semiconductor characterization equipment (d.c. through optical and a JEOL 840 scanning electron microscope); a noise research laboratory; a communications and signals processing laboratory focusing on integrated-services (data/voice/video) telecommunications, information transport networks, VLSI and microprocessor based algorithm implementations, speech and signal processing and digital communications; CAD and modeling laboratories for analog digital and microwave monolithic circuits

Engineering

and devices, as well as antennas and scattering characteristics. The VLSI CAD facility includes extensive software and an automated test system.

Graduate students find that their studies and research activities prepare them for making unique contributions in such fast-moving fields as semiconductor processing, VLSI design, microwave hybrid and integrated circuit design, communications, signal processing, and other digital system R&D, guidance, control systems, and other areas.

The department offers the M.S.E.E., M.S.E., M.E., M.S.E.S., and Ph.D. degrees. Non-thesis master's studies are available to practicing engineers through the FEEDS program.

Industrial and Management Systems Engineering

The department offers advanced degrees in areas of study pertinent to the design, evaluation, and operation of a variety of industrial systems, ranging from the analysis of public systems, to the service industry, to the operation of manufacturing concerns. Course topics and research opportunities include production planning, production control, facility design, applied engineering statistics, quality control and reliability, operations research, engineering economic analysis, human factors engineering, productivity analysis, manufacturing systems, robotics, automation, and computer applications.

The department has advanced laboratory facilities that support class projects and research in microcomputer applications, computer-aided design and manufacturing, automation, and applications in robotics. The department laboratories include two full-size industrial robots, CNC and DNC machine tool systems, manufacturing cell with industrial grade conveyor and ASRS equipment, table top robotic trainers, microcomputers, eye-tracking devices, physiological measurement devices, speech synthesis and voice recognition equipment, noise, vibration and illumination measurement devices, dynamic anthropometry equipment, and data collecting equipment.

The department administers the Master of Science in Industrial Engineering (MSIE), the Master of Science in Engineering Management (MSEM) and the Ph.D. with specialization in Industrial Engineering. The Department participates in the college's MSE, ME and MSES programs.

The Master of Science in Engineering Management (MSEM) program is an off campus, part-time program designed to prepare practicing engineers from various disciplines to make the transition to the technical management track. The courses are offered via FEEDS in the late afternoon and evening hours at a number of industrial centers throughout the state. Courses in the program involve concepts in engineering management, resource management, strategic planning, and productivity. Up to 6 hours of advanced courses in the student's area of specialty may be taken as electives.

Specific questions pertaining to admission and program requirements may be answered by contacting the Industrial and Management Systems Department.

Master of Science in Engineering – Manufacturing Option

Each department in the College of Engineering is authorized to offer the Master of Science in Engineering Science and the Master of Science in Engineering. These degrees are individually tailored to the students needs.

In addition the Department of Chemical Engineering, Computer Science and Engineering, Electrical Engineering, Mechanical Engineering, and Industrial Engineering offer a Master of Science in Engineering with a Manufacturing Systems option (consisting of 18 hours core and 15 hours of electives). The degree is administered by the Industrial Engineering Department and is a true interdisciplinary degree with areas of Robotics, Automation, Computer Aided Design, Computer integrated Manufacturing, Control Systems, Software Systems, Hardware Systems, and Production Systems as available for emphasis.

The student, upon completion of the core courses, may choose electives and concentrate in one of the above departments or may choose to acquire an in-depth knowledge in one of the above emphasis areas by making their elective course choices from several departments.

Mechanical Engineering

The Department offers graduate degrees leading to the M.S. and Ph.D. in Mechanical Engineering. Coursework and research opportunities are available in the areas of fluid mechanics and aerodynamics, heat transfer, robotics (with an emphasis on automation, miniaturization and instrumentation), mechanical controls, vibrations, computer aided engineering, computational methods in structural analysis, energy conservation, and analysis of composite materials. Departmental laboratory facilities include main-frame, mini and personal computers, a wide assortment of basic instrumentation with A/D converters, a subsonic wind tunnel, robotics sensors (acoustic and optical), engines, dynamometers, fluid flow/heat transfer equipment, vibrations instrumentation, and remote sensing and control instrumentation for data acquisition and energy management systems. The department administers the Master of Engineering, Master of Science in Mechanical Engineering and the Ph.D. degrees in Mechanical Engineering.

Cooperation with Other Departments and Colleges

Advanced study and research challenges exist at the interfaces between engineering and other academic disciplines. Examples include surface physics and chemistry applied to semiconductor processing technology; semiconductor physics applied to VLSI and analog integrated circuit design, manufacture and quality control; chemical processing and its relation to chemical principles; environmental engineering and chemical identification of minute impurities; environmental and transportation engineering and its relation to public health and public administration; water resources engineering and geohydrology; and biomedical engineering, to name only a few. The College cooperates with other academic units of the University in research activities and selectively educates students to become proficient in such interdisciplinary fields. Degree programs associated with this effort are the M.S. in Engineering Science and the Ph.D. in Engineering Science.

Supporting Activities and Facilities

The College of Engineering supports its departments, academic programs, and research through a spectrum of common facilities and service activities described in further detail in the following sections.

College Facilities

In addition to the specialized laboratory facilities of the individual departments the USF College of Engineering maintains College facilities to support the teaching and research activities of all departments. These facilities include a machine shop, a scanning electron microscope facility and the computer facilities provided by Engineering Computing Services.

The Machine Shop, manned by expert model makers, includes welding facilities and machine tools to permit fabrication of devices for teaching and research from a wide range of engineering materials.

The Scanning Electron Microscopy facility houses a JEOL scanning electron microscope which can create a magnified image up to 300,000 times the original size. Also used is an energy dispersive X-ray analysis system which identifies and quantifies elements present in a sample. Any dry sample up to six inches in diameter can be placed in the chamber of the microscope to be magnified and photographed and/or analyzed for sample composition.

College Computing Facilities

The College of Engineering computing facilities are used to provide support for specialized engineering calculations above and beyond those which are available at the IBM based Central Florida Regional Data Center (CFRDC).

The College operates a variety of computers including VAX machines, a nineteen node SUN net, and open use small computer facilities. These machines provide

support for teaching and research in all of the engineering disciplines. Additionally the Computer Science and Engineering department within the College runs other facilities, consisting of three VAX machines, an Ethernet with SUN and AT&T 3B2 machines, and extensive microcomputer laboratories.

The College facilities run most of the standard engineering software. Languages include Fortran, BASIC, Pascal, C, Ada, several varieties of LISP, and Prolog. Applications software includes mathematical libraries, suites of programs for VLSI design, chemical process design, civil and mechanical engineering design, robotics simulation, and circuit simulation and analysis. There are high-resolution color terminals for use in conjunction with these activities, and for mechanical design there are four multiple display workstations with joysticks and digitizing pads. Similar arrangements are used for VLSI design.

The multiple computer operations within the College are made accessible at each faculty desk, research laboratory or classroom terminal, through a new network (ISN). This facility provides more extensive connectivity, including both of the Engineering buildings, CFRDC, and the remote Engineering sites at Sarasota, St. Petersburg and Lakeland. The College ISN will also provide a link between departmental networks as they emerge. There is currently a joint EE/CSE net and a CMDAT net; other departments are expected to follow suit. The College has two PC classrooms with a total of about 50 machines. These classrooms are run as open access laboratories except for limited scheduled class meetings. The PC rooms are supplemented by more advanced workstation facilities with access to the Ethernet.

Florida Engineering Education Delivery System (FEEDS)

FEEDS is a cooperative effort of the Colleges of Engineering of the University of South Florida, Florida Atlantic University, the University of Central Florida, and the University of Florida. The remaining state universities are participating in the delivery of the Engineering programs.

The FEEDS plan was developed in response to the needs of engineering graduates working in industry for access to quality graduate programs and extended studies in engineering. Florida's industrial, political, and educational leaders agree that ready access to the highest quality engineering education by people all over the state will play an important role in the growth of high technology industry and in the economic and social health of all its people.

FEEDS is intended to provide this access. The courses available through FEEDS are selected from the graduate programs available on the campuses of the Colleges of Engineering of FAU, UCF, UF, and USF. The following methods of delivery are in use or scheduled for use in the near future: Tutored Videotape Instruction (TVI), Live Instruction, Instructional Television Fixed Service (ITFS) (one-way video, two-way audio "live" delivery), and Computer Based Education (CBE).

Programs providing graduate degrees at off-campus locations is the main reason for FEEDS. However, since FEEDS resources are limited, priority is given to areas in which the need and/or demand is greatest. Presently, FEEDS offers master's degree programs in Civil Engineering, Computer and Information Science, Electrical Engineering, Industrial and Systems Engineering, and Mechanical Engineering. Selected course offerings in other engineering disciplines also area available.

Admissions, Advising, and Registration Since FEEDS is a delivery system of courses to off-site centers, regular admissions requirements apply. All students registering for courses offered through FEEDS must be admitted to one of the primary universities as a degree or non-degree student. Application for admission may be made directly to USF's Office of Graduate Admissions. Prospective students must refer to the admissions procedures and requirements in this Catalog.

FEEDS Center procedures require that students registering for FEEDS courses coordinate with their academic advisers prior to registration. All students (degree and non-degree) must register each semester for each course desired. Registration for

courses will be handled at the FEEDS Centers. Contact the nearest FEEDS Center or the Dean's Office in the College of Engineering for registration schedules.

Centers for Engineering Development and Research (CEDAR)

The College of Engineering has established CEDAR (Centers for Engineering Development and Research) to facilitate university/industry cooperative research efforts. This research organization allows graduate students to work on engineering projects that are of mutual benefit to industry and the University. CEDAR is a multidisciplinary research laboratory that involves all departments within the College of Engineering, as well as cooperative efforts with the College of Natural Science and the College of Medicine.

Research activities are conducted by the various centers within CEDAR. Specific centers deal with: Microelectronics Design and Testing; Environmental Studies and Water Resources; Modeling Hydrological and Aquatic System; Development of Materials; Communication and Signal Processing; Distributed Intelligence; Interactive Technology, Applications and Research; Electron Microscopy Center; and Southern Technology Applications.

CEDAR is supported by grants and contracts from industry and government. Graduate student research assistantships frequently are derived from this support. More than one million dollars in equipment has been donated by industry to enable students to conduct state-of-the-art research. Students often spend time at industrial plants as a part of their research programs at CEDAR. For more information, contact the College of Engineering's Associate Dean for Research, and Executive Director for CEDAR.

Center for Urban Transportation Research (CUTR)

The Center for Urban Transportation Research was created by the Florida Legislature and USF to bring together the benefits of education and experience to find solutions to current and future transportation needs. CUTR has built a program centered on innovative transportation financing, suburban mobility, growth management, and technical outreach to emerge as a leader in transportation research.

Since its establishment in 1988, CUTR has received over \$4 million in grants and contracts from private enterprise and local, state, and federal governments to perform innovative research on a wide variety of transportation-related topics. Several projects have been completed in cooperation with other Florida universities. The multi-disciplinary staff, composed of experts in finance, engineering, planning, safety, maintenance, statistics, policy, and the environment. The staff integrates analytical capabilities with "real world" experience to develop comprehensive solutions for all modes of transportation and convert innovative ideas into concrete actions.

Graduate students from diverse educational backgrounds such as engineering, economics, public administration, and anthropology who have an interest in transportation are employed as assistants to aid in ongoing research of the center. For more information, contact CUTR.

Florida Engineering and Industrial Experiment Station (EIES)

The Florida Engineering and Industrial Experiment Station developed from early research activities of the Engineering faculty at the University of Florida, and was officially established in 1941 by the Legislature. Its mandate is to "organize and promote the prosecution of research to such of these problems as are important to the industries of Florida." In 1977, the University of Florida extended the provisions of the Engineering and Industrial Experiment to the Engineering College of the University of South Florida and two other state engineering colleges. The Legislature supported this extension with an appropriation: the four colleges of engineering now work together in a joint effort through EIES to assist industry with special problems that can

be appropriately solved by engineering colleges. During the academic year 1988-89, a sponsored research volume of approximately \$14 million passed through EIES (USF). All departments, faculty as well as students, contribute to this research at the University of South Florida. The direct exposure of students to real research needs of the state adds additional meaning and depth to the engineering education offered by the college.

NASA STAC (Southern Technology Application Center)

The NASA Southern Technology Applications Center (STAC) is a sophisticated network of information resources and technology transfer expertise devoted to providing high-quality service that entrepreneurs, researchers, high-tech professionals, and business managers need to survive in today's competitive climate.

Created by NASA and the State University System of Florida through the Colleges of Engineering to assist the private sector in commercializing technology, STAC has grown into a full-service technology transfer service which has access to more than 1200 databases worldwide, containing in excess of 500 million records. By using these databases and the expertise of STAC's professional staff, researchers and decision makers receive the most timely information on virtually any subject area -- from state-of-the-art developments to commercial applications of their innovative concepts. STAC's on-line interactive searches retrieve a greater number of relevant documents than those obtainable through traditional research techniques.

STAC's diverse services satisfy the demand for automated information research, provide tailored reports to interpret data, create linkages between universities and industry for research and development activity, and assist in consultant recruitment. STAC provides the most current, accurate, and comprehensive information research available as well as technical assistance, expert connections, custom database development, demographic trends, patents and trademarks, business opportunities in space, SBIR grant assistance, and proposal writing seminars. Results are STAC's number one priority. STAC charges a minimal fee for its services since its operation is partially supported through NASA and state funds. The STAC office, which services the southwest area of Florida, is in the College of Engineering at the University of South Florida.

COLLEGE OF FINE ARTS

The College of Fine Arts provides opportunities for students to develop their interests and talents to the highest level possible, and encourages them to do so whether they wish to commit to a life in the arts or to develop appreciation for and involvement in the arts. For these purposes, the college educates in the practice of creating, performing, presenting, and understanding theatre, music, dance, and the visual arts.

Our mission is three-fold:

1. Teaching the disciplines for creating, performing, presenting, and understanding the arts. The college prepares students to:
 - a. Practice an art as a full time life commitment;
 - b. Practice an art as an important element of the individual's life commitment;
 - c. Appreciate the arts as important life enrichers.
2. Creating and researching the arts:
 - a. To expand horizons and explore new dimensions in the arts;
 - b. To contribute to the expansion of general knowledge and information about the arts;
 - c. To improve the teacher's own effectiveness with students.
3. Serving the public by providing cultural enrichment and expertise.

In recognition of its academic and artistic achievements, the College of Fine Arts has been given program of emphasis status by the Board of Regents of the State University System. The college offers degree programs and courses in art, dance, music, and theatre. It also offers courses in Music Education and Art Education in cooperation with the College of Education.

Graduate Degree Programs

The College of Fine Arts offers four master degree programs:

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

Drawing, Painting, Sculpture, Ceramics, Graphics (Lithography or Intaglio), Photography, and Cinematography (film)

Master of Arts (M.A.)

Art History

***Master of Music (M.M.)**

Performance, Composition, Piano Pedagogy, Theory, Choral Conduction, and Band/Wind Ensemble Conducting

***Master of Arts (M.A.)**

Music Education (offered in collaboration with the College of Education)

Admission Requirements In addition to general University admission requirements and regulations governing graduate study, each program within the College of Fine Arts has its own requirements for admission. It is important that the applicant simultaneously seeks to satisfy these requirements along with those of the Graduate Admissions Office in order to meet all deadlines. Application for admission is made through the Graduate Admissions Office. When all required information is received by them, it is forwarded to the appropriate department in the College of Fine Arts for final processing.

Financial Aid Available to graduate students who show special potential for creative contribution to the profession are the Graduate Council Fellowships and graduate assistantships, and fellowships. Additionally, loans, grants and work programs are available to qualified University of South Florida students. Financial aid is granted on the basis of need, academic promise and character.

Fine Arts

Fine Arts Events The College of Fine Arts, recognizing the importance of maintaining an arts-filled environment as an integral part of the total learning experience it offers to students within the college and to the community at large, is critically aware that a truly comprehensive university performing arts program must include performances and related activities by internationally recognized artists and ensembles.

The list of prestigious artists who have been presented over the years by the College of Fine Arts is impressive; a sampling includes John Cage, the Guarneri String Quartet, Lazar Berman, the New York Pro-Musica, Alvin Ailey, Martha Graham, Marcel Marceau, and the Polish Mime Ballet Theatre. (More extensive lists of visiting artists and performing organizations appear in this Catalog under the sections of the specific academic units in the college in which research, demonstration, teaching, and other educational activities have directly benefitted students.)

Program Descriptions

Art

Master of Fine Arts (M.F.A.) The major concentrations, or areas of emphasis, available to graduate (M.F.A.) art students are: Drawing, Painting, Sculpture, Ceramics, Graphics (lithography and/or intaglio), Photography, and Cinematography.

Admission Requirements The application for admission to graduate study should be sent to the Graduate Admissions Office prior to deadlines published in the Academic Calendar. However, the application and all support materials (portfolio, etc.) should be submitted early enough to reach the Art Department by the following dates: for Semester I admissions by March 1; for Semester II admissions by October 1.

At least one week should be allowed for internal processing of the applications. All transcripts should have been received and the applicant's GPA for the final 2 years of undergraduate work should be 3.0 or above. The GRE score must be available.

Portfolio The applicant should submit a portfolio of art work directly to the Graduate Art Adviser in the College of Fine Arts for faculty review. The portfolio should consist of 35 mm slides, for convenience in shipping, handling, and presentation. Applicants in drawing and printmaking, however, should send original prints. Cinematography applicants should send duplicate prints. The portfolio should consist of 10 to 15 separate works.

The portfolio should provide evidence of maximum strength in the area of the applicant's primary interest, although work submitted may represent more than one discipline. Return postage in stamps in the amount necessary for the return of all materials should accompany the portfolio. (Do not send cash, checks, or money orders.)

Letters of Recommendation Applicants to the Master of Fine Arts degree program also are required to submit (in addition to the portfolio) 3 letters of recommendation and a statement of intent indicating your aims and goals as a student in our graduate program.

It is the applicant's responsibility to see that all required materials, such as transcripts, GRE scores, portfolio, and letters of recommendation, are received by departmental deadlines. For information concerning University graduate studies, admissions and graduation policies, see the appropriate section of this Catalog.

Acceptance Program A student may be accepted into the M.F.A. program either provisionally or fully. Provisional enrollment is normally provided for one or two consecutive terms. When accepted fully as degree-seeking, the student will have two opportunities to be advanced to candidacy. This will come at the end of either the second or third semester of the student's enrollment in the M.F.A. program, excluding summers. The student's decision to apply for candidacy can be made in consultation with the graduate critique committee. An applicant for candidacy will have all work reviewed by the faculty during the normal end of the semester review. If the student is not advanced to candidacy after a second attempt, they will be terminated from the program.

Upon acceptance to candidacy, the student will select a committee of three faculty members, two of whom must be studio faculty in the student's primary discipline.

Program Requirements The M.F.A. degree requires a minimum of 60 hours. The bulk of a student's program is discretionary and initially is planned with the advice of the Graduate Art Adviser, and finally with the advice of the student's graduate committee.

Specific program requirements include work in theory (ART 6936 Graduate Seminar: 2 hours credit, must be taken twice); participation in instruction (ART 6937 graduate instruction methods; variable credit to 4 hours); presentation of work (thesis exhibition, for which credit normally is given); and thesis documentation (usually earned under ART 6971, Master Thesis, but in certain circumstances under ART 6911, Directed Research; credit for documentation is variable); and 12 hours in art history.

S-U Grades A student can not take any course work for a grade of "S-U" until achieving candidacy. All course work taken before candidacy must be taken in course work assigning letter grades that designate quality points.

Transfer Credit or Credit Under Special Student Status Requests for use of transfer credits or credits earned under "special" student status should be made when the student applies to the graduate program. The faculty will decide at the time of admission whether or not transfer credits and credits earned as a special student will be used toward the requirements for the M.F.A. degree. Transfer credit and credit earned as a special student to be used toward the student's M.F.A. degree is limited to 8 semester hours.

Thesis A student also is required to participate in a thesis orals session in conjunction with the thesis exhibition. This is a forum for questions from faculty representatives and is open to graduate students.

Studio Space A graduate student normally is assigned studio space, when available, in the department and is expected to remain in residence during enrollment. Exceptions must have the approval of the student's graduate committee and the Graduate Art adviser.

Master of Arts (M.A.) – Art History The program emphasizes the history of art from the Renaissance to the present. The focus of the program is on intellectual history and art historiography, supplemented by practical internships in area galleries and museums. A knowledge of French or German is required.

Admission Requirements The application for admission to graduate study should be sent to the Graduate Admissions office prior to deadlines published in the Academic Calendar. However, the application and all support materials should be submitted early enough to reach the Art Department by the following dates: for Semester I admissions by March 1, for Semester II admissions by October 1.

At least one week should be allowed for internal processing of the application. All transcripts should have been received and the applicant's GPA for the final 2 years of undergraduate work should be 3.0 or above. The GRE score must be available.

A research paper dealing directly with Art History or a related discipline (literature, political history, psychology, philosophy or classical studies), three letters of recommendation from people who can professionally assess the applicant's ability to do artistic and academic work and a statement of intent indicating the applicant's goals as a student in the M.A. program should be sent directly to the Graduate Art Adviser in the College of Fine Arts for faculty review. A personal interview by the art history faculty also may be requested.

Applicants who do not have an undergraduate degree in Art History will be expected to complete 4 undergraduate Art History survey courses plus two critical studies courses. Any exceptions can be granted only by the art history faculty.

Program Requirements Course work consists of 16 hours of specially designated courses, 20 hours of electives, and 2 hours of thesis for a total of 38 hours.

1. Students must take the following courses
 - a) methods of Art History
 - b) one historiography course
 - c) one cultural intellectual history course
 - d) one seminar

Fine Arts

2. The Methods course must be taken during the first two semesters in the program.
3. Museum internship is optional and can be taken any term after the first semester.
4. A museum internship must be arranged through the Art History faculty.

The formation of the thesis committee should occur after the completion of 18 hours and 2 semesters of residency. The formation of a thesis committee shall be completed by the end of the student's second semester. The student will select, in consultation with the art history faculty, a Faculty Graduate Thesis Committee. The thesis defines the area of the student's specialization.

The graduate committee must approve the written thesis and the conduct of the oral defense of the thesis in satisfaction of degree requirements.

Any transfer of credit or special student hours to be used toward M.A. degree requirements is granted only after a faculty review and after the student has been accepted into the program. The Art Department has designated a 6 hour limit on all credit transferred from other institutions or colleges and an 8 hour limit on all credit taken under special student status.

It is the applicant's responsibility to see that all required materials, such as transcripts, GRE score, portfolio, and letters of recommendation, are received in time for art department deadlines. For information concerning University graduate studies, admissions and graduation policies, see the appropriate section of this Catalog.

Master of Arts (M.A.) – Art Education A Master of Arts in Art Education is available through the College of Education. Please refer to College of Education, Department of Curriculum and Instruction for program details.

Visiting Artists and Artist-in-Residence The Art Department is widely known for the consistent level of excellence of its programs. To complement the contributions of its permanent staff and to insure the continuing expansion of learning opportunities available to students, the Art Department has brought to the campus internationally known artists and lecturers, such as Vito Acconci, Alice Aycock, Scott Bartlett, Lee Friedlander, Edward F. Fry, Russ Gant, Betty Hahn, Barbara Kruger, Lucy Lippard, Robert Mapplethorpe, Robert Morris, Robert Rauschenberg, James Rosenquist, and Gene Youngblood.

Art Museum The Art Museum presents a schedule of changing contemporary exhibitions in the new Art Museum facility (FAM), in the Teaching Gallery in the Fine Arts building (FAH), and in the lobbies of Theatres I and II. The new Art Museum features two uniquely triangular galleries, receiving, conservation, fabrication, collection storage areas, and administrative offices. The exhibition program focuses on contemporary American and European art and also showcases the work of faculty, students and alumni. The exhibitions and art collection serve as an integral part of the studio and art history curriculum of the Art Department and offer an opportunity to other liberal arts students to test and broaden their perceptual and analytical abilities. Brochures and catalogs of major exhibitions are published by the Art Museum to enhance and contextualize the installations. Educational programs are offered to the University and Tampa Bay community.

In addition, the Art Museum houses the USF art collection which is composed of original graphics, drawings, photographs, and African and Pre-Columbian artifacts. Selections from this collection are loaned through the Art Bank program to museums and institutions throughout the United States.

Music

Master of Music Degree (M.M.) Six major concentrations are available to graduate (M.M.) music students:

- *Performance
- *Theory
- *Composition
- *Choral Conducting
- *Piano Pedagogy
- *Band/Wind Ensemble Conducting

Admission Requirements SEE PAGES 31-33. Concurrently, the applicant must arrange to fulfill the specific acceptance requirements in the Music Department of the College of Fine Arts. Full acceptance cannot be given until the applicant satisfies

audition requirements. Dates and times for auditions and diagnostic examinations may be obtained by calling or writing the Music Department. Contact the Coordinator of Graduate Music Studies, Music Department.

Program Requirements In addition to general University and college requirements, the applicant for the Master of Music degree must satisfy the following requirements before initial registration: (1) a performance audition, and (2) a placement examination in music theory. All candidates for the degree must take the following course work:

Techniques of Research in Music* (3 hours)

Critical Analysis of Music Repertory (2 hours)

20th Century Music Literature (3 hours)

* Recommended for the first semester of enrollment.

Degree requirements will vary according to the program chosen and the student's needs and interests. Recommended programs may be obtained from the department chairperson. Each program must be approved by the Coordinator of Graduate Studies, to conform with the guidelines established by the graduate music committee. A minimum of 30 hours is required.

No secondary applied music course may be used to satisfy the requirements for applied music requirements. A student must enroll for the major applied offering (4 hours).

The responsibility for seeing that all graduation requirements are met rests with the student.

Master of Arts (M.A.) – Music Education

Admission Requirements SEE PAGES 31-33. Concurrently, the applicant must fulfill the specific acceptance requirements to the Music Education Division. Full acceptance cannot be given until the applicant passes an interview with the director of Music Education. Program requirements include successful completion of the music theory requirement. Date and time for the theory examinations may be obtained by calling or writing the Music Department.

Program Requirements Plans in both instrumental, vocal, and general music are offered. Each student must meet the undergraduate level of piano proficiency before the semester in which he/she expects to graduate. Three plans are available to the student: 35 hours of class work, or 32 hours plus recital, or 30 hours plus thesis. Required are: 4 credits in education to include EDF 6215; 9 credits in music education including MUE 6080 and MUE 6145, 6 credits in music theory/history/literature; 2 credits in applied music and MUS 6793.

Doctor of Philosophy (Ph.D.) in Curriculum and Instruction – Major in Music Education The degree Doctor of Philosophy is a research degree. It is granted on the basis of evidence of proficiency and distinctive achievement in music and demonstration of the ability to do original, independent investigation.

Admissions SEE PAGES 31-33.

Special requirements

1. Undergraduate grade point average of 3.0 minimum during the last years of the baccalaureate degree or a grade point average of 3.5 at the master's level; and a minimum score of 1000 on the GRE
2. Three letters of recommendation
3. Favorable recommendations from program faculty
4. A Master's degree in music education or music from an accredited institution of higher education
5. At least 2 years of full-time public or private school music teaching experience

In addition to University and College requirements, the applicant must comply with music department requirements for admission. After consulting the program director, the applicant should contact the College Coordinator of Graduate Advising (EDU 312), College of Education, in order to file the College Data Form and the University application.

Fine Arts

Program Structure

Specialization (21)

Cognate area (12)

Dissertation (18)

Foundations (8)

Statistics/measurement/research design (12)

Total (71 Hours)

Other specific requirements can be obtained by contacting the Director of Music Education.

USF Music Faculty USF's superior music faculty has been carefully chosen for its training, performing ability, and ability to teach. This achievement has been demonstrated by such fine musical ensembles as the Faculty String Quartet, the Arts Nova (faculty) Wind Quintet, the Faculty Musart Piano Trio, and the Faculty Jazz Quartet. USF music graduates are found teaching successfully in public schools and universities around the country and performing in a variety of concert settings.

SYCOM The Systems Complex for the Studio and Performing Arts delivers essential instructional services and state-of-art reproduction, mixing, editing, and electronic sound generating, as well as processing equipment (digital and analog) for development and implementation of exploratory research and creativity by artists, scientists, and students (generally enrolled in related classes) at USF.

Unique Learning Opportunities The Music Department at USF offers the student the opportunity to study with a distinguished faculty, work with the newest in creative equipment, and be in the company of other superior music students for an extended, exciting and exacting period of study. In addition to the already established programs in the choral, orchestral and wind ensemble areas, opportunities are now available in jazz via performances with the jazz ensemble and jazz chamber ensembles, a full range of jazz courses, and professional playing opportunities in the area.

Visiting Artists and Artists-in-Residence The Department of Music utilizes guest composers, conductors, and performing musicians to enhance its offerings in terms of teaching faculty, forum appearances, and in the conducting of musical programs, symposia, and clinics. Some prominent musicians who have performed at USF are:

Norman Dello Joio	Oly Wilson	Randall Thompson
Guarneri String Quartet	Virgil Thompson	Beaux Arts Trio
Walter Trampler	Boris Goldovsky	Fred Hemke
Gregg Smith	Lukas Foss	Norman Luboff
Maurice Andre	Phil Woods	Jean Pierre Rampal
David Baker	Adele Adison	John Cage
Byron Janis	Karel Husa	Louis Bellson
Leslie Bassett	David Samuels	Samuel Adler
Julius Baker	Gunther Schuller	Ransom Wilson
Robert Merrill	T.J. Anderson	Doc Severinsen
Hale Smith	Bethany Beardslee	George Russell
Robert Shaw	Art Blakey	Toshiko Akiyoshi

Student Organizations Sigma Alpha Iota, a national professional music fraternity for women, and Phi Mu Alpha Sinfonia, a professional music fraternity for men, are dedicated to serve the cause of music in America. Student Music Educators National Conference is an affiliate of the Music Educators National Conference and is open to all interested students. A National Association of Jazz Educators chapter is open to anyone with interests in the jazz specializations.

Financial Aid Graduate students who show special potential for creative contribution to the profession are eligible for University Graduate Fellowships, graduate assistantships, and fellowships. Loans, grants, and work programs also are available to qualified USF students. Financial aid is granted on the basis of need, academic promise, and character. Students interested in assistantship positions should contact the Director of Graduate Studies in Music early in the Spring for best consideration for the following academic year.

COLLEGE OF MEDICINE

The Graduate Faculty of the College of Medicine consists of scientists who conduct research in many fields of science basic to understanding disease processes and to the development of improved methods of diagnosis, treatment, and prevention of disease. In addition to training graduate students, the faculty is responsible for the comprehensive pre-clinical training of medical students in the sciences basic to the modern practice of medicine. Students receive their research training in up-to-date methods of scientific investigation and gain experience in modern well-equipped laboratories. The faculty is dedicated to providing high quality education in an environment conducive to scholarly activity and scientific achievement.

Graduate Degree Programs

Doctor of Philosophy (Ph.D.) Medical Sciences

The USF College of Medicine offers a graduate program leading to the degree of Doctor of Philosophy in Medical Sciences, with a specialty in Anatomy, Biochemistry and Molecular Biology, Medical Microbiology and Immunology, Pathology, and Laboratory Medicine, Pharmacology and Therapeutics, or Physiology and Biophysics. This program is administered through the College of Medicine by the Graduate School of the University.

The program is designed to provide students with a broad knowledge in the basic medical sciences, while preparing them for careers as effective and knowledgeable teachers, as well as productive and versatile researchers. To meet these objectives, students take courses in the medical sciences and related areas, participate in seminars, and receive individual research training. Departmental advisory committees counsel the entering students in planning their first year curriculum. In addition to course work and participation in seminars, first year students are expected to become familiar with ongoing research in their chosen department; when possible, they are encouraged to work on a part-time basis as research assistants in their department to supplement their research training. Once the student selects a major professor, a formal dissertation committee is appointed. The dissertation committee assists the student in planning the research and course of study, evaluates the student's progress, supervises the comprehensive examination, and conducts the final dissertation defense.

By the end of the second year, a student has usually completed sufficient course work and met the other research requirements to take the comprehensive qualifying examination. Successful completion of this examination leads to formal admission to candidacy for the Ph.D. degree. The final phase of the program emphasizes research and independent study and leads to a written dissertation. The Ph.D. degree is awarded upon successful completion and oral defense of the dissertation.

Information may be obtained by contacting the Associate Dean for Research and Graduate Affairs, College of Medicine, MDC Box 40, 12901 Bruce B. Downs Boulevard, University of South Florida, Tampa, Florida 33612-4799.

Requirements for Admission

Students who seek admission as first-time graduate students to the Ph.D. Program in Medical Sciences are required to meet the minimal SUS and USF entrance requirements.

Special requirements:

1. an overall GPA of 3.0 with a minimum GPA of 3.0 in the sciences.
2. a GRE score of 1100 or higher. However, if the applicant scores 600 or higher on the advanced GRE test in the major field and has a score of 1000 or higher on the General test, the minimum score of 1100 may be waived.
3. The applicant must have completed one year each of: general chemistry, general physics, mathematics including integral and differential calculus, organic chemistry and a course in quantitative analysis.

Medicine

4. In addition the department may require additional course work before admission into the program. Specific deficiencies may be corrected through courses taken within a specified period of time at the discretion of the department. Each course to be taken, as well as the acceptable grade, is agreed upon by the student and the department at the time the student is accepted into the Graduate Program. This information will be communicated to the student and to the Associate Dean for Research and Graduate Affairs (College of Medicine) prior to registration for the term.
5. Except for the State or University minimum admission criteria, all other requirements may under exceptional circumstances be waived in consideration of the applicant's expected success in the program, with the recommendation of the faculty of the major department, and with the approval of the Associate Dean for Research and Graduate Affairs.

Financial Aid A limited number of assistantships, fellowships, and tuition waivers are available. Applicants seeking support should contact the chairperson of the department to which they are applying.

Major Research Areas

Anatomy *Research areas:* Cardiovascular and neuroendocrinology research, exploration of testicular function and dysfunction, the study of embryo development, computer-aided anatomical reconstruction to form three-dimensional models, and the use of space-age technology for computer-aided diagnosis.

Biochemistry and Molecular biology *Research areas:* Molecular aspects of diabetes and atherosclerosis, hormonal regulation of cholesterol biosynthesis, chemical carcinogenesis, growth factors, control of gene expression, protein chemistry and structure, bioenergetics, metalloenzymes, connective tissue biochemistry, immunochemistry, and biochemistry of thyroid, steroid and peptide hormones.

Medical Microbiology and Immunology *Research areas:* Etiologic agents of infectious diseases, the host's responses to infection and the development of immunity to such microorganisms, with special consideration of immune mechanisms. Clinical microbiology, experimental microbiology and immunology, immunogenetics and transplantation immunology, sexually transmitted diseases, and virology are some of the elective courses available. Researchers are investigating herpes, Legionella, syphilis, natural killer cells, and marijuana suppression of the immune system.

Pathology and Laboratory Medicine *Research areas:* Hormonal regulation of ovarian surface epithelial cells and identification of their specific growth factors; pathobiology and biochemistry of the lung surfactant system, especially acute injury and repair of alveolar epithelium in aged animals and in animals exposed to ozone; interaction of pathogenic bacteria and vascular endothelium; and regulation of thymosin B-4 in murine bone marrow.

Pharmacology and Therapeutics *Research areas:* AIDS research, pharmacodynamic actions of drugs, airway smooth muscle, drug metabolism and pharmacokinetics, and the relationship between quantity of drug and tissue response. Laboratories located at Moffitt Cancer Center and Research Institute allow researchers to intensify their work on cancer and the drugs used to treat it.

Physiology and Biophysics *Research areas:* Neural and humoral control mechanisms of pressure and flow relationships through series- and parallel- coupled blood vessels at both the macroscopic and microscopic levels; mechanism of adaptation, color vision and visual acuity in human observers and in animals; vascular smooth muscle reactivity in normotensive and hypertensive states; calcium fluxes during excitation-contraction coupling; renal function control of renin release; hypertension, atrial natriuretic factor; selectivities of membrane ion channels produced by small polypeptides; interactions among brainstem respiratory neurons and neural

network analysis; endocrine and neuroendocrine control of reproductive processes; hemodynamics in endotoxic shock; reflex regulation of respiratory activity; and chest wall and respiratory muscle function in cardio-respiratory disease.

COLLEGE OF NATURAL SCIENCES

Students in the College of Natural Sciences are trained in the tools of logical analysis and the modes of experimentation in the continuing attempt to better understand the nature of the physical and biological universe. In all its functions the college is dedicated to fostering a spirit of inquiry and intellectual growth.

Graduate Degree Programs

The College of Natural Sciences offers programs in Biology, Botany, Microbiology, Zoology, Chemistry, Geology, Marine Science, Mathematics, and Physics.

Master's Degree Programs

The College of Natural Sciences offers a graduate program leading to the Master of Arts degree in the fields of Chemistry (CHM) and Mathematics (MTH), and Master of Science degrees in Botany (BOT), Chemistry (CHM), Geology (GLY), Marine Science (MSC), Microbiology (MIC), Physics (PHY), and Zoology (ZOO).

Doctoral Programs

The College of Natural Sciences offers four programs leading to the degree of Doctor of Philosophy:

Biology (BIO) This program leads to the Ph.D. in Biology, in the areas of Marine Biology, Systematics, Behavior, Ecology, Physiology, Cell Biology, and Genetics.

Chemistry (CHM) This program leads to the Ph.D. in Chemistry, including the fields of Biochemistry, as well as Analytical, Inorganic, Organic, and Physical Chemistry.

Mathematics (MTH) This program leads to the Ph.D. in Pure and Applied Mathematics.

Marine Science (MSC) This program leads to the Ph.D. in Marine Science.

Admission Requirements (SEE PAGES 31-33 for general requirements). A GRE score of 1100 is required for students in Marine Science and Biology. Applicants with a 3.0 average in the last 2 years of undergraduate work or a minimum of 1000 on the GRE may be considered for provisional admission, subject to departmental recommendation.

Program Requirements A departmental committee is appointed to supervise and guide the program of the candidate. The general University requirements for graduate work must be satisfied. The specific requirements for each department are listed under that department. A student who enrolls in 9 or more credit hours leading to a graduate degree is classified as a full-time student.

Once a major professor has been assigned and/or a student occupies or utilizes significant space or facilities for research or analogous scholarly activity directly pertinent to the generation of a thesis or dissertation, the student shall enroll for no fewer than 3 hours of research and/or thesis and/or dissertation each semester, other than the summer semester, except that no student shall be required for the purposes of this rule to enroll for more than 9 hours total per semester. Additional requirements may be imposed by any department in the college.

A student must be registered for an appropriate load (in no case fewer than 3 hours) in the college for the semester in which all degree requirements are satisfactorily completed.

To remain in good standing, a graduate student must maintain a cumulative grade point average of at least 3.0. A graduate student whose cumulative grade point average falls below 3.0 will be placed on probation and must meet the college probation requirements to be reinstated in good standing. A graduate student who receives three grades below "B" in structured courses required by the advisory committee to meet the requirements for the degree will be dropped from the program.

Natural Science

Registration in Research, Thesis and/or Dissertation Courses Registration in courses entitled Directed Research, Thesis: Master's, or Dissertation: Doctoral must be with the approval of the major professor and must be commensurate with each student's research plan. A student who enrolls in courses entitled Thesis: Master's but does not submit a thesis or who enrolls in Dissertation: Doctoral but does not submit a dissertation will not be certified for graduation.

Additional Requirements Students in a graduate program in the College of Natural Sciences must be either active or on a leave of absence granted by the college. Students on active status must register for a minimum of 1 hour of graduate level course work each semester. During any semester that a student is using research space, other university facilities, faculty/staff time, or completing any requirements for the degree, including thesis (dissertation) defense or approval, the student must register for a minimum of 3 graduate credit hours. Additional regulations concerning graduate study may be found in the departmental sections of this Catalog and are on file in the Office of the Dean. The student is responsible for meeting all requirements of the degree program.

Master's Program Requirements A graduate student working on a master's degree in a program in the College of Natural Sciences that requires a thesis must register in course 6971 when engaged in research, data collection, or writing activities relevant to the master's thesis. Advisers should assign the number of credits in this course appropriate to the demands made on faculty, staff, and University facilities, but in no event will the total number of earned thesis credits be fewer than 6. Only 6 credits of 6971 may be applied to the minimum number of credit hours required for a given degree.

Ph.D. Program Requirements Following admission to candidacy, a graduate student in a Ph.D. program in the College of Natural Sciences must enroll in course 7980 when engaged in research, data collection, or writing activities relevant to the doctoral dissertation. Advisers should assign the number of credits in this course appropriate to the demands made on faculty, staff, and University facilities, but in no event will the total number of earned dissertation credits be fewer than 16. Students not admitted to candidacy are not eligible to enroll in 7980.

Financial Aid For further information regarding admission and the availability of fellowships and assistantships, a candidate should write to the appropriate departmental chairperson, College of Natural Sciences, University of South Florida, Tampa, Florida 33620.

M.A. Degree Program for Secondary School Teachers

The College of Natural Sciences, in cooperation with the College of Education, offers the M.A. degree in Mathematics and in Science. In science, concentrations are available in Biology, Chemistry, and Physics. Because requirements apply in both colleges, the student will have an adviser in each college. At the outset, the planned courses in mathematics and science must be approved by both advisers.

Mathematics majors must complete a minimum of 18 hours in mathematics; science majors must complete at least 18 hours in the discipline of concentration. For requirements in education, the student should consult the College of Education portion of this Catalog.

M.A. Degree Program for Junior College Teachers

The M.A. degree for Junior College Teachers is available in the College of Natural Sciences, with specializations in Biology, Chemistry, Geology, Mathematics, or Physics.

The student may complete the M.A. degree in a program offered jointly by the College of Natural Sciences and the College of Education. This program requires 24 hours in mathematics or science specialization courses, which must be approved by

the student's adviser in the College of Natural Sciences. Credit hours also are required in professional education courses and in internship, depending on the depth of the student's teaching experience. For requirements in Education, the student should consult the College of Education portion of this Catalog.

Biology (BIO/BOT/MIC/ZOO)

Requirements for the M.S. Degree Master's degrees are offered in Botany, Microbiology, and Zoology. Areas of specialization in any of these degrees include Marine Biology, Ecology (Tropical Ecology, Population Ecology, and Physiological Ecology), Cell Biology, Genetics, Host-Parasite Relationships, Physiology (Cellular Physiology, Microbial Physiology, Neurophysiology), Systematics, and Behavior. The M.S. degree requires completion of structured coursework, a research thesis or a review paper, and passing a comprehensive examination.

The departmental graduate coordinator functions as the student's adviser until the student makes arrangements for a faculty member to serve as major adviser. The selection of a major adviser includes acceptance of the student by the faculty member. The major adviser and two additional faculty constitute the student's supervisory committee, which must be established within two semesters after matriculation. Failure to do so will be cause for dismissal. The supervisory committee must be approved by the departmental chairperson and the college dean.

For students enrolled in the thesis program, a minimum of 30 credit hours is required at the 5000-6000 level; 16 hours must be at the 6000 level; 20 of the 30 credit hours must be in formally structured courses, 15 hours of which must be Biology; 10 of the 20 structured hours must be at the 6000 level. All students in the thesis program must complete the graduate seminar (BSC 6935). A maximum of 10 hours of combined thesis, research and seminar may apply toward degree. Six hours of graduate work done at another institution may be transferred to the master's program, with approval of the supervisory committee. Twelve hours of graduate work completed while a non-degree seeking student at this institution may be transferred to the master's program, with approval of the supervisory committee.

For students enrolled in the non-thesis program, a 30-hour minimum is required at the 5000-6000 level; 26 hours must be in formally structured courses, 16 hours must be at the 6000 level; 15 structured hours must be in Biology. A review paper of a topic approved by the supervisory committee is required.

A final comprehensive examination is required for all students. This examination is open to all departmental faculty and normally is taken after the completion of formal course work, at least one semester before thesis presentation.

Any graduate work counted toward the requirements for the M.S. degree must be completed within 5 years after matriculation.

Requirements for the Ph.D. Degree A doctoral program in Biology is offered. Areas of specialization for the Ph.D. are Marine Biology, Ecology (Tropical Ecology, Population Ecology, and Physiological Ecology), Microbiology, Cell Biology, Genetics, Host-Parasite Relationships, Physiology (Cellular Physiology, Microbial Physiology, Neurophysiology), Systematics, and Behavior.

The departmental graduate coordinator functions as the student's adviser until the student makes arrangements for a faculty member to serve as major adviser. The selection of a major adviser includes acceptance of the student by the faculty member and must be done within two semesters after matriculation. Applicants are strongly urged to contact faculty conducting research in the student's areas of interest. The major adviser and four additional faculty constitute the student's supervisory committee. The supervisory committee must be approved by the departmental chairman and the college dean.

Twenty credit hours are required in structured graduate-level courses. Additional courses may be required, depending upon the needs of the student's program as determined by the supervisory committee. Individuals who receive the M.S. degree from the Department of Biology at USF may waive 10 credits, with the approval of the supervisory committee. Six hours of graduate work done in a master's program at another institution may be waived from the doctoral program, with approval of the

supervisory committee. Twelve hours of graduate work completed while a non-degree seeking student at this institution may be transferred to the doctoral program, with approval of the supervisory committee. A total of 90 credits beyond the baccalaureate must be earned; this includes any graduate credit earned prior to admission to the doctoral program.

Doctoral students must show a proficiency in two languages or a single language and computer programming, and must pass a qualifying examination. The written and the oral portions of this qualifying examination must be taken within four semesters after matriculation, if the student has a master's degree, or six semesters after matriculation, if the student does not have a master's degree. Any language or other technical skills required by the supervisory committee must be completed within the same time limits after matriculation. If the doctoral degree is not awarded within five years after passing the qualifying examination, the examination must be retaken and passed.

Any graduate work counted toward fulfilling the requirements for the Ph.D. degree must be completed within 7 years after matriculation. The student is eligible for admission to candidacy after completing structured course requirements and passing the qualifying examination, upon recommendation of the supervisory committee and approval of the Dean of the College and the Director of Graduate Studies. Students must complete all requirements for admission to candidacy by the end of the second year, with a master's degree, or by the end of the third year, without a master's degree, after matriculation. A public seminar presenting the dissertation is required. A final oral examination administered and evaluated by the supervisory committee emphasizes the dissertation and the student's general field of research.

Graduate Application Deadline Application must be completed by February 15 for Fall applicants who wish to be considered for assistantships. All other applications must be completed by the twelfth week of the semester preceding the one for which application is made. Applicants to the master's program must have a GRE score of at least 1000. Applicants to the Ph.D. program must have a combined score of at least 1100 on the GRE, and a score of at least 640 on the "Subject (Advanced) Test" of the biology portion of the GRE. Non-native English speaking graduate students must score at least 550 on the TOEFL.

Chemistry (CHM)

The Department of Chemistry offers Master of Science, Doctor of Philosophy, and combined Bachelor of Arts - Master of Arts degrees, each with specialization in the areas of Analytical Chemistry, Biochemistry, Inorganic Chemistry, Organic Chemistry, and Physical Chemistry. The Chemistry graduate faculty is comprised of 28 full-time senior faculty members, all of whom hold the Ph.D. degree. A comparable number of teaching assistants, generally graduate students enrolled in the Ph.D. program, serve as instructors in the laboratories. The combination of a large and strong faculty with a wide variety of courses and electives provides students with programs of study that can be tailored to fit individual needs, while maintaining a sound background in all general aspects of Chemistry.

In graduate work, the excellent physical facilities and very low student-teacher ratio combine to afford unique opportunities for advanced study in Chemistry. In addition to the 5 traditional fields, Analytical Chemistry, Biochemistry, Inorganic, Organic, and Physical Chemistry, research opportunities also are available in such interdisciplinary and specialized areas as Bio-organic and Bio-inorganic Chemistry, Clinical Chemistry, Environmental Chemistry, Nuclear Magnetic Resonance Spectroscopy, Computer Modelling, Polymers, Lasers and Photochemistry, Marine Chemistry, Photoelectron Spectroscopy (ESCA), Medicinal Chemistry, Electrochemistry, Nucleic Acid Chemistry, and Enzymology.

Requirements for the M.S. Degree All entering graduate students who have no advanced work beyond a B.A. or B.S. will be required to take the core courses in three of five areas: Analytical Chemistry, Biochemistry, Inorganic and Organic Chemistry, and Physical Chemistry. The core courses are:

BCH 5045 Biochemistry
CHM 5621 Inorganic

CHM 5225 Organic
CHM 6150 Analytical

CHM 5425 Physical

Diagnostic Examinations All entering graduate students are required to take a series of diagnostic examinations during the week prior to enrollment. These examinations are in the five areas of Chemistry noted above. A course of study is then agreed upon with each student, according to the student's performance on the diagnostic examinations, previous academic performance, and stated academic preferences and goals.

Course Requirements Each student is required to pass three of the five graduate level core courses (3 hours each). Three additional 6000-level lecture courses in chemistry (3 hours each) must also be completed.

Thesis The student must carry out a research project under the direction of a faculty member, and the results of the research shall comprise the M.S. Thesis.

Comprehensive Examination Upon completion of thesis research and preliminary approval of the thesis by the supervisory committee, the student will undergo an oral examination on the results of the research and related topics.

Requirements for the Ph.D. Degree

Diagnostic Examinations All entering graduate students are required to take a series of diagnostic examinations during the week prior to enrollment. These examinations are in the five areas of Chemistry: Analytical, Biological, Inorganic, Organic, and Physical. A course of study is then agreed upon with each student, according to the performance on the diagnostic examinations, previous academic performance, and stated academic preferences and goals.

Course Requirements Each student is required to complete a minimum of 18 hours of formal, regularly scheduled course work (i.e. six 3-credit lecture courses). This course work must include at least two areas (one of which is the student's major area); at least 12 hours must be at the 6000 level.

Tools of Research A reading knowledge of the Chemical literature in a foreign language (usually French, German or Russian) must be demonstrated. In lieu of a second foreign language, chemistry graduate students are expected to demonstrate proficiency in a computer language (usually Fortran).

Major Comprehensive Examination A comprehensive examination must be passed in the student's area of specialization. This examination must be passed within two (2) years from the end of the student's first academic year and at least one year before graduation.

Admission to Candidacy Completion of the foregoing requirements admits the student to candidacy for the Ph.D. The supervisory committee must evaluate the student for admission to candidacy within 6 semesters after matriculation. If the committee does not recommend admission to candidacy by that time, it may dismiss the student or grant a one semester extension. At the end of the additional semester (the 7th semester of enrollment, excluding summers), the committee must recommend that the student be admitted to candidacy or be dismissed from the program.

Research The student, under the supervision of a Major Professor, must complete an original research project in Chemistry. Enrollment in, Directed Research (CHM 7820) and Dissertation: Doctoral (CHM 7980) courses will constitute the major portion of the 90 hours required for the Ph.D. degree.

Final Dissertation Defense When the supervisory committee has inspected the final draft (final unbound form; typewritten and ready for duplication, with the exception of possible minor corrections) of the dissertation and found it suitable for presentation, the major professor will complete a form requesting the scheduling and announcement of the final oral examination. The request form will be submitted via the Chemistry Graduate Office to the College Dean and the Dean of the Graduate School at least two weeks prior to the scheduled oral examination.

The examination committee shall consist of a chairperson and the members of the student's supervisory committee, including the major professor(s). The chairperson of the examination committee shall be appointed by the Dean of the College and shall not be a member of the student's supervisory committee or the department or program in which the degree is sought.

During the oral presentation which is open to the public, the student may expect questions concerning the details and significance of the research. Final approval of the candidate's degree will require approval by a majority of the examination committee, as well as the chairperson.

Geology (GLY)

The Department of Geology offers programs leading to the Master of Science degree. Geology is one of the broadest of all sciences because of its dependence on fundamentals of Biology, Chemistry, Mathematics and Physics as applied to the study of the earth.

The graduate program in Geology allows the student to specialize in a wide variety of areas. Several areas of specialization are emphasized: coastal geology, hydrogeology, low temperature and pollution geochemistry, applied geophysics, paleontology, volcanology, and structural geology, as well as traditional areas of specialization. Many of these are related to local environmental problems.

Requirements for the M.S. degree A student who has met general College requirements is admitted for graduate work in Geology if the requisite background in Geology and supporting sciences is presented. The bachelor's degree with a major in Geology or a major in other sciences with a strong supporting program in Geosciences is required. A student who wishes to enter the graduate program in Geology without the proper background may be required to take one or more undergraduate courses without credit. A formal field course (normally a summer field course in geology) is required. An incoming graduate student is required to take a general geology examination during the first semester in the program.

The curriculum for a Geology graduate student will vary depending on the area of interest. Course work for the degree will be determined by the thesis committee after consultation with the student. The traditional curriculum leading to the MS degree in geology requires 30 hours of course work plus 6 hours of thesis credit. Of these, 16 hours must be numbered 6000 or above; 24 hours must be in structured courses, 10 of which must be numbered 6000 and above. A graduate student must enroll in Graduate Seminar (GLY 6931) at least twice. An oral thesis defense and a public presentation of the thesis are also required.

In addition, a non-thesis M.S. option is available in hydrogeology. This program requires 33 hours of structured course work, 2 hours of departmental seminar, and a 3 credit hour internship/project. The curriculum includes a minimum of 3 courses in Civil Engineering and requires a comprehensive exit exam.

The department also offers a Certificate of Advanced Studies in Hydrogeology which requires 24 hours of structured course work.

Marine Science (MSC)

The Department of Marine Science at the University of South Florida offers M.S. and Ph.D. degrees in marine science with specializations in biological, chemical, geological, or physical oceanography. The department's academic and research curricula provide an ideal forum for investigating phenomena that span disciplinary boundaries while also providing a solid background in basic oceanography. More than eighty students are actively pursuing degrees in the department on a wide variety of topics. Study areas range from estuarine and near-shore systems to remote areas of the Pacific, Atlantic and Indian Oceans, as well as the Arctic and Antarctic. Graduate instruction is presently provided by 23 full-time faculty. Three additional faculty will join the staff by 1991. Departmental operations are supported by 30 technical and clerical staff members.

The department's location on Bayboro Harbor allows immediate access to Tampa Bay and the Gulf of Mexico. Bayboro Harbor is home port to the R/V Bellows (21 ft.) and the R/V Suncoaster (110 ft.) operated by the Florida Institute of Oceanography (FIO) for the entire State University System. The department's principal building (82,000 sq. ft.) is shared with the Florida Institute of Oceanography and is adjacent to the Florida Marine Research Institute, the research arm of the Florida Department

of Natural Resources (DNR). There are currently more than 110 full-time employees at the Marine Research Institute including 19 doctoral-level personnel. Beginning in the fall of 1988, the St. Petersburg Campus has become home to the Center for Coastal Geology of the United States Geological Survey (USGS). The Center for Coastal Geology will maintain a staff of approximately thirty. The proximity of four major research facilities at the Bayboro Campus (Marine Science, DNR, USGS, FIO) makes our campus a highly interactive and diverse research community.

The Marine Science Department's specialized laboratories include those for trace-metal analysis, physical chemistry, organic and isotope geochemistry, optical oceanography, satellite imagery, radioisotope geochemistry, sedimentology, micropaleontology, physiology, benthic ecology, water quality, microbiology, ichthyology, planktology, and geophysics. The department has a large flume facility for interdisciplinary boundary-layer studies. Major items of equipment include an ISI (DS-130) scanning electron microscope, a Finnigan MAT-250 isotope ratio mass spectrometer, high-resolution gas chromatographs, a combined GC-mass spectrometer, UV-visible spectrophotometers, flame and graphite furnace atomic absorption spectrometers, multichannel autoanalyzer systems, X-ray diffraction systems, a Mossbauer spectrometer, an ORE Geopulse high-resolution continuous seismic reflection profiling system, and an EG & G side scan sonar system.

Admission Requirements Prospective students with baccalaureate degrees in Biology, Chemistry, Geology, Physics, or Mathematics generally possess an adequate course work background for undertaking graduate studies in Marine Science. Those with such degrees who have an upper-level undergraduate GPA of 3.0 or better and a GRE score of 1100 or better are encouraged to apply for either the Master of Science or the Ph.D. program. In addition to meeting the GPA and GRE standards noted above, research interests of the prospective student and the availability of suitable laboratory space and equipment will be considered.

The department has graduate fellowship and assistantship funds at its disposal, as well as tuition waivers; and most faculty members are able to hire students to work part time on research grants. Those in need of financial support are urged to have their applications completed by February 15. Awards of scholarships and assistantships generally will be announced by April 15.

Admissions materials for students entering during the fall semester must reach the department by March 1; for those wishing to enter during the spring semester, materials must be in by October 15. Items required for a complete application are: (1) official transcripts of grades, (2) GRE scores, (3) three letters of recommendation solicited by the applicant, and (4) an essay describing the applicant's research interests in Marine Science. Since items (1) and (2) should be sent directly to the Graduate Admissions Office in Tampa, sufficient time should be allowed for processing by that office before materials are forwarded to the department for review. Only items (3) and (4) are sent directly to the Marine Science Department. Applications that are not complete by the review dates will be reviewed, but may be updated to the next semester (fall or spring only) at the student's request.

Requirements for the M.S. Degree In addition to general University requirements, students must complete a minimum of 32 credits, including OCC 5050, OCG 5050, OCP 5051, and OCB 5050. A grade of "B" or better is required in each of these core courses. The student may emphasize Biological, Chemical, Geological, or Physical Oceanography through the thesis research and course work. A thesis is required, but a foreign language is not.

Requirements for the Ph.D. Degree A student with exceptional qualifications may be accepted to work directly toward the Ph.D. without first earning the M.S. degree. However, in most cases, the master's degree will be a prerequisite. The latter may have been earned in Marine Science or one of the related areas, i.e., Biology, Chemistry, Geology, Mathematics, or Physics. In addition to general University requirements, USF Marine Science doctoral program requirements are as follows:

Natural Science

1. OCC 5050, OCG 5050, OCP 5051, and OCB 5050; a grade of "B" or better is required in each of these core courses.
2. The "Tools of Research" requirement consists of two foreign languages, or one foreign language and facility in computer techniques. The department administers proficiency examinations.
3. The qualifying exam consists of a written and an oral exam. A student receiving a passing vote from at least 4 committee members will be admitted to candidacy.

Any member of the graduate faculty at USF may serve on a doctoral committee and each committee will consist of at least 5 faculty members. One member of the doctoral committee shall be from a science department outside Marine Science.

Mathematics (MTH)

The Department of Mathematics at the University of South Florida includes 27 graduate faculty members and about 65 graduate students studying for the M.A. and Ph.D. degrees currently, 40 of whom are supported by teaching assistantships. It includes the Institute for Constructive Mathematics, which among other things performs applied research for government and industry, and serves as the editorial base for the international journal *Constructive Approximation*. The international *Journal of Theoretical Probability* also has its editorial office in the Department. The Center for Mathematical Services within the department provides lectures, special programs for secondary students, and in service training programs in mathematics.

The department has a flexible Ph.D. program designed to encourage students to take an active role in shaping their own curricula. This flexibility is coupled with a desire to promote interdisciplinary research, and various faculty members have strong links with researchers in physics, engineering, computer science, and medicine. The department offers a full range of courses in core areas of pure mathematics, but emphasizes the applications of mathematics. Students have access (via terminal) not only to the University's mainframe computers, but also to Sun workstations and other minicomputers within the department.

Research interests of the faculty include the following fields: Abstract Analysis, Approximation Theory, Celestial Mechanics, Classical Analysis, Coding Theory, Combinatorics, Complex Analysis, Control Theory, Finite Fields, Graph Theory, Lie Groups, Mathematical Logic, Nonlinear Analysis, Number Theory, Ordinary and Partial Differential Equations, Pattern Recognition, Probability, Real Analysis, Reliability, Statistics, Stochastic Processes, Theory of Computation, Topological Semigroups, and Universal Algebra.

Requirements for the M.A. Degree The course of study is flexible; areas of specialization include Algebra, Analysis, Topology, Applied Mathematics, Probability, Statistics, and Theoretical Computer Science. Each candidate for the M.A. degree is required to accumulate at least 30 hours, and must either present a thesis or pass one of the four written examinations listed below:

- | | | | |
|----------------------------|----------|----------|----------|
| 1. Algebra | MAS 5107 | MAS 5311 | MAS 5312 |
| 2. Topology | MTG 5316 | MTG 5317 | |
| 3. Real Analysis | MAA 5306 | MAA 5307 | |
| 4. Mathematical Statistics | STA 5326 | STA 6208 | |

Each examination will cover the prescribed contents of the courses listed above; a precise syllabus is available from the department. For the M.A. degree, each student must pass appropriate courses or an examination in one of four languages: Chinese, French, German, or Russian, or fulfill a computer science language requirement.

Thesis Option The thesis program requires a minimum of 30 credits of course work of which the thesis carries 2 to 6 credits.

Requirements for the Ph.D. Degree In addition to the general University requirements for the Ph.D. degree, the Mathematics Department requires the following:

Qualifying Examinations Each doctoral student must pass four of the ten qualifying examinations listed below. The examinations are classified into six

categories. The four examinations selected by the student must represent at least three of the six categories listed, and cannot include both Applied Mathematics and Differential Equations.

1. Algebra	MAS 5107	MAS 5311	MAS 5312
2. Topology	MTG 5316	MTG 5317	
3. Real Analysis	MAA 5306	MAA 5307	
Complex Analysis	MAA 5405	MAA 5406	
4. Probability	STA 5446	STA 5206	STA 5447
Mathematical Statistics	STA 5326	STA 6208	
Computational Statistics	STA 5166	STA 6167	
5. Differential Equations	MAP 5316	MAP 5317	
Applied Mathematics	MAP 5407	MAP 5345	
6. Theoretical Computer Science (select any two)			
MAD 5101 [LISP]	MAD 6510	MAT 6616 or	MAD 6617

Foreign Language Requirement The language requirement is the same as that described for the Master's degree, except that two languages are required. The computer science option may be substituted for one language.

Course Requirements The student's program of study must meet the course requirements for the M.A. degree. In addition, the student must pass one semester of course work in 5 of the 6 categories listed above. The course can be one of the courses listed or any other course in the same general area, if the substitution is approved by a majority of the department graduate committee. Other course requirements will be determined by the student's supervisory committee.

Progress Evaluation Before the end of the second year after admission to candidacy, the candidate shall give an oral presentation to the supervisory committee members of the problem(s) under investigation. This presentation may also include a discussion of partial results. The dissertation advisor shall submit to the chairperson of the department a written report of the presentation. Each year thereafter, the dissertation adviser shall submit a progress update to the chairperson of the department after consultation with other members of the student's supervisory committee.

After the research is completed and before defense, the candidate shall offer a departmental colloquium. The student must submit a dissertation to be approved by the supervisory committee.

Special accommodations may be made for students with interest in interdisciplinary areas.

Physics (PHY/PHZ)

The Department of Physics offers programs leading to a Master of Science degree. Both thesis and non-thesis programs are available.

Qualified graduate students with appropriate backgrounds may obtain a Ph.D. in Applied Mathematics or Engineering Science, under an interdisciplinary arrangement between the Department of Mathematics and the College of Engineering. Students should consult with the Physics Graduate Adviser for details.

Thesis research areas include solid state physics, semiconductor physics, applied physics, atomic-molecular physics, quantum electronics and laser physics, theoretical physics, and medical applications of physics. Supporting facilities include computers, from departmental PCs to the University's main-frame, as well as machine, electronics, and glass-blowing shops.

Requirements for the M.S. Degree When a student is admitted to the graduate program in Physics, the student will consult with the Physics Graduate Adviser, who will be the student's course adviser and monitor the progress of the student's work. After a decision has been made concerning the student's academic goals, the duties of the graduate adviser will be assumed by a supervisory committee appointed by the department chairperson. In keeping with the student's academic goals, the supervisory committee will determine the appropriate course of study and examinations required for graduation for both the thesis and non-thesis options.

Natural Science

The student desiring the M.S. degree with a thesis is required to take a minimum of 30 credits, no more than 6 of which may be for PHY 6911, PHY 6935, and PHY 6971. Of these 30 credits, 16 must be in physics courses numbered 6000 or above.

The student desiring the M.S. degree without a thesis is required to take a minimum of 30 credits, no more than two of which may be for PHY 6911 and PHY 6935. Of these 30 credits, 16 must be in physics courses numbered 6000 or above.

COLLEGE OF NURSING

The College of Nursing is committed to the improvement of nursing and health care services through its educational programs, community service, and related research activities.

The College of Nursing limits enrollment on the basis of availability of sufficient qualified faculty, laboratory and classroom facilities, and clinical resources for nursing practice experience for students. Florida residents are given priority. Applications from all qualified applicants are accepted without regard to age, sex, cultural, racial, religious, or ethnic background.

Philosophy of Nursing

Nursing is a profession and a discipline sanctioned by society. Its essential goal is health which is expressed within the context of personal, interpersonal, and social systems. The focus for professional nursing is human beings interacting in a variety of environments for the purpose of pursuing health or a dignified death. Nursing is a transactional process which establishes mutually set goals with individuals, groups, families, and care of the sick, injured, and dying. The complex intellectual processes used by nursing are perceiving, thinking, relating, judging, acting, and interacting. These processes require a scientific body of knowledge to assess, plan, implement, and evaluate nursing care. Concepts which are the central focus for the practice of professional nursing are human beings, society, environment, and health.

Nursing care is an integral component of health care delivery. Professional nurses assume various roles which involve independent, collaborative, interdependent, and dependent functions. Professional nurses provide health services in a variety of complex systems and are accountable for these professional services based on the following: (1) a body of knowledge which is continuously being refined and expanded through nursing research, (2) a Code of Ethics, (3) standards of practice as determined by the profession, and (4) the Nurse Practice Act. Professional nurses provide leadership through participation in professional and community organizations. As responsible citizens, nurses contribute to the promotion of quality health care by participation as knowledgeable members of society in activities that influence the health of individuals, families, groups and communities.

The discipline of nursing is an integral part of the system of higher education and is responsible for the development and dissemination of knowledge. The discipline is also responsible for promoting and preserving the historical and philosophical foundation of the profession. Knowledge is developed through identification of models for systematic thought, constructing and testing theories for nursing, and conducting research. The discipline disseminates knowledge for nursing through scholarly publications and presentations and through curriculums that prepare students for entry into professional practice and for entry into areas of specialized practice and research. In these curriculums, the teaching/learning process is a cooperative enterprise in which learners have the freedom to learn and teachers have the freedom to teach. Learning is viewed as a lifelong process of social, psychological and intellectual growth essential for performing the functions of professional nursing.

Graduate Degree Programs

The College of Nursing offers one graduate program leading to the Master of Science degree. This program is accredited by the National League for Nursing.

Master of Science Program with Major in Nursing

Admission Process Students must fulfill the university Graduate School admission requirements and College of Nursing admission requirements for acceptance into the

Nursing

graduate program at the Master's level. Prospective students must submit evidence of the following for review as part of the application process:

1. A baccalaureate degree in nursing from an NLN accredited program. NOTE: Nurses with baccalaureate or graduate degrees in another discipline are accepted on the basis of individual evaluation of previous educational preparation. Transcripts of all previous college work should be submitted.
2. Current licensure as a registered nurse in the State of Florida.
3. A minimum of one year's experience in clinical nursing practice.
4. Three letters of reference, indicating potential for graduate study, from persons who can attest to the applicant's academic ability and clinical competence.
5. A course in elementary statistics, including introduction to probability and testing hypotheses (comparable to USF course STA 3122 in Social and Behavioral Science).
6. Ability to demonstrate competencies in client assessment skills comparable to those required in NUR 3066C (a challenge exam is available).
7. Record of physical examination prior to enrollment.
8. Complete a personal interview with designated College of Nursing faculty. (Phone interviews are acceptable for out of state students.)

Students are admitted each semester. Admission to the program is competitive and is based on the satisfactory review of all required submitted materials and on the availability of adequate classroom, clinical facilities and faculty. Applicants seeking admission must have their application for admission and all required materials on file with the Office of Admissions no later than the following dates to be considered for admission: July 1 for fall enrollment (Semester I), November 1 for spring enrollment (Semester II), and March 1 for summer enrollment (Semester III).

Requirements for M.S. Degree The College of Nursing master's program requires a minimum of 36 credit hours. The program was designed to include the following curriculum components: nursing core courses, concentration courses, cognates (support courses), electives, and thesis (optional).

The master's degree program offers six areas of clinical concentration: Adult Health Nursing, Community Health Nursing, Family Health Nursing, Gerontological Nursing, Oncology Nursing, and Psychiatric-Mental Health Nursing. All clinical concentrations prepare graduates to assume leadership in advanced nursing practice as clinical specialists or primary care practitioners in primary, secondary, or tertiary health care settings. Students also may elect to complete a functional minor in nursing education. The curriculum is designed to meet the needs of full-time and part-time students.

1. Core requirements (required of all students) (9 hours)

NGR 6121 (3) NGR 6705 (3) NGR 6800 (3)

2. Clinical concentration requirements Each student meets the requirements in one clinical concentration.

Adult Health Nursing (15 hours)

NGR 6141C (3) NGR 6210 (3) NGR 6210L (2-4)* NGR 6211 (3)
NGR 6211L (2-4)*

* Students must enroll in at least 2 credits for each practicum with a maximum total of 6 credits. Each practicum may be repeated for a maximum of 4 credits.

Community Health Nursing (15 hours)

NGR 6738 (2) NGR 6602C (4) NGR 6603L (3-6) PHC 6000 (3)
PHC 6050 (3)

Family Health Nursing (15 hours)

NGR 6610C (3) NGR 6609C (2) NGR 6617L (6) NGR 6630 (4) or
NGR 6631 (4)

Gerontological Nursing (15 hours)

NGR 6250 (3) NGR 6251 (3) NGR 6260 (3) NGR 6253 (3-4)
NGR 6254 (3-4) Electives

Oncology Nursing (14 hours)

NGR 6142 (2) NGR 6096 (3) NGR 6539C (3) NGR 6948 (3)
NGR 6949 (3) Electives

Psychiatric - Mental Health Nursing (14 hours)

NGR 6505 (3) NGR 6506 (3) NGR 6507 (2) NGR 6508 (2) or
 NGR 6509 (2) NGR 6566 (2-4) NGR 6567 (2) NGR 6568 (2)
 (Students may elect NGR 6508 & 6567; or NGR 6509 & 6568.)

Electives**3. Cognates (Support Courses) and/or Electives (6-9 hours)**

Cognate courses may be required by the clinical concentration. Students should consult with faculty advisors in clinical concentration for cognate/support courses appropriate for concentration focus.

In addition, elective courses may be selected from other disciplines and/or courses in the College of Nursing such as those listed below.

NGR 5935 (3)	NGR 6030C (3)	NGR 6120 (2)	HUN 6124 (3)
NGR 6140 (4)	NGR 6155 (3)	NGR 6190 (3)	NGR 6252 (2)
NGR 6280 (3)	NGR 6482 (3)	NGR 6505 (3)	NGR 6506 (3)
NGR 6511 (3)	NGR 6703 (3)	NGR 6710 (3)	NGR 6712 (2)
NGR 6790 (3)	NGR 6905 (1-6)	NGR 6931 (1-4)	NGR 6947 (2-4)

Functional Minor Students who wish to complete a functional minor in Nursing Education are required to take the courses listed below:

NGR 6822 (3) NGR 6710 (2) NGR 6712 (2) NGR 6947 (2-4)

4. Thesis (optional) or additional electives (6)

Special Requirements Tuition and fees for students enrolled in nursing are the same as for other students at the University of South Florida. However, there are expenses not covered by the basic tuition and fees. Costs for textbooks are estimated to range from \$150-200 per semester. Graduate students must provide or have access to client assessment equipment (e.g., ophthalmoscope, stethoscope) if required by the program of study.

Medical care and hospitalization insurance is required. An annual physical examination may be required to comply with policies of selected clinical agencies used for practicum.

Transportation to and from community health agencies for clinical nursing experience is the responsibility of the student.

Other Academic Requirements Students are required to maintain a GPA of 3.0 throughout the program. Students must achieve a grade of "C" or better in each course accepted toward the graduate degree; students must achieve a "B" or better in all undergraduate courses taken after matriculation as electives or to make up deficits. Grades for these courses are not computed in the overall academic average.

Application for the degree must be filed with the University Registrar on the appropriate form signed by appropriate College of Nursing personnel. The degree candidate is responsible for obtaining and submitting the degree application form by the date specified by the University. All "I" grades must be removed from the student's record before graduation.

Additional academic requirements for progression and graduation are presented elsewhere in the catalog under university policies and procedures for the Graduate School.

Financial Aid Policies and procedures pertaining to financial aid are the same as for other graduate students. For general information, write to the Office of Financial Aid, Student Affairs, University of South Florida, Tampa, Florida 33620.

Tuition waiver scholarships for up to 9 hours of coursework will be given to graduate students who hold at least a 50% appointment as Graduate Research Assistants or as Graduate Teaching Assistants. Such waivers are awarded for a given academic term and may be repeated. Other loans, scholarships, and grants are usually available. Information specific to funds available through the College of Nursing may be obtained through the Student Personnel Office, (813) 974-2191.

COLLEGE OF PUBLIC HEALTH

Every effort is made in the College of Public Health to link coursework, field experience, and project or thesis requirements with the numerous public health problems and needs facing the state, the nation, and other countries. These problems and needs relate directly to population dynamics, patterns of disease in population groups, the availability of knowledge of health promotion and disease prevention, and to the design of policies for, and the management of, health services delivery systems for all citizens. Course content is directly related to addressing and meeting public health needs.

Graduate Degree Programs

Master of Public Health (MPH) Master of Science in Public Health (MSPH) Master of Health Administration (MHA)

The Master of Public Health (MPH), Master of Science in Public Health (MSPH), and Doctor of Philosophy (Ph.D.) degrees are offered in the following concentration areas by the four departments in the College of Public Health.

Community and Family Health Accelerated MPH in Health Education for undergraduates; MPH/MSW in Maternal and Child Health/Social Work (dual program); Public and Community Health Education; Maternal and Child Health; Public Health Nursing; Public Health Nutrition.

Epidemiology and Biostatistics Epidemiology and Biostatistics.

Environmental and Occupational Health Environmental Health; Industrial Hygiene and Safety Management; Toxicology; Tropical Public Health/Communicable Disease; Occupational Health for Health Professionals.

Health Policy and Management Health Care Management and Organizations; Health Policies and Programs; International Health Management. The department also offers the Master of Health Administration (M.H.A.).

Admission Requirements SEE PAGES 31-33 for general requirements. Applications are accepted each semester, but it is recommended that prospective students apply for Fall semester in order to best accommodate the sequence of courses in the concentration areas.

Students wishing to enter the Public Health program who do not have adequate courses or training in the health and human biological sciences are urged to take HSC 4554 Survey of Human Disease or equivalent, and HSC 4203 Introduction to Public Health. Other requirements for proficiency in specific content areas may be set as a condition of or prior to admission into the Masters Degree Programs.

Special requirements

1. Shall have a total GRE score of 900 or higher for the MPH; 1000 or higher for the MSPH; 950 or higher for the MHA.

Doctor of Philosophy (Ph.D.)

Applicants to the Ph.D. in Public Health must submit completed applications to the Graduate Admissions Office. Applicants to the doctoral program must meet the following minimum criteria in order to be considered for admission. The meeting of these criteria shall not be the sole basis for admission, however.

Minimum criteria are:

1. Score of 1100 or better on the GRE;
2. Grade point average of 3.0 or better is needed to be considered. Exceptional students with a baccalaureate degree may be considered.
3. Applicants must be prepared to register as full-time students, at least for their first full year of studies or longer as specified by the department.

Public Health

4. Applicants must submit evidence of written/analytical skills to the College of Public Health. This shall take 2 forms:
 - a) Graduate level term paper, thesis, or research paper of which the student was sole author, or a publication of which the student was first author; and
 - b) Detailed personal statement which describes why applicant wishes to obtain a Ph.D. degree in Public Health. This statement must be less than five pages in length.
5. Applicants seeking consideration must possess the MPH, MSPH, or equivalent. Applicants who hold other graduate degrees may be considered for admission to the doctoral program, but they must complete the core course requirements for the MPH.
6. Applicants must submit at least 3 letters of recommendation.

Financial Support In addition to the financial aid programs offered by USF, the College of Public Health offers the following sources of financial support:

Graduate Assistantships These are awarded on a competitive basis for up to 4 semesters for a masters degree and up to 6 semesters for the Ph.D. To be considered, the student must have a GRE score of 1000 for the MPH and 1100 for the Ph.D. Students must have a GPA of 3.0 or better in the last 60 hours of undergraduate work (MPH applicants) or graduate work (Ph.D. applicants). Graduate assistants are expected to aid the College at registrations, orientations, conferences, professional meetings, and seminars in addition to their duties assigned by the department. All graduate assistants are expected to receive tuition waivers of 9 hours subject to state funding. Assistantship applications are available in the College of Public Health Academic Affairs Office. The deadline for application for the academic year is April 1st with awards announced in early July.

Traineeship Program The College of Public Health cooperates with the US Public Health Service in offering Public Health Traineeships to public health students. This award is based on need which will help to defray part of the student's educational expenses. To be eligible, a student must be matriculated full-time in any degree program offered in the College of Public Health except Public Health Education and Industrial Hygiene. The availability of traineeships is entirely dependent upon receipt of federal funds, and they are therefore solely awarded on a yearly basis. Students will be notified when funds are available. Awards are made by the Awards and Scholarship Committee. Applicants must be U.S. citizens or permanent residents. Deadline for application is April 1st with awards announced in early July. Applications are available in the College of Public Health Academic Affairs Office.

NIOSH Traineeship Grant The National Institute of Occupational Safety and Health offers traineeships to accepted students in Industrial Hygiene/Safety Management Program. The award includes a tuition waiver for 9 hours, as well as a stipend. Applications are available from the Department of Environmental and Occupational Health upon acceptance into the program.

MCH Traineeship Program Federally funded MCH traineeships are available to Florida resident and nonresident students admitted to the master's degree program in maternal and child health within the Department of Community and Family Health. The availability of traineeships, which provide financial assistance toward tuition costs, are dependent on annual funding. Competitive awards are made on the basis of academic merit, financial need, and expected contribution to the field.

Kaplan/U.S. Administrators' Fellowship in Health Care Management and Finance Samuel X. Kaplan and U.S. Administrators, one of the largest third party health benefits administration companies in the U.S., offers a fellowship through the College of Public Health for students in Health Policy and Management. The fellowship consists of: a complete, one-year academic program leading to the MPH; a six-month, paid internship at one of the U.S. Administrators' offices in the U.S.; a stipend plus tuition. The deadline for application occurs in June of each year. Details and applications can be obtained from the Department of Health Policy and Management.

FPHA Scholarships Florida Public Health Association accepts application/nominations for FPHA Scholarships -- \$500 for M.P.H. or M.S.P.H. candidates and \$300 for

other health fields. Letters should include: present position, future goals and ambitions, and past and present academic activities. Scholarship applicants must be FPHA members. Applications should be sent to Charlotte A. Boorde, Hernando County Public Health Unit, 602 W. Broad Street, Brooksville, FL 34601, (904) 754-4067 (SC 669-4067) or Dr. Heather G. Stockwell, College of Public Health, University of South Florida, 13301 Bruce B. Downs Blvd., Tampa, FL 33612, (813) 974-3623.

College of Public Health Core Courses The following core courses are required for completion of all College of Public Health Programs, except the MHA :

PHC 6000 (3) PHC 6050 (3) PHC 6102 (3) PHC 6357 (3)
PHC 6410 (3)

Total (15 hours)

Other requirements for the MPH, MSPH, MHA, and Ph.D. programs are listed by department.

COLLEGE OF PUBLIC HEALTH PH.D. PROGRAM REQUIREMENTS An entering student lacking a master's degree must take the 5 core courses and 4 departmental concentration area courses (total of 27 hours) required for all MPH students. A student who has a master's degree will be required to take those public health courses which have not been included in previous master's study. Doctoral students will be required to take a more advanced biostatistics course than PHC 6050. An additional 13 hours of doctoral level courses in the student's area of interest are required. The remaining 47 hours will consist of additional elective course work, research, and dissertation which will be determined by the student's committee. Courses offered by other colleges may be used when appropriate.

Credit Hours:

Public Health core courses (5 courses or equivalent) (15)

Advanced biostatistics course (3)

Required courses for concentration area or equivalent (12)

Required doctoral level courses (minimum) (13)

Elective courses, directed research, dissertation credits

Evidence of teaching proficiency

Total (90)

The University requirements for the Ph.D. can be found in the general section of this catalog: Credit Hours, Tools of Research, Grade Levels, Qualifying Examination, Dissertation, Student Committees.

Department of Community and Family Health

The Department of Community and Family Health seeks to improve the health status of the family through an interdisciplinary approach of providing preventive, curative, and rehabilitative health care services within the community. Its educational mission is to prepare public health professionals who can meet the challenge of a rapidly changing health care environment and ensure that all individuals receive an adequate level of health care and related services. Programs offered through the Department focus on: (1) the analysis of the health status and needs of a population including social, behavioral, and demographic factors and characteristics; (2) health promotion and education; (3) client intervention strategies; (4) nutrition sciences and related program development; and (5) administration and management of maternal-child health care services. Faculty are actively involved in service activities within the community and throughout the state of Florida. This linkage between education and service provides excellent opportunities for student research and field experiences.

The Department of Community and Family Health offers graduate studies leading to the Master of Public Health (MPH), Master of Science in Public Health (MSPH), Dual MPH/MSW in Maternal-Child Health and Social Work, and the Doctor of Philosophy (Ph.D.) degrees in the following concentration areas.

Maternal and Child Health The graduate program in maternal and child health is designed to prepare health professionals in a multidisciplinary approach to serving the public health care needs of women, children and their families. The program content provides students with an in-depth understanding of the etiology and epidemiology

Public Health

of major health problems of women and children; analyses of national, regional, state and local organizational structures to address these issues; and current research data. Upon completion of their studies, graduates have the ability to develop and manage health care programs and to design clinical and programmatic evaluation methods.

Students entering the program represent a wide variety of health care professions including medicine, nursing, social work, nutrition, rehabilitation, and public health administration. For this reason, the program of study can be tailored to an individual's previous experiences, special needs and professional goals.

MPH Core Courses (15 hours)

Concentration Area Courses (12 hours)

PHC 6530 (3) PHC 6533 (3) PHC 6532 (3)

Select one:

PHC 6531 or, PHC 6534 (3)

Approved Electives (7 hours)

PHC 6707 (3) PHC 6521 (3) PHC 6522 (3) PHC 6907 (1)

PHC 6977 Special Project (3 hours)

PHC 6945 Supervised Field Experience (1-12 hours)

Comprehensive Examination

Total (37-49)

Public Health Education The graduate program in public health education serves an increasing public need for professionals trained in social health issues and in the personal health lifestyles of American society. It is the primary function of professional health educators to assist individuals and families in adopting self-care practices and healthy lifestyles, to encourage utilization of health services, and to promote participation in the design and implementation of these services which so dramatically affect the individual's health.

MPH Core Courses (15 hours)

Concentration Area Courses (12 hours)

PHC 6500 (3) PHC 6505 (3) PHC 6707 (3) PHC 6533 (3)

Approved Electives (7 hours)

PHC 6977 Special Project (3 hours)

PHC 6945 Supervised Field Experience (1-12 hours)

Comprehensive Examination

Total (37-49 hours)

Public Health Education, Accelerated Entry to the MPH The accelerated entry program provides an opportunity for students, who meet specific eligibility requirements, to earn a master's degree without first completing their baccalaureate studies. Individuals begin the master's course of study following their junior year (after completion of 90 undergraduate hours). Full-time students are able to complete the required coursework within 2 to 2 1/2 years. Students are encouraged to explore this program option and consult with a health education program advisor during the academic term in which they expect to complete 60 hours.

Admission Requirements Students applying for admission to the accelerated entry program in public health education must have completed 90 undergraduate hours, achieved a GPA of at least 3.0, and earned a combined verbal and quantitative score of at least 900 on the GRE. It is recommended that students complete the following undergraduate coursework in preparation for the master's program:

Personal health/health science	Basic first aid
College mathematics (through algebra)	Speech communication
Technical or expository writing	General chemistry with laboratory
Introductory biology with laboratory	Advanced biological science
Introductory psychology	General anthropology
Medical anthropology	Introductory sociology
Educational theory and method	Education psychology

MPH Coursework Accelerated entry into the MPH requires at least 60 hours of classroom study in addition to a field experience. Minimum coursework requirements are:

Program Introductory Courses (or Equivalent) (13 hours)

HSC 4203 (3)	HSC 4541 (3)	HSC 4554 (3)	HSC 5101 (4)
MPH Core Courses (15 hours)			
Concentration Area Courses (12 hours)			
PHC 6500 (3)	PHC 6505 (3)	PHC 6707 (3)	PHC 6533 (3)
Content Electives (12 hours)			
Process Electives (4 hours)			
Select one:	EME 4402 (2)	EME 5403 (3)	
Select one:	LIS 4302 (2)	LIS 6312 (3)	
PHC 6977 Special Project (3 hours)			
PHC 6945 Field Experience (1-12 hours)			
Comprehensive Examination			
Total 60-72 hours			

Public Health Nursing Graduate studies in public health nursing are designed to develop competence in planning, delivering, and evaluating public and community health nursing services through the enhancement of skills in program development, problem solving, and communication and management techniques. Studies focus on the sociological, ethnic, cultural, political, and financial factors affecting the delivery of public and community health nursing services. The program of study prepares students to assume leadership administrative and management positions in health-related agencies and institutions.

MPH Core Courses (15 hours)			
Concentration Area Courses (12 hours)			
NGR 6121 (3)	NGR 6738 (2)	NGR 6602C (4)	NGR 6603C (3)
Approved Electives (7 hours)			
PHC 6977 (3 hours)			
PHC 6945 (1-12 hours)			
Comprehensive Examination			
Total 37-49 hours			

Public Health Nutrition Graduate studies in public health nutrition are designed to enhance the biological and physiological backgrounds of baccalaureate trained nutritionists and to provide students with opportunities to integrate skills in administration, planning, and social and behavioral sciences. The course of study focuses on current, cutting-edge issues in health care, nutrition, and the related effects on health throughout the life cycle. Specific areas of study include: nutritional assessments, geriatric nutrition, perinatal nutrition, childhood nutrition, nutrition education and counseling techniques, government regulations and policy development, and perspectives on international nutrition problems and programs.

Professionals representing other health-related fields, including medicine, nursing, health education, and administration will find coursework in public health nutrition essential in responding to the rapid changes affecting the health care industry.

Admission Requirements In addition to the basic admission requirements, one year of work experience in nutrition or other health-related fields is recommended. In addition, it is recommended that applicants complete the following course work during their undergraduate studies. Academic deficiencies will be evaluated on an individual basis.

2 semesters of general chemistry	2 semesters of organic chemistry with labs		
1 semester of biochemistry	1 semester of physiology		
1 semester of social sciences	1 semester of nutritional sciences		
MPH Core Courses (15 hours)			
Concentration Area Courses (15 hours)			
PHC 6521 (3)	PHC 6522 (3)	PHC 6526 (3)	PHC 6533 (3)
PHC 6707 (3)			
Support Courses (a minimum of 3 hours) (3)			
PHC 6523 (3)	PHC 6535 (3)	PHC 6524 (3)	ANT 6469 (3)
Approved Electives (3)			
PHC 6977 Special Project (3)			
PHC 6945 Supervised Field Experience (1-12)			

**Comprehensive Examination
Total 39-51**

MSPH Degree Program Students may enroll in the MSPH degree program within any of the department's concentration areas. The MSPH student must complete a minimum of 39 hours including the College of Public Health core courses (15 hours), additional studies in selected areas (18 or 19 hours), and a comprehensive examination. Students also design and conduct a research project and develop a thesis (6 hours).

Dual MPH/MSW in Maternal-Child Health and Social Work The dual master's degree program in maternal and child health (MPH) and social work (MSW) is jointly offered by the College of Public Health and the College of Social and Behavioral Sciences, University of South Florida.

The program curriculum enables students to develop a set of skills which make possible a truly comprehensive range of effective client interventions in a variety of health care settings. The fundamental methodological tools of public health include biostatistics, epidemiology, and health management and evaluation. These assist the social worker in targeting a response to the needs of the client, both as an individual and as part of a total population in need.

Social workers involved in direct services to individuals and families use their knowledge of the etiology and impact of the health condition to plan changes in the health and welfare systems of the community. Students learn to use the public health approach, focusing on improvements of the health status of the whole community.

The dual MPH/MSW program is a two to three year course of full-time study. Coursework requirements for the MSW are listed under the Department of Social Work, College of Social and Behavioral Sciences.

Admission Requirements To be considered for acceptance to the dual MPH/MSW program, prospective students must have earned a GPA of 3.0 or better in the last 60 hours of undergraduate studies. Applicants must also have earned a combined verbal and quantitative GRE score of 1000 or above.

Ph.D. Program The Department of Community and Family Health is dedicated to a sound and exciting education, research, and service program, the major educational endeavor of which is in the field of community and family health. The curriculum is a cooperative, learning, research, problem-solving endeavor in which students and faculty contribute interdependently to pursuits essential to the health of human society.

A graduate of the doctoral program will be able to contribute to the improvement of the health and well-being of individuals, families, and communities through intradisciplinary and interdisciplinary effort. The graduate will be qualified to implement changes within the community of public health and conduct fundamental and applied research in identification, prevention, and evaluation of public health problems. The graduate will be expected to take on leadership at the local, state, and national levels.

Guidelines for Acceptance Students seeking entrance to the program must have a focus in the career direction. They should have both work experience and educational training of sufficient length and breadth to permit them to focus their research efforts in the area of public health from a background of appropriate knowledge. This background may include:

1. **Education:** a) A prior doctorate or master's degree in a health-related discipline, such as the health sciences, social sciences, administration, nutrition, or health education, or b) A master's degree in public health, or c) A bachelor's degree plus specialty training, i.e., nurse practitioner training or nurse midwifery.
2. **Experience:** a) Experience as a clinical practitioner in a discipline setting appropriate to a community and family health interest, or b) Experience in a research setting such as health statistics, legislative research, program evaluation units, private agencies (such as Children's Defense Fund) as a research associate in an academic setting, or c) Administrative or managerial experience in the organization and delivery of public health services, or d) Experience in the teaching of a public health discipline in an academic setting.

While no one set of criteria is an absolute prerequisite, the student must come with a background of sufficient depth so they may function as a mature and self-directed professional in the area of public health.

Major Focus Areas of the Ph.D. Program The Department of Community and Family Health offers a Doctor of Philosophy Degree in three major focus areas:

1) health education; 2) maternal and child health, and 3) public health nutrition. In addition to completing the requirements within the department, the student will be required to complete a minor in a related field. It will be the student's responsibility to recruit a professor as a minor advisor who will set the requirements for completing the minor. This advisor will become a part of the student's Ph.D. program committee.

Specific requirements covering tools of research, examinations, dissertation, and committees may be obtained from the Department of Community and Family Health.

Department of Epidemiology and Biostatistics

Epidemiology is the study of diseases as they affect populations; it involves the factors affecting disease rates and the distribution of disease in populations. As a fundamental science of preventive medicine and public health, epidemiologic research has traditionally focused on questions of disease causation through population-based studies for both infectious and chronic diseases. The range of topics now addressed by epidemiologic methods also include health promotion, disease prevention, and assessing the quality of health care. The content, methods, and scientific inferences in the major epidemiologic issues of today are examined. Sources of public health research and program evaluation are studied.

The Department offers degrees leading to the Master of Public Health (MPH), Master of Science in Public Health (MSPH), and the Doctor of Philosophy (Ph.D.).

The MPH Program is designed for health professionals who wish to acquire knowledge of and practice in epidemiologic methods. Students in the MPH program must fulfill the following minimum requirements:

College of Public Health Core Courses (15 hours)

Concentration Area (12 hours)

PHC 6006 (3) PHC 6051 (3) PHC 6700 (3)

Select one:

PHC 6562 (3) PHC 6007 (3) PHC 6008 (3)

Approved Electives (7 hours)

Special Project (3 hours)

Field Experience (if applicable) (1-12 hours)

Comprehensive Examination

The MSPH program is designed for students who seek careers in epidemiology and biostatistics and who lack training in a health profession. Students in the MSPH program must fulfill the following requirements:

College of Public Health Core Courses (15 hours)

Concentration Area (18 hours)

Master's Thesis (6 hours)

Comprehensive Examination

Final Defense

Course requirements for students in the MSPH program are based on the student's area of interest (e.g. cardiovascular diseases, cancer, infectious diseases, biostatistics, etc.). Courses are selected with the advice of the student's committee. Coursework above the minimum hours may be required, depending on the student's background and interests.

The Ph.D. program in epidemiology is designed for a wide variety of health care professionals and scientists. The doctoral program is focused on the study of chronic diseases with particular emphasis on cardiovascular disease epidemiology. Students without a prior master's degree or equivalent preparation in epidemiology and biostatistics must complete the required master's coursework in epidemiology/biostatistics and the three required core courses outside the Department in addition to doctoral coursework:

Public Health

Doctoral Coursework (45 hours)
Dissertation (18 hours)
Evidence of Teaching Proficiency
Oral and Written Qualifying Examinations
Final Defense

The 18 hours for the dissertation reflects university minimum requirements; most students are expected to take 2-3 years to complete their dissertation after completion of their coursework. All doctoral students in the department are required to be full-time students during the four semesters required for doctoral coursework. Deadline for application for the doctoral program for admission in the fall of 1990 is March 31, 1990. Selection of students for all programs is on a competitive basis.

NOTE: Knowledge of college level algebra is required for all biostatistics courses.

Department of Environmental and Occupational Health

The Department offers degrees leading to the Master of Public Health (MPH), Master of Science in Public Health (MSPH), and Doctor of Philosophy, to successfully develop, administer, and evaluate environmental health programs. MPH students are trained not only to recognize environmental hazards and their effect on health, but to assess their social and economic impacts. Students also must be made cognizant of both new and existing regulations which affect the field at local, state, and national levels. They further must become acquainted with enforcement procedures and processes in environmental law and policy development. Students seeking an MSPH specialize in any of the environmental health areas with an intense research and technical program of study. The degree program focuses on preparing students to fill leadership roles in solving or containing environmental and industrial health problems. Individualized courses of study are determined for students with the cooperation of an advisory committee. A thesis is required in addition to the Comprehensive Examination.

Prospective students wishing to enter any of the concentration areas in the department should have a background in college level chemistry, physics, biology and mathematics to ensure successful completion of their chosen programs.

Environmental Health The Environmental Health concentration area in the College of Public Health performs a vital function in supplying the state of Florida with professionals capable of addressing existing and burgeoning problems in environmental health.

MPH students are expected to complete the following minimum requirements:

College of Public Health Core Courses (15 hours)

Concentration Area (15 hours)

PHC 6301 (3) PHC 6310 (3) PHC 6303 (3) PHC 6512 (3)

PHC 6356 (3)

Approved Electives (5 hours)

Special Project (3 hours)

Seminar (1 hour)

Field Experience (if applicable) (1-12 hours)

Comprehensive Examination

MSPH students must complete the core, 18 hours in selected areas, a thesis, and the Comprehensive Examination.

Toxicology The objectives set forth in this concentration area will provide a broad foundation in the biomedical sciences with a general and specialized training in toxicology which will enable the students to assume leadership roles in the field of toxicology. Therefore, the program is designed with a balanced curriculum of advanced instruction in the areas necessary for the understanding of the responses of the organisms to chemical insult and to train individuals in the research findings on potential chemical hazards for humans and animals and to adapt research to a rapidly growing body of new knowledge in toxicology.

Employment opportunities for the students graduating from this program include administration of toxicology programs, regulation, teaching, and service positions in environmental/occupational toxicology in public and private sectors of the State of Florida and the nation.

MPA Students are expected to complete the following minimum requirements:

College of Public Health Core Courses (15 hours)

Concentration area (15 hours)

HSC 6556 (3) PHC 6511 (3) PHC 6310 (3) BCH 5065 (3)

PHC 6934 (3)

Approved Electives (5 hours)

Special Project (3 hours)

Seminar (1 hour)

Field Experience (If applicable) (1-12 hours)

Comprehensive Examination

MSPH students must complete the core, 18 hours in selected areas, a thesis, and the Comprehensive Examination.

Tropical Public Health/Communicable Disease: The objective of a concentration in Tropical Public Health/Communicable Disease is to provide an opportunity for science-oriented students with interest in communicable diseases and health problems in Florida and developing nations to receive specialized training both in the laboratory and in the classroom.

The state's sub-tropical climate and close proximity to underdeveloped nations in the Caribbean, Central America, and South America present potentially unique problems, such as imported tropical diseases and disease vectors. The need to train individuals who would address problems such as these is provided for in this concentration.

Preference for admission will be given to students with a background or demonstrated skills in the biological sciences. To date, students interested in this program have come from baccalaureate degree programs of the USF College of Natural Sciences, other Florida universities, and abroad. Indeed, this concentration has already begun to attract students from overseas nations as well.

MPH students are expected to complete the following minimum requirements:

College of Public Health Core Courses (15 hours)

Concentration Area (15 hours)

PHC 6511 (3) PHC 6510 (3) PHC 6513 (3) PHC 6512 (3)

PHC 6006 (3)

Approved Electives (5 hours)

Special Project (3 hours)

Seminar (1 hour)

Field Experience (If applicable) (1-12 hours)

Comprehensive Examination

MSPH students must complete the core, 18 hours in selected areas, a thesis, and the Comprehensive Examination.

Industrial Hygiene and Safety Management: The College's Industrial Hygiene and Safety Management concentration plays a critical role in efforts to confront the state's serious industrial hazard problems. Only a small number of professionals are now actively involved in this field in Florida, and no other industrial hygiene and safety management program exists in the state.

The College of Public Health prepares professionals for employment in this area by offering an independent course of study for each of these concerns, one for industrial hygiene and one for safety management. Both programs are founded on a commitment to produce professionals who can help identify and reduce hazards in the workplace, as well as assist in decreasing workers' compensation costs for companies and in establishing more cost-effective policies and procedures. Study is in the areas of industrial health hazards, safety management, legal and regulatory considerations, and program evaluations.

MPH students are expected to fulfill the following minimum requirements:

Public Health

College of Public Health Core Courses (15 hours)

Concentration Area (20 hours)

PHC 6356 (3) PHC 6358C (4) PHC 6359C (4) PHC 6310 (3)
PHC 6360 (3) PHC 6361 (3)

Seminar (1 hour)

Special Project (3 hours)

Required Field Placement (for those without previous experience)

Comprehensive Examination

MSPH students must complete the core, 18 hours in selected areas, a thesis, and the Comprehensive Examination.

Occupational Health for Health Professionals The Master of Public Health concentration in Occupational Health for Health Professionals is intended for physicians and nurses who are interested in pursuing a career in occupational health care. Non-medical professionals may also be considered for admission. The principal concerns of the occupational health professional are 1) the worker 2) the work environment and 3) chemical, physical, ergonomic, and biological agents in the workplace. The curriculum is interdisciplinary in nature and scope, addressing topics in these broad areas. Because of the diversity of experience and interest of the students in this program, 9 credit hours are available for elective courses in a specific area.

MPH students are expected to complete the following minimum requirements:

MPH Core Courses (15 hours)

PHC 6930 (1)

Departmental Core Courses (12 hours)

PHC 6355 (3) PHC 6310 (3) PHC 6425 (3) PHC 6356 (3)

Approved Electives (9 hours)

Areas of Concentration Include:

Occupational Health

Occupational Health Administration

Occupational Health Research

Hazardous Waste Health

Special Project (3 hours)

Field Experience (if applicable) (1-12 hours)

Comprehensive Examination

Ph.D Requirements Specific information concerning the doctoral program can be obtained from the Department of Environmental and Occupational Health.

Department of Health Policy and Management

The primary aim of the Health Policy and Management (HPM) curriculum is to prepare persons for leadership positions in health care delivery. Teaching goals of the health policy and management faculty are specifically designed to train public health administrators, health policy analysts and planners, and managers of traditional and alternative health care delivery systems for service in the state of Florida, the nation and abroad. Three specialty areas or tracks are offered in the health policy and management concentration. Each of these tracks draws first on a general core of coursework in health care management, economics and finance, and health policy and politics and then on the more specialized knowledge needed to pursue various career options in the field of health policy and management. The course requirements for the three HPM specialty areas or tracks leading either to the MPH or MSPH degrees are described briefly below.

To ensure that students learn how technical knowledge is applied to health care problems or issues, the HPM curricular program requires, in addition to completing the coursework described below, that each Master's degree candidate submit a professional-quality paper to the HPM Archive as a condition for graduation. This Archive requirement may be satisfied by submitting with the approval of an advisor either (1) a manuscript completed in any one of several designated HPM seminars that require an extensive, problem-oriented term paper or (2) the project paper ordinarily written in conjunction with field experience in community-based health care programs.

Health Care Organizations and Management Track: The health care industry in the United States increasingly requires skilled management talents in all aspects of organization, delivery, and financing. Health care management responsibilities include: planning, resource acquisition and allocation, implementation, monitoring, analysis, and evaluation. This track is designed for individuals interested in such management positions, especially those at mid-career who anticipate advancement or transition from technical to managerial responsibilities. Required courses emphasize the competencies and conceptual frameworks associated with effective health management practice. Electives permit specialization in several areas, including finance, marketing, health care information systems, and evaluation. Course requirements include:

College of Public Health Core Courses (15 hours)

Health Policy and Management Core Courses (9 hours)

HPM/PHC 6180 (3) HPM/PHC 6430 (3) HPM/PHC 6151 (3)

Health Care Organizations and Management Track (15 hours)

Choose 3 of the following 4:

HMP/PHC 6160 (3) HMP/PHC 6181 (3) HPM/PHC 6191 (3)

HPM/HSA 6197 (3)*

Approved Electives (6 hours)

Special Project (as needed) (3)

Field Experience (as needed) (1-12 hours)

Comprehensive Examination

*Course title for HSA 6197 is in the process of being changed to "Design of Complex Health Information Systems."

Health Policies and Programs Track: This area is designed to provide more specialized education and training related to national, state, and local health policies as well as to both public and private sector health and medical care programs. Required courses emphasize theory and methods in policy analysis and program evaluation. Elective courses focus on substantive areas of interest and emphasize application, with students being encouraged to select elective courses from other USF departments as appropriate. Course requirements include:

College of Public Health Core Courses (15 hours)

Health Policy and Management Core Courses (9 hours)

HPM/PHC 6180 (3) HPM/PHC 6430 (3) HPM/PHC 6151 (3)

Health Policies and Programs Track (15 hours)

HPM/PHC 6150 (3) HPM/PHC 6191 (3) HPM/PHC 6760 (3)

HPM/PHC 6XXX (3)*

Approved Electives (6 hours)

Special Project (as needed) (3 hours)

Field Experience (as needed) (1-12 hours)

Comprehensive Examination

*Course is not yet being offered.

International Health Management Track: This track prepares individuals to work either abroad or at home in the international health system, with special emphasis given to managerial positions in international agencies and organizations. Students are expected to learn, on the one hand, the principles and techniques of the health policy and management disciplines relevant to any geographic area and, on the other, the cultural, socioeconomic and technological conditions of foreign nations, especially in Third World developing nations, that mediate the character and scope of needed health policies and management practices. Required courses emphasize the application of these principles to international health issues and settings. Elective courses emphasize particular applications in terms of either specific management techniques or foreign cultures. Course requirements include:

College of Public Health Core Courses (15 hours)

Health Policy and Management Core Courses (9 hours)

HPM/PHC 6180 (3) HPM/PHC 6430 HPM/PHC 6151 (3)

Public Health

International Health Management Track (15 hours)

HPM/PHC 6110 (3) HPM/PHC 6111 (3) HPM/PHC 6146 (3)
PHC 6XXX (3)*

Approved Electives (6 hours)

Special Project (as needed) (3 hours)

(Field Experience or Special Project) (1-12 hours)

Comprehensive Examination

* Course is not yet being offered.

Master of Health Administration The MHA degree is designed to provide the competencies needed for careers in the management and financial management of health care organizations, such as hospitals, HMOs, group medical practices, and long term care facilities. In addition, students are prepared for managerial positions in the health care insurance industry, including third party administration, managed benefit programs, and utilization review. The program is designed to educate managers who are able to solve the increasingly complex problems created by rapid changes in the delivery and financing of health care services in the United States.

Proposed MHA Curriculum

Finance and Economics (15 hours)

PHC 6160 (3) PHC 6161 (3) PHC 6430 (3) PHC 643X (3)

Select 3 hours from:

HPM 616X (3) Other approved electives in this area.

Management Concepts and Policy (15 hours)

PHC 6180 (3) PHC 6101 (3) PHC 6181 (3) PHC 6150 (3)

PHC 6XXX: Strategic Management and Marketing of Health Services (3)

Analytic Skills (15 hours)

PHC 6000 (3) PHC 6191 (3) HSA 6196 (3)

Select 6 hours from:

HSA 6197 (3) Other approved electives in this area.

Comprehensive Examination

Total Required Coursework (45 hours)

Internship (as required) (0-12 hours)

Total 45-57 hours

This curriculum will be in effect for MHA students entering the program during the Fall semester 1989 or later.

Ph.D. Requirements Specific information concerning the doctoral program can be obtained from the Department of Health Policy and Management.

COLLEGE OF SOCIAL AND BEHAVIORAL SCIENCES

The social and behavioral sciences are concerned primarily with human beings: their history, their individual behavior, their social and political institutions, and their problems. The study of humanity by broadly conceived methods of science contributes to an understanding of the individual in a social context.

The social and behavioral sciences deal not only with the human, but also with the humane. While the basic disciplines are dedicated to the search for truth about the human condition, the applied social sciences seek to use the knowledge gained to alleviate significant social and personal problems. The setting of the University in the rapidly expanding Tampa Bay metropolitan area provides exceptional opportunities for the development of the social sciences, applied to an urban setting.

The Human Resources Institute of the College of Social and Behavioral Sciences was established to address critical issues in the human resources sector through a comprehensive program of research. By authorization of the Board of Regents, a Program of Emphasis in Human Services was established at the University of South Florida for the enhancement of selected programs, including several in the College of Social and Behavioral Sciences. Because of its balance of basic and applied programs, the college is uniquely structured to allow students to gain experience and background for future application in human services, government, and business, to name a few, or to pursue graduate study in several disciplines.

Graduate Degree Programs

Master's Degree Programs

Graduate level courses are offered in most of the social and behavioral sciences. The following Master's degrees are offered:

Master of Arts

- *Anthropology (ANT)
- *Criminology (CCJ)
- *Gerontology (GEY)
- *Political Science (POL)
- *Rehabilitation Counseling (REH)
- *Rehabilitation Counseling (REF) - 5-year program
- *Applied Anthropology (APA)
- *Geography (GPY)
- *History (HTY)
- *Psychology (PSY)
- *Sociology (SOC)

Master of Public Administration (M.P.A.)

- *Public Administration (PAD)

Master of Social Work (M.S.W.)

- *Social Work (SOW)

In addition to the Master of Arts degrees offered by the College of Social and Behavioral Sciences, joint degrees are offered with the College of Education in Social Science Education, School Psychology, and the Junior College Teacher's Program.

Master of Science

- *Audiology (AUD) -- Post-Baccalaureate
- *Aural Rehabilitation (ARH) -- Post-Baccalaureate
- *Speech-Language Pathology (SPP) -- Post-Baccalaureate

Doctor of Philosophy

The Doctor of Philosophy degree is offered in the following:

- *Applied Anthropology (APA)
- *Psychology (PSY)

These disciplines focus on both traditional scholarship and the application of knowledge to social problems.

Activities related to graduate programs within the college are located in three adjacent buildings on campus. In addition to the faculty and support staff within the

Social and Behavioral Science

College, a staff of professional technicians develop and maintain the College's diverse laboratory facilities and research equipment.

Research Facilities The College of Social and Behavioral Sciences maintains a large computer laboratory that provides public access to main-frame computing for all faculty and graduate students engaged in research. The College's computer lab also provides access to VM/CMS, providing a wide variety of interactive applications for up to 300 concurrent users; among the applications provided through VM/CMS is the SPIRES database management system.

Anthropology (ANT)

The M.A. program, initiated in 1974, was the first in the country to focus on career training for the practice of Applied Anthropology. The student pursues major studies in one of three tracks: Applied Urban Anthropology, Applied Medical Anthropology, and Public Archeology (Cultural Resources Management). In addition to core seminars in each of the four major branches of Anthropology required of all students, each track has its own specialty courses. Each student performs a full-time internship for one semester, during which they work on a problem mutually defined and negotiated by the student, a faculty adviser, and a professional supervisor from the agency in which the internship is conducted. By 1988, 121 graduates had been specifically trained for nonacademic employment in government and private-sector agencies and organizations. Graduates are employed in administration, program evaluation, planning, and research.

The Ph.D. in Applied Anthropology is the first such program in the country. Its primary goal is to train students for nonacademic employment in such applications as health practice and services delivery; community, regional and international development; urban planning, design and services delivery. The program also trains those interested in teaching Applied Anthropology. Each student performs a full-time internship for 2 semesters, during which they work as a member of the professional staff of a government or private sector agency or organization engaged in problem solving in this country or elsewhere. The Ph.D. program, while independent, complements the M.A. program. The deadline for receipt of all doctoral application materials is March 1.

The Center for Applied Anthropology is one of six centers in the Human Resources Institute, College of Social and Behavioral Sciences. The center is concerned with applying anthropological knowledge, theory, method, and perspective to problems of contemporary society. Illustrative areas of activity include human service needs assessment, program planning and evaluation, social and environmental impact assessment, and public policy analysis.

Requirements for the M.A. in Applied Anthropology In addition to general University requirements for graduate work, the following requirements apply:

The student must complete 36 hours of graduate course work including thesis credit. All students must complete the four core seminar courses, a methods course, and a selected topics course in one of the three tracks (Medical Anthropology, Urban Anthropology, or Public Archaeology). Each student must complete one graduate-level statistics course, and one graduate-level elective course (normally taken outside the department), for a minimum of 3 hours respectively, chosen jointly by the student and the faculty adviser. The student also must successfully pass a comprehensive examination given in four sections, undertake directed research (internship), and write a thesis. Students in the Public Archaeology track must complete a minimum of 6 hours of regional problems course work in the track. Medical Anthropology and Urban Anthropology students must complete a course in Contemporary Applied Anthropology and a Regional Problems Course in the relevant track. The student must maintain a "B" average in all core seminars. Students in the M.A. program in Applied Anthropology who have completed all programmatic requirements, with the exception of the thesis, are required to register for a minimum of 2 hours of thesis (ANT 6971) each semester until the thesis is complete.

1. Courses Required of All Students

- a) Core courses
ANT 6186 (3) ANT 6588 (3) ANT 6490 (3) ANT 6676 (3)
- b) Additional Requirements -- One graduate-level course normally taken outside the department; one graduate-level statistics course.
- c) ANT 6915 (4), ANT 6971 (2)
- 2. Additional requirements for students in the Public Archaeology Track**
ANT 6196 (3) ANT 6198 (6) ANT 6197 (3)
- 3. Additional course requirements for students in the Medical Anthropology or Urban Anthropology Track**
 - a) ANT 6706 (3) ANT 6766 (3)
 - b) Either: **Medical Anthropology**, ANT 6463 (3), ANT 6469 (3) or **Urban Anthropology**, ANT 6447 (3), ANT 6448 (3)

Requirements for the Ph.D. Degree A master's degree in Anthropology or a related discipline is required for admission to the Ph.D. program in Applied Anthropology. All students must meet general University requirements for admission to graduate study.

Typically, a student will meet the tools of research requirements with: a) quantitative/computer skills and b) a substantive external specialization. The quantitative/computer requirement may be met by satisfactory completion of courses (a minimum of two) determined by the student's supervisory committee; the substantive external specialization, determined by the student's supervisory committee, may be met by the completion of graduate-level courses (a minimum of three) outside the department in an elective area related to Applied Anthropology.

Other minimum requirements include:

- 1. Eight structured courses within the department, including ANT 7703, 7704, 7760 (two separate offerings; one must be Advanced Quantitative Methods), ANT 7932, 7933, 7934, and 7936.
- 2. Qualifying examination covering area of specialization within applied Anthropology and substantive external specialty.
- 3. A 2-semester full-time internship (ANT 7945) for a minimum of 6 hours each semester.
- 4. An oral doctoral dissertation defense, normally based upon some aspect of the internship. The department requires 6 hours of doctoral dissertation (ANT 7980). Students in the Ph.D. program in Applied Anthropology who have completed all degree requirements, with the exception of dissertation research and the resulting dissertation, are required to register for a minimum of 2 hours of dissertation (ANT 7980) each semester until the dissertation is completed, defended, and accepted.

Communication Sciences and Disorders (AUD/ARH/SPP)

The Master of Science degree offered through the Department of Communication Science and Disorders is structured to meet the preparation requirements of the American Speech-Language-Hearing Association for the Certificate of Clinical Competence. In addition to core material, each student may elect to pursue a program of specialization in the areas of Speech-Language Pathology, Audiology, or Aural Rehabilitation (Hearing Impaired).

The Speech-Language Pathology and Audiology programs are accredited by the Educational Standards Board of the American Speech-Language-Hearing Association.

The department offers a concentration in Speech and Hearing Sciences at the undergraduate level. This concentration combined with other requirements culminates in a Bachelor of Arts degree in Interdisciplinary Social Sciences (ISS).

Applicants holding a baccalaureate degree in ISS (concentration in Speech-Language-Hearing Sciences) from USF or a Degree in Communication Sciences and Disorders from another accredited college or university with appropriate prerequisite

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coursework will be eligible for admission to the M.S. degree programs if the following minimum requirements are met:

1. A score of 1000 or greater for the GRE, plus a GPA of 3.0 for the last 2 years of undergraduate course work.
2. Submission of three letters of recommendation.
3. Demonstration of competency in communication skills as determined by the chairperson or delegate.

Applicants holding a baccalaureate degree in a discipline other than Communication Sciences and Disorders and whose degree is from an accredited college or university may be admitted conditionally to the M.S. programs and complete approximately 24 credits of prerequisite coursework or their equivalents. Prerequisite courses will not be credited toward M.S. requirements except with the approval of the department chairperson.

Requirements for the M.S. Degree in Speech-Language Pathology --Post Baccalaureate (SPP) The department is in the process of revising M.S. degree requirements in Speech-Language Pathology including the course of study and clinical practicum requirements. New requirements should take effect in the fall 1990 semester.

Currently, in addition to general University requirements for the master's degree, candidates must complete at least 34 hours of regularly scheduled academic coursework at the graduate level. In addition, students will enroll in sufficient graduate clinical practica to meet a minimum of 350 clock hours to fulfill the requirements of the American Speech-Language-Hearing Association. Of these hours, at least 250 clock hours must be at the graduate level in which certification is being sought. Also required for graduation are the maintenance of a 3.0 GPA in graduate courses, the attainment of clinical competence determined by a GPA of 3.0 in clinical practica, satisfactory passage of the specialty area examination in Speech-Language Pathology of the National Teachers Examination, and successful completion of a thesis or thesis alternative. With the department chairperson's approval, a student with an existing bachelor's degree and appropriate prerequisites may plan the degree program from among the following courses. Course selection is based on prescribed content areas within the discipline.

SPA 5150 (3)	SPA 5150L (1)	SPA 5303 (4)	SPA 5403 (3)
SPA 5506 (1-2)	SPA 5552 (4)	SPA 5558 (4)	SPA 6106 (3)
SPA 6232 (3)	SPA 6245 (3)	SPA 6322 (4)	SPA 6401 (3)
SPA 6410 (3)	SPA 6505 (1-6)	SPA 6553 (3)	SPA 6805 (3)
SPA 6906 (var)	SPA 6910 (var) or	SPA 6971 (var)	SPA 6930 (3)
SPA 7931 (3)			

Requirements for the M.S. Degree in Clinical Audiology -- Post Baccalaureate (AUD) The department is in the process of revising M.S. degree requirements in Audiology including the course of study and clinical practicum requirements. New requirements should take effect with the fall 1990 semester.

Currently, general University requirements for graduate work must be fulfilled, and a minimum of 35 hours of regularly scheduled academic coursework at the graduate level. In addition, students will enroll in sufficient graduate clinical practicum to meet a minimum of 350 clock hours to fulfill the requirements of the American Speech-Language-Hearing Association. Of these hours, at least 250 clock hours must be at the graduate level in which certification is being sought. The attainment of clinical competence determined by a GPA of 3.0 in all clinical practica, satisfactory passage of the specialty area examination in Audiology of the National Teachers Examination, and successful completion of a thesis or thesis alternative. With the department chairperson's approval, a student with a bachelor's degree and appropriate prerequisites may plan a program from among the following. Course selection is based on prescribed content areas within the discipline.

SPA 5132 (4)	SPA 5303 (4)	SPA 5312 (4)	SPA 5403 (3)
SPA 5506 (1-2)	SPA 5552 (4)	SPA 6305 (3)	SPA 6322 (4)
SPA 6345 (3)	SPA 6354 (3)	SPA 6401 (3)	SPA 6422 (4)

SPA 6505 (1-6) SPA 6805 (3) SPA 6906 (var) SPA 6910 (var)
 or SPA 6971 (var) SPA 6930 (3) SPA 7931 (3)

Requirements for the M.S. Degree in Aural Rehabilitation (Hearing Impaired) - Post Baccalaureate (ARH) The department is in the process of revising M.S. degree requirements in Hearing Impaired including the course of study and practicum requirements. New requirements should take effect in the fall 1990 semester. Currently, those students interested in certification as Teacher of the Hearing Impaired must fulfill all requirements for the Certificate of Clinical Competence in Audiology, as well as all university and departmental requirements as described under the requirements for the M.S. degree in Clinical Audiology or Speech-Language Pathology. In addition, programs for Teachers of the Hearing Impaired will be planned from among courses offered by the appropriate teacher preparation areas within the College of Education, and must also include the following:

SPA 6326 (3) SPA 6329 (2) SPA 6432 (3)

Criminology

The major in Criminology provides students with an in-depth exposure to the total criminal justice system, including law enforcement, detention, the judiciary, corrections, and probation and parole. The program concentrates on achieving balance in the above aspects of the system from the perspective of the criminal justice professional, the offender, and society.

The objective of the graduate program in Criminology is to develop a sound educational basis for professional training in one or more of the specialized areas comprising the modern urban criminal justice system.

Requirements for the M.A. Degree The Department of Criminology offers work leading to the M.A. degree in two main areas of specialization: Urban Law Enforcement Administration and Community Corrections. Additional courses of study can be tailored to suit individual student needs (pre-law, advanced graduate work, etc.).

In addition to meeting all general admission requirements of the University, each graduate applicant must submit three letters of recommendation and a letter of intent, and must have passed an acceptable undergraduate social science statistics course (CCJ 4700 or the equivalent).

Note 1: Individuals who wish to take courses in the graduate program as non-degree seeking students must contact the Director of Graduate Studies for the department prior to their first class appearance. Such students will usually be prohibited from enrolling in CCJ 6910.

Note 2: All course work counted toward the degree must have the prior approval of the Director of Graduate Studies of the Department of Criminology. Such work may include up to 6 hours outside the department.

The Master of Arts degree is granted upon completion of one of two program options:

1. **Thesis Option** 32 hours of CCJ course work, which must include:

CCJ 6285 (3) CCJ 6709 (3) CCJ 6605 (3)
 CCJ 6920 (3)** CCJ 6705 (3) CCJ 6971 (var)

An oral defense of the thesis is required after the final draft of the thesis has been accepted by the candidate's supervisory committee.

2. **Area Project Option** 35 hours of CCJ course work, which must include:

CCJ 6285 (3) CCJ 6709 (3) CCJ 6605 (3)
 CCJ 6920 (2)** CCJ 6705 (3) CCJ 6974 (3)

** Should be taken during the first semester of the program.

The non-thesis Area Project Option is intended primarily for in-service practitioners who aspire to administrative positions or who are currently holding such a position and who do not intend to continue their graduate education beyond the M.A. degree. Participation in the non-thesis option is by departmental permission only.

The project itself will concern one or more specific aspects of the candidate's chosen area of specialization so that students may apply their graduate studies and skills to practical problems directly related to their own work and agency. Project proposals must be approved by the Director of Graduate Studies and by the student's

supervisory committee. As a matter of course, those developing projects will produce a written report in a format appropriate for explaining and sharing the project's outcomes.

Further information on any aspect of the degree program may be obtained by writing the Director of Graduate Studies, Department of Criminology.

Geography (GPY)

Requirements for the M.A. Degree All students must complete 30 hours in graduate Geography courses, following one of the two plans outlined below. A written and oral comprehensive examination covering the general field of Geography is required for graduation, and the student must demonstrate ability to translate into English the pertinent scientific literature in one modern foreign language. Foreign students whose native tongue is not English may use English as their foreign language. A computer language (such as Fortran) may be used to meet the language requirements.

Thesis Program: The 30 hours in Geography must include:

GEA 6195 GEO 6119 GEO 6428 GEO 5058
GEO 6209C GEO 6971

Up to 6 credits outside the department may be elected with the approval of the student's committee and major professor. An oral defense of thesis is required.

Non-Thesis Program: The 30 hours in Geography must include:

GEA 6195 GEO 6209C GEO 6945 GEO 5058
GEO 6428 GEO 6947 GEO 6119 GEO 6944

The remaining hours must be approved by the student's committee and major professor, and may include up to 6 credits outside the department.

Gerontology (GEY)

Gerontology is the study of the process of human aging in all its aspects, physical, psychological, and social. In the Department of Gerontology, particular emphasis is placed on educating students who, in their professional careers, will work to sustain or improve the quality of life of older people. The department offers the degree of Master of Arts in Gerontology with either a thesis or non-thesis option. In addition to a core curriculum, concentrations are offered in research, program administration, and direct service. The thesis option is primarily for those students who wish to pursue a doctoral degree or who are interested in a research career.

Requirements for the M.A. Degree The M.A. degree requires 4 semesters of full-time study (or the part-time equivalent thereof), including one semester of supervised field experience for those in the non-thesis option.

Students with up to 12 hours of certain undergraduate or graduate courses in gerontology may complete the M.A. program with a minimum of 33 hours in approved courses. Students without sufficient prior background in gerontology at the undergraduate or graduate level are required to earn up to a minimum of 45 hours in approved courses.

Prior to entering the program, each student must confer with a departmental advisor. A review of the student's academic background and career interest will determine the approved individual curriculum and the minimum number of hours required for completion of the M.A. Required courses include:

GEY 5620 (3) GEY 6450 (3) GEY 5630 (3) GEY 6500 (3)
GEY 5642 (3) GEY 6600 (3) GEY 6325 (3) GEY 6613 (3)

Students with certain undergraduate or transfer graduate courses in gerontology may be exempt from taking GEY 5620, GEY 5642, GEY 6450, and/or GEY 6613. However, all thesis-option students must complete GEY 6450.

Additional course requirements

Concentration 1. Research

GEY 6455 (3) GEY 6456 (3)

9 hours of electives in administrative or direct service courses;

6 hours of thesis credits.

Concentration 2. Program Planning and Administration

GEY 6326 (3) Gey 6455 (3) Gey 6501 (3)

6 hours in Public Administration or Public Health courses.

In this concentration the student may select, with departmental approval, an administrative concentration in Long-Term Care and may substitute 2 Long-Term Care courses for the Public Administration or Public Health electives. Additionally, 6 hours of internship are required.

Concentration 3. Direct Service and Mental Health

GEY 6612 (3) Gey 6614 or Gey 6615 (3)
 GEY 6616 (3) Gey 6617 (3) Gey 6618 (3)

6 hours of internship credit

Certificate in Mental Health and Aging In this concentration the student can meet the educational requirements for licensure as a Mental Health Counselor. Students with an M.A. in a related field may, with the departmental approval, take the sequence in mental health and receive a certificate.

Dual Degree Program A dual degree program with social work is available. This program is planned for each student and is most suitable for students holding a B.A. in Gerontology or a B.S.W. in Social Work. There are no language requirements. Following completion of the necessary coursework, however, there will be a comprehensive examination designed to test the students' knowledge of and ability to integrate key concepts and information in the field of Gerontology. This examination must be taken and passed before the student begins the required field placement or thesis options. In addition to the comprehensive examination, which must be passed by all students in the M.A. program, students electing the thesis option must successfully pass an oral examination on the thesis. See page 26.

Admission Requirements SEE PAGES 31-33.

Special requirements:

1. A GPA of 2.5 for the last 2 years of the bachelor's degree, or a minimum score of 900 on the GRE, plus a GPA of 3.0.
2. Students electing the thesis option may be required to have higher scores on the GRE and/or a higher GPA.

Applicants with significant experience and a demonstrated commitment to the field of aging may be given special consideration.

Note: In addition to the Graduate Studies application, a program application, obtainable from the Department of Gerontology, is required.

History (HTY)

The Department of History offers the M.A. degree. Recipients of the M.A. degree typically apply their training in secondary schools and junior colleges, as well as in the non-academic public sector, e.g., archives, historic preservation, museums. The History Department publishes semi-annually a professional journal, Tampa Bay History, which encourages participation by graduate students. The department also maintains cooperative relationships with local, state, national, and international historical organizations. The University Library houses manuscript collections, newspapers and periodicals, and government documents of special interest to historical researchers. Members of the graduate faculty in History have earned recognition as teachers, scholars, and contributors to the community.

Requirements for the M.A. Degree The Department of History offers both a thesis and a non-thesis Master of Arts degree organized around the following fields:

- Field 1: American History to 1877
- Field 2: American History since 1877
- Field 3: Ancient History
- Field 4: Medieval History
- Field 5: Early Modern Europe to 1789

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Field 6: Modern Europe since 1789

Field 7: Latin America

The thesis program emphasizes preparation for further graduate study. The non-thesis program is designed to meet the needs of those students seeking a terminal degree at the masters level.

In addition to the general requirements of the University, a candidate is required to complete 38 hours in the following distribution: a 4-hour core course, 16 hours in a major field in history, 8 hours in a minor field, plus HIS 5215. Students in the thesis program will be expected to complete the remaining 8 hours in thesis credits. Non-thesis degree students must complete the remaining hours of their program in 6000 level regularly scheduled courses.

Of the 38 hours required for the Master of Arts with thesis, at least 20 must be in formal, regularly scheduled course work. For the Master of Arts without thesis, at least 28 must be in formal, regularly scheduled course work. A minimum of 16 must be at the 6000 level. Subject to the satisfaction of above requirements, courses at the 5000 level are acceptable as part of a planned degree program. In special circumstances, major advisers may approve up to 6 hours at the 4000 level with the definite understanding that additional and superior work will be required of the graduate student. The core course, HIS 6112, "Analysis of Historical Knowledge" and HIS 5215, "Historical Writing", are required of all M.A. students.

A reading proficiency in one foreign language must be demonstrated by students in the thesis degree program. A satisfactory preparation in the core course program, two fields, and the completion of a comprehensive examination are required of all M.A. students for graduation.

Students with a major field in American History and with a thesis topic that does not require use of a foreign language may substitute quantitative methods for the language requirements. The quantitative methods option will be fulfilled by successful completion with a grade of at least "B" in one of the following courses: ANT 5937; EDF 6407; POS 5734.

Upon admission, M.A. students will select an adviser who will arrange their programs and schedules of appropriate courses in their anticipated major field of study. The student, in consultation with the adviser, solicits two other members to serve on a guidance committee.

Political Science (POL)

Requirements for the M.A. Degree The graduate program leading to the M.A. in Political Science is designed to offer advanced general instruction in Political Science. It prepares its graduates for positions of responsibility in the public and private sectors, as well as in research, teaching, and study at the doctoral level.

Admission Requirements Students seeking admission to the M.A. program in Political Science must satisfy all general University admissions requirements and those of the College of Social and Behavioral Sciences. SEE PAGES 31-33. They also must satisfy the following:

1. Submit 3 letters of recommendation from individuals familiar with their academic and intellectual abilities. These letters must show that the student has the potential to do satisfactory graduate level work in Political Science. These letters should address the student's writing and speaking abilities, quantitative skills, and capacity for analytic thinking.
2. Students must have a good undergraduate background in Political Science, usually requiring a bachelor's degree in Political Science or in a related field. Students with less background in Political Science may be required to take additional courses in Political Science prior to admission. These courses will be specified by the Graduate Program Coordinator in consultation with the department admissions committee; the student must earn a grade of "B" or better in each of these courses.

Course Requirements For instructional purposes, the graduate curriculum in Political Science has been divided into seven fields:

Field 1 Political Theory

POS 5626 (3) POS 6247 (3) POS 5736 (3) POT 6706 (3)
 POS 5764 (3) POT 6007 (3)

Field 2 Comparative Government and Politics

CPO 5934 (3) CPO 6036 (3) CPO 6091 (3)

Field 3 International Relations

INR 5086 (3) INR 6036 (3) INR 6007 (3) INR 6107 (3)

Field 4 American National and State Government

POS 5094 (3) POS 6415 (3) POS 6045 (3) POS 6427 (3)
 POS 6095 (3) POS 6455 (3) POS 6127 (3)

Field 5 Urban Government and Politics

POS 5155 (3) URP 5131 (3) POS 6157 (3) URP 5132 (3)
 URP 6056 (3)

Field 6 Public Policy

INR 6107 (3) PUP 6538 (3) POS 6095 (3) URP 5131 (3)
 POS 6157 (3) URP 5132 (3) PUP 5607 (3) URP 6056 (3)
 PUP 6007 (3)

Field 7 Law and Politics

POS 6607 (3) POT 5626 (3) POS 6698 (3)

The following non-field courses may be used as elective hours:

POS 6909 (1-3) POS 6933 (3) POS 6919 (var)

Degree Requirements A minimum of 36 hours of graduate level course work distributed according to the following five categories:

1. Required core (9 hours): POS 5736 (3), plus two of the following, which will determine the student's major and minor fields of study.
 POS 6706 (3) CPO 6091 (3) INR 6007 (3) POT 6007 (3)
 POS 6045 (3) POS 6157 (3) PUP 6007 (3)
2. Major field (9): 3 courses in the student's major field of study.
3. Minor field (6): 2 courses in the student's minor field of study.
4. Electives (Minimum 6 hours). Must be approved in advance by the Graduate Program Coordinator.
5. Thesis: Minimum of 3 credits (POS 6971).
6. Remaining hours are to be taken as thesis (maximum of 6 hours), electives, or in the major or minor field.

Students who choose Public Policy as their major field can structure their electives around specific Policy Areas (e.g., education, health, urban, social sciences, law enforcement) by consulting with the Graduate Program Coordinator.

Details of these minimal requirements follow

1. **Required Core Courses** Students must take POS 5734 (Political Research Methods) within the first calendar year of graduate study. Also, the student must choose at least 2 of the following:
 POS 6706 (3) CPO 6091 (3) INR 6007 (3) POT 6007 (3)
 POS 6045 (3) POS 6157 (3) PUP 6007 (3)
 All required core courses should be taken as early as possible in the student's M.A. degree program.
2. **Thesis** All students must write a thesis under the direction of a thesis adviser and a thesis committee approved by the Graduate Program Coordinator. A thesis proposal must be approved by the thesis adviser and Graduate Program Coordinator and made a part of the student's permanent file at the time the topic is approved. Substantive changes in the proposal must be approved by the thesis adviser and the Graduate Program Coordinator and added to the student's permanent file as an addendum to the original proposal. The completed thesis must be defended at a formal oral defense before the thesis committee.
3. **Comprehensive Examination** Each student must pass a written comprehensive examination covering the fields in which they have concentrated their studies. The fields in which a student will be examined must be approved by the

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Graduate Program Coordinator. The usual pattern will be for the student to defend the two fields selected by the student as the major and minor fields. These examinations will normally be taken before completion of the thesis and thesis defense.

During the first semester in the M.A. program, each student must develop a written plan of study in consultation with the Graduate Program Coordinator. The plan should specify how the student intends to satisfy degree requirements. A copy of the approved plan must be filed with the department. Periodic changes and updates, as necessary, may be made with the approval of the Graduate Program Coordinator. Students are responsible for initiating changes and keeping their plans of study up to date.

Focus in International Relations The Department of Political Science, in cooperation with the International Studies program of the Division of Interdisciplinary Social Sciences, offers the student an opportunity to enroll in courses leading to a focus in International Relations. Within this focus, the student may select one of three concentrations: (1) Policy and Strategic Studies, (2) Comparative Area Studies, or (3) International Studies. A minimum of 36 hours will be necessary to complete this curriculum. The following is a summary of the available courses, the areas of emphasis, and proposed outline of study.

Summary

1. Required Core Curriculum: 9 credits
2. Curriculum Concentrations: Minimum of 9 credits from one of the three concentrations
3. Electives: Minimum of 6 credits
4. Thesis: Minimum of 3 credits, maximum of 6 credits
5. Remaining hours in electives or area of concentration.

Details

1. Required Core courses (9 hours)
POS 6933 POS 5736 POS 6045
2. Curriculum Concentrations (9 hours)
(1) Concentration in Policy and Strategic Studies (9 hours)
INR 6036 POS 6933
And one from the following:
PUP 6007 CPO 6091 INR 6007 INR 6107
(2) Concentration in Comparative Area Studies (9 hours)
CPO 6091 CPO 6036
And one from the following:
INR 6107 INR 6036 SSI 5934 CPO 5934
(3) Concentration in International Studies (9 hours)
INR 6007 INR 6107
And one from the following:
INR 6036 INR 5086 SSI 5934 CPO 6036
3. Selected Electives (6 hours)
Students may select from among these courses as they become available, or may elect other courses appropriate to the individual program.
POS 5626 POS 6237 PAD 5836 HIS 6939
ECO 6706 SSI 5934 ANT 6490 GEO 6195
SYP 5405 PHI 6425 PHI 6706 REL 6304
REL 6317
4. Comprehensive Exam
Students who have completed the course work are required to pass a comprehensive examination and write a thesis before graduation.
5. Thesis (3 to 6 hours)
POS 6971 Thesis: Master's
6. Remaining hours are to be taken as electives.

Certificate in Political Science Some students may choose to pursue a certificate program rather than the degree program. The admissions and student evaluation standards are the same as for those students in the degree program. The program offers a certificate program of 20 credits in the Policy and Strategic Studies concentration.

1. Required Courses (9 hours)

POS 5736 POS 6933 CPO 6036 INR 6107

2. Electives

Any regularly scheduled graduate courses approved by the Graduate Program Coordinator.

MacDill Air Force Base Program Responding to the specific career needs of military personnel stationed at MacDill Air Force Base, USF has developed a special Military and Strategic Studies focus within the M.A. Degree Program in Political Science.

Students will be able to take many of the necessary courses on base during evening hours. The program draws on the expertise of the full-time faculty members in the Department of Political Science and the International Studies Program.

For more information, contact the Graduate Studies Coordinator or the USF Base Representative at 840-0606 or 974-2384.

Psychology (PSY)

The graduate faculty of the Psychology Department is divided into three broad program areas: Clinical, Experimental, and Industrial-Organizational. Each of these areas offer Ph.D. level training in areas of special expertise. Members of the graduate Clinical faculty offer course work and training in the areas of Abnormal Psychology, Neuropsychology, Developmental Psychology, Behavioral Modification, Psychotherapy, Personality, Psychological Assessment, and Community Psychology. Members of the graduate Experimental faculty provide extensive research experience in the areas of Comparative Psychology, Cognitive Processes, Learning and Conditioning, Human Memory, and Perception. In addition, with faculty in Communication Sciences and Disorders, the Experimental faculty offers a specialization in Speech/Language/Hearing Sciences. Members of the graduate Industrial-Organizational faculty offer Training and Evaluation of Employees, Job Motivation and Satisfaction, Small Group Analysis, Organizational Theory, Human Factors, Organizational Change, and Evaluation.

Requirements for the M.A. Degree The student must complete 30 hours of graduate Psychology courses. All students are required to complete 2 of the three quantitative methods courses (PSY 6217A, 6217B, 6217C). In addition, the student must complete the departmental core requirement in 4 areas (2 hours each):

EXP 6058 EXP 6608 PSB 6056 SOP 6059

and one of the following (2 hours each):

DEP 6058 PPE 6058 PSY 6056

The student must complete at least 4 of the courses listed above for the M.A. degree, and complete the fifth course during the third year of graduate study.

A research thesis, PSY 6971, is required. The student must successfully pass an oral examination covering the thesis and research courses. The Department of Psychology does not admit students seeking a terminal M.A. degree in Psychology.

In addition to the M.A. degree in Psychology, the Psychology Department and the Department of Educational Psychology in the College of Education jointly grant the M.A. degree in School Psychology (SE). (See College of Education)

Requirements for the Ph.D. Degree The Ph.D. in Psychology is offered in the fields of Clinical, General Experimental, and Industrial/Organizational Psychology. Advanced doctoral-level requirements are determined by the student and the Ph.D. committee. Assuming that the student has completed all M.A. requirements in Psychology or its equivalent, the Psychology Department requires the following in addition to the general University requirements for the Ph.D. degree:

1. The Department of Psychology requires the student to take a graduate minor. A minor program of study, composed of work done outside the student's field of concentration and including a minimum of three appropriate level courses, is required by the department for admission to Ph.D. candidacy. The minor must be approved by the student's Ph.D. committee and the Department of Psychology.
2. A one-year internship in an approved clinical facility for Ph.D. students in the Clinical Psychology Program.
3. Six months of internship in approved industries or community agencies as available for Ph.D. students in the Industrial/Organizational Psychology program.

Public Administration (PAD)

The Public Administration Program offers a multi-disciplinary course of study leading to the Master of Public Administration (M.P.A.). The M.P.A. degree is designed primarily to prepare students for successful leadership roles and management careers in the public sector. Students enrolled in the M.P.A. program pursue careers in local, state, or federal agencies of government, non-profit organizations, and special service districts. Additionally, the M.P.A. degree prepares individuals for further academic study leading to the doctorate in Public Administration or the Ph.D. in Public Policy and Administration, as well as in a variety of other disciplines.

Those already employed in public management positions may wish to pursue the M.P.A. in order to broaden their educational backgrounds, to prepare themselves for increased job responsibilities, or to change career paths. Such in-service students currently make up the majority of the M.P.A. student body.

The Public Administration program also offers a course of study leading to a Graduate Certificate in Public Management (G.C.P.M.). This program is designed for individuals who wish to acquire knowledge of public management theory and practices, but who do not find it necessary or feasible to pursue the M.P.A. degree. Students who are admitted as regular M.P.A. degree candidates are not normally eligible for the G.C.P.M.

Admission Requirements for the M.P.A. Degree Admission to the M.P.A. program is based on an overall assessment of an applicant's potential for successfully completing the M.P.A. degree. SEE PAGES 31-33 for admission requirements.

Special requirements:

1. Two letters of recommendation, one of which should be from a faculty member familiar with the applicant's academic performance and potential.
2. The submission of a brief (one page) career statement, indicating how one's career goals and aspirations can be met by completing the M.P.A. degree.
3. A statement (if applicable) describing an applicant's current and/or past managerial work experience in the public sector. This statement is especially important for (in-service) applicants who wish to secure a waiver for the internship requirement.
4. Approval by the M.P.A. admissions committee and, if deemed necessary, an admissions interview.

Applicants who lack the background necessary for graduate study in the M.P.A. program may be accorded provisional admission and/or be required to complete additional undergraduate courses.

Requirements for the M.P.A. Degree The M.P.A. degree normally requires 2 academic years of full-time study. The required curriculum is 40-46 credits, varying according to a student's prior work experience. Students with appropriately documented administrative work experience commensurate with their career goals may not be required to complete an internship in a public agency. Pre-service students must complete a supervised internship in a public agency. At least 24 credit hours must be at the 6000 level. A minimum of 28 hours must be taken in formal, regularly scheduled classes. Courses at the 5000 level are accepted for credit toward the degree. Specific course requirements consist of 15 hours in the core, 6 hours of statistics/methodology, 3 hours in economics, 12 hours in a concentrated field of

Pre-service students are required to complete a supervised internship in a governmental or non-profit organization (PAD 6946). Internships provide students with the opportunity to gain valuable experience in the public sector, thereby enhancing the academic course of study. A 4-credit internship requires a minimum of 200 hours over at least 10 consecutive weeks; a 5-credit internship requires a minimum of 250 hours over at least 10 consecutive weeks; and a 6-credit internship requires a minimum of 300 hours over at least 10 consecutive weeks. The internship does not normally exceed a full semester in length (15 weeks). Internship credits must be earned while a student is in residence and before a student has completed regular course work requirements. Exceptions to this rule can only be made by the M.P.A. Director and must be made in advance. In-service students who have appropriate managerial/work experience commensurate with their career goals may not be required to complete an internship. Such students must submit a written statement of their work experience and career objectives for assessment by the M.P.A. faculty.

7. Problem Report (3 hours)

This report (PAD 6909) focuses on a significant administrative/policy problem confronting a public manager or agency. Upon completing the report, the student should have demonstrated an ability to identify a problem and a set of solutions, collect and analyze relevant data, and report/defend a recommended course of action intended to solve the problem. For in-service students, the problem selected for study should be outside the student's immediate work-related responsibilities. Moreover, this requirement should be completed at or near the end of the student's course of study. A minimum grade of "B" must be achieved on the problem report.

8. Examination Requirements

The problem report serves as the focal point for examining the student. The student is expected to present (both verbally and in writing) his/her findings to a three-member committee and be prepared to defend them. The student also should be prepared to demonstrate competency in the core courses of study. The committee consists of at least two M.P.A. faculty and, when appropriate, a qualified person outside the M.P.A. program. The examination is normally conducted at or near the end of the student's final semester of study. Should the student fail the examination, a second examination may be taken after an additional semester of study. It is contrary to departmental policy to offer a third examination.

Directed Research/Independent Study A maximum of 6 hours of Directed Research (PAD 6915) and/or Independent Study (PAD 6907) may be earned toward the M.P.A. degree. Enrollment in these courses is limited to students who want to do work in an area in which no formal course is available or in an area in which they have already completed one or more formal courses. Students who enroll in Directed Research or Independent Study must describe their study/research plan on a form furnished by the M.P.A. program and obtain the signature of the faculty member who agrees to supervise the work and the M.P.A. Director.

Petition to Bypass Core Courses A student with significant administrative experience (5 years or more) may petition the department to bypass one or more of the core course requirements. Upon appropriate review and approval by the M.P.A. Director and the adviser, the student may substitute an appropriate PAD elective(s) for the core course(s) bypassed.

Admission Requirements for the G.C.P.M. Admission is based on an overall assessment of the applicant's educational needs and career objectives. SEE PAGES 31-33. Additionally, applicants must complete an admissions form furnished by the Public Administration program and include as part of the application a written statement describing work experience in the public sector and indicating how career objectives can be enhanced by completing the G.C.P.M.

Requirements for the G.C.P.M. A certificate is awarded upon the completion of 18 hours of study, with a 3.0 GPA achieved on all work attempted. Each student must take a minimum of 15 PAD credits in regularly scheduled courses; at least 9 hours must be core courses. Independent study, directed research, and graduate colloquium credits cannot be counted toward the certificate requirements. Three credits earned in another department/program may be applied toward the certificate, providing they are relevant to the G.C.P.M. A student enrolled in the Certificate Program must take courses from at least two different full-time Public Administration program faculty members.

Doctoral Minor in Public Administration

Students enrolled in doctoral level courses of study in other programs (e.g., Anthropology, Psychology, Education) can, with their program's approval, complete a minor in Public Administration. The Doctoral Minor Adviser in the Public Administration program will assist the student in the design of an appropriate course of study. The Ph.D. candidate with a minimal background in public administration is advised to enroll in one or more of the following courses:

PAD 6044 PAD 6060 PAD 6221 PAD 6307 PAD 6417

Rehabilitation Counseling (REH/REF)

The mission of Rehabilitation Counseling is to help physically, mentally, emotionally, and chemically disabled individuals return to full, rewarding, and productive lives. Rehabilitation Counselors work in a wide variety of settings, but are most commonly employed in public and private rehabilitation programs and facilities, mental health treatment settings, and substance abuse treatment settings. Some establish their own private rehabilitation counseling practices.

Rehabilitation Counseling has roots in both the national rehabilitation movement and professional counseling movement. Training emphasizes the psychological, social, medical, and vocational aspects of disability, as well as the development and refinement of personal adjustment counseling skills. Graduates with an M.A. degree from the USF Department of Rehabilitation Counseling are prepared for careers as both rehabilitation specialists and mental health counselors. Special elective concentrations in substance abuse and minority rehabilitation are also offered. Other study concentrations can be arranged on an individual basis.

The Department of Rehabilitation Counseling offers only the M.A. degree. Most students are admitted after earning a baccalaureate degree in one of the behavioral, social, health-related, or educational disciplines (REH). A five-year program (REF) is available to selected undergraduates, who should contact the department during their sophomore year.

The graduate program in Rehabilitation Counseling is fully accredited by the Council on Rehabilitation Education (CORE), the national accrediting body for rehabilitation counselor training programs. Upon completion of the program, graduates are eligible to sit for the national certification examination of the Commission on Rehabilitation Counselor Certification. After passing this examination, the graduate is registered with the Commission as a Certified Rehabilitation Counselor (CRC). With additional coursework and 3 years' experience, graduates are also eligible to take the examination for state licensure as Mental Health Counselors.

Requirements for the M.A. Degree All students applying to the Department of Rehabilitation Counseling (REH or REF) must meet the deadlines below. New students are accepted for fall and spring semesters only. The deadline for applying for admission for fall semester is March 30, and for spring semester October 15. Three letters of recommendation and a personal interview also are required. All admitted students must have completed an acceptable undergraduate social science introductory statistics course or equivalent, or must complete such a course during the first semester after acceptance.

Social and Behavioral Science

Students applying via the Post-Baccalaureate Program (REH) must meet the University admission requirements. SEE PAGES 31-33.

Students admitted through the 5-year program (REF) must have completed 90 hours of work and have satisfied General Distribution, CLAST, and Rule 6A-10.30 (Gordon Rule) requirements. Minimum admission requirements include a score of at least 1000 on the GRE, or a "B" average on all work beyond 60 hours. Five-year program students may earn a baccalaureate degree in another major under the conditions specified in the Undergraduate Catalog.

The Department of Rehabilitation Counseling offers both a thesis and a non-thesis program. There is no language requirement; however, a comprehensive examination involving both written and practical work is required of all students.

The following 44-hour core curriculum is consistent with national certification standards for rehabilitation counselors and must be taken by all students (post-baccalaureate, five-year, thesis, and non-thesis).

EGC 5065 (4)	EGC 5850 (1)	EGC 6494 (3)	EGC 5376 (4)
EGC 6205 (4)	EGC 6727 (4)	EGC 5493 (3)	EGC 6375 (4)
EGC 6767 (4)	EGC 5725 (4)	EGC 6468 (4)	EGC 6851 (1)
EGC 6885 (4)			

Additional requirements for graduation – Non-thesis program: Students in the non-thesis program must complete a minimum of 60 hours in the Post-Baccalaureate Program (REH) and 150 hours in the 5-year Program (REF). Electives may be taken from Rehabilitation Counseling offerings or from offerings outside the department with the consent of an adviser.

Thesis program Students in the thesis program must complete a minimum of 47 hours in the Post-Baccalaureate Program (44-hour core curriculum plus 3 hours of EGC 6971), and no less than 150 hours in the Five-Year Program (including 44-hour core curriculum plus 3 hours of EGC 6971). Additional hours to complete the minimum of 150 hours for students in the 5-Year Program may be elected from other Rehabilitation Counseling offerings or from related programs with the consent of the adviser. An oral defense of the thesis is required.

Social Work (SOW)

Master of Social Work (M.S.W.) Degree The Department of Social Work offers a program leading to a Master of Social Work (M.S.W.) degree. This program was developed in accordance with the guidelines set forth by the Council on Social Work Education, the national accrediting body for social work education programs, and in accordance with the recommendations of the National Association of Social Workers. The M.S.W. program is fully accredited by the Council on Social Work Education. Dual-degree programs are available with Public Health and Gerontology.

The primary objective of the program is preparation of the graduate for professional social work practice through acquisition of specialized knowledge and skills necessary for clinical practice with individuals, families, and groups. The secondary objectives of the M.S.W. program are: 1) to prepare students academically for pursuit of doctoral education in social work or related human service disciplines or professional; 2) to contribute to the needed supply of professionally trained, clinical social workers in the Tampa Bay area, the state, the region, and the nation.

The M.S.W. program offers a specialized course of study in direct clinical practice. The program offers students a core curriculum, plus electives, and a supervised field experience designed to produce professionals with individual, family, and group practice skills.

The M.S.W. program is designed to produce specific competencies for clinical practice. Graduates of the M.S.W. program can reasonably be expected to demonstrate: 1) practice competency in relationship skills; 2) knowledge of the interrelationships in the biological, psychological, and sociocultural factors in human life, including the impact of disease, injury, and emotional distress and their implications for social work practice; 3) skill in methods of scientific inquiry for the purpose of advancing professional knowledge and skill; 4) basic skill in the application of a range of social work treatment methodologies for the purpose of differential diagnosis and

intervention; 5) practice competency in applying a psychosocial approach to the assessment of human problems; 6) practice competency in applying a psychosocial approach to treatment of human problems through individual, family, and group modalities; 7) a basic knowledge of managerial processes in social services, including program planning, personnel management, finance, and evaluation. The M.S.W. program places great emphasis on standards of professional behavior and ethics in the practice of social work, in order to produce a competent and professionally responsible graduate.

Students admitted to the M.S.W. program will be expected to maintain a minimum GPA of 3.0, with no grade below "C" counting toward graduation. Failure to maintain the specified GPA or to exhibit responsible professional behavior may result in suspension or dismissal from the program.

Students will be admitted to the M.S.W. program once a year, with new classes starting Semester I of each academic year (August). The course of study consists of 60 hours taken over 4 semesters. Students with earned B.S.W. degrees from programs accredited by the Council on Social Work Education may be exempt from foundation courses in the first semester, but all students must earn 60 hours in the master's program. The curriculum is heavily sequenced and students must enroll on a full-time basis in accordance with the published schedule of the department. Failure to maintain full-time enrollment will result in dismissal from the program. All students will be required to obtain professional liability insurance prior to enrollment in field courses.

Admission Requirements SEE PAGES 31-33.

Special requirements

1. A completed application form to the Department of Social Work and to the Graduate Admissions Office by March 1 for admission the following August
2. Previous social service related experience (minimum of one year post-undergraduate work or equivalent)
3. Names of previous supervisors and professors who may serve as references
4. An interview with the Admissions Committee (with favorable action)

Course Requirements (non-B.S.W. students)

A. Human Behavior and Social Environment Courses

SOW 6103 (3) SOW 6104 (2) SOW 6120 (5)

B. Social Work Practice Courses

SOW 6346 (3) SOW 6348 (2) SOW 6342 (3)

SOW 6368 (3) SOW 6362 (3) SOW 6375 (3)

C. Policy and Services Courses

SOW 6234 (3) SOW 6236 (3)

D. Social Work Research Courses

SOW 6405 (3) SOW 6433 (2) SOW 6435 (1) SOW 6436 (1)

E. Supervised Field Experience

SOW 6534 (4) SOW 6535 (6) SOW 6536 (4)

F. Additional Requirements: Elective hours (6)

Summary

Foundation Courses (12 hours)

Advanced Courses (28 hours)

Field Courses (14 hours)

Electives (6 hours)

Total (60 hours)

Course Requirements (B.S.W. students)

A. Human Behavior and Social Environment Courses

SOW 6104 (2) SOW 6120 (5)

B. Social Work Practice Courses

SOW 6348 (2) SOW 6342 (3) SOW 6368 (3)

SOW 6362 (3) SOW 6375 (3)

Social and Behavioral Science

C. Policy and Service Courses

SOW 6236 (3)

D. Social Work Research Courses

SOW 6405 (2)

SOW 6433 (2)

SOW 6435 (1)

SOW 6436 (1)

E. Supervised Field Experience

SOW 6534 (4)

SOW 6535 (6)

SOW 6536 (4)

F. Additional Requirements Elective hours (18)

Summary

Advanced Courses (28 hours)

Field Courses (14 hours)

Electives (18 hours)

Total (60 hours)

Sociology (SOC)

The Sociology M.A. graduate program offers a basic foundation in general sociological theory and research methods, and provides an opportunity for pursuing specialized areas of interest in the elective courses taken and in thesis research. Elective courses may include such seminars as community analysis, emotions research, family analysis, complex organizations, social psychology, small groups, deviance and control, and population. Also, a limited number of courses may be taken in related fields as part of a planned program approved by the student's major professor.

Many of our M.A. recipients continue in sociology Ph.D. programs. Others teach in secondary schools and junior colleges, are employed in mental health services and research, in retail sales, and government organizations, or work as research consultants and market analysts.

Requirements for the M.A. Degree A minimum of 36 hours and a thesis are required for graduation. The thesis project is designed and carried out under the supervision of a faculty member chosen by the student to serve as major advisor. Sometimes students use their current occupations as research settings. Six of the required hours are taken as thesis hours. Required courses include:

SYA 6126 (3)

SYA 6305 (3)

SYA 6405 (3)

SYA 6505 (3)

SYA 6971 (6)

Additional Course Requirements

SYA 6175 (3)

SYA 6325 (3)

Nine of the additional 15 required hours must be in scheduled graduate courses in the Sociology program. The other 6 hours can be in independent study, directed research, internship, 4000 level courses in the Sociology Department, any other scheduled graduate class in the Sociology Department, or in approved courses in other departments. Any exceptions to this policy must be approved by the graduate director in consultation with the graduate committee.

Admission Requirements In addition to the University's GRE and GPA requirements, applicants should submit two letters of reference from previous instructors. It is advisable for an applicant to hold a baccalaureate degree which provides background in sociological theory and research methods. Students with little background in Sociology, who otherwise meet requirements for admission, may be asked to take additional undergraduate courses in Sociology prior to admission. These additional courses will be specified by the Department graduate director in consultation with the department graduate committee.

Students may enroll in graduate courses as Special Students without formal application to the degree program. This option permits taking courses without applying for admission to the degree program. The only requirement is to obtain permission from the graduate director. Students subsequently accepted in to the Graduate Program may have up to 12 hours taken as a non-degree seeking student counted toward fulfilling M.A. degree requirements.

Contact the Department of Sociology for further information. Documents should be sent to the Office of Admissions.

COURSE DESCRIPTIONS

Courses offered for credit by the University of South Florida are listed on the following pages in alphabetical order by college and subject area.

The first line of each description includes the State Common Course prefix and number (see below), title of the course, and number of credits.

Credits separated by a colon indicate concurrent lecture and laboratory courses taught as a unit:

PHY 3040, 3040L GENERAL PHYSICS AND LABORATORY (3:1)

Credits separated by a comma indicate unified courses offered in different semesters:

AMH 2010, 2020 AMERICAN HISTORY I, II (4,4)

Credits separated by a hyphen indicate variable credit:

HUM 4905 DIRECTED RESEARCH (1-5)

The abbreviation "Var." also indicates variable credit:

MAT 7912 DIRECTED RESEARCH Var.

The following abbreviations are used in various course descriptions:

GR --- See Grade Point Average minimum for good standing in this Catalog.

PR --- Prerequisite

CI --- With the consent of the instructor

CC --- With the consent of the chairperson of the department or program

CR --- Co-requisite

Lec --- Lecture

Lab --- Laboratory

Dem --- Demonstration

Pro --- Problem

Dis --- Discussion

ML --- Master's Level

GS --- Graduate Standing

Rpt --- May be repeated

UL --- Upper Level

S/U --- No Grade, S/U Only

The University reserves the right to substitute, not offer, or add courses that are listed in this catalog.

Cross-Listing of Departments/Programs Alphabetically by Prefix

Common Course Prefix

Department/Programs

ACG	Accounting
ADE	Adult Education
ADV	Mass Communications
AFA	Women's Studies
AFH	History
AFS	International Studies
AMH	History
AML	English
AMS	American Studies
ANT	Anthropology, Women's Studies
APB	Biology, Microbiology (Biology)
ARA	Arabic (Language)
ARC	Architecture
ARE	Art Education, Elementary Education
ARH	Art
ART	Art

ASH	History
ASN	International Studies Program
AST	Astronomy
BCC	Medicine
BCH	Chemistry
BMS	Medicine, Medical Sciences
BOT	Biology, Botany (Biology)
BSC	Biology
BTE	Business and Office Education
BUL	General Business Administration
CAP	Computer Service Courses, Computer Science and Engineering, Computers in Education, Mathematics Education
CBH	Psychology
CCJ	Criminology
CDA	Computer Service Courses, Computer Science and Engineering
CES	Civil Engineering and Mechanics
CHM	Chemistry
CHS	Chemistry
CIS	Computer Science and Engineering
CJT	Criminal Justice
CLA	Ancient Studies (Religious Studies), Classics
CLP	Psychology
CLT	Classics
COC	Computer Service Courses, Computer Science and Engineering, General Business Administration, Information Systems and Decision Sciences
COE	Cooperative Education
COM	Communication
COP	Computer Service Courses, Computer Science and Engineering, Library, Media and Information Studies, Mathematics
COT	Computer Science and Engineering
CPO	Political Science
CRW	English
DAA	Dance, Physical Education Elective
DAN	Dance
DEC	Distributive and Marketing Education
DEP	Psychology
EAS	Civil Engineering and Mechanics
ECH	Chemical and Mechanical Engineering
ECI	Civil Engineering and Mechanics
ECO	Economics
ECP	Economics, Public Health
ECS	Economics
EDA	Administration/Supervision
EDE	Curriculum, Elementary Education
EDF	Foundations, Measurement-Research, Computers in Education
EDG	Art Education, Computers in Education, Curriculum, Elementary Education, Special Education, Speech Communication-English
EDH	Higher Education
EDM	Curriculum
EDS	Elementary Education, Administration/Supervision
EEC	Elementary Education
EED	Special Education
EEL	Computer Science and Engineering, Electrical Engineering
EES	Civil Engineering and Mechanics
EEX	Special Education
EGC	Counselor Education, Rehabilitation Counseling
EGI	Special Education
EGM	Civil Engineering and Mechanics
EGN	Basic and Interdisciplinary Engineering
EIN	Industrial and Management Systems Engineering

EIA	Industrial and Technical Education
EIV	Industrial and Technical Education
ELD	Special Education
ELR	Electrical Engineering
EMA	Civil Engineering and Mechanics
EMC	Chemical and Mechanical Engineering
EME	Computers in Education
EML	Chemical and Mechanical Engineering
EMR	Special Education
ENC	English
ENG	English
ENL	English
ENU	Chemical and Mechanical Engineering
ENV	Civil Engineering and Mechanics
ENY	Zoology (Biology)
EPH	Special Education
ESE	Curriculum
ESI	Industrial and Management Systems Engineering, Computer and Engineering
ESL	Linguistics
ETE	Engineering Technology
ETG	Engineering Technology
ETI	Engineering Technology
EUH	History
EUS	International Studies Program
EVI	Special Education
EVT	Industrial/Technical Education
EXP	Psychology
FIL	Mass Communications
FIN	Finance
FLE	Foreign Language Education, French (Language)
FOL	General Foreign Languages
FOW	Romance (Language)
FRE	French (Language)
FRT	French (Language)
FRW	French (Language)
GEA	Geography
GEB	Common Body of Knowledge, Economics, General Business Administration, Information Systems & Decision Sciences
GEO	Geography
GER	German (Language)
GET	German (Language)
GEW	German (Language)
GEY	Gerontology
GLY	Geology
GMS	Medical Sciences, Medicine
GRE	Greek (Classics), Religious Studies
GRK	Greek (Classics)
GRW	Greek (Classics)
HBR	Hebrew (Language)
HEB	Ancient Studies (Religious Studies)
HES	Health Education, Physical Education for Teachers, Public Health
HIS	History
HLP	Elementary Education
HSC	Medicine, Public Health
HUM	Humanities, Humanities Education
HUN	Nursing
HUS	Human Services
IDS	Liberal Studies, Off-Campus Term
INP	Psychology
INR	International Studies Program, Political Science

ITA	Italian (Language)
ITT	Italian (Language)
ITW	Italian (Language)
JOU	Mass Communications
LAE	Curriculum, Elementary Education, English, English Education
LAH	History
LAS	International Studies Program
LAT	Latin (Language)
LEI	Physical Education for Teachers
LIN	Communication, English, Linguistics
LIS	Library, Media and Information Studies
LIT	English, Women's Studies
LNW	Latin (Classics)
MAA	Mathematics
MAC	Mathematics
MAD	Mathematics
MAE	Elementary Education, Mathematics, Mathematics Education
MAN	Foundation Courses in Business (Graduate), General Business Administration, Management
MAP	Mathematics
MAR	Marketing
MAS	Mathematics
MAT	Mathematics
MCB	Microbiology (Biology)
MEL	Medicine
MET	Geography
MGF	Mathematics
MHF	Mathematics
MLS	Medical Technology
MMC	Mass Communication
MNA	Information Systems and Decision Sciences
MTG	Mathematics
MUC	Music
MUE	Elementary Education, Music Education
MUG	Music
MUH	Anthropology, Music
MUL	Music
MUN	Music
MUO	Music
MUS	Music
MUT	Music
MVB	Music
MVK	Music
MVP	Music
MVS	Music
MVV	Music
MVW	Music
NGR	Nursing, Public Health
NUR	Nursing
NUU	Nursing
OCB	Marine Science
OCC	Marine Science
OCE	Geology, Marine Science
OCG	Marine Science
OCP	Marine Science
ORI	Communication
PAD	Public Administration
PCB	Biology, Marine Science, Microbiology (Biology), Zoology (Biology)
PEL	Physical Education Elective
PEM	Physical Education Elective
PEN	Physical Education Elective

PEP	Adult Education
PEQ	Physical Education Elective, Physical Education for Teachers
PET	Physical Education Elective, Physical Education for Teachers, Adult Education
PHH	Philosophy
PHI	Linguistics, Philosophy
PHM	Philosophy
PHP	Philosophy
PHS	Physics
PHY	Physics
POR	Portuguese (Language)
POS	Political Science, Women's Studies
POT	Political Science
POW	Portuguese (Language)
PPE	Psychology
PSB	Psychology
PSY	Psychology
PUP	Political Science
PUR	Mass Communications
QMB	Information Systems and Decision Sciences, Management
REA	English
RED	Elementary Education, Reading Education
REE	Finance
REL	Religious Studies, Women' Studies
RMI	Mass Communications
RTV	Mass Communications
RUS	Russian (Language)
RUT	Russian (Language)
RUW	Russian (Language)
SCE	Elementary Education, Science Education
SED	Communication, Speech Communication-English Education
SLS	Counselor Education
SOP	Psychology, Women's Studies
SOW	Human Services, Social Work
SPA	Communicology
SPC	Communication
SPN	Spanish (Language)
SPS	Foundations
SPT	Spanish (Language)
SPW	Spanish (Language)
SSE	Elementary Education, Social Science Education
SSI	International Studies Program, Social Sciences Interdisciplinary
STA	Mathematics, Social Sciences Interdisciplinary
SUR	Civil Engineering and Mechanics
SYA	Sociology
SYD	Sociology
SYG	Sociology
SYO	Sociology
SYP	Sociology
TAX	Accounting
THE	Theatre
TPA	Theatre
TPP	Theatre
TSL	Linguistics
TTE	Civil Engineering and Mechanics
URP	Geography, Political Sciences, Public Administration
VIC	Mass Communications
WOH	History
WST	History, International Studies Program, Women's Studies
ZOO	Biology, Marine Science, Zoology (Biology)

Course Level Definition
Graduate 5000-5999 Senior/Graduate Level
Level 6000-Up Graduate Level

SCHOOL OF ARCHITECTURE - FAMU/USF

Program Director: A. Ratensky; Professors: D.A. Crane, D.E. Glasser; Associate Professor: P.Weir; Assistant Professors: J.A. Moore, D.S. Powers; Visiting Assistant Professor: T. Woods.

ARC 5055 ARCHITECTURAL COMPUTER TECHNOLOGY (3) Introduction to the application of computer technology in current architectural practice. The exploration of available software, programs, and computer services for word processing, information handling, specification writing, feasibility analysis, cost estimating, economic performance and life cycle cost analysis, project management (network programming and analysis). Computer graphics, computer aided design and drafting. Computer programming for analysis of problems for which no prepared software exists. (PR: INTRO COMPUTERS, ARC 5129)

ARC 5060 ARCHITECTURAL DESIGN I (5) Sensory studies (light, color, sound, texture), anthropometric studies, functional analysis (activities and their relationships), visual analysis (scale, architectural components) of a small personal space. Documentation (drawings, diagrams, models) of selected building environments. Study and documentation of a well-known architect's vocabulary, philosophy and style. Theories of scale and personal environment.

ARC 5061 ARCHITECTURAL DESIGN II (5) Study of cultural, social, political, religious, economical, physical (climate, topography, vegetation, architectural context), and technical determinants of buildings. Analysis of activities, behavioral needs, life styles based on observation and user interviews. Use of various diagrammatic representation techniques for the organization and analysis of problem and user requirement information. (PR: ARC 5060)

ARC 5062 ARCHITECTURAL DESIGN III (5) Study of the various phases of the building delivery and design process, and of different approaches to ordering that process in a systematic fashion. The student will use one such systematic approach in the investigation and development of design solutions for a project of moderate scale and complexity. Studies of built form ordering principles, mass/void relationships, scale and proportion, color, texture, contextual relationships, and meaning/imagery. Building technology (awareness of structural organization, services networks, construction processes and materials. Aspects of human behavior as design determinant. (PR: ARC 5061, ARC 5216, ARC 5129, ARC 5556, ARC 5715, ARC 5467, ARC 5686)

ARC 5063 ARCHITECTURAL DESIGN IV (5) Application of orderly design processes to building projects of moderate complexity and scale. Continued investigation of the relationship between human behavior and the environment. Analysis and integration of site relationships into the development of design solutions. Legal aspects of zoning, building codes, and regulations regarding access for handicapped persons, fire escape, etc. (PR: ARC 5062)

ARC 5064 ARCHITECTURAL DESIGN V (5) Investigation of the interaction between user requirements, environmental determinants, site and urban context conditions, technological factors, and design intentions in the development of design solutions for projects of medium scale and complexity. The analysis, design, and coordination of the various resulting systems. (PR: ARC 5063)

ARC 5065 ARCHITECTURAL DESIGN VI (5) Design of multi-purpose buildings of medium to large scale and complexity. Issues of community and neighborhood design as they relate to the design of buildings. Restoration and adaptive re-use of existing/historic buildings. Focus on development and documentation of the complete building system and process. (PR: ARC 5064)

ARC 5116 GRAPHICS I (3) Basic (freehand) drawing and visual perception. Orthographic, oblique, and perspective projection. Line, texture, shape, volume, value, color, space. Media: graphite, colored pencils, inks, felt tip marker. Visual perception and visual/verbal communication skills. Freehand drawing as a problem-solving tool.

ARC 5129 GRAPHICS II (3) Mechanical drawing coupled with the continuance of freehand drawing as the basic tools for the communication of ideas in a two-dimensional format, the

use of standard drafting equipment and media. The representation of environmental objects using mechanical drawing in orthographic, oblique, and perspective projection. Three-dimensional model-making. (PR: ARC 5116)

ARC 5136 GRAPHICS III (ADVANCED ARCHITECTURAL PRESENTATION/COLOR THEORY)

(3) Media, techniques and (physical and psychological) strategies of state-of-the-art architectural presentations. Communication and marketing of personal skills, office capabilities, and specific architectural work. Color theory. The use of color as a tool for the communication of ideas in two-and three-dimensional format, and the use of color in the built environment. (PR: ARC 5129)

ARC 5216 THE BUILDING ARTS (3) Introduction to the man-made environment. The study and profession of architecture. The various facets of the process of shaping the built environment as it manifests itself in the different roles and specializations of the experts involved in the process, and in the various academic courses that prepare the architect for his work.

ARC 5256 DESIGN METHODS (3) Survey of major schools of thought in design theory, methods of design and problem-solving, and design research. Traditional approaches to problem-solving and design in architecture; recent systematic as well as intuitive approaches to problem-solving based on developments in other fields. Scientific method; the systems approach and design. (PR: Calculus; ARC 5061)

ARC 5427 INTRODUCTION TO BUILDING ECONOMICS (3) The assessment of economic performance of building projects. Fundamentals of economic evaluation. Methods, data types and sources for estimating initial cost of building projects; the use of cost data manuals and other estimating tools. Measures and techniques for assessing future (in-use) costs and economic performances of buildings. (PR: ARC 5256; ARC 5055)

ARC 5467 MATERIALS AND METHODS OF CONSTRUCTION I (3) Qualitative overview of properties and limitations of the most common materials used in building construction, and their place and performance in the context of buildings. Emphasis is on the use of materials in contemporary building but reference is made to how materials and their uses have changed through history. The primary focus is on the interface between the interior and the exterior of a building – the exterior enclosure.

ARC 5469 MATERIALS AND METHODS OF CONSTRUCTION II (3) This course continues the exploration of how buildings and their parts respond to the forces of their environment. Introduction to the standards of drafting expected in an architectural office. Standard building details and assemblies. The design of construction details and their representation in a partial set of construction drawings of a building for which the student has designed the enclosure details. Specifications. Building codes; barrier-free design. Visits to buildings, construction sites, suppliers and producers of material and building components. (PR: ARC 5467, ARC 5556)

ARC 5491 MATERIALS AND METHODS OF CONSTRUCTION III (3) Design, construction, and performance of building materials, components, and building assemblies. In-depth analysis of the performance of construction details and assemblies of selected buildings in relation to climate, use, production and construction techniques and processes, and craftsmanship on the part of builders and architects. The analysis of problems identified in these buildings, and the development of solutions to these problems. The sensitive use of materials in response to the physical setting and social environment. Understanding the organization of the body of knowledge about building materials and details, and the development of skills in locating, organizing, evaluating, and using that information. (PR: ARC 5469)

ARC 5556 ARCHITECTURAL STRUCTURES I (3) Structural concepts and principles of behavior of structural elements and systems. Principles of statics; principles of mechanics of materials. Relationships to architectural design. compatibility of the building structure with various other building systems: spatial, functional, circulatory, environmental, constructional. Element and system configuration. (PR: Calculus.)

ARC 5585 ARCHITECTURAL STRUCTURES II (3) Truss analysis. Deflection theory. Properties of materials. Analysis and design of timber and steel elements and systems. Selection of beams in wood and steel, based on moment, shear, and deflection. Analysis and selection

of wood and steel columns. Selection of steel bar joists. Differentiation among basic structural materials on the basis of physical properties. "Framing-out" of plans in timber and steel, using rational spans. (PR: ARC 5556)

ARC 5561 ARCHITECTURAL STRUCTURES III (3) Introduction to the concepts and theories of structural analysis and design in reinforced concrete; practical application in building structures. Fundamentals of prestressed concrete. Introduction to the behavior of continuous beams and frames. Fundamentals of wind and earthquake design. (PR: ARC 5585)

ARC 5686 ENVIRONMENTAL TECHNOLOGY I (3) Exploration of the climatic response in the built environment. Lessons from historic settlements and shelter patterns. Climatic factors influencing design. Passive design methodology and human thermal comfort. Climatic zones. Natural ventilation, passive heating and cooling. Energy systems. Understanding of the basic principles of passive design and integration in contemporary design. Community and energy use. (PR: Physics)

ARC 5687 ENVIRONMENTAL TECHNOLOGY II (3) The technical problems associated with providing a thermal envelope and control systems for human habitation and comfort in a variety of climates throughout the U.S. Heating, cooling and air conditioning technology. The functions performed by the various environmental services, and the human factors that necessitate those functions. General concepts for the design of such services and systems, and quantitative measures by which their performance may be evaluated. Energy economy in buildings. (PR: ARC 5686)

ARC 5688 ENVIRONMENTAL TECHNOLOGY III (3) Lighting, daylighting, and the design of lighting systems for buildings. Principles of acoustics, and the available means for controlling acoustical conditions and performance in buildings. Indoor air quality. Electrical and sanitary service systems for buildings (plumbing). Vertical transportation and fire safety. (PR: ARC 5687)

ARC 5715 ARCHITECTURAL HISTORY I (3) Overview of the built environment from prehistory through the Middle Ages. Buildings and cities in their geographical, topographical, political, aesthetic, social, technological and economic context. Varieties of methodological approaches to the analysis of historical architecture. The focus will be on the built environment of Europe and the Mediterranean basin.

ARC 5745 ARCHITECTURAL HISTORY II (3) Overview of the built environment from the Renaissance to the present. Buildings and cities in their geographical, topographical, political, aesthetic, social, technological, and economic context. Study of various methodological approaches to the analysis of historic architecture, and development of student's own approach. Emphasis will be on the built environment of Europe and America.

ARC 5789 MODERN ARCHITECTURAL HISTORY (3) Examines the theories, designs, buildings and architects from 18th-20th Century Western architecture leading to the formation of the "Modern movement". Discusses modernism as a concept and its applications in art, literature, philosophy and science as well as architecture. Course develops through reading, lectures and seminar discussions.

ARC 5931 SPECIAL STUDIES (3-5) Description of these courses will vary from term to term.

ARC 5394L ARCHITECTURAL DESIGN FOR TRANSFER STUDENTS (5) A comprehensive and thorough review of the principles of design and the problem solving process. Analysis of methodologies used by respected designers, understanding of this material, translation and synthesis with abstract three dimensional thinking will be emphasized. Review of the nature of materials, structural principles, building systems, scale, and programming for user needs will be combined with pertinent design theory and methodology to enable the student to create spatial solutions to architectural problems of an appropriate level of complexity. Restricted to Majors. S/U, Not cross-linked. (PR: ARC 5062; ARC 5216; ARC 5129; ARC 5556; ARC 5715; ARC 5467)

ARC 6279 ARCHITECTURAL PROFESSIONAL PRACTICE (3) A survey of various aspects of practice architectural. Business organization, administration, and management in architectural firms. Project management; overview of various project delivery and phasing techniques. Information management systems and resources.

ARC 6397 INTRODUCTION TO URBAN DESIGN (3-5) The course provides a basic introduction to urban design, including an overview of this field of professional practice; and an introduction to urban design theory, methods and techniques used in actual practice, and strategies and processes of project implementation.

ARC 6345 ARCHITECTURAL DESIGN VII (5) Design of multi-purpose, complex building project at an urban scale, applying all relevant criteria and professional standards, e.g. as they would be applied to NCARB professional licensing examination in design. Comprehensive documentation and presentation of the project. (PR: ARC 5065; ARC 5427; ARC 5561; ARC 5491; ARC 5688)

ARC 6971 MASTER'S PROJECT (4-6) The Master's Project represents the culminating project in the student's academic preparation for an architectural career. The thesis involves a two semester sequence, the first focussing on programming, assembly of design criteria and preparation of schematic design proposals. The following term completes the effort, concentrating on definitive design development. Thesis projects typically consist of large to medium complex buildings in which a number of design factors are successfully synthesized. Traditional academic theses may also be permitted with consent of the thesis committee. In either case, successful thesis projects must demonstrate original thinking, academic accomplishment, and professional competence. Corequisite (Sem. 1), (PR: Sem. 2, ARC 6974)

ARC 6974 MASTER'S PROJECT PLANNING (1-3) Development of research, programming and documentation skills required to prepare a comprehensive, professional building program, to be used in conjunction with the Master's Project (ARC 6971). Course will include site selection and analysis, development of design criteria, scheduling and preparation of a project manual. (PR: ARC 5065)

College Of Arts & Letters

AMERICAN STUDIES

Chairperson: J.B. Moore; *Professor:* J.B. Moore; *Associate Professors:* R.A. Baner, R.E. Snyder; *Assistant Professor:* P.J. Brewer; *Other Faculty:* S.A. Zylstra.

AMS 6254 U.S.A.: A DECADE IN DEPTH (3) Open to non-majors. An example would be *The Thirties: Inter-related Aspects of American Life from the Stock Market Crash to Pearl Harbor*. Rpt. to 6 hours.

AMS 6375 THE AMERICAN SOUTH (3) Open to non-majors. Examines the Region since Reconstruction through architecture, art, literature, photography, music, history and other interdisciplinary perspectives.

AMS 6805 MAJOR IDEAS INFLUENCING AMERICAN CIVILIZATION (3) Open to non-majors. Examination of such concepts as individualism, freedom and liberalism as embodied in literature, politics, religion, architecture, economics, science and technology.

AMS 6901 DIRECTED READINGS IN AMERICAN STUDIES (1-3) Open to non-majors. Guided reading designed to expand a student's knowledge in a particular area of interest. Rpt. to 4 hours.

AMS 6915 DIRECTED RESEARCH (1-19) Var. Rpt. S/U. (PR: GR, ML)

AMS 6934 SPECIAL TOPICS IN AMERICAN STUDIES (1-3) Open to non-majors. Variable titles offered periodically on topics of special interest to American Studies students. Rpt. to 4 hours.

AMS 6938 SEMINAR IN AMERICAN STUDIES (3) Open to non-majors. Advanced research in interdisciplinary fields and topics determined by the instructor. Rpt. with permission of Graduate Director.

AMS 6940 INTERNSHIP IN AMERICAN STUDIES (1-3) A structured, out-of-class learning experience providing first hand, practical training in American Studies-related professional careers in the community. Rpt. S/U. (PR: Majors only)

AMS 6971 THESIS: MASTER'S Var. Rpt. S/U.

CLASSICS

Chairperson: A.L. Motto; *Professor:* A.L. Motto; *Associate Professor:* J.D. Noonan; *Assistant Professors:* J. Campbell, S.R. Mandell; *Other Faculty:* J.R. Clark, W.H. Murray, J.F. Strange, G.K. Tipps.

Greek

GRW 5905 DIRECTED READING (1-4) Departmental approval required.

Latin

LNW 5900 DIRECTED READING (1-4) Departmental approval required. S/U.

LNW 5934 SELECTED TOPICS (4) Study of an author, movement, or theme. Rpt. to 12 credit hours.

LNW 6325 ROMAN ELEGIAC POETS (3) Readings in Catullus, Propertius, Tibullus. Study of technique and tradition in Roman lyric poetry.

LNW 6505 ROMAN PHILOSOPHY (3) Readings in the philosophic writings of Cicero, Seneca, and Lucretius, together with an examination of Stoic, Epicurean, and Eclectic thought.

LNW 6655 HORACE (3) Readings in the Odes and Epodes of Horace; study of the Ode's tradition.

LNW 6665 VERGIL (3) Readings in the Aeneid, the Eclogues, and the Georgics.

LNW 6910 SUPERVISED RESEARCH (3) CC.

LNW 6940 SUPERVISED TEACHING (3) CC.

COMMUNICATION

Chairperson: A.P. Bochner; *Professors:* A.P. Bochner, P.J. Newcombe, L.S. Pettegrew, R.J. Schneider; *Associate Professors:* K.N. Cissna, B.F. Downs, C.J. Jablonski, N.C. James, D. Payne, M.L. Vanderford; *Assistant Professor:* M. Garko; *Other Faculty:* D.H. Smith

COM 5123 COMMUNICATION ASSESSMENT IN ORGANIZATIONS (3) A study of the means by which the communication specialist intervenes in organizational behavior. An emphasis is placed on gathering and analyzing organizational communication data. (PR: for undergraduates, COM 3120 or CI; graduates, CI)

COM 6001 INTRODUCTION TO GRADUATE STUDY IN COMMUNICATION (3) Required of all M.A. candidates. An introduction to the aims and methodologies of the graduate discipline of communication: its relationship to the adjacent arts and sciences; bibliographical resources; methods of research; and a brief survey of the historical development of the field with emphasis on current issues in theory, research, and practice.

COM 6121 COMMUNICATION THEORY IN ORGANIZATIONS (3) A study of communication theory and behavior within organization settings: role of communication, communication climates, communication networks, leadership.

COM 6312 RESEARCH METHODS IN COMMUNICATION (3) Critical examination of research design, procedures, and reporting of empirical studies in communication.

COM 6400 COMMUNICATION THEORY (3) An examination of communication theory through selected reading in the works of major theorists past and present. (PR: COM 6001)

ORI 5145 ORAL INTERPRETATION OF DRAMATIC LITERATURE II (3) A study of selected pre-modern dramas with special emphasis on problems of interpretation for oral performance. (PR: ORI 4140)

ORI 5210 PERFORMANCE OF CHILDREN'S LITERATURE (3) A study of the theories and practice in the oral interpretation of poetry and narrative fiction for children with special emphasis on classical and modern literature. (PR: ORI 3000 or CI)

ORI 6146 ORAL INTERPRETATION OF THE PLAYS OF SHAKESPEARE (3) A study of selected plays of Shakespeare from the point of view of the oral interpreter. (PR: ORI 3000 or CI)

- ORI 6355 LITERARY ADAPTATION FOR ORAL INTERPRETATION (3)** Composition and adaptation of literary materials for oral presentation. An investigation of approaches to various genres: poetry, fiction, and non-fiction.
- ORI 6410 HISTORY AND THEORIES OF ORAL INTERPRETATION (3)** A study of the history, critical writings, uses, and developments of the art of oral interpretation, with analysis of the principles and practices.
- ORI 6930 COMMUNICATION AESTHETICS (3)** This course examines the historical evolution of the aesthetic dimension of communication as performance in terms of major concepts and theorists from Plato to the present.
- SED 6943 GRADUATE INSTRUCTION METHODS (1-4)** Special course to be used primarily for the training of teaching assistants. Var. Rpt. to a total of 4 credits. (S/U only.)
- SPC 5335 NONVERBAL COMMUNICATION (3)** A survey of scientific and pragmatic research in nonverbal behavior relating to communication. (PR: Senior standing and C)
- SPC 5912 RESEARCH (1-4)** (PR: Senior or GS and C)
- SPC 5933 SELECTED TOPICS (1-4)** Undergraduates must have minimum GPA 3.0, 15 hours of core requirements, 9 elective hours completed and C. (PR: Senior or GS)
- SPC 6149 COMMUNICATION: ANALYSIS AND MEASUREMENT (3)** Analysis and measurement of communication, including the theory and application of selected instruments and techniques for measuring and observing communication.
- SPC 6231 RHETORICAL THEORY (3)** Historical development of rhetorical theory from Plato to contemporary theorists with emphasis upon the evolution of trends and concepts in rhetorical theory.
- SPC 6391 SEMINAR INTERPERSONAL COMMUNICATION (3)** Study of theory and research related to interpersonal communication.
- SPC 6442 THEORY AND RESEARCH IN SMALL GROUP COMMUNICATION (3)** Study of contemporary theories and research relating to communication in small group settings. (PR: SPC 3441)
- SPC 6515 THEORIES OF ARGUMENT (3)** An examination of argumentative theory through the medium of selected reading in the works of major theorists past and present. In addition, selected examples from the argumentative persuasion of each historical period will be examined and analyzed for the purpose of correlating theory with practice.
- SPC 6545 PERSUASION (3)** Study of contemporary theories and research in persuasion. (PR: SPC 3513)
- SPC 6610 HISTORY AND CRITICISM OF AMERICAN PUBLIC ADDRESS (3)** Criticism of selected speeches and speakers of American public address, studied against a background of political, social, and intellectual issues.
- SPC 6682 THEORIES OF RHETORICAL CRITICISM (3)** The study of theoretical perspectives in rhetorical criticism. The application of criticism to selected rhetorical situations.
- SPC 6903 DIRECTED READINGS (1-4)**
- SPC 6913 DIRECTED RESEARCH (1-19)** Rpt. S/U. (PR: ML)
- SPC 6934 SELECTED TOPICS IN COMMUNICATION (1-4)**
- SPC 6971 THESIS: MASTER'S (1-19)** Rpt. S/U.

ENGLISH

Chairperson: W.T. Ross; *Professors:* J.P.W. Rogers (DeBartolo Chair in the Liberal Arts), L.R. Broer, J.R. Clark, S.M. Deats, H.A. Deer, I. Deer, R.F. Dietrich, F.J. Fabry, S.R. Fiore, W. Garrett, J.S. Hatcher, E.F. Henley, J.P. Hinz, J.J. Iorio, D.L. Kaufmann, J.B. Moore, W.E. Morris, R.S. Pawlowski, W.D. Reader, W.T. Ross, S.J. Rubin, W.H. Scheuerle, E.E. Smith, K.I. Spear, D.A. Wells; *Associate Professors:* A.G. Bryant, R.E. Chisnell, R.M. Figg III, R.E. Hall, M.C. Harmon,

W.J. Heim, E.A. Metzger, J.M. Moxley, G.A. Olson, R.D. Wyly, Jr.; *Assistant Professors*: R.M. Baum, P.J. Collins, R.L. Hewitt, F.T. Mason, P.J. Sipiora, N.J. Tyson, J.D. Walther, F.J. Zbar.

AML 6017 STUDIES IN AMERICAN LITERATURE TO 1860 (3) Selected focused studies in American literature before 1860; the Puritans, Franklin, Cooper, Irving, Poe, Emerson, Hawthorne, Melville, and others. Rpt. with different subject matter three times.

AML 6018 STUDIES IN AMERICAN LITERATURE – 1860 TO 1920 (3) Selected focused studies in American literature: Dickinson, Whitman, Twain, Howells, James, Crane, Dreiser, and others. Rpt. with different subject matter three times.

AML 6027 STUDIES IN MODERN AMERICAN LITERATURE (3) Modern American drama, poetry, fiction, and literary criticism; authors include Faulkner, Hemingway, Fitzgerald, O'Neill, Anderson, Wolfe, Cummings, Frost, and Eliot. Rpt. with different subject matter three times.

ENC 6319 SCHOLARLY WRITING FOR PUBLICATION IN ENGLISH STUDIES (3) Methods of writing and publishing scholarly articles, monographs, and textbooks in rhetoric and composition, literary scholarship, and criticism.

ENC 6336 RHETORICAL DIMENSIONS OF COMPOSITION (3) Examines the evolving relationship between rhetoric and composition from antiquity to the present.

ENC 6700 STUDIES IN COMPOSITION THEORY (3) Major theories and models of composing. Selected theorists include Rohman, Emig, Sommers, Flowers, and Hayes. Rpt. 3 times with different subject matter.

ENC 6720 STUDIES IN COMPOSITION RESEARCH (3) Examines and evaluates a broad range of important research studies conducted in composition and a variety of research techniques such as descriptive statistics, qualitative research design, and measurement and evaluation. Instruction in how to conduct composition research. Rpt. 3 times with different subject matter.

ENC 6740 THEORY AND DEVELOPMENT OF WRITING PROGRAMS (3) Operating theories of and administrative procedures for implementing writing programs on various levels; focuses on remedial, freshman, advanced, and technical writing programs as well as writing centers.

ENG 6009 BIBLIOGRAPHY FOR ENGLISH STUDIES (3) Detailed study of bibliographies of cultural milieus, genres, periods, and authors. Consideration of the profession's standards and procedures for publishing scholarly research. In addition to library research, the student will also submit one scholarly article of publishable quality.

ENG 6017 STUDIES IN STYLE (Advanced Composition for Teachers) (3) Poetics, rhetoric, dramatic style, prose style, short fiction, the novel, and the essay. Rpt. with different subject matter 3 times.

ENG 6018 SCHOLARSHIP AND CRITICISM (3) Selected focused study of research approaches to English. Rpt. with different subject matter twice.

ENG 6916 DIRECTED RESEARCH Var. Rpt. S/U. (PR: GR. ML)

ENG 6939 GRADUATE SEMINAR IN ENGLISH (3) Rpt. with different subject matter to a total of 9 hours. (PR: Consent of graduate adviser)

ENG 6971 THESIS: MASTER'S Var. Rpt. S/U.

ENG 7916 DIRECTED RESEARCH Var. Rpt. S/U. (PR: GR. Ph.D. level)

ENG 7939 DOCTORAL SEMINAR (3) Intensive small-group discussion as well as shared and individual guided research in a student's area of doctoral specialty. Rpt. to 9 hours. (PR: Admission to Ph.D. Program)

ENG 7980 DISSERTATION: DOCTORAL Var. Rpt. S/U. (PR: Admission to Candidacy)

ENL 6206 STUDIES IN OLD ENGLISH (3) A study of Old English language, prose style, poetry. Rpt. with different subject matter three times.

- ENL 6216 STUDIES IN MIDDLE ENGLISH (3)** Selected focused studies in language and in various authors and writings, 1100-1500; Chaucer, the Pearl poet, Everyman, ballads, drama. Rpt. with different subject matter three times.
- ENL 6227 STUDIES IN SIXTEENTH-CENTURY BRITISH LITERATURE (3)** Selected focused studies in sixteenth-century British literature; Shakespeare, Sidney, Spenser, Marlowe, and others. Rpt. with different subject matter three times.
- ENL 6228 STUDIES IN SEVENTEENTH-CENTURY BRITISH LITERATURE (3)** Selected focused studies in British literature, 1600-1660; Bacon, Donne, Jonson, Herbert, Milton, and others. Rpt. with different subject matter three times.
- ENL 6236 STUDIES IN RESTORATION AND EIGHTEENTH-CENTURY BRITISH LITERATURE (3)** Selected focused studies in Restoration-Eighteenth-Century British literature: Dryden, Defoe, Pope, Swift, Fielding, Sheridan, Johnson, Boswell, and others. Rpt. with different subject matter three times.
- ENL 6246 STUDIES OF THE ENGLISH ROMANTIC PERIOD (3)** A study of pre-Romantic and Romantic prose, fiction, nonfiction, and poetry. Rpt. with different subject matter three times.
- ENL 6256 STUDIES IN VICTORIAN LITERATURE (3)** A study of Victorian poetry, Victorian fiction, Victorian non-fictional prose, and Victorian drama. Rpt. with different subject matter three times.
- ENL 6276 STUDIES IN MODERN BRITISH LITERATURE (3)** A study of Irish and English drama, the modern novel, poetry, criticism, and the short story. Rpt. with different subject matter three times.
- LAE 6375 PROBLEMS IN COLLEGE ENGLISH INSTRUCTION: COMPOSITION (3)** An examination of the objectives of freshman English and an investigation of current techniques for achieving those objectives, emphasizing the problems of developing critical reading and the techniques of expository writing at the college level.
- LAE 6389 PROBLEMS IN COLLEGE ENGLISH INSTRUCTION: LITERATURE (3)** A course that allows the prospective college English teacher to experiment with teaching techniques that will determine the most effective ways to teach literature and that will teach college English teachers the variety and importance of literary techniques and their relevance to subject matter.
- LAE 6392 PRACTICE IN TEACHING COMPOSITION (3)** In semester I required of and open only to Teaching Assistants new to U.S.F.'s Freshman English program. Gives practical guidance in preparing to teach composition. S/U.
- LAE 7376 PROBLEMS IN ADVANCED ENGLISH INSTRUCTION OF COMPOSITION (3)** Apprenticed, closely supervised study of and practice in teaching of college and university advanced composition. Student may elect to work with nonfiction, fiction, or poetry. (PR: Admission to the Ph.D. program in English)
- LAE 7390 PROBLEMS IN ADVANCED ENGLISH INSTRUCTION AND SCHOLARLY RESEARCH (3)** This course provides closely supervised training in upper-level college English instruction and experience with professional research. Experience in the lecture, seminar discussion, examining, evaluation, conferences, directing undergraduate research, course development, use of secondary materials, publication procedure, and collation. (PR: Ph.D. Candidacy)
- LIN 5107 HISTORY OF THE ENGLISH LANGUAGE (3)** The course will trace the history of the English language from its beginnings in continental Europe, through the Anglo-Saxon and Middle English periods, the Renaissance, and the Nineteenth Century, to the present day with emphasis on both the structural development of the language and the political, social, and intellectual forces that determined this development. (PR: Senior or GS)
- LIT 6096 STUDIES IN CONTEMPORARY LITERATURE (3)** Drama, poetry, fiction, and literary criticism; authors to be studied include Ionesco, Thomas, Miller, T. Williams, Beckett, Camus, Burgess, Morrison, and Walker. Rpt. with different subject matter three times.

LIT 6105 STUDIES IN CONTINENTAL LITERATURE (3) General areas include the Renaissance, the Enlightenment, the Novel in Europe, the Romantic Movement on the Continent, and Classical Comedy. Rpt. with different subject matter three times.

LIT 6934 SELECTED TOPICS IN ENGLISH STUDIES (1-6) Current topics offered on a rotating basis include The Nature of Tragedy; The Nature of Comedy and Satire; The Nature of Romanticism and Classicism; and The Nature of Myth, Allegory, and Symbolism. Other topics will be added in accordance with student demand and instructor interest.

FOREIGN LANGUAGES

Director: R.W. Cole; *Professors:* G. Brulotte, C.W. Capsas, D. Ierardo, E.F. McLean, E.J. Neugaard, R.A. Preto-Rodas, C.E. Scruggs; R.A. Stelzmann; *Associate Professors:* C.J. Cano, R.A. Cherry, Jr., M. Esformes, W.H. Grothmann, W.R. Hampton, V.E. Peppard, J.C. Tatum; *Assistant Professors:* A.J. Hechiche, C.M. Probes.

FOL 5906 DIRECTED STUDY (1-3) (PR: FOL 4200 or equiv.)

French

FLE 6829 GRADUATE INSTRUCTION METHODS (1-4) Special course to be used primarily for the training of graduate teaching assistants. Var. Rpt. to a total of 4 hours. (S/U only.)

FRE 5425 ADVANCED WRITTEN EXPRESSION (3) Course is designed to give advanced training in free composition in French. (PR: FRE 4421, or equiv.)

FRE 5566 CONTEMPORARY FRANCE (3) An advanced course in French civilization and culture including a study of recent social, economic and political trends. Text and discussions in French. (PR: FRE 3500 or equiv. or GS)

FRE 6910 DIRECTED RESEARCH Var. Rpt. S/U. (PR: GR. ML)

FRE 6971 THESIS: MASTER'S Var. Rpt. S/U.

FRW 5222 CLASSICAL PROSE AND POETRY (3) Emphasis on Malherbe, Descartes, Pascal, LaFontaine, and Boileau. (PR: FRW 4101)

FRW 5226 20TH CENTURY POETRY AND THEATRE (3) Valery, Claudel, Anouilh, Montherland, Sartre, Ionesco. (PR: FRW 4101)

FRW 5286 THE 20TH CENTURY NOVEL (3) Proust, Gide, Mauriac, Malraux, Camus, Robbe-Grillet. (PR: FRW 4100)

FRW 5310 CLASSICAL DRAMA (3) Corneille, Moliere, and Racine. (PR: FRW 4101)

FRW 5415 LITERATURE OF THE MIDDLE AGES (3) Major genres, including epics, Arthurian romances, drama, and lyric poetry. Reading in modern French translation. (PR: FRW 4100 or 4101)

FRW 5425 LITERATURE OF THE RENAISSANCE (3) A study of Renaissance French humanism including Rabelais, Montaigne, and Pleiade poets. (PR: FRW 4100 or 4101)

FRW 5445 18TH CENTURY LITERATURE (3) The classical tradition and the new currents of thought in the Age of Enlightenment. (PR: FRW 4100)

FRW 5530 PRE-ROMANTICISM (3) The precursors of romanticism. Emphasis on Rousseau, Bernardin de St. Pierre, Chenier, and Chateaubriand. (PR: FRW 4100 or 4101)

FRW 5535 ROMANTICISM AND EARLY REALISM (3) A study of the romantic and early realistic movements with emphasis on Lamartine, Vigny, Musset, Hugo, and Balzac. (PR: FRW 4101)

FRW 5556 NATURALISM AND REALISM (3) A detailed study of realism and naturalism with emphasis on Flaubert, Zola, les Goncourt, Maupassant, and Daudet. (PR: FRW 4100 or 4101)

FRW 5934 SELECTED TOPICS (1-3) Study of an author, movement, or theme. (PR: Upper-level or GS)

FRW 6315 SEMINAR ON CLASSICAL DRAMA (3) An indepth study of the works of one or more of the following dramatists: Corneille, Racine, or Moliere.

FRW 6405 OLD FRENCH (3) An introduction to the Old French language and literature. Readings from representative texts.

FRW 6416 MEDIEVAL LITERATURE (3) A study in depth of Old French literature of the Middle Ages.

FRW 6938 GRADUATE SEMINAR (3) Topics vary. Rpt.

German

GER 5845 HISTORY OF THE GERMAN LANGUAGE (3) A diachronic approach to the study of the German language. The course traces the history and development of the language from Indo-European through Germanic, Old, Middle, and New High German.

GER 6060 GERMAN FOR READING (3) Designed to provide a reading ability in German that will support research in other disciplines.

GER 6908 INDEPENDENT STUDY Var. Independent study in which student must have a contract with an instructor. Rpt. S/U.

GEW 5475 20TH CENTURY LITERATURE TO 1945 (3) A study of major styles in German literature from 1900 to WWII with emphasis on Hauptmann, Schnitzler, Hofmannsthal, George Rilke, Kaiser, Heym, Trakl, Thomas Mann, Hesse, Kafka, Benn, Brecht.

GEW 5489 20TH CENTURY LITERATURE 1945 TO PRESENT (3) Study of major trends in German literature since WWII with emphasis on Borchert, Frisch, Durrenmatt, Boll, Uwe, Johnson, Grass, Aichinger, Eich Enzensberger, Bachmann.

GEW 5515 THE ENLIGHTENMENT (3) Selected dramas and critical writings by Lessing, Wieland, Kant.

GEW 5545 ROMANTICISM (3) Jenaer circle and Heidelberger circle; the late romantic period, the writers between Classicism and Romanticism.

GEW 5555 REALISM (3) Selected works by Grillparzer, Grabbe, Buchner, Hebbel, Heine, Immerman, Stifter, Keller, Meyer, Storm, Raabe, Hulshoff, and Morike.

GEW 5600 GOETHE (3) Selected novels, poems: Werther, Wahlverwandtschaften, Wilhelm Meister, Westostlicher, Divan.

GEW 5603 FAUST (3) Sources, form, content, and literary significance of Urfaust and Faust.

GEW 5610 SCHILLER (3) Selected dramas, philosophical, and aesthetical writings.

GEW 5934 SELECTED TOPICS (1-3) Study of an author, movement, or theme. (PR: Upper-level or GS)

GEW 6915 DIRECTED RESEARCH Var. Rpt. S/U. (PR: GR. ML)

GEW 6934 SELECTED TOPICS (1-3) Study of an author, movement, or theme.

Italian

ITW 6910 DIRECTED RESEARCH Var. Rpt. S/U. (PR: GR. ML)

Romance

FOW 6805 BIBLIOGRAPHY (1) Research methods. Includes familiarity with major journals and bibliographies, with a practicum. S/U.

Spanish

SPN 5567 CONTEMPORARY SPAIN (3) Advanced readings and discussions dealing with contemporary Spanish civilization and culture, including a study of recent social, artistic, and political trends. Texts and discussions in Spanish. (PR: SPN 3500 or equiv. GS standing)

Arts and Letters

- SPN 5795 (formerly SPN 5790) PHONOLOGY AND PHONETICS (3)** A study of the Spanish sound system. (PR: SPN 3300)
- SPN 5845 HISTORY OF THE SPANISH LANGUAGE (3)** Traces the development of Spanish from its Latin origins to the present.
- SPN 6940 GRADUATE INSTRUCTION METHODS (1-3)** Special course to be used primarily for the training of teaching assistants. Var. Rpt. to a total of 3 credits. S/U.
- SPW 5245 THE PICARESQUE NOVEL (3)** Realistic prose-fiction of the Renaissance and Golden Age.
- SPW 5315 (formerly SPW 5313) GOLDEN AGE OF DRAMA (3)** Lope de Vega, Alarcon, Tirso, Calderon, and others. (PR: SPW 4100)
- SPW 5405 (formerly SPW 5400) MEDIEVAL LITERATURE (3)** Course gives an in-depth study of principal works and authors of the period such as El Poema de Mio Cid, Libro de Buen Amor, and La Celestina. (PR: SPW 4100 or equiv.)
- SPW 5485 (formerly SPW 5482) POST CIVIL WAR LITERATURE (3)** The drama and novel since 1936. (PR: SPW 4101)
- SPW 5535 ROMANTICISM (3)** Poetry and drama of the first half of the 19th century. (PR: SPW 4101)
- SPW 5555 REALISM (3)** Prose fiction of the 19th century. (PR: SPW 4101)
- SPW 5605 THE QUIJOTE (3)** Cervantes' masterpiece Don Quijote de la Mancha.
- SPW 5725 GENERATION OF 1898 (3)** The major figures of the period and their main followers. (PR: SPW 4101)
- SPW 5726 GENERATION OF 1927 (3)** A study of Vanguard literature in Spain between 1918 and 1936. (PR: SPW 4101)
- SPW 5755 MEXICAN LITERATURE (3)** Major writers of all genres. Emphasis on modern writers. (PR: SPW 4130)
- SPW 5765 LITERATURE OF ARGENTINA AND URUGUAY (3)** Emphasis on the gaucho theme and contemporary prose fiction. (PR: SPW 4131)
- SPW 5775 CARIBBEAN LITERATURE (3)** Emphasis on contemporary Cuban and Puerto Rican literature. (PR: SPW 4130)
- SPW 5934 SELECTED TOPICS (3)** Study of an author, movement, or theme. (PR: Upper-level or GS)
- SPW 6910 DIRECTED RESEARCH** Var. Rpt. S/U. (PR: GR. ML)
- SPW 6936 GRADUATE SEMINAR (3)** Topics vary. Rpt.
- SPW 6971 THESIS: MASTER'S** Var. Rpt. S/U.

HUMANITIES

Chairperson: A.J. Sparks; *Professors:* C.B. Cooper, S.L. Gaggi, T.B. Hoffman, H. Juergensen, G.S. Kashdin (*Emeritus*), E.M. MacKay (*Emeritus*), D. Rutenberg, A.J. Sparks, S.A. Zylstra; *Assistant Professor:* J.P. D'Emilio

- HUM 6412 STUDIES IN THE HUMANITIES OF INDIA (4)** Examples from the arts and letters of India and the relationship of these arts to the Hindu and Buddhist philosophy-religions.
- HUM 6414 STUDIES IN THE HUMANITIES OF CHINA (4)** Examples from the arts and letters of China; their relationship to Taoism, Confucianism, and other Chinese philosophies; Western influences on twentieth century Chinese arts and letters.
- HUM 6415 STUDIES IN JAPANESE ARTS AND LETTERS (4)** Examples from the arts and letters of Japan, their relationship to Zen Buddhism and other Japanese philosophy-religions; Western influences on 20th century Japanese arts and letters.

- HUM 6453 STUDIES IN AMERICAN ARTS AND LETTERS I (4)** Study of selected works dealing with the development of cultural patterns on the western frontiers and their effects on aesthetic judgement. 1790-1890.
- HUM 6456 STUDIES IN AMERICAN ARTS AND LETTERS II (4)** Examples from the arts and letters of the U.S.; analyses of their relationships to the concepts of progress and aesthetic judgement. From 1890 to present.
- HUM 6465 STUDIES IN LATIN AMERICAN ARTS AND LETTERS (4)** Analysis of selected Latin American works of art in their cultural context. Rpt. once with change of content.
- HUM 6475 STUDIES IN CONTEMPORARY ARTS AND LETTERS (3)** Concentration on major artists and recent trends. Rpt once with change of content.
- HUM 6493 STUDIES IN CLASSICAL ARTS AND LETTERS (3)** Examples from the arts and letters of ancient Greece and their relationships to Aegean myths, religions, and philosophies. Classical Greek influences on later cultures. Rpt. once with change of content.
- HUM 6494 STUDIES IN MEDIEVAL ARTS AND LETTERS (3)** Studies in medieval philosophies, visual arts, music, literature, and architecture and their inter-relationships. Rpt. once with change of content.
- HUM 6495 STUDIES IN RENAISSANCE ARTS AND LETTERS (3)** Masterpieces and major artists of the Renaissance in Continental Europe and England. Rpt. once with change of content.
- HUM 6496 STUDIES IN ENLIGHTENMENT ARTS AND LETTERS (3)** Studies in painting, sculpture, music, literature, and architecture in relation to philosophical determinism and political absolutism. Rpt. once with change of content.
- HUM 6497 STUDIES IN NINETEENTH CENTURY ARTS AND LETTERS (3)** Examples from the arts and letters of the nineteenth century, their relationship to philosophical, social, and historical developments, and to the arts and letters of the twentieth century. Rpt. once with change of content.
- HUM 6909 INDEPENDENT STUDY** Var. Independent study in which student must have a contract with an instructor. Rpt. S/U.
- HUM 6915 DIRECTED RESEARCH** Var. Rpt. S/U.
- HUM 6934 SELECTED TOPICS IN HUMANITIES (1-3)** Each topic is a course of study in a subject not covered by a regular course. Rpt. with a change of content.
- HUM 6971 THESIS: MASTERS (1-3)** In consultation with an adviser, the student plans, organizes, and writes a thesis on a topic in interdisciplinary arts and ideas. S/U.

LINGUISTICS

Professors: C.J. Cargill, R.W. Cole, R.C. O'Hara; *Associate Professors:* J.C. Caffisch, Sr., J.B. Camp

- LIN 6081 INTRODUCTION TO GRADUATE STUDY IN LINGUISTICS (3)** Required of all M.A. candidates. An introduction to the aims and methodologies of linguistics as a graduate discipline: The field of linguistics, its subdisciplines, and its relationship to adjacent arts and sciences; bibliographical resources; methods of research and research writing; and a brief survey of the historical development of linguistics and current issues in the field.
- LIN 6108 STUDIES IN ENGLISH LANGUAGE AND LINGUISTICS (3)** An advanced study of the origin, historical development and contemporary structure of British and American English in its social and cultural milieu, with emphasis upon modern techniques for linguistic analysis and description.
- LIN 6110 DIRECTED RESEARCH** Var. Rpt. S/U. (PR: GR. ML)

Arts and Letters

- LIN 6117 HISTORY OF LINGUISTIC THOUGHT (3)** Survey of the development of language study in the West from Antiquity to the present. Classical and medieval theories of language; origins of traditional grammar; rationalist linguistic theory and philosophical grammar, and an examination of the origin of contemporary linguistic controversies.
- LIN 6128 HISTORICAL LINGUISTICS (3)** An advanced survey of the principles and methodology of historical linguistics.
- LIN 6139 TOPICS IN THEORETICAL LINGUISTICS (3)** Offerings will include current issues in any area of linguistic theory.
- LIN 6146 COMPARATIVE LINGUISTICS (3)** The principles and methodology of comparative linguistics, focusing upon a major Indo-European subfamily, such as Romance, Germanic, or Balto-Slavic.
- LIN 6240 PHONOLOGICAL DESCRIPTION (3)** Analysis of the phonological component of a grammar, its role and formal structures. The generative model is compared to taxonomic descriptions. Theory and data-solution problems. (PR: Syntax, or CI)
- LIN 6377 THE STRUCTURE OF A SPECIFIC LANGUAGE (3)** Analysis of the linguistic structures of both common and uncommon languages. Rpt. to 6 hours with change in content/title.
- LIN 6380 SYNTACTIC DESCRIPTION (3)** Analysis of syntactic descriptions of various languages through data-solution problems in co-occurrence relations, agreement, permutation, conjoining, and embedding. Feature grammars and other models are discussed. GB and EC models included.
- LIN 6405 CONTRASTIVE ANALYSIS (3)** Comparison and contrast of the structures of American English with corresponding structures in selected foreign languages. EA and IA added for contrast with CA.
- LIN 6407 APPLIED LINGUISTICS (3)** Analysis of the phonological, morphological, and syntactic features of English as a basis for linguistic application to problems of English language acquisition by non-native speakers.
- LIN 6425 FORMAL STYLISTICS (3)** Studies in the relationship between the development of language study and literary criticism; developments in modern linguistic theory and their application to problems of aesthetics, literary structure, and style.
- LIN 6601 SOCIOLINGUISTICS (3)** Detailed analysis of the phenomenon of language variation with emphasis upon the research methodology of sociolinguistics and the implications of its findings for current linguistic theory.
- LIN 6715 LANGUAGE ACQUISITION (3)** A survey of current research and theory in the processes of normal language acquisition and development. (PR: LIN 3010, LIN 4377 or CI)
- LIN 6810 SEMIOTICS (3)** Introduction to kinesics and paralinguistics; the linguistic structure of gesture, proxemics, and other significant areas of nonverbal communication and signaling behavior. (PR: CI)
- LIN 6820 STUDIES IN SEMANTICS (3)** Selected problems in the area of meaning and the relationship between linguistic structure and cognition. Mappings of presupposition, kinship fields, emotive concepts, and other problems are surveyed. Theories of Fodor-Katz, Chomsky, Ross-Lakeoff-McCawley, and others are contrasted. (PR: Syntax)
- LIN 6908 INDEPENDENT STUDY** Var. Independent study in which the student must have a contract with an instructor. Rpt. S/U.
- LIN 6932 SELECTED TOPICS (0-4)** Content will depend upon instructor's interests and students' needs. Such topics and neurolinguistics, bilingualism, and discourse analysis may be taught.
- LIN 6940 GRADUATE INSTRUCTION METHODS (1-4)** Special course to be used primarily for the training of teaching assistants. Var. Rpt. to a total of 4 credits. (S/U only.)

LIN 6971 THESIS: MASTER'S Var. Rpt. S/U.

TSL 6371 METHODS OF TEACHING ENGLISH AS A SECOND LANGUAGE I (3) Analysis of the methods of teaching English pronunciation and structure to speakers of other languages.

TSL 6372 METHODS OF TEACHING ENGLISH AS A SECOND LANGUAGE II (3) Analysis of the methods of teaching English reading and listening comprehension and composition to speakers of other languages.

TSL 6945 INTERNSHIP (1-6) Required of all candidates for the M.A. degree in TESL. Supervised teaching of English as a second language to non-native speakers at appropriate levels and settings. Rpt. up to 6 hours. S/U. (PR: TSL 6371 and TSL 6372)

MASS COMMUNICATIONS

Chairperson: D.L. Dickerson; *Professors:* M.R. Garcia, R.L. Kerns, G.M. Killenberg, M. Lucoff; *Associate Professors:* D.S. Bagley III, T.M. Counts, Jr., D.L. Dickerson, W.G. Fudge, H. Regis; *Assistant Professors:* K.F. Brown, N.C. James, L.Z. Leslie, R. Miller, R. Wilber; *Lecturers:* W.F. Moyses, D. Togle, Jr.; *Professors Emeritus:* W.E. Griecti, A.M. Sanderson; *Courtesy Professors:* W.M. Brady, R.B. Brown, R.J. Haiman, P.A. Kemp, W.A. Morse, D.B. Rochelle, K.D. Stanton, D.R. Walbolt, J.E. Young.

ADV 6503 MEDIA AND MARKET ANALYSIS (3) An advanced study of the demographic, geographic, and social-psychographic descriptions of media and markets to analyze mass media audiences, costs, and uses to aid in solving marketing communications problems for advertisers.

ADV 6602 ADVERTISING MARKETING DECISIONS (3) A study of managerial problems in planning, controlling, and evaluation of advertising with emphasis on the decisions concerning products, pricing, competitive positioning, distribution, and promotion.

JOU 6107 ADVANCED URBAN AFFAIRS REPORTING (3) Problems and methods of reporting urban affairs, including municipal government, and politics: city, county, and state. Research/analyses of current issues.

JOU 6191 SEMINAR: CONTEMPORARY NEWSPAPER PROBLEMS (3) A study of the role of the free press in a democratic society and its efforts to fulfill its social and ethical responsibilities by analyses and discussions of the problems which face the reporter, the editor, and the publisher.

MMC 6306 INTERNATIONAL COMMUNICATIONS SEMINAR (3) Mass Communications as national and international systems; flow of the news, international news communications networks; satellite communications; overseas activities of American media interest; international propaganda; communication and national development; international media organizations and their activities.

MMC 6401 MASS MEDIA STRUCTURES (3) The study of mass communications theories, structures, influences, and their relationships to institutions in American society.

MMC 6421 RESEARCH METHODS IN MASS COMMUNICATIONS (3) The theory and practice of quantitative, historical, and critical research methods, and their applications to the study of mass communications. Emphasis in quantitative methods on experimental and survey research, statistical analysis, and evaluation of data. Rpt. to 9 hours.

MMC 6605 PUBLIC OPINION AND THE MASS MEDIA (3) The influence of public opinion on private and public institutions in a democratic society and the role of the mass media in opinion formation. The nature of persuasion in establishing or modifying public opinion, and perspectives on the social responsibilities of communications.

MMC 6612 SEMINAR: GOVERNMENT AND THE MEDIA (3) Interrelationships of the media and government at the judicial, executive and legislative levels. Focus is on legal limitations and privileges of the media and philosophy of the First Amendment; research procedures in court and administrative agency documents. (PR: MMC 4200 or equivalent)

MMC 6900 DIRECTED READING IN MASS COMMUNICATIONS (1-3) Readings in specialized areas of Mass Communications as agreed to by the instructor and the student by contract. Rpt. up to 3 hours. S/U. (PR: CI and permission of graduate adviser)

MMC 6910 INDIVIDUAL RESEARCH IN MASS COMMUNICATIONS (1-3) Independent study in which the student must have a contract with the instructor to study an area not covered by other courses in the graduate curriculum. Rpt. up to 3 hours. S/U. (PR: CI and permission of graduate adviser)

MMC 6921 MASS COMMUNICATIONS SEMINAR (1) The discussion of current projects in Mass Communications research among graduate students and faculty. Must be repeated up to 3 hours. S/U. (PR: Admission to the Graduate Program)

MMC 6936 SELECTED TOPICS IN MASS COMMUNICATIONS (3) Courses designed to meet current, specific topics of interest to students and instructors. Rpt. up to 9 hours.

MMC 6945 PROFESSIONAL PRACTICUM (3) Practicum will consist of placement with a media related organization selected by the student and approved and supervised by the graduate adviser. S/U. (PR: 12 graduate hours in Mass Communications)

MMC 6971 THESIS: MASTER'S Var. Rpt. up to 6 hours. S/U.

PUR 6603 PUBLIC RELATIONS COUNSELING (3) Relationship of the public relations counselor to the client or employer; counseling in corporate, non-profit, and governmental organizations; writing and presenting PR programs to the client; management and operation of counseling firms.

PUR 6604 STANDARDS OF PUBLIC RELATIONS PRACTICE (3) Historical perception of ethical practice; the professional's role as advocate for the client and ombudsman between the client and his public; codes of conduct; administrative and statutory law governing the practice; progress toward professional status.

RTV 6400 HISTORY AND CRITICISM OF BROADCASTING (3) The origin and development of broadcast programming stressing how radio and television content affect social, cultural, and political values. Study will also include critical examination of broadcast aesthetics and those factors which determine program form and function.

RTV 6702 TELECOMMUNICATIONS AND PUBLIC POLICY (3) An exploration of the emerging problems of telecommunications policy, especially the regulation of news systems of communications, and the development of communications policy in a post-industrial age.

VIC 6005 SEMINAR IN VISUAL COMMUNICATIONS (3) Development of message preparation in the integration of visual and verbal images, emphasis on the management and planning of still photography, video, film, graphic design, and typography in effective communication.

PHILOSOPHY

Chairperson: J.A. Bell; *Professors:* J.P. Anton, J.A. Gould, L.L. McAlister, K.S. Shrader-Frechette, B. Silver, W.H. Truitt, S.P. Turner, R.C. Weatherford, K. Wiredu, *Professor Emeritus:* C.H. Chen; *Associate Professors:* J. Beil-Waugh, J.A. Bell, R.N. Taylor; *Courtesy Associate Professor:* M. Myerson; *Courtesy Professor:* D.J. Fasching, W.M. Shea.

PHH 6938 SEMINAR IN THE HISTORY OF PHILOSOPHY (3) A seminar in the history of philosophy. The instructor will determine the subject matter. Variable titles: Ancient, Modern, Recent, Contemporary. Rpt. up to 12 hours. (PR: GS or CI)

PHI 5135 SYMBOLIC LOGIC (3) Mathematical treatment of formal logic, including methods of proof, quantification, the logic of relations and an introduction to properties of deductive systems. (PR: PHI 3100 or CI)

PHI 5225 PHILOSOPHY OF LANGUAGE (3) An examination of semantical, syntactical, and functional theories of language with special attention given to the problems of meaning, linguistic reference, syntactical form, and the relations between scientific languages and ordinary linguistic usage. Seminar format. (PR: 8 hours of philosophy, major in linguistics, or CI)

- PHI 5913 RESEARCH (1-4)** Individual research supervised by a faculty member. Approval slip from instructor required. (PR: CI)
- PHI 5934 SELECTED TOPICS (1-3)** Selected topics according to the needs of the student. Approval slip from instructor required. (PR:CI)
- PHI 6105 SEMINAR IN LOGIC (3)** Foundations and basic problems of logic. This course may be taken more than once for credit with CI and departmental approval. Seminar format. (PR: GS or CI)
- PHI 6305 SEMINAR IN EPISTEMOLOGY (3)** An analysis of recent and contemporary problems of knowledge. This course may be taken more than once for credit with CI and departmental approval. Seminar format. (PR: Major in philosophy or psychology and CI)
- PHI 6405 SEMINAR IN THE PHILOSOPHY OF NATURAL SCIENCE (3)** A study of the nature and status of physical theories, some basic problems associated with scientific methodology, and the philosophical implications of modern science. May be taken more than once for credit with CI and departmental approval. Seminar format. (PR: GS or CI)
- PHI 6425 SEMINAR IN THE PHILOSOPHY OF SOCIAL SCIENCE (3)** Philosophical issues arising in the social sciences; value assumptions, laws and the theories, models, etc. Seminar format. (PR: 8 hours of philosophy or CI)
- PHI 6506 SEMINAR IN METAPHYSICS (3)** In this course students will examine selected topics in classical and contemporary metaphysics, for example, the concept and categories of Being or existence, the existence of God, the problem of universals or general terms, the a priori, the mind-body problem, and the identity thesis.
- PHI 6605 SEMINAR IN ETHICS (3)** Advanced study of the problems of moral philosophy Rpt. up to 9 hours. (PR: GS and CI)
- PHI 6706 SEMINAR IN THE PHILOSOPHY OF RELIGION (3)** An analysis of fundamental religious concepts in terms of contemporary philosophy. This course may be taken more than once for credit with CI and departmental approval. Seminar format. (PR: GS or CI)
- PHI 6808 SEMINAR IN AESTHETICS (3)** An analysis of fundamental special problems of aesthetics; value, perception, communication, technique, context. This course may be taken more than once for credit with CI and departmental approval. Seminar format. (PR: GS or CI)
- PHI 6908 DIRECTED RESEARCH** Var. Rpt. S/U. (PR: GR. ML)
- PHI 6934 SELECTED TOPICS (1-3)** Selected topics according to the needs of the student. Approval slip from instructor required. (PR: GS and CI)
- PHI 6945 GRADUATE INSTRUCTION METHODS (1-3)** Special course to be used primarily for the training of teaching assistants. Var. Rpt. to a total of 3 credits. S/U.
- PHI 6971 THESIS: MASTER'S** Var. Rpt. S/U.
- PHM 6105 SEMINAR IN SOCIAL PHILOSOPHY (3)** A detailed study of the philosophical theories of society, class societies (Capitalism), advanced technocracy (all types). May be taken more than once for credit with CI and departmental approval. Seminar format. (PR: CI)
- PHM 6305 SEMINAR IN POLITICAL PHILOSOPHY (3)** An examination of the main political philosophies. May be taken more than once for credit with CI and departmental approval. Seminar format. (PR: GS or CI)
- PHM 6406 SEMINAR IN THE PHILOSOPHY OF LAW (3)** A study of the metaphysical, ethical, and epistemological bases of law. May be taken more than once for credit with CI and departmental approval. Seminar format. (PR: GS or CI)
- PHM 6506 SEMINAR IN THE PHILOSOPHY OF HISTORY (3)** The analysis of language and logic of historical explanation, historical idealism, historical materialism, positivism, and

historical sociology. May be taken more than once for credit with CI and departmental approval. Seminar format. (PR: GS or CI)

RELIGIOUS STUDIES

Chairperson: W.C. Tremmel; *Professors:* D.J. Fasching, W.M. Shea, J.F. Strange, W.C. Tremmel; *Associate Professors:* N. Katz, M.G. Mitchell; *Visiting Instructor:* C. Kilgore; *Other Faculty:* J.S. Hatcher, E.E. Smith.

REL 6035 PROSEMINAR: THE GRADUATE STUDY OF RELIGION (3) An introduction to and research methods used in Religious Studies proper and those borrowed from other disciplines. In the former are to be found comparative religion, religious hermeneutics, and theological analysis. Among the latter are included comparative literature, literary criticism, and historiography. (PR: GS in the Department of Religious Studies)

REL 6126 RELIGION IN AMERICA (3) Studies in the history of native American religions, of the rise of American denominations, churches, and sects, of the relationship between church and state, and religious thought in America. Rpt. with different subject matter twice. Open to non-majors.

REL 6175 RELIGION, ETHICS AND PUBLIC POLICY (3) This tutorial will explore the relation between religion, ethics, the social sciences, and social policy. Problems of ideological conflict and ethical relativism will be examined, as well as possible religious and theoretical foundations for a normative ethics of social change.

REL 6196 RELIGION AND MODERNIZATION (3) This course will explore the unique characteristics of modern civilization, with special attention given to the secularizing effects of modern science, technology, economics, and politics on the world's religions and their various responses to these factors.

REL 6248 STUDIES IN THE GOSPELS (3) An examination in detail of a select problem in Gospel research such as the Synoptic Problem, the social world of earliest Palestinian Christianity as inferred from the documents, life of Jesus research, or structural criticism of gospel narrative. Rpt. with different subject matter twice.

REL 6285 STUDIES IN BIBLICAL ARCHAEOLOGY (3) A study of various problems in Biblical Archaeology including excavation techniques, principles of interpretation, problems in correlation of the text of the Bible and specific finds, chronology, reconstruction of culture from archaeological evidence, and others.

REL 6318 RELIGION AND CULTURE OF THE EAST (3) Examines some of the most important religious literature of the Asian World -- Hindu, Buddhist, Taoist, Confucian -- attempting to understand each classical expression within its own historical and cultural context.

REL 6325 RELIGION AND CULTURE OF THE WEST (3) Examines some of the most important religious literature of the Western World--Jewish, Christian, and Islamic -- attempting to understand each classical expression within its own historical and cultural context.

REL 6327 SEMINAR: ANCIENT RELIGIONS AND LITERATURES (3) A research seminar in some aspect of ancient religion and literature: Hebrew Bible, New Testament, Mithraism, Mystic Religions, Pseudepigrapha, and others taught in translation. Rpt. with different subject matter three times.

REL 6347 BUDDHISM AND POLITICS IN CONTEMPORARY ASIA (3) Attention will be paid to Buddhist scriptures to discern the religion's inherent social concerns, followed by detailed analyses of methodological controversies surrounding Buddhism's interactions with society. Case studies of Sri Lanka, Thailand, Burma, Tibet and Japan will conclude the class's deliberations. (Prerequisite or concurrent enrollment in REL 6318.)

REL 6447 LIBERATION THEOLOGY (3) A critical examination of Third World, Black American, and Feminist Liberation Theologies of the Christian tradition.

REL 6906 INDEPENDENT STUDY (1-3) Independent study in which the student must have a contract with the instructor. (PR: GS, ML)

- REL 6911 DIRECTED RESEARCH (1-3)** Individual guidance in concentrated reading in a carefully delimited area of religious studies research skills. Rpt. Majors only. (PR: GS, ML)
- REL 6921 COLLOQUIUM (1)** The departmental colloquium is held at least three times each semester in order to bring all religious studies faculty and graduate students together to discuss the research of a particular student, faculty member, or guest scholar. Rpt. up to 6 hours. S/U.
- REL 6938 SPECIAL TOPICS IN RELIGIOUS STUDIES (2-4)** Open to non-majors. Variable titles offered on topics of special interest. Rpt. with different subject matter twice. (PR: GS)
- REL 6940 GRADUATE INSTRUCTION METHODS (1-4)** Offered primarily for the supervision of Graduate Teaching Assistants. Var. S/U.
- REL 6971 THESIS, MASTER'S** Var. Rpt. S/U. (PR: GR, ML)

College Of Business Administration

ACCOUNTING/LAW

Director: G.L. Holstrum; *Professors:* D.M. Dennis, C.W. Dungan, R.M. Keith, G.H. Lander, J.L. Smith, W.L. Stephens, R.J. West; *Associate Professors:* J.F. Bussman, T.J. Engle, J.R. Fellows, M.J. Gift, L.C. Harris, K.L. Hooks, G. Laursen, J.R. Martin, J.E. Moon, W.H. Parrott, J.D. Siebel, G.F. Whittaker.

- ACG 5935 SELECTED TOPICS IN ACCOUNTING (1-3)** To allow advanced undergraduate students and graduate students to research and study contemporary and emerging topics in the field. Rpt. to 6 hours. (PR: CI)
- ACG 6025 FINANCIAL ACCOUNTING FOR MANAGERS (3)** Study of (1) accounting concepts and standards applicable to presentation of financial information to interested users; (2) structure, uses, and limitations of financial statements; and (3) measurement systems related to income determination and asset valuation. Discussion of internal and external influences on accounting decisions.
- ACG 6075 MANAGEMENT ACCOUNTING AND CONTROL (3)** The relevancy and limitation of cost information in: (1) planning and controlling current operations; (2) special decisions and long-range planning; (3) inventory valuation and income determination. Not available for credit for graduate students in the Master of Accountancy program. (PR: ACG 6025)
- ACG 6346 MANAGEMENT ACCOUNTING AND CONTROL (3)** Measurement, interpretation, planning, and control of costs by means of predetermined standards, and variance analysis. Use of accounting and statistical information in preparing budgets and controlling operations. (PR: 20 hours of accounting or CI)
- ACG 6405 SYSTEMS THEORY AND QUANTITATIVE APPLICATIONS (3)** The design and operation of contemporary accounting systems including the relevance of data processing and statistical methods to the system of financial information and control. (PR: ACG 3401 or equiv.)
- ACG 6636 CONTEMPORARY ISSUES IN AUDITING (3)** This course involves a critical analysis of a number of current issues in auditing including: independence, theory of evidence, reporting, quality control, and public oversight of the profession. (PR: ACG 4651)
- ACG 6875 DEVELOPMENT OF ACCOUNTING THOUGHT (3)** A study and evaluation of the development and evolution of current accounting theory and measurement concepts. The definition of accounting objectives and goals and the development of measurement models. (PR: 20 hours of accounting or CI)
- ACG 6905 INDEPENDENT STUDY** Var. Independent Study. Student must have a contract with an instructor. Rpt. S/U.
- ACG 6915 DIRECTED RESEARCH** Var. Rpt. S/U. (PR: GR, M.L)

Business Administration

- ACG 6936 SELECTED TOPICS IN ACCOUNTING (1-4)** The course content will depend on student demand and instructor's interest. Rpt. up to 6 hours. (PR: CC)
- ACG 7156 SEMINAR IN FINANCIAL ACCOUNTING (3)** This course investigates advanced research and methodological issues in financial accounting. It focuses primarily on research which uses financial information in contexts external to the firm. (PR: ACG 6875 or CI)
- ACG 7356 SEMINAR IN MANAGEMENT ACCOUNTING (3)** Review and critical analysis of management accounting foundation with emphasis on the current research methods in organizational behavior aspects and multiple criteria decision methods. (PR: ACG 6346 or CI)
- ACG 7415 SEMINAR IN ACCOUNTING INFORMATION SYSTEMS (3)** Review and critical analysis of major topics and research methods in accounting information systems. (PR: ACG 6405 or CI)
- ACG 7646 SEMINAR IN AUDITING (3)** This course involves a study of state-of-the-art research techniques as applied to major auditing issues and a critical analysis of the reported research findings. (PR: ACG 6636 or equiv. or CI)
- ACG 7876 HISTORICAL DEVELOPMENT OF ACCOUNTING THOUGHT (3)** Historical development of accounting thought and practice. (PR: CI)
- ACG 7936 SEMINAR ON SPECIAL TOPICS IN ACCOUNTING (3)** Coverage of particular topics of interest to doctoral faculty and students during any given semester. (PR: CI)
- ACG 7980 DISSERTATION IN ACCOUNTING (1-21)** Research and writing of a dissertation on an accounting topic. S/U. (PR: Completion of comprehensive exams and CI)
- TAX 6065 FEDERAL TAX RESEARCH, PLANNING, PROCEDURE (3)** A study of the development of tax law and its implication in business decisions. Tax research, tax planning and tax procedure are emphasized, along with relevant computer applications. (PR: TAX 4001, TAX 5015)
- TAX 6105 ADVANCED CORPORATE TAXATION (3)** A study of advanced income tax problems involving corporations, including organization, operation, distribution, and liquidation. Topics include 'S' Corporations, collapsible corporations, personal holding companies, accumulation of earnings, and acquisition and disposition of corporations. The planning and business aspects of corporate transactions are emphasized. (PR: TAX 4001, TAX 5015)
- TAX 6205 ADVANCED PARTNERSHIP TAXATION (3)** A study of advanced income tax problems involving partnerships, including organization, operation, distributions, liquidations, basis, family partnerships, and sales and exchanges. The planning and business aspects of partnerships are emphasized. (PR: TAX 4001, TAX 5015)
- TAX 6405 TAXATION OF TRUSTS AND ESTATES (3)** A study of income tax problems involving trusts and estates and beneficiaries, including simple and complex trusts, distributable net income, and grantor trusts. Planning and business aspects of trusts and estates are emphasized. (PR: TAX 4001 and Admission to the M.Acc. Program)
- TAX 6445 ESTATE PLANNING (3)** A study of the income, estate, and gift tax problems involving estate planning, including a study of tax and non-tax motivations, estate analysis, probate, wills, revocable trusts, irrevocable trusts, concurrent ownership, and the marital deduction. Practical applications include case studies involving will and trust drafting and the hands-on use of a computer estate planning software package. (PR: TAX 4001, TAX 5015)
- TAX 6505 U.S. TAXATION OF FOREIGN ENTITIES (3)** A study of the income taxation of foreign entities investing or doing business in the United States, with an emphasis on tax planning. (PR: TAX 4001, TAX 5015)
- TAX 7067 SEMINAR IN TAXATION (3)** An introduction to current trends in academic tax research and the various methodologies being used in such research. (PR: TAX 6065 or CI)

**COMMON BODY OF KNOWLEDGE
(for M.B.A. degree program)**

GEB 6716 MICROECONOMIC ANALYSIS (3) Study of the theories of economic behavior in the market system and an appreciation of the role of economic organizations in achieving private and social goals. Topics covered: consumer behavior, demand analysis, factor markets, theories of production and cost.

GEB 6717 MACROECONOMIC ANALYSIS (3) A study of the interaction of aggregate demand and supply in the determination of output, employment, prices, wage, and interest rates. (PR: GEB 6716)

GEB 6735 SOCIAL, LEGAL, AND POLITICAL ENVIRONMENT OF BUSINESS (3) A study of the influence of social, cultural, legal, and political environment of institutional behavior, including the changing nature of the business system, the public policy process, corporate power, legitimacy and managerial autonomy, and organizational reactions to environmental forces. (PR: 12 hours of MBA Foundation Courses)

GEB 6895 BUSINESS POLICY AND STRATEGY (3) Advanced study of business decision-making processes under conditions of risk and uncertainty, including integrating analysis and policy formation at the general management level. (PR: Capstone course to be taken in final semester of program)

ECONOMICS

Acting Chairperson: R.M. Wilson; *Professors:* D. Bellante, G. Brunhild, T.D. Curtis, H.S. Dye, J.S. DeSalvo, W.J. Herman, J.W. Rowe, Jr., E.W. Shows; *Associate Professors:* J.P. Cooke, D. Cushman, E.J. Ford, C.A. Green, E.A. Hanni, M.G. Herander, P. Porter, J.G. Spence, C.R. Thomas, R.M. Wilson; *Assistant Professors:* C. Kogut

ECO 5407 ECONOMIC PROGRAMMING AND CONTROL (3) Analysis of economic structures by quantitative models and policy selection by optimization procedures. Preference functions and certainty equivalence. Deterministic and stochastic linear economic models. Dynamic and chance-constrained programming. (PR: GEB 3121, MAC 2224, or CI)

ECO 5424 ECONOMETRICS I (3) Theory and use of multiple regression to estimate relationships in causal models, to analyze economic behavior and to forecast the outcome of economic disturbances. Use of standard software packages. Estimation and interpretation of regression equations. (PR: ECO 3203 or GEB 6717, GEB 3121 or QMB 6305, or CI)

ECO 5425 ECONOMETRICS II (3) Advanced econometric techniques; model building, estimation and forecasting; design and execution of individual research projects. (PR: ECO 5424)

ECO 6115 MICROECONOMICS (3) Advanced analysis of microeconomic behavior of consumers, producers, and resource suppliers. Topics covered: general concept of scarcity, conceptual models of demand, production, cost, and the firm and market organization. (PR: ECO 3101 or GEB 6716)

ECO 6205 MACROECONOMIC THEORY AND POLICY (3) A study of the determinates of long-run economic growth paths and short-run aggregate supply and demand as they interact to determine income, employment, wages, prices, and interest rates. Contemporary policy issues are also considered. (PR: This course is only for Master of Accounting students)

ECO 6206 AGGREGATE ECONOMICS (3) Advanced analysis of macroeconomic interrelationships determining the level of income, employment, prices, interest rates and economic growth rates as well as the impact of government policy upon these variables. (PR: ECO 3203 or GEB 6717)

ECO 6216 MONETARY THEORY (3) Advanced discussion of the impact of the financial sector upon real and nominal economic magnitudes. The course emphasizes theoretical and empirical contributions found in the current literature as an extension of earlier work done in the field of monetary theory. (PR: ECO 3203 or GEB 6717)

ECO 6305 HISTORY OF ECONOMIC THOUGHT (3) Analysis of the main currents of modern economic thought during the last one hundred years. (PR: ECO 3101 or GEB 6716 or CI)

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- ECO 6433 APPLIED FORECASTING (3)** Use of time series and cross sectional data for managerial control forecasting. Construction of index numbers. Extraction of time series components. Leading economic indicators, diffusion indices and intentions surveys. Cyclical fluctuations and spectral analysis. Input-output models, econometric studies, and linear forecasts. (PR: QMB 6305)
- ECO 6434 ADVANCED BUSINESS FLUCTUATION & ECONOMIC FORECASTING (3)** Applications of statistical techniques to forecasting aggregate business activity, GNP and GNP components. Critical analysis of forecasting techniques and applications of forecasting methods of business decisions. (PR: ECO 3203 or GEB 6717 and QMB 6305)
- ECO 6505 PUBLIC FINANCE (3)** Examination of the role of the public sector and its contribution to economic welfare. Tax and expenditure policies are examined in relation to their effects on resource allocation and income distribution. (PR: ECO 3101 or GEB 6716)
- ECO 6506 SEMINAR IN PUBLIC FINANCE (3)** Contemporary public finance problems are studied within a seminar format.
- ECO 6525 PUBLIC SECTOR ECONOMICS (3)** Introduction to the price system and the allocation of resources. Market failure and the economic role of government. (No credit for Economics or Business Administration students.)
- ECO 6537 ECONOMICS OF CONFLICT (3)** Stress is placed upon the possible economic warfare and conflict embodied in theories of imperfect competition. The techniques for conflict resolution are analyzed, with emphasis upon bargaining theory, decision theory, and forms of collusion. (PR: ECO 6115 or GEB 6716)
- ECO 6706 INTERNATIONAL TRADE: THEORY AND POLICY (3)** A theoretical analysis of the causes of international trade including comparative advantage, Heckcher-Ohlin theorem and more recent theories. Other topics include international trade policy, economic integration, trade problems of developing countries and the role of multinational corporations in world trade. (PR: ECO 3101 or GEB 6716)
- ECO 6716 INTERNATIONAL MONETARY ECONOMICS (3)** An advanced analysis of international macroeconomic relationships. Foreign exchange market, international monetary system, balance of payments and adjustments. Macroeconomic policy in an open economy. International transmission of economic disturbances. (PR: ECO 3203 or GEB 6717)
- ECO 6906 INDEPENDENT STUDY** Var. Independent study in which student must have a contract with an instructor. Rpt. to a maximum of 6 hours. S/U.
- ECO 6917 DIRECTED RESEARCH** Var. Rpt. to a maximum of 6 hours. S/U. (PR: GR, ML)
- ECO 6936 SELECTED TOPICS IN ECONOMICS (1-4)** The course content will depend on student demand and instructor's interest. (PR: GS and CI)
- ECO 6971 THESIS: MASTER'S** Var. Rpt. S/U.
- ECP 5405 INDUSTRIAL ORGANIZATION (3)** The economics of industrial organization. The study of the behavior of firms and the implications of such behavior on economic performance. The relationship between structure of industry and performance. (PR: ECO 3101 or GEB 6716)
- ECP 5406 SEMINAR IN INDUSTRIAL ORGANIZATION (3)** Contemporary industrial organization problems will be discussed in a seminar format. (PR: ECP 5403)
- ECP 5614 URBAN ECONOMICS (3)** The economics of urban areas including analysis of their growth and development, as well as intrurban location patterns. Advanced economic analysis of urban problems. (PR: ECO 3101 or GEB 6716)
- ECP 5624 REGIONAL ECONOMICS (3)** Economic analysis of the geographical allocation of scarce resources within and among regions. Topics discussed are: location of households and firms, interregional migration of labor and capital, regional growth and development, methods of regional analysis, and regional policy. (PR: ECO 3101 or GEB 6716)

ECP 6205 MANPOWER ECONOMICS SEMINAR (3) This course is designed to provide the student with a background in labor demand and supply topics, unemployment and manpower programs, discrimination in the labor market, labor market institutions, and labor force statistics. (PR: ECO 3101, GEB 6716, or ECO 6115)

ECP 6238 THE ECONOMICS OF COLLECTIVE BARGAINING (3) The economic theory and the process of negotiating a collective bargaining agreement will be examined in detail. Both the private and public sector will be studied. Not open to those who have had ECP 4232.

ECP 6456 LAW AND ECONOMICS (3) An advanced analysis of the economic impact of law in the areas of: Tort, Criminal, Property, and Contract Law. Special attention given to works of Richard Posner, Gary Becker, A. Mitchell Polensky, Ronald Coase, and James Buchanan. (PR: ECO 3101 or GEB 6716)

ECP 6705 ADVANCED MANAGERIAL ECONOMICS (3) Advanced study of decision-making in households, firms and not-for-profit institutions. Topics cover demand, production and cost, organizational goals, and efficiency vs. effectiveness. (PR: ECO 6115 or GEB 6716 and QMB 6305)

FINANCE

Chairperson: G. Kanatas; *Lykes Professor of Banking and Finance:* J.L. Pappas; *Professors:* A. Beenhakker, S.E. Bolten, R.G. Cox, S. Kapplin, R.L. Meyer, A. Schwartz, G. Trivoli, K. Wieand; *Associate Professors:* S. Bulmash, P. Kares, R.J. Rivard; *Assistant Professors:* S. Besley, S. Quintero.

FIN 6246 ADVANCED MONEY AND CAPITAL MARKETS (3) The study of the role of financial markets in the economy. The course will investigate and analyze the effects and relationship between and among financial theory, financial institutions, and financial markets and their interactions and impacts on the economy. It includes the study of flow of funds, interest rate determination, and the pricing of capital assets. (PR: Macroeconomic Analysis or equiv.)

FIN 6375 FINANCIAL PLANNING FOR HEALTH ORGANIZATIONS (3) An examination of tools and techniques of financial management in the administration of Health Care Organizations. Cannot be taken for credit by students who have taken FIN 6406. (PR: ACG 5325)

FIN 6406 FINANCIAL MANAGEMENT (3) The study of processes, decision structures, and institutional arrangements concerned with the utilization and acquisition of funds by a firm. The course will include the management of the asset structure and the liability structure of the firm under both certain and risky situations and considering the problems of time and the decision makers preferences. The financial decision processes will include and recognize the international as well as domestic aspects of financial management. (PR: ACG 6025 and GEB 6716)

FIN 6445 FINANCIAL POLICY (3) A case study approach to financial policy and strategy with an emphasis on major financial decisions in the area of external financing, mergers, acquisitions, recapitalization, and reorganization. (PR: FIN 6406 or CI)

FIN 6605 INTERNATIONAL FINANCIAL MANAGEMENT (3) The course provides a foundation for the understanding and appreciation of financial management of international business. The subject areas covered relate to: international finance, multinational business finance, and financial market theory. (PR: FIN 6406 or equiv.)

FIN 6718 GOVERNMENTAL FINANCIAL PLANNING BUDGETING (3) A thorough investigation of planning, budgeting, and control for government, including: budget procedures and methods for services and capital improvements (e.g., zero base budgeting); estimates of local revenues and expenditures; methods of financing capital facilities, debt financing and administration; measures of efficiency and effectiveness; and management of cash. (PR: Basic understanding of accounting and CI)

FIN 6804 THEORY OF FINANCE (3) A systematic and rigorous course in the theory of finance. Topics will include the theory of choice and the allocation of financial resources, the theory of optimal investment decisions and the theory of risk and uncertainty in financial decisions. It will also cover the theoretical concepts underlying financing decisions and the cost of capital. (PR: FIN 6404 or CI)

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FIN 6816 INVESTMENTS (3) An examination of the risks and returns of alternative investment media within the framework of various valuation models. Special attention is given to the investment process and the criteria for investment decisions. (PR: FIN 6404)

FIN 6906 INDEPENDENT STUDY Var. Students must have a contract with an instructor. Rpt. S/U.

FIN 6915 DIRECTED RESEARCH Var. Rpt. S/U. (PR: GR, ML)

FIN 6934 SELECTED TOPICS IN FINANCE (1-4) Var. depending upon the scope and magnitude of the work required. Includes special lecture series. (PR: GS and C)

FIN 7808 ADVANCED MICRO FINANCE (3) The study of advanced theoretical and empirical works in finance primarily relating to financial decisions at the level of the firm. (PR: FIN 6406, FIN 6804, ECO 5424 or Departmental approval)

FIN 7817 FINANCIAL MARKETS (3) The study of advanced theoretical and empirical works in finance primarily relating to financial institutions and markets. (PR: FIN 6246, FIN 6816, or Departmental approval)

FIN 7930 SELECTED TOPICS IN FINANCE (3) Two consecutive semesters (3 credits each) of in-depth studies of selected topics of current issues on the frontiers of financial thought. Rpt. (PR: FIN 7808, QMB 7566, or Departmental approval)

FIN 7935 FINANCE RESEARCH SEMINAR (3) Theoretical and/or empirical research on finance related problems. This course will require research papers to be written and presented. It is designed to aid the student in developing a thesis and the research methodology necessary for the doctoral dissertation. Rpt. (PR: One semester of FIN 7930)

FIN 7980 DISSERTATION IN FINANCE Var. Research and writing of a dissertation on a topic in finance. (PR: Completion of comprehensive examinations and Departmental approval)

INFORMATION SYSTEMS AND DECISION SCIENCES

Acting Chairperson: H.W. Stirling; *Professors:* S.J. Birkin, J.S. Hodgson; *Associate Professors:* H.C. Allen, R.A. Boggs, M.E. Cohen, T.E. Johnson, M.J. White; *Assistant Professors:* M.B. Alexander, J.E. Blanton, T.C. Harrington, E.M. Hufnagel, R.R. McGrath, T.L. Sincich, A.J. Waltz, R.P. Will; *Lecturer:* R. Rimmel.

ISM 6021 MANAGEMENT INFORMATION SYSTEMS (3) A study of the analysis and application of management information systems; the impact of computers on decision making; the utilization of computer languages, statistical packages, research and business analysis.

ISM 6123 SYSTEMS ANALYSIS AND DESIGN (3) This course includes the foundations and methodologies for analysis of existing systems; the design, development, and implementation of new systems. (PR: GEB 6775 or equiv.; COBOL I or other approved language)

ISM 6127 DECISION SUPPORT SYSTEMS ANALYSIS AND DESIGN (3) Analysis and design of systems that integrate computer models, data bases, and the decision maker into an effective decision system. Emphasis is on decision maker's needs and human/machine compatibility. (PR: ISM 6123, QMB 6305, QMB 6603)

ISM 6217 DATABASE ADMINISTRATION (3) Advanced principles of Database Administration. Database Organization Models. Disaster Planning for Database Files. (PR: ISM 6123 or equiv.)

ISM 6225 DISTRIBUTED INFORMATION SYSTEMS (3) Analysis, design, implementation, and management of distributed information systems and networks. (PR: ISM 6123)

ISM 6305 MANAGING THE INFORMATION SYSTEM FUNCTION (3) An advanced study of information system management including system planning, project selection and management, and organizational information management policies. (PR: ISM 6775 or equiv.)

ISM 6325 INFORMATION SYSTEMS CONTROL (3) An advanced study of information system control and its application in system design and system management. (PR: ISM 6123 or equiv.)

ISM 6405 DECISION SUPPORT SYSTEMS APPLICATIONS-COMPUTER ASSISTED DECISION MAKING (3) Study of the principles of decision making and the human computer alliance with hands-on computer-assisted decision making for an organizational environment. Case studies and/or management games using micro-computers. (PR: GEB 6725, QMB 6305, QMB 6603)

ISM 6456 MICROCOMPUTERS IN MANAGEMENT (3) Analysis, design, implementation, and management of small business systems/microcomputer systems. (PR: ISM 6775)

ISM 6905 INDEPENDENT STUDY (1-6) Independent Study as directed by designated faculty. Rpt. S/U.

ISM 6930 SELECTED TOPICS IN MIS (1-6) Selected topics in MIS. Rpt.

ISM 7120 INFORMATION REQUIREMENTS ANALYSIS (3) This course will provide the student with: (1) an understanding of the theoretical foundation for analyzing problem situations and determining information requirements; (2) the skill requirements and the tools of the systems analyst; and (3) alternative methods of developing computer-based information systems. (PR: Departmental Approval)

ISM 7140 SYSTEMS DEVELOPMENT METHODOLOGIES (3) The objective of this course is to provide the student with a realistic view of the application of the tools and techniques of systems development. (PR: Departmental Approval)

ISM 7231 FILE ACCESS METHODS & SYSTEMS SOFTWARE FOR APPLICATION DEVELOPMENT (3) An information system, viewed as a user application process interacting with data in a particular hardware/software environment, is analyzed to provide insights into various file access alternatives and advantages. (PR: Departmental Approval)

ISM 7422 BUSINESS APPLICATIONS OF ARTIFICIAL INTELLIGENCE AND EXPERT SYSTEMS (3) Theory, concepts, methodologies, and interrelationships of artificial intelligence, expert systems, and decision process. Research and discussion of the history, fundamental concepts, current trends, state-of-the-art procedures, and future potential involved with the subject area. (PR: Departmental Approval)

ISM 7441C COMPUTER-BASED APPLICATIONS IN OPERATIONS MANAGEMENT (3) Introduction to applications of computer technology in manufacturing and operations management. Focus on the design and implementation of applications to support the operations manager. (PR: Departmental Approval)

ISM 7905 INDEPENDENT STUDY Var. Independent study in which student must have a contract with an instructor. Rpt. to 6 hours. S/U.

ISM 7910 MIS RESEARCH SEMINAR I (3) Introduction to the MIS literature as it has developed over the past 30 years. Primary focus on the research literature. Other important writings will also be covered. Rpt. to 6 hours. (PR: Departmental Approval)

ISM 7911 MIS RESEARCH SEMINAR II (3) Review of the methodological issues present in MIS Research. A major component will be the preliminary design of a research project that might be expected to develop into the student's dissertation proposal. Rpt. to 6 hours. (PR: ISM 7910)

ISM 7930 SELECTED TOPICS IN MIS (1-3) Rpt. up to 9 hours.

ISM 7931 DIRECTED RESEARCH Var. Rpt. to 6 hours. S/U. (PR: Ph.D. level)

ISM 7980 PH.D. DISSERTATION Var. Rpt. to 21 hours. S/U.

MAN 6557 SIMULATION OF ADMINISTRATIVE SYSTEMS (3) A study of manual and computer simulation techniques and their application to administrative problem solving. The course emphasizes model design and construction, data collection and analysis, model validation, and implementation problems. (PR: QMB 6305 and QMB 6603)

MAN 6569 QUANTITATIVE APPLICATIONS FOR MANAGEMENT DECISIONS (3) The integration of quantitative approaches and management science tools into the decision making

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process at various organizational levels and in various organizational settings involved in the production and dissemination of goods and services. (PR: QMB 6305 and QMB 6603)

QMB 6305 STATISTICAL METHODS FOR MANAGEMENT (3) A study of probability and statistics as applied to administrative problems of choice estimation and prediction under conditions of uncertainty. (PR: College algebra)

QMB 6365 APPLIED BUSINESS FORECASTING (3) Logic and application of quantitative forecasting, techniques to problems in business. (PR: QMB 6305 or equiv.)

QMB 6375 APPLIED REGRESSION ANALYSIS AND ANALYSIS OF VARIANCE (3) As study of multi-variate data analysis techniques and their applications to problems and systems in business. (PR: QMB 6305 or equiv.)

QMB 6603 QUANTITATIVE METHODS FOR OPERATIONS MANAGEMENT (3) Principles and concepts of production operation management and management science. The study and application of management science techniques to problems in production operation management environment. (PR: GS, college algebra)

QMB 6607 MANAGERIAL STATISTICS (3) Techniques for statistical decisions under incomplete information. Prior probabilities, likelihoods and revised probabilities. Loss functions, Bayesian decision rules. Sequential decision strategies. Optimal decision revision. (PR: QMB 6305)

QMB 7565 RESEARCH METHODS I (3) A course in research strategies, design, analysis, and measurement for business research.

QMB 7566 RESEARCH METHODS II (3) A course in research analysis and measurement focusing on multivariate statistical analysis techniques.

MANAGEMENT

Chairperson: A.C. Bartlett; *Professors:* A.C. Bartlett, R.E. Dutton, M. Karlins, W.R. Nord, H.M. Schroder, T.L. Wheelen; *Associate Professors:* G.A. Balfour, C.F. Cohen, J. Jermier, J.T. Knippen, J. Koehler, R.L. Nixon, W.K. Schilit, R.M. Walsh; *Assistant Professors:* J. Gaines, N. McIntosh, C.E. Michaels; *Lecturer:* E. Hargis.

MAN 5714 URBAN MANAGEMENT (3) The applicability of business management theories and practices to problem solving in the public sector. A formal theory of organization is used to compare and contrast private and public sector decision environments.

MAN 6055 THE MANAGEMENT PROCESS (3) An examination of the theory and practice of management, including the study of goals and means, the functions of management, and the administrative process in general. (PR: GS)

MAN 6107 MANAGERIAL BEHAVIOR (3) A laboratory approach to the understanding of patterns of interpersonal and inter-group behavior that are significant for the managerial role. Topics include perception expectation, motivation, leadership styles, decision making, conflict, and competition. (PR: GEB 6836 or C)

MAN 6135 MANAGEMENT OF COMMUNICATION (3) Communication as management is the focus of this course. Examined are the process, nature, and variables that comprise organizational communications.

MAN 6204 ORGANIZATIONAL THEORY AND MANAGEMENT (3) The identification and measurement of variables that influence the effectiveness of public and private organizations, including the assessment of managerial skills, organizational behavior, control systems, and work design. (PR: GEB 6836 or C)

MAN 6266 MANAGEMENT OF PROFESSIONALS (3) Organizational behavior of professional employees is investigated through available theories and concepts. Concentration is placed on the manager's role, especially that of matching organizational demands with individual talents and expectations. (PR: GEB 6836 or C)

MAN 6289 THE MANAGEMENT OF ORGANIZATIONAL DEVELOPMENT AND CHANGE (3) This course should be taken simultaneously with or following MAN 6204. A combination

laboratory-field course requiring the integration of behavioral science theories, tools, concepts, and techniques learned in the lab to an OB application in a "real" organization. (PR: GEB 6836 or CI)

MAN 6305 HUMAN RESOURCE MANAGEMENT (3) Course focuses on the complex decision-making processes involved in the management of human resources within an organizational system geared to meeting both individual needs and organizational objectives.

MAN 6403 LABOR RELATIONS LAW (3) A survey of the various legal constraints applicable to the employer-employee relationship. Included are such areas as collective bargaining, civil rights, and fair labor standards. Also offered under Economics.

MAN 6411 LABOR – MANAGEMENT RELATIONS (3) An examination of the historical, legal, and behavioral aspects of organizational conflict as well as methods of conflict resolution. Particular emphasis on collective bargaining and management of labor relations.

MAN 6601 INTERNATIONAL MANAGEMENT (3) A study of the characteristics of the international and multinational company, environmental constraints, personnel and labor relations factors, and strategic planning and policies. (PR: GEB 6836 or CI)

MAN 6905 INDEPENDENT STUDY Var. Independent study in which student must have a contract with an instructor. Rpt. S/U.

MAN 6911 DIRECTED RESEARCH Var. Rpt. S/U. (PR: GR. ML)

MAN 6930 SELECTED TOPICS (1-4) Designed to be taken either under general guidance of faculty member on some facet of management not offered in a regular course or with regularly scheduled graduate courses for more in-depth study.

MAN 6971 THESIS: MASTER'S Var. Rpt. S/U.

MAN 7205 ORGANIZATION THEORY (3) Interdisciplinary overview of theory and research on macro organizational variables affecting organizational design and effectiveness. Focus on relationships between organizational structure and dynamics of human behavior. (PR: MAN 7225 or CI)

MAN 7225 RESEARCH ELECTIVE IN MANAGEMENT (3) Parametric & nonparametric statistics required. Research: Methods for organization analysis and management, design, sample selection, data collection, interpretation and presentation of results. (PR: GEB 6836, Research Methods I and II or equiv.)

MAN 7245 ORGANIZATIONAL BEHAVIOR (3) Behavioral concepts and practices in organizations. Emphasis on individual groups, intragroup and intergroup development & actions; organization; socialization; motivation; values; performance; communication effectiveness. (PR: MAN 7205 or CI)

MAN 7285 ORGANIZATIONAL DEVELOPMENT (3) Theory and research relating to management efforts to design and implement continual developmental activities to alter climate and improve productivity and effectiveness in dynamic organizations. (PR: MAN 7205 or CI)

MAN 7355 MANAGERIAL ASSESSMENT AND DEVELOPMENT (3) Theoretical foundations of measurement of managerial performance and development. Analysis of research on competence, style, ratings, and performance. (PR: MAN 7205 or CI)

MAN 7900 DIRECTED READINGS IN MANAGEMENT (3) Advanced reading program from selected areas in management under supervision of faculty member, requiring written contract describing requirements, prior to registration. Rpt. with changing topics. (PR: MAN 7245 and MAN 7285 or CI)

MAN 7910 DIRECTED RESEARCH IN MANAGEMENT (3) Advanced directed research program in a specific area of management under supervision of a management faculty member. Rpt. as topics vary. (PR: MAN 7245 and MAN 7285 or CI)

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MAN 7930 SELECTED TOPICS IN MANAGEMENT (3) A flexible format to offer specialized courses in management not available in regular curriculum. Rpt. as topics vary. (PR: MAN 7245 and MAN 7285 or C)

MAN 7932 SEMINAR IN MANAGEMENT (3) Critical examination of problems and issues relevant to contemporary management, such as productivity improvement, environmental constraints, etc. Rpt. as topics vary. (PR: MAN 7245 and MAN 7285 or C)

MAN 7935 SEMINAR IN STRATEGIC MANAGEMENT (3) Introduces basic theoretical issues and empirical research in strategic management. (PR: CC)

MAN 7990 GRADUATE DISSERTATION (21) Rpt. S/U. (PR: Successful completion of preliminary exams; successful completion of Field Exams in each Major and Secondary field and advancement to candidacy for Ph.D. program in Management. Dissertation.)

GENERAL BUSINESS ADMINISTRATION

Faculty listed under department offering course.

BUL 5665 LAW AND THE ACCOUNTANT (3) A comprehensive study of commercial law as it affects the practice of accounting. (PR: BUL 3112 or C)

GEB 6971 THESIS: MASTER'S Var. Rpt. S/U.

MAN 5806 ENTREPRENEURSHIP AND SMALL BUSINESS MANAGEMENT COUNSELING (1-3) Small business management consulting to an on-going firm or development of a business plan for a new enterprise. Emphasis on developing consulting skills and recognizing implications of entrepreneurs capabilities and attitudes for success.

MARKETING

Chairperson: P.J. Solomon; *Professors:* R.L. Anderson, D.M. Lambert, T.E. Ness, P.J. Solomon, J.R. Stock; *Associate Professors:* S.A. Baumgarten, W.A. DeBord, L.R. Duffus, J.S. Hensel, D.J. Ortinau, M.B. Stamps, H.H. Towery; *Assistant Professor:* R.R. Lagace, J.L. Twible.

MAR 6158 INTERNATIONAL MARKETING MANAGEMENT (3) A study of marketing management activities from the perspective of firms doing business across national boundaries. Emphasis is upon aspects of marketing which are unique to international business and problem-solving within an international context. (PR: MAR 6815)

MAR 6216 LOGISTICS AND PHYSICAL DISTRIBUTION MANAGEMENT (3) A study of managerial methods focusing on the establishment and control of optimum customer service levels in the areas of inventory, transportation, fixed facility location, material handling, and information. Component parts of each system are analyzed quantitatively. Reading, lecture, and case analysis. (PR: MAR 6815 or C)

MAR 6336 PROMOTIONAL MANAGEMENT (3) Management of the promotional function as part of the total marketing program. Includes a study of relevant buyer behavior concepts, resources and budgets, media, creative aspects, and effectiveness measurements as they relate to the management tasks of developing, implementing, and evaluating promotional strategy. (PR: MAR 6815)

MAR 6406 SALES MANAGEMENT (3) A study of the sales function of the firm approached from the perspective of the sales manager. Emphasis is placed upon the development of the student's problem-solving, decision-making, and analytical skills. (PR: MAR 6815)

MAR 6646 RESEARCH FOR MARKETING MANAGERS (3) A study of marketing research methods and information systems and their relationship to marketing decision making. Topics include value and cost of information, sample design, questionnaire design, statistical analysis, and report presentation. Lecture, reading, case analysis, and project. (PR: MAR 6815, QMB 6305, GEB 6775)

MAR 6815 MARKETING MANAGEMENT (3) Analysis of operational and strategic planning problems confronting marketing managers. Topics include buyer behavior, market segmentation, information systems, product selection and development, pricing, distribution, promotion, and sales force management. (PR: GEB 6716)

MAR 6816 MARKETING STRATEGY (3) A study of strategic marketing planning and problem-solving process as practiced by the modern market-oriented firm. The course is designed to develop marketing problem-solving, decision-making, and planning skills through the extensive use of case analysis. (PR: MAR 6815)

MAR 6907 INDEPENDENT STUDY Var. Must have a contract with an instructor. Rpt. S/U.

MAR 6916 DIRECTED RESEARCH Var. Rpt. S/U. (PR: GR. M.L.)

MAR 6936 SELECTED TOPICS IN MARKETING (1-4) The content and organization of this course will vary according to the interests of the faculty and students involved in any given term. Rpt. when subjects differ. (PR: CI)

MAR 7555 CONSUMER BEHAVIOR THEORY (3) This course investigates the interrelationships and applications of behavioral science theories, concepts and methodologies to problems of understanding group as well as individual behavior in the market place.

MAR 7635 ADVANCED MARKETING RESEARCH: DESIGN AND TECHNIQUE (3) An intensive study of the theoretical, conceptual, and methodological issues in survey and experimental marketing research. A review and expansion of advanced marketing data analysis methods. (PR: QMB 7565, QMB 7566 or CI)

MAR 7667 MARKETING MODELS AND STRATEGY APPLICATIONS (3) A model-building approach to the management of marketing. Includes models developed to aid in the design, implementation, and evaluation of corporate marketing strategies; information systems and marketing audits; and the interrelationships of economic, quantitative, and behavioral disciplines that provide the structure and tools necessary to develop and implement marketing decision support systems.

MAR 7787 MARKETING THEORY AND THOUGHT (3) An intensive study of marketing concepts and theories from 1900 to present. Emphasis is placed on the development of theory, as well as predictions of future theoretical developments. (PR: GS and CI)

MAR 7910 INDEPENDENT STUDY IN MARKETING (3) This course permits a doctoral student to pursue research in a specific area under the direct supervision of a faculty member. Rpt. to 6 hours. S/U.

MAR 7930 ADVANCED SEMINAR IN MARKETING (3) Broad readings within the field of marketing; an intensive survey and analysis of current marketing problems, their significance, evaluation, and probable outcome; suggestions of possible future empirical research directions and investigations.

MAR 7931 SEMINAR ON SELECTED MARKETING TOPICS (3) Intensive study of the theoretical, conceptual, and methodological issues and problems which impact managerial applications in selected topic areas, such as marketing channels, distribution/logistics, environmental or social (nonprofit) marketing, consumer behavior, advertising/media research, or international marketing. Rpt. when topics vary.

MAR 7980 PH.D. DISSERTATION Var. Directed research. S/U. (PR: Successful completion of preliminary exams; successful completion of field exam in each major and secondary field; and advancement to candidacy for Ph.D. program in marketing.)

College of Education

ADULT AND VOCATIONAL EDUCATION

Chairperson: W.E. Blank; *Professors:* W.P. Danenburg, F.F. Johnson; *Associate Professors:* W.E. Blank, R.G. Cantor, C.H. Collier, R. Hill, W.B. James, R.E. Palmer, G.P. Patterson, C. Welter; *Assistant Professor:* D.B. Briccoe

ADULT EDUCATION

ADE 6080 ADULT EDUCATION IN THE UNITED STATES (4) A study of the adult education movement in the United States from its beginnings to the present lifelong learning enterprise it has become. Economic and cultural factors of the past are examined with a view toward implications for the future.

ADE 6160 PROGRAM MANAGEMENT IN ADULT EDUCATION (3) An examination of the methods for establishing a productive adult education program, and the principles and procedures involved in designing, organizing, operating, and evaluating comprehensive adult education programs.

ADE 6161 CURRICULUM CONSTRUCTION IN ADULT EDUCATION (4) Curriculum scope, the process of planning and organizing instructional programs with emphasis on task analysis and process evaluation. It concentrates on basic principles affecting the planning of Adult Education activities, including an overview of the human forces that both impinge and motivate human behavior in an adult learning environment.

ADE 6197 ADULT BASIC EDUCATION (4) An overview of adult basic education with an emphasis on current issues and problems of curriculum and instruction in program development and on culturally different adults.

ADE 6360 METHODS OF TEACHING ADULT EDUCATION (3) An exploration of different methods, techniques, and materials available to help adults learn. Concentration will be on the process of designing effective learning experiences for adults and developing the competencies of self-directed learning.

ADE 6370 TRAINERS IN BUSINESS AND INDUSTRY (3) A study of trainers in business and industry and acquisition of several key competencies required to fulfill this role.

ADE 6380 ADMINISTRATION OF LOCAL ADULT EDUCATION PROGRAMS (4) A study of the organization, selection of personnel, assignment of duties and responsibilities, and establishment of policies and procedures to accomplish the objectives of the local program within federal, state, and local requirements.

ADE 6385 THE ADULT LEARNER (3) An investigation of the physiological and psychological changes in the adult life span and the implications these have for adult learning capabilities. The course focuses on the identification of principles of adult learning, differences between adults and youths as learners, and a review of research on adult learning.

ADE 6387 SUPERVISION OF LOCAL ADULT EDUCATION PROGRAMS (4) A study of the factors involved in the supervision of instruction including plans for teacher education, improvement of instruction, coordination of activities, and personnel relations.

ADE 6946 PRACTICUM IN ADULT EDUCATION (2-6) A problem-centered field study in the local community, school, government, office, social agency, business, or industry setting.

ADE 7185 COMMUNITY EDUCATION AND PROGRAM DEVELOPMENT (4) Examines the sociological and economical forces affecting community education programs and activities. Also, the concept of lifelong learning and its relationship to the development of community educational programs is examined.

ADE 7388 ADULT DEVELOPMENT AND LEARNING (3) This is an advanced in-depth study of the distinctive characteristics of adult life and learning. (PR: ADE 6385, or equiv.)

ADE 7910 DIRECTED RESEARCH IN ADULT EDUCATION (1-4) Directed research on topics related to adult education. Rpt up to 8 hours. (PR: Advanced graduate level)

ADE 7937 SEMINAR IN ADULT EDUCATION (1-4) Seminar in advanced topics in Adult Education. Rpt up to 12 hours. (PR: GL or CI)

ADE 7947 ADVANCED INTERNSHIP: ADULT EDUCATION (2-4) Supervised field experiences in an approved adult education setting, e.g., an agency, school, or institution. RPT up to 8 hours. S/U. (PR: Advanced graduate level only)

EDG 6906 INDEPENDENT STUDY Var. Independent study in which students must have a contract with an instructor. Rpt. S/U.

BUSINESS AND OFFICE EDUCATION

BTE 5171 CURRICULUM CONSTRUCTION: BUSINESS EDUCATION (3) Curriculum scope, the process of planning and organizing instructional programs with emphasis on task analysis and process evaluation.

BTE 5245 PROGRAM MANAGEMENT: BUSINESS EDUCATION (3) Organization, coordination, and budgeting of adult, cooperative, and special programs.

BTE 6385 IMPROVEMENT OF METHODS OF TYPEWRITING INSTRUCTION (3) Research-based study of methodology and psychology of teaching typewriting. Includes techniques for developing specialized instructional materials and equipment for the exceptional student. (PR: EDF 6432, EDF 6481 or CI)

BTE 6386 THEORIES OF BASIC BUSINESS AND ACCOUNTING INSTRUCTION (3) This course contains a research-based study of theory and methodology in teaching basic business and accounting subjects. The course is available to majors and non-majors and for credit and non-credit workshops and seminars. (PR: Methods of Teaching or equivalent, EDF 6481 or CI)

BTE 6387 RESEARCH IMPLICATIONS FOR SHORTHAND PEDAGOGY (3) Research-based study of methodology and prognosis in the teaching of shorthand as a language skill. Available for credit and non-credit workshops and seminars. (PR: EDF 6481 or CI)

BTE 6944 PRACTICUM: BUSINESS EDUCATION (3-6) A problem-centered field study in the local community, school, government, office, social agency, business, or industry.

DISTRIBUTIVE AND MARKETING EDUCATION

DEC 5175 PROGRAM MANAGEMENT: DISTRIBUTIVE EDUCATION (3) Organization, coordination, and budgeting of adult, cooperative, and special programs.

DEC 5185 CURRICULUM CONSTRUCTION: DISTRIBUTIVE EDUCATION (3) Curriculum scope, the process of planning and organizing instructional programs with emphasis on task analysis and process evaluation.

DEC 6945 PRACTICUM: DISTRIBUTIVE EDUCATION (3-6) A problem-centered field study in the local community, school, government, office, social agency, business, or industry.

INDUSTRIAL AND TECHNICAL EDUCATION

EIV 5315 PROGRAM MANAGEMENT: DIVERSIFIED COOPERATIVE TRAINING (3) Organization, coordination, and budgeting of adult, cooperative, and special programs.

EVT 5285 OCCUPATIONAL SAFETY AND HEALTH (OSHA) (3) Planning and organizing safety and health course content to be included in occupational education programs in Florida. Content to be identified and selected from Federal Registers, Department of Labor, Occupational Safety and Health Standards.

EVT 5369 PREPARATION AND DEVELOPMENT FOR TEACHING (4) The development of selected instructional materials, use of new educational media, performance evaluation instruments, and counseling techniques.

EVT 5664 SCHOOL COMMUNITY DEVELOPMENT (4) This course is an approach to identifying, assessing, and analyzing, individual, institutional and community needs for the purpose of cooperative program planning, community involvement, and public support.

EVT 6264 ADMINISTRATION OF LOCAL PROGRAMS: VOCATIONAL (4) Organization, personnel selection and assignment, and establishment of policies and procedures for local vocational programs within federal, state and local requirements.

EVT 6265 SUPERVISION OF LOCAL PROGRAMS: VOCATIONAL EDUCATION (3) A study of the factors involved in the supervision of instruction including plans for teacher education, improvement of instruction, coordination of activities, and personnel relations. (PR: CI)

Education

EVT 6500 INDIVIDUALIZED INSTRUCTION (3) Emphasis given to individualized instruction to include the special needs student, the slow learner, and the more capable student.

EVT 6504 PLACEMENT OF SEVERELY HANDICAPPED PEOPLE (3) A study of the purpose, methods, processes, and procedures used to plan, implement, and operate a Vocational Rehabilitation Cooperative School Counseling Program.

EVT 6661 CURRENT TRENDS (3) Historical information, issues, current trends, new dimensions, and problems in an area of specialization.

EVT 6769 METHODS, PROCEDURES, AND PROCESSES OF VOCATIONAL EVALUATION (3) A study of the purposes, methods, processes and procedures used to plan, implement, and operate a vocational evaluation program.

EVT 6926 STAFF DEVELOPMENT (1-5) Implementation of new procedures addressed to discreet developmental needs of the staff as identified by an educational agency.

EVT 6930 SEMINAR (4) Applied research techniques and investigation of important current issues of thesis in the area of specialization. (PR: EDF 6432 or EDF 6481 or CI)

EVT 6948 PRACTICUM: INDUSTRIAL-TECHNICAL EDUCATION (3-6) A problem-centered field study in the local community, school, government, office, social agency, business, or industry.

EVT 7066 FOUNDATIONS AND PHILOSOPHY OF VOCATIONAL, TECHNICAL AND ADULT EDUCATION (3) This course focuses on the historical development and contemporary philosophies, cultural bases and practices of Vocational, Technical, and Adult Education. (PR: Preliminary admission to the advanced graduate program and/or CI)

EVT 7155 CAREER DEVELOPMENT IN VOCATIONAL, TECHNICAL, AND ADULT EDUCATION (3) Course involves the development of a career model designed to facilitate career development of students and articulate vocational education and career guidance. (PR: Preliminary admission to the Graduate Program and CI)

EVT 7168 INSTRUCTIONAL DEVELOPMENT FOR VOCATIONAL, TECHNICAL, AND ADULT EDUCATION (4) The course is designed to develop competencies in a systematic approach to vocational, technical, and adult education curriculum improvement and instructional development. Students will apply an instructional systems approach to the development of practical solutions to critical teaching and learning problems. (PR: EDG 5206 or CI)

EVT 7267 VOCATIONAL AND ADULT EDUCATION PROGRAM PLANNING AND IMPLEMENTATION (3) Designed to equip students with the knowledge and skills necessary to participate in the initial determination, planning, organization, and implementation of new or expanded vocational and technical education programs. (PR: EVT 4176, Curriculum Construction or equiv.)

EVT 7761 RESEARCH SEMINAR IN VOCATIONAL, TECHNICAL, AND ADULT EDUCATION (3) Examination and critical evaluation of research in a particular specialization area of Vocational, Technical, or Adult Education. Preparation of an individual research prospectus. Available to majors only. Rpt. up to 6 hours. (PR: Completion of program requirements in measurement and research or CI)

CHILDHOOD/LANGUAGE ARTS/READING EDUCATION

Chairperson: H.P. Pfost; *Professors:* L.C. Greabell, S. Forseth-Helton, R. Linder, A.J. Lowe, L. McClellan, M.Mann, D.D. Neville, E.F. Searls; *Associate Professors:* G.B. Barkholz, B.K. Clarke, F.W. Freshour, F.S. Goforth, P. Hanley, S. Homan, J.P. Klesius, J. Linder, H.P. Pfost, J.T. Polito, C. Spillman, J. Swartzman, G.M. Towery; *Assistant Professors:* N. Anderson, W. Kasten, L. Marlow, C.J. Schwartz.

ELEMENTARY EDUCATION

ARE 6358 ART FOR THE ELEMENTARY SCHOOL TEACHER (3) Exploration of various materials and techniques in relationship to current theories about art and the intellectual, creative, emotional, and esthetic growth of children.

- EDE 6305 CREATIVE TEACHING IN THE ELEMENTARY SCHOOL (3)** Creative processes and principles in the teaching of the arts and content subjects to elementary school pupils.
- EDE 6906 INDEPENDENT STUDY: ELEMENTARY/EARLY CHILDHOOD EDUCATION (1-6)** Independent study in which students must have a contract. Rpt. S/U.
- EDG 6415 PROJECT P.R.I.D.E. (PROFESSIONAL REFINEMENTS IN DEVELOPING EFFECTIVENESS) (3)** Topics in academic questioning techniques, non-verbal communication, motivating changes in behavior, managing critical incidents in the classroom, and analyzing typical classroom practices for positive or negative impact.
- EDG 6416 PROJECT T.E.A.C.H. (TEACHER EFFECTIVENESS AND CLASSROOM HANDLING) (3)** Topics and techniques in verbal communication skills, questioning, paraphrasing, positive support skills, problem solving, counseling techniques, non-confrontation strategies, group dynamics, and discipline decision making. (PR: Post-Baccalaureate status.)
- EDG 6417 TEACHING THROUGH LEARNING CHANNELS (3)** Focus on the area of teaching effectiveness in the cognitive domain and skill training on the identification and use of student learning channel strengths; analysis of curriculum based on learning channels to identify the skills necessary to complete learning tasks; the development of alternative strategies to meet the needs of all students.
- EDG 6935 SEMINAR IN CURRICULUM RESEARCH (1-3)** Critical evaluation of current research and curriculum literature, design and analysis of individual research topics leading to satisfaction of research requirements. (PR: EDF 6481)
- EDS 6930 PROBLEMS IN SUPERVISION (3)** Problems in supervising for curriculum improvement within the elementary school. (PR: EDF 6481 or equivalent and EDS 6050)
- EEC 6261 ADVANCED PROGRAMS IN EARLY CHILDHOOD EDUCATION (3)** A study of innovative curriculum designs in Early Childhood Education, with emphasis given to related research. (PR: EDF 6432, EEC 4203 or CI)
- EEC 6405 HOME-SCHOOL-COMMUNITY INTERACTION IN EARLY CHILDHOOD EDUCATION (3)** An intensive study of the roles of parents, teacher aides, and community agencies involved in the education of the young child. (PR: EDG 6432, EEC 4203, or CI)
- EEC 6406 SOCIAL GROWTH IN CHILDHOOD (3)** A study of the principal factors that influence the social development of young children with particular emphasis upon those cultural influences that affect both child development and the educational programs for the young child. (PR: Admission to College of Education)
- EEC 6705 INTELLECTUAL GROWTH IN CHILDHOOD (3)** Intellectual development of the normal child with particular emphasis on the studies of Jean Piaget and how they relate to curriculum for children, ages 0-8. Child study through observation required.
- EEC 6926 WORKSHOP IN EARLY CHILDHOOD EDUCATION (3)** Individual problems and innovations related to methods and materials of instruction in early childhood.
- LAE 6301 LANGUAGE LEARNING IN CHILDHOOD (3)** The study of research that has been used to assess the language behavior of normal children. Attention will also be given to the application of selected research methodology to understanding linguistic behavior of children. (PR: Graduate standing in the College of Education)
- LAE 6315 TEACHING WRITING IN THE ELEMENTARY CLASSROOM (3)** A study of the development of writing, its functions, conventions, and processes, and instructional strategies to be used across the elementary curriculum. Emphasis is placed on products generated by students. This course is available to majors and non-majors. (PR: LAE 4314 or LAE 4355 or LAE 4642 or CI)
- LAE 6415 LITERATURE AND THE LEARNER (3)** This course is designed to acquaint adults with the nature, scope, and uses of literature for instructional, information, and recreational purposes. The implications of current theory, significant research, and issues in literature study will be investigated and examined as they relate to the learner.

Education

LAE 6616 TRENDS IN LANGUAGE ARTS INSTRUCTION (3) A study of significant concepts, emerging trends, research, and instructional techniques for implementation and utilization of language arts in all areas of the curriculum. (PR: LAE 4314 or equivalent or CI)

LAE 7617 THEORIES AND PATTERNS OF ADVANCED LANGUAGE ARTS INSTRUCTION (3) This course is organized to present new research findings and theories relating to language patterns and contemporary programs for teaching language arts. (PR: LAE 6616 or equiv.; and LAE 7617)

LAE 7746 APPLICATIONS OF THEORIES TO THE DEVELOPMENT OF LANGUAGE ARTS PROGRAMS (3) This course is designed to apply research finding and theories for developing and organizing instructional improvement of the language arts. (PR: LAE 6616 or equivalent; and LAE 7617)

LAE 7747 LITERATURE PROGRAM DESIGN (3) Advanced graduate standing. Investigation and analysis of the research in literature instruction and the application of the findings to the development of literature programs. (PR: EDF 6481, LAE 6415, or LAE 6336 or CI)

MAE 6115 CURRENT TRENDS IN ELEMENTARY MATHEMATICS EDUCATION (3) Philosophy, content, and process of mathematics instruction in elementary school programs. (PR: MAE 4310 or equiv.)

MAE 6516 ADVANCED DIAGNOSIS AND TREATMENT OF LEARNING DISABILITIES IN SCHOOL MATHEMATICS (3) Study of the symptoms, etiologies, and consequences of children's learning disabilities in mathematics; study and guided application of theoretical models used in diagnosis and treatment; supervised conduct of a case study. (PR: MAE 4310 or equiv.)

MAE 6549 ADVANCED PRACTICUM IN DIAGNOSIS AND TREATMENT OF LEARNING DISABILITIES IN SCHOOL MATHEMATICS (1-6) Supervised conduct of a case study with a student experiencing learning difficulties in mathematics. Procedures and reporting practices developed in MAE 6516 reviewed and extended. (PR: MAE 6516)

RED 6116 CURRENT TRENDS IN ELEMENTARY READING INSTRUCTION (3) Study of approaches, materials, and procedures in Elementary Reading instruction, with emphasis on pertinent research. Not for undergraduates, not to be used as a first course in Reading. (PR: RED 4310 or equiv.)

SCE 6616 TRENDS IN SCIENCE INSTRUCTION (3) Topics in the biological and physical sciences appropriate for teaching in elementary school programs. Analysis of modern curriculum materials used in presenting science as a process of inquiry. (PR: SCE 4310)

SSE 6617 TRENDS IN SOCIAL STUDIES INSTRUCTION (3) Crucial concepts drawn from the social sciences. Analysis of the problems approach. Students will select an area of independent study on an advanced level. (PR: SSE 4313)

READING EDUCATION

RED 6247 CURRICULUM AND SUPERVISION PROBLEMS IN READING (3) Planning and administering programs and preparation as consultants in reading. Intensive work on individual and group projects and research paper required. (PR: RED 6116, RED 6540, RED 6544 or RED 6545, or CI)

RED 6365 READING IN SECONDARY AND HIGHER EDUCATION (3) Designed for student and in-service teachers with appropriate B.A. degrees. Content covers secondary, community college, and university levels. Organization permits student to work on applications to individual levels and disciplines. Research paper required. (PR: CI and GS; RED 4310, RED 4337, or RED 4360)

RED 6516 CORRECTIVE READING IN THE CLASSROOM (3) Use of diagnostic and prescriptive procedures with individual and group reading instruction. (PR: RED 4310 or CI)

RED 6540 CLASSROOM DIAGNOSIS OF READING PROBLEMS (3) Study of multiple factors related to reading problems and sources of information for assessing reading performance. Use of informal diagnostic instruments in the classroom. (PR: RED 6116 or CI)

- RED 6544 REMEDIATION OF COMPREHENSION PROBLEMS (3)** Methods and materials for teaching reading and listening comprehension. (PR: RED 6116 or CI)
- RED 6545 REMEDIATION OF READING VOCABULARY PROBLEMS (3)** Methods and materials for teaching vocabulary and word identification for reading. (PR: RED 6116 or CI)
- RED 6546 DIAGNOSIS OF READING DISABILITIES (3)** Causes of reading disability; techniques and materials in diagnosis of reading problems. Diagnoses of individual children are required. (PR: RED 6116)
- RED 6747 SURVEY OF READING RESEARCH (3)** This course will address topics related to the location of research information, the reading and evaluation of research, and the identification and understanding of important studies. (PR: EDF 6481, RED 6116, RED 6540 or RED 6546, CI)
- RED 6906 INDEPENDENT STUDY: READING EDUCATION (1-6)** Independent study in which students must have contract with an instructor. Rpt. S/U.
- RED 7048 READING AS A SYMBOLIC PROCESS (3)** Advanced graduate standing in Reading/Language Arts or CI. Examination and understanding of the relationship of the various perceptual, learning, affective, and cognitive processes to the acquisition of reading competencies. (PR: RED 6116 or RED 6365)
- RED 7938 ADVANCED GRADUATE SEMINAR IN READING/LANGUAGE ARTS (3)** Discussion and evaluation of current issues and research in Reading/Language Arts and related fields. Rpt. to 6 hours. Required for each Ph.D. Student.

COUNSELOR EDUCATION

Chairperson: V.J. Drapela; *Professors:* W.K. Bott, V.J. Drapela, D.G. Ferguson, E.E. Panther; *Associate Professor:* C.M. Story; *Assistant Professors:* D. Anderson, M.S. Street.

- EGC 5101 HUMAN RELATIONS SKILLS IN GUIDANCE (4)** Introduction to the theory of human relations dynamics and development of skills required for effective interpersonal relations. Lecture sessions and laboratory training. (PR: EGC 4001 or CI)
- EGC 6006 PRINCIPLES AND ORGANIZATION OF GUIDANCE (4)** Required first course for majors in guidance and counseling; an elective for students in other programs. Guidance as a profession; its philosophical framework; its scope and functions; its organization and administration in various settings.
- EGC 6105 COMPARATIVE GUIDANCE AND COUNSELING (3)** Study of guidance theories and practices in selected foreign countries as compared with the American guidance model. Evaluation of foreign guidance through critical analysis of primary sources. For example: guidance philosophy and practice in countries of the Soviet Bloc, Western Europe, and Latin America. (PR: CI)
- EGC 6165 STUDY OF MENTAL DISORDERS FOR COUNSELORS (3)** A study of mental disorders emphasizing recognition of behavioral symptoms so that counselors can apply appropriate helping approaches or refer clients for further diagnosis and treatment. Intended primarily for counselors working with adult clients. (PR: EGC 6006 or CI)
- EGC 6225 APPRAISAL PROCEDURES IN GUIDANCE (4)** A study of test and non-test techniques of appraisal with emphasis on the use of standardized test data in guidance programs and the use of the individual case study approach. (PR: EDF 6431, EGC 6006)
- EGC 6306 INFORMATION SERVICE AND CAREER GUIDANCE (4)** Study of the information service in guidance as it relates to life style and career development. Theories dealing with career planning. Application of educational, vocational, and personal-social information resources to lifelong human development. (PR: EGC 6006)
- EGC 6435 COUNSELING THEORIES AND PRACTICES (4)** Nature of the counseling process with emphasis on major theoretical approaches, supervised practice, and application. Focuses upon working with adolescents and adults, includes attention to (a) philosophic bases of helping relationships and (b) consultation theory and practice. (PR: EDF 6354 and EGC 6006)

Education

EGC 6464 COUNSELING SERVICE IN ELEMENTARY SCHOOLS (4) Nature of the counseling process with emphasis on major theoretical approaches, supervised practice, and application. Focuses upon work with elementary age children and consultations with parents and teachers. (PR: EDF 6354 and EGC 6006)

EGC 6472 COUNSELING SPECIAL POPULATION GROUPS (3) Application of counseling theory to work with clients from special population groups, e.g., ethnic minorities, women reentering the labor force, and older persons. Each student will select a specific population group for supervised research. (PR: EGC 6435 or EGC 6464)

EGC 6509 GROUP THEORY AND PRACTICUM: ELEMENTARY SCHOOLS (4) Experiential study of group structures, group dynamics, methodology, and leadership models applicable to counseling and guidance in the elementary schools. Skill building through supervised practicum in leading groups of elementary school children. (PR: EGC 6464)

EGC 6510 GROUP THEORY AND PRACTICUM: ADOLESCENTS AND ADULTS (4) Experiential study of group structures, group dynamics, methodology, and leadership models applicable to counseling adolescents and adults. Skill building through supervised practicum in leading groups of adolescents or adults. (PR: EGC 6435)

EGC 6830 PRACTICUM IN ELEMENTARY GUIDANCE COUNSELING AND CONSULTING (4) Supervised counseling experiences for integration of knowledge and skills gained in didactic study. Focus is upon working with elementary age children, parent and teachers. S/U. (PR: CC)

EGC 6835 PRACTICUM IN SECONDARY SCHOOL GUIDANCE COUNSELING (4) Supervised counseling for integration and application of knowledge and skills gained in didactic study. Focus is upon working with adolescents and adults. S/U. (PR: CC)

EGC 6905 INDIVIDUAL STUDY (1-4) Independent study, research, and experience relating to guidance and pupil personnel services under the supervision of a member of the Counselor Education faculty. Rpt. up to 4 hours. (PR: C)

EGC 6935 SEMINAR IN GUIDANCE (1-2) Significant issues in the field of guidance; topics for discussion will vary according to needs and interests of students. Rpt. up to 4 hours. S/U. (PR or CR: EGC 6006, C)

EGC 6948 INTERNSHIP IN SCHOOL GUIDANCE (6) Field experience involving one semester of full-time participation in all guidance-related activities in an elementary or secondary school; classroom guidance, individual and group counseling, assessment/evaluation, staffing, record keeping, etc. S/U. (PR: CC)

EGC 7437 ADVANCED COUNSELING: THEORIES AND PRACTICUM (5) Advanced study of major counseling theories and their application in therapeutic work with individual clients and with groups in a variety of settings. Supervised practice in individual and group counseling with emphasis on integration of theory and practice. (PR: CC)

EGC 7446 CONSULTATION AND SUPERVISION: THEORIES AND PRACTICUM (5) Theory and methodology of consultation; the role of the counseling professional as consultant and as a supervisor of counselor trainees and counseling practitioners. Practice learning experiences in consulting and supervision under faculty direction. (PR: CC)

EGC 7894 ADVANCED INTERNSHIP IN COUNSELOR EDUCATION (2-8) Supervised field experiences in an approved agency, educational institution, or industrial setting: counseling, consulting, supervision, applied research, administration, and evaluation of counseling/guidance services. Rpt. up to 8 hours. S/U. (PR: CC)

EGC 7935 ADVANCED SEMINAR IN COUNSELOR EDUCATION (2) Seminar for advanced graduate students in counselor education. Issues and trends in Guidance and Counseling will be studied and discussed. Rpt. up to 2 hours. S/U. (PR: C)

EDUCATIONAL LEADERSHIP

Chairperson: D.E. Orlosky; *Professors:* W.F. Benjamin, J.C. Bondi, P.E. McClendon, D.E. Orlosky, D.D. Peterson, D.M. Purdom, A. Shapiro, K. Snyder, L. Tuttle, M.G. Villeme, J. Wiles;

Associate Professors: L.P. Cleary, J.L. Hunt, L.T. Karns, T.W. Keene, R.F. Pride, S. Schurr;
Courtesy Professor: R. Anderson.

EDA 6061 PRINCIPLES OF EDUCATIONAL ADMINISTRATION (3) Educational administration as a profession. Consideration of organization, control, and support of the educational system.

EDA 6106 ADMINISTRATIVE ANALYSIS AND CHANGE (3) Change and change strategies in formal and informal organizations are foci. Students will develop change strategies and will apply them to selected situations.

EDA 6192 EDUCATIONAL LEADERSHIP (3) Administration course that addresses change, influences, and planning systems. Also examines personnel functions for administrators.

EDA 6195 POLICY DEVELOPMENT (3) Contemporary research on diffusion of innovations, political power in policy decision making. Role of establishing educational policies.

EDA 6232 SCHOOL LAW (3) Financial support of education by local, state, federal sources, with emphasis on Florida; introduction to educational budgeting. (PR: GS)

EDA 6242 SCHOOL FINANCE (3) Financial support of education by local, state, federal sources, with emphasis on Florida; introduction to educational budgeting. (PR: GS, EDA 6061 or CI)

EDA 6262 PLANNING EDUCATIONAL FACILITIES (3) Problems in the planning, construction, and use of educational facilities. Visitation and/or evaluation of selected schools. (PR: GS or CI)

EDA 6503 GENERAL ORGANIZATION PRINCIPALSHIP (3) Organization and administration of the school. Emphasis on the competencies necessary for leadership and management by the principal as the administrator and instructional leader.

EDA 6910 DIRECTED RESEARCH (1-19) S/U. (PR: GS or ML)

EDA 6931 CASE STUDIES IN SCHOOL ADMINISTRATION (3) Case studies to help prospective administrators understand administrative problems, propose feasible solutions, and evaluate courses of action. The course develops skill in decision making. (PR: GS, EDA 6061 or CI)

EDA 6945 ADMINISTRATION PRACTICUM (3-8) Field experiences in school systems for the purpose of identifying and analyzing educational problems. Application of concepts developed in the student's program and the solution of these problems. (PR: GS and completion of a significant amount of the student's program)

EDA 7222 ADMINISTRATION OF SCHOOL PERSONNEL POLICIES AND PRACTICES (3) Administration of school personnel policies and practices relating to professional staff, supporting staff, and students. (PR: GS, EDA 6263 or CI)

EDA 7247 ADVANCED SCHOOL FINANCE (3) Advanced treatment of school finance. Development, implementation, and evaluation of financial resource and allocation systems. Emphasis is on intradistrict allocation. (PR: GS, EDA 6242 or CI)

EDE 6205 SCHOOL CURRICULUM: ELEMENTARY (3) Examines the organization, curriculum, and instruction of the elementary school with emphasis on the nature of the student served in elementary schools. Open to all education graduate students. (PR: EDG 4620)

EDG 6285 SCHOOL CURRICULUM IMPROVEMENT (3) Open only to teachers in service. Complete faculty participation required. (PR: Workshop for the improvement of the curriculum of an elementary or secondary school)

EDG 6627 FOUNDATIONS OF CURRICULUM AND INSTRUCTION (3) Introductory course in curriculum and instruction at the graduate level, basic to all specialized courses in the field. Emphasis on foundations, design, basic concepts, theory, and trends of curriculum from early childhood through secondary levels. Open to all graduate students. (PR: EDG 4620 or 5206)

Education

- EDG 6693 PROBLEMS IN CURRICULUM AND INSTRUCTION: ELEMENTARY (1-3)** For teachers, supervisors, and administrators. Curricular and instructional problems of the elementary school. Common problems of special interest to the participants. Normally, for certification requirements only. (PR: EDG 4620)
- EDG 6694 PROBLEMS IN CURRICULUM AND INSTRUCTION: MIDDLE SCHOOL (1-3)** For teachers, supervisors, and administrators. Curricular and instructional problems of the middle school. Common problems or problems of special interest to the participants. Normally, for certification requirements only. (PR: EDG 4620)
- EDG 6695 PROBLEMS IN CURRICULUM INSTRUCTION: SECONDARY (1-3)** For teachers, supervisors, and administrators. Curricular and instructional problems of the secondary school. Common problems or problems of special interest to the participants. Normally, for certification requirements only. (PR: EDG 4620)
- EDG 6931 SELECTED TOPICS IN EDUCATION (1-4)** Each topic is a course under the supervision of a faculty member. The title and content will vary according to the topic. (PR: GS and C)
- EDG 6947 INTERNSHIP (1-9)** Open to graduate degree candidates only. Supervised teaching at the secondary or junior college level as appropriate. (PR: C) S/U.
- EDG 6971 THESIS: MASTER/EDUCATION SPECIALIST (1-19)** For students in M.A. and Ed.S. programs requiring a thesis. This project is a culminating, integrating experience which aims at relating theory to practice. Rpt. S/U.
- EDG 7325 ANALYSIS OF TEACHING (3)** Develops skills in systematic observation. Study and development of related research design models. (PR: EDG 6627 or C)
- EDG 7667 ANALYSIS OF CURRICULUM AND INSTRUCTION (3)** A study of various theoretical frameworks for analyzing curriculum and instruction. Emphasis on rational models of curriculum inquiry. (PR: EDG 6627)
- EDG 7692 ISSUES IN CURRICULUM AND INSTRUCTION (3)** Identification and analysis of major problems and issues in curriculum and instruction. Critical examination of efforts to deal with these issues. (PR: EDG 6627)
- EDG 7931 SELECTED TOPICS (1-4)** Selected topics in advanced Education. Rpt. up to 12 hours. (PR: CC)
- EDG 7937 GRADUATE SEMINAR (1-4)** Seminar in advanced Education. Rpt. up to 12 hours. (PR: CC)
- EDG 7980 DISSERTATION: DOCTORAL** Var. S/U. (PR: Admission to Candidacy)
- EDM 6235 SCHOOL CURRICULUM: MIDDLE (3)** Designed to examine the organization, curriculum, and instruction of the middle school with special emphasis on the nature of the student served in the middle school. Open to all education graduate students. (PR: EDG 4620)
- EDS 6050 PRINCIPLES AND PRACTICES OF EDUCATIONAL SUPERVISION (3)** Principles and practices of instructional supervision including role definitions of supervision, analysis of role conflict, needs assessments, supervising the planning of instruction, and observing the delivery of instruction. (PR: GS)
- EDS 6131 CLINICAL SUPERVISION (3)** To train administrators, supervisors, and peer teachers in observing and diagnosing teacher classroom performance, write remedial plans, conduct post observation conferences, and evaluate performance. (PR: GS)
- EDS 6239 PROBLEMS IN SUPERVISION (3)** The analysis of instructional problems in schools. Emphasis of the course is directed to supervisory tasks, case studies, and the application of problem solving techniques and strategies. (PR: GS, EDS 6050 or C)
- EDS 7130 TEACHER EVALUATION: PROCESS AND INSTRUMENTS (3)** Examine procedures for establishing content validity, reliability, norms, and predictive validity of teacher evaluation systems; and, to examine the psycho/metric qualities of selected instruments.

ESE 6215 SCHOOL CURRICULUM: SECONDARY (3) Examines the organization, curriculum, and instruction of the secondary school with special emphasis on the nature of the student served in the secondary school. Open to all education graduate students. (PR: EDG 4620)

HIGHER EDUCATION

EDH 6061 THE JUNIOR COLLEGE IN AMERICAN HIGHER EDUCATION (4) Philosophical and cultural bases for definition of its role and contemporary issues, such as control, financing, and curricular patterns. The place and problems of the community junior college will be central concern of this course.

EDH 6938 SEMINAR IN COLLEGE TEACHING (3) Implications of learning theory and student characteristics for teaching at the college level. Types of teaching procedures, innovation, evaluation, student freedom, and responsibility for learning.

EDH 7225 CURRICULUM DEVELOPMENT IN HIGHER EDUCATION (3) Emphasis on curriculum perspectives, procedures, and practices in higher education; principles of curriculum and instruction in higher education; theory and practices in goal setting, curriculum planning, instructional improvement, and curriculum design.

EDH 7505 HIGHER EDUCATION FINANCE (3) Emphasis on financial policies, planning, and budgeting; allocation; financial analysis and management, patterns of expenditure, sources of income. Relationships between educational objectives and resource allocations.

EDH 7635 ORGANIZATION AND ADMINISTRATION OF HIGHER EDUCATION (3) Examines the concepts about higher education organizations and administration, the behaviors of those organizations and administrators, and the relationships between concept and practice.

EDH 7930 HIGHER EDUCATION SEMINAR (1) Topics of general and special concern in higher education, restricted to advanced graduate students. Rpt. up to 8 hours.

EDUCATIONAL MEASUREMENT AND RESEARCH

Chairperson: J.L. Mazur; *Professors:* B.W. Hall, W.G. Katzenmeyer, J.L. Mazur, J.L. Robinson, D.E. Stone, R.E. Wilk; *Associate Professors:* L.M. Carey, C. Hines, G. Hutchcraft.

EDF 6407 STATISTICAL ANALYSIS FOR EDUCATIONAL RESEARCH I (4) Theory and application of statistical procedures to problems in education; (1) Descriptive statistics, (2) Probability-sampling distributions, (3) Inferential statistics-interval estimation, tests of significance (z,t, F-one way ANOVA). Coordinated use of computer included.

EDF 6432 FOUNDATIONS OF MEASUREMENT (3) Fundamental descriptive statistics, basic measurement concepts, role of measurement in education, construction of teacher-made tests and interpretation of standardized tests.

EDF 6437 DEVELOPMENT AND VALIDATION OF SCHOOL-WIDE, DISTRICT-WIDE, AND STATE-WIDE TESTS (3) Design, development, validation, administration and interpretation of standardized testing programs. Special emphasis will be placed on domain sampling, item scaling, item fit, and developing, maintaining, and updating item banks. (PR: EDG 6250, EDF 6215, EDF 6606, EDF 6250, EDF 7488, EDF 6407, and EDF 7488)

EDF 6481 FOUNDATIONS OF EDUCATIONAL RESEARCH (3) Design, development, implementation, interpretation, and communication of both formative and summative educational program evaluation strategies. (PR: EDG 6250, EDF 6215, EDF 6606, EDF 6938, EDF 6432)

EDF 7408 STATISTICAL ANALYSIS FOR EDUCATIONAL RESEARCH II (4) Theory and application of statistical procedures to problems in education; (1) ANOVA-factorial; ANCOVA; (2) non-parametric statistics; (3) multiple correlation and regression – a specific technique and a general approach to data analysis. Coordinated use of computer may be included. (PR: EDF 7407 or C)

EDF 7410 DESIGN OF SYSTEMATIC STUDIES IN EDUCATION (4) Theory and application of major design models to systematic inquiry, from experimental to naturalistic models. Nature and role of sampling in systematic studies. (PR: EDF 7408 or equiv. or C)

Education

EDF 7437 ADVANCED EDUCATIONAL MEASUREMENT I (3) Logical, empirical, and statistical models of measurement processes. Examination of issues relative to scaling with a focus on reliability of measurement. Critique of available instruments for measurement in psychology and education. (PR: EDF 6432 or equiv.; EDF 7407 or equiv.)

EDF 7438 ADVANCED EDUCATIONAL MEASUREMENT II (4) Scaling techniques in measurement. Item analytic theories and practices. Validation theory and construction and validation of instruments for measurements in education. (PR: EDF 7437 or CI)

EDF 7484 STATISTICAL ANALYSIS FOR EDUCATIONAL RESEARCH III (4) Theory and application of selected multivariate statistical procedures, including Canonical Correlation, Discriminate Analysis, Multivariate Analysis of Variance, Factor Analysis, Multivariate Analysis of Categorical Data, and Path Analysis. (PR: EDF 7408 or CI)

EDF 7585 THEORY AND PRACTICE OF EDUCATION EVALUATION (3) Comparative analysis of contemporary evaluation approaches; theory and scientific basis of evaluation; social and political impact of evaluation on educational decision making; and the design, implementation and reporting of evaluation studies. (PR: EDF 7493 or CI)

EDF 7488 APPLICATION OF COMPUTER LANGUAGE AND PROCEDURES IN EDUCATION (1) Development of understanding and technical skill in relation to computer and data processing approaches to solution of educational research and administrative problems. Training in use of Fortran as a programming language.

EDF 7493 SYSTEMS APPROACHES FOR PROGRAM PLANNING, EVALUATION AND DEVELOPMENT (4) Systems theory applied to problems in program planning, evaluation, and development. Analysis of evaluation models. Application of Networking, PERT, and Modeling procedures to selected problems in education.

EDF 7940 PRACTICUM IN EDUCATIONAL PLANNING, EVALUATION, AND DEVELOPMENT (1-8) Supervised practicum in which the student assumes major responsibility for significant planning, evaluation, or development activity. Rpt. up to 8 hours. S/U. (PR: EDF 6407, EDF 7408, EDF 7493)

EDG 7910 DIRECTED RESEARCH Var. Rpt. S/U. (PR: GR. Ph.D. level)

INSTRUCTIONAL COMPUTING

Coordinator: A. Troutman; Professors: C. Engel, A. Troutman; Associate Professor: F. Breit; Assistant Professors: G. Tubb, J. White.

CAP 6125 MICROCOMPUTER HARDWARE SYSTEMS FOR EDUCATION (3) Planning for the selection and configuration of microcomputer hardware systems in education. The logical function of MSI and LSI computer elements and peripherals. (PR: EDG 5505 or CI)

EDF 6284 PROBLEMS IN INSTRUCTIONAL DESIGN FOR COMPUTERS (3) Application of diagnostic, design, and feedback strategies to specific instructional tasks. (PR: EDF 6215 and experience with two programming languages)

EME 5403 MICROCOMPUTERS IN EDUCATION (3) Application of computers in education, selection and evaluation of software and hardware, types of CAI, networking, computing resources, methods of instruction. (PR: CI)

EME 6412 PROGRAMMING LANGUAGES FOR EDUCATION (3) Development of concepts, strategies, and materials for utilizing programming languages in educational settings. Separate sections will focus on different programming languages such as LOGO, BASIC, Assembly Language, or PASCAL. Rpt. (PR: EME 5423)

EME 6425 MICROCOMPUTERS FOR SCHOOL MANAGEMENT (3) Development of concepts related to using microcomputer technology for effective management and leadership of school environments. (PR: CI)

SCHOOL OF LIBRARY AND INFORMATION SCIENCE

Director: R. Grover; *Professors:* R. Grover, J.A. McCrossan, F.C. Pfister, A. Prentice; *Associate Professors:* B. El-Hadidy, H. Smith, J.M. Knego, T.C. Wilson; *Assistant Professors:* V.L. Gregory; S.M. Jackson; *Courtesy Associate Professor:* Y.L. Ralston.

- LIS 5315 INSTRUCTIONAL GRAPHICS (3)** Theoretical aspects, planning and production of instructional graphic materials. The theory of graphic communications. Interpreting needs for instructional materials appropriate for given behavioral objectives. (PR: CI)
- LIS 5333 TV IN SCHOOLS AND LIBRARIES (3)** Small format video tape recordings and the utilization of open and closed broadcasts in schools and libraries.
- LIS 5404 FOUNDATIONS OF LIBRARIANSHIP (3)** Introduction to the study of library service; history; organization; specialized literature; outstanding leaders; current trends, issues, and problems. Place of the library in society with its contributions to that society.
- LIS 5434 COMMUNITY COLLEGE LIBRARIANSHIP (3)** Introduction to the community college concept, examination of the basic elements, functions, purposes, directions, programs, etc., inherent in both community college and the library resources center that serves it.
- LIS 5937 SELECTED TOPICS IN LIBRARY STUDIES (1-4)** Covers topics in such areas as collection development, reference and technical services, and administration. (PR: CI)
- LIS 6110 HISTORY OF LIBRARIES (3)** Development of libraries as found from the earliest records to the great libraries of modern times, and the library as a social institution.
- LIS 6111 HISTORY OF CHILDREN'S LITERATURE (3)** Historical bibliographical survey of imaginative and information literature for children.
- LIS 6119 CONTEMPORARY PUBLISHING AND PRINTING (3)** A survey of book publishing as it is carried on today, primarily in the United States. Emphasis on structure of the industry, economic conditions, technological developments, social functions of book publishing, and distribution. Complementary relations between libraries and publishing. (PR: LIS 6520)
- LIS 6202 INTRODUCTION TO BIBLIOTHERAPY (3)** History, theory, and practice of bibliotherapy. Conflicting definitions and their resolutions. For continuing education of librarians, advanced majors and practitioners of related disciplines. (PR: CI)
- LIS 6203 READING GUIDANCE PROGRAMS IN LIBRARIES AND CLASSROOMS (3)** Working with factors and forces influencing reading habits of children and youth; programs for teaching investigative and library skills materials and methods for guidance of reading, listening, and viewing.
- LIS 6206 ADULT SERVICES IN LIBRARIES (3)** Traditional and innovative services for adults in public and other types of libraries, including those for special groups, such as the aging, handicapped, and institutionalized. (PR: LIS 6520 or CI)
- LIS 6225 STORYTELLING (3)** Building storytelling programs for school and public libraries or other educational institutions. Analysis of historical aspects, material suitable for use and audience reaction. (PR: LIS 6586 or CI)
- LIS 6260 INFORMATION SCIENCE IN LIBRARIANSHIP (3)** Historical overview of the emergence of information science as a discipline. The fundamental concepts of information retrieval systems and subsystems, related information technologies, including indexing and abstracting, and their applications to the field of librarianship.
- LIS 6271 RESEARCH METHODS IN LIBRARIANSHIP (3)** Overview of present status of research in library and information science; introduction to research methods and their application to librarianship; designed to prepare students to evaluate and plan research studies relating to library and information science.
- LIS 6312 PREPARING INSTRUCTIONAL MEDIA (3)** Fundamentals of preparing and using audiovisuals as they relate to the communication process.

Education

- LIS 6402 ADVANCED LIBRARY ADMINISTRATION (3)** Applications of staff management principles to library situations. Includes staff roles in current and future operations, application of library performance measures to determine staff effectiveness; preparation of staff manuals; problems of special classes of library workers, such as volunteers and students. (PR: CI)
- LIS 6432 SEMINAR IN ACADEMIC LIBRARIES (3)** Identification of problems and critical examination of methods in administrative areas of technical, student, and teaching staff services, fiscal and legal responsibilities, staff organization and supervision in academic libraries. (PR: LIS 6409)
- LIS 6445 SEMINAR IN PUBLIC LIBRARIES (3)** Critical examination of public and institutional library administration, services, resources, and facilities at the municipal, county, and regional levels. Role of state and federal governments in library development. (PR: LIS 6409 or CI)
- LIS 6455 THE ORGANIZATION AND ADMINISTRATION OF THE SCHOOL MEDIA CENTER (3)** Media quarters, facilities, collections, equipment, and services. Principles of organization and administration of media programs in elementary and secondary schools. Field trips to area media centers required. (PR: CI)
- LIS 6463 LIBRARY NETWORKS AND SYSTEMS (3)** Development of library networks at the local, state, regional, and national levels with consideration of organization, administration, services, funding, and legislation. (PR: LIS 6409 or LIS 6428 or LIS 6455)
- LIS 6472 SEMINAR IN SPECIAL LIBRARIES (3)** Identification of problems and critical examination of methods in administrative areas of technical and special service clientele; fiscal and legal responsibilities, staff organization, and services in special libraries. (PR: LIS 6409)
- LIS 6473 LAW LIBRARIANSHIP (3)** All aspects of health science librarianship, including administration, acquisition, organization, and use of information resources for persons in the health fields. Field trip may be required. (PR: LIS 6260, LIS 6409, LIS 6608, LIS 6735, or CI)
- LIS 6506 AUDIOVISUAL UTILIZATION (3)** Examination (and utilization) of non-print media. Characteristics of media equipment and paradigms of use.
- LIS 6508 THE CURRICULUM AND INSTRUCTIONAL TECHNOLOGY (3)** Effective utilization of instructional materials as they relate to specific areas of curriculum in elementary and high school programs.
- LIS 6520 BUILDING LIBRARY COLLECTIONS (3)** Developmental approach to building library collections of both print and non-print materials. Emphasis upon evaluation, selection, and acquisition of library materials as they uphold the objectives of the institutions for which they are selected and acquired. (PR: LIS 6608 or CI)
- LIS 6572 BOOKS AND RELATED MATERIALS FOR YOUNG ADULTS (3)** Young adult materials for use in secondary school libraries, young adult sections of public libraries, and other institutions serving youth. Equal emphasis upon (1) selection principles and bibliographical sources, as well as upon (2) utilization in terms of service to the young adult.
- LIS 6586 MATERIALS FOR CHILDREN (3)** Examination of materials for all institutions in which children are served: school media centers, public libraries, kindergartens, etc. Stress on selection aids, reviewing techniques, utilizations.
- LIS 6608 BASIC INFORMATION SOURCES AND SERVICES (3)** An examination of the basic sources of information in the general library; of bibliographical control of all communication media, with emphasis on those tools of most value to general reference services.
- LIS 6609 AUTOMATED INFORMATION SOURCES AND SERVICES (3)** Principles of online searching and characteristics of machine-readable bibliographic data bases. Includes two credit hours of laboratory providing hands-on researching experience. (PR: LIS 6608, LIS 6260, or CI)
- LIS 6610 INFORMATION SOURCES AND SERVICES IN THE HUMANITIES (3)** Consideration of the bibliographical and reference materials in the humanities with training and practice in their use for solving problems in the reference service. (PR: LIS 6608 or CI)

- LIS 6620 INFORMATION SOURCES AND SERVICES IN THE SOCIAL SCIENCES (3)**
Consideration of the bibliographical and reference materials in the social sciences with training and practice in their use for solving problems arising in reference service. (PR: LIS 6608)
- LIS 6630 INFORMATION SOURCES AND SERVICES IN SCIENCE AND TECHNOLOGY (3)**
Study of representative reference sources in pure and applied sciences with equal attention given to typical problems encountered in scientific and technological reference service. (PR: LIS 6608 or CI)
- LIS 6651 BOOKS AND RELATED MATERIALS OF LATIN AMERICAN COUNTRIES SUITABLE FOR CHILDREN AND YOUNG PEOPLE (3)** Bibliographic sources, aids and tools for the selection and utilization of Latin American books and related materials suitable for children and young people. Examination of representative materials in terms of the basic principles and criteria of selection for libraries.
- LIS 6661 GOVERNMENT DOCUMENTS (3)** The nature of state, federal, United Nations, and international documents, their reference and research value; the techniques of acquisition, organization, and reference use.
- LIS 6724 CLASSIFICATION AND CATALOGING OF NON-BOOK MATERIALS (2)** Principles and practices in cataloging and organizing non-book materials. (PR: LIS 6735 or CI)
- LIS 6735 TECHNICAL SERVICES IN LIBRARIES (3)** Principles of general library practice in technical services operations. Emphasis on descriptive cataloging, and use of unabridged Dewey Decimal Classification.
- LIS 6745 ADVANCED CATALOGING (3)** Introduction to the practice in using selected schedules of Library of Congress Classification System and the Library of Congress Subject Heading List; changing policies and procedures in cataloging and an introduction to the use of the MARC format for inputting cataloging data into machine readable files. (PR: LIS 6735)
- LIS 6906 INDEPENDENT STUDY (1-4) S/U.** (PR: 20 hours in program and consent of adviser)
- LIS 6946 SUPERVISED FIELD WORK (3)** Supervised experience in an approved cooperating library. Includes practice work, seminar sessions and individual conferences, a progress report, and a final report on the field experience. (PR: CI)
- LIS 7406 ADVANCED FOUNDATIONS OF LIBRARIANSHIP (4)** Emphasis in this course is upon American libraries and American library education as influenced by legislation, education, censorship, technology, the copyright provisions, and other influences. (PR: LIS 5404 or CI)
- LIS 7938 ADVANCED SEMINAR IN LIBRARIANSHIP (1-4)** Seminar in advanced areas of current importance in library, media, and information science. Primarily for students enrolled in specialist and doctoral programs. (PR: CI)

MUSIC EDUCATION

See Fine Arts for Faculty and Course Descriptions

- MUE 6080 FOUNDATIONS AND PRINCIPLES OF MUSIC EDUCATION (3)**
MUE 6116 ADVANCED ELEMENTARY SCHOOL MUSIC (3)
MUE 6145 MUSIC SUPERVISION AND ADMINISTRATION (3)
MUE 6336 ADVANCED SECONDARY VOCAL MUSIC (3)
MUE 6347 ADVANCED MATERIALS FOR INSTRUMENTAL MUSIC EDUCATION (3)
MUE 6498 INSTRUMENTAL CONDUCTING IN THE SECONDARY SCHOOLS (3)
MUE 6906 INDEPENDENT STUDY: MUSIC EDUCATION (1-6)
MUE 7810 FOUNDATIONS OF MUSICAL LEARNING AND TEACHING (3)
MUE 7830 AESTHETICS IN MUSIC EDUCATION (3)

PHYSICAL EDUCATION

Chairperson: H.A. Hoffman; Professors: L.E. Bowers, R. Heeschen, H.A. Hoffman, S.E. Klesius, C.D. Smith; Associate Professors: B.L. Beasley, W.D. Hall, H. Weinberg, J.F. Young.

Education

PET 6016 PROFESSIONAL ASSESSMENT (3) Selected reading of current trends in physical education and individual appraisal of knowledge, values, attitudes, and professional competencies.

PET 6205 SOCIO-PSYCHOLOGICAL ASPECTS OF HUMAN MOVEMENT (3) Psychological and sociological implications of movement to historical and contemporary man. Emphasis on concept, role of movement in society, and values and attitudes held toward movement.

PET 6296 SPECIALIZED STUDY IN SOCIO-PSYCHOLOGICAL ASPECTS OF HUMAN MOVEMENT (SUBJECT) (1-4) Will provide in-depth study in specific areas related to sociological and psychological principles of human movement. Rpt.

PET 6305 BIO-KINETICS OF HUMAN MOVEMENT (3) Integration of basic kinesiological foundations applied to teaching physical education. Specific topics include: physical growth and neuro-muscular development, physical principles of human movement and the effects of exercise on the muscular and cardiorespiratory systems.

PET 6355 ADVANCED EXERCISE PHYSIOLOGY (3) Linked to PET 6355L. The study of exercise physiology, including ergometry, body composition, pulmonary function, energy metabolism, work capacity, cardiovascular thermodynamics, and acute and chronic response to exercise. (PR: C)

PET 6355L ADVANCED EXERCISE PHYSIOLOGY LABORATORY (1) Linked with PET 6355. Provides laboratory learning experiences for Advanced Exercise Physiology, PET 6355, including ergometry, body composition assessment, pulmonary function tests, oxygen uptake, stress tests, muscular strength, flexibility, blood studies, metabolism. (PR: C)

PET 6356L EXERCISE PHYSIOLOGY LABORATORY TECHNIQUES (3) Theoretical and laboratory methods utilized in exercise physiology adult fitness and sports medicine programs. Hands-on exposure to laboratory equipment and development of skills in conducting laboratory measurements in human performance. (PR: PET 6355 and PER 6355L)

PET 6396 SPECIALIZED STUDY IN BIO-KINETICS OF HUMAN MOVEMENT (1-4) Will provide in-depth study in specific areas related to neurological, physiological, and mechanical principles of human development. Rpt.

PET 6425 CURRICULUM AND INSTRUCTIONAL PROCESS IN PHYSICAL EDUCATION (3) Application of learning theory and education innovations, study of structure of subject matter and styles of teaching, and investigation of the nature of the learner as these relate to teaching physical education. Fieldwork may be required.

PET 6496 SPECIALIZED STUDY IN CURRICULUM AND INSTRUCTIONAL PROCESS IN PHYSICAL EDUCATION (1-4) Will provide in-depth study in specific areas related to the teaching-learning process of physical education. Rpt.

PET 6645 PHYSICAL EDUCATION FOR THE HANDICAPPED (4) The course is concerned with the motor performance and physical fitness of handicapped individuals. Study includes psycho-educational characteristics; planning, conducting, and evaluating individualized programs of physical education; and review of relevant literature. Fieldwork may be required.

PET 6695C (FORMERLY PET 6646) PHYSICAL EDUCATION FOR THE HANDICAPPED PRACTICUM (2-4) School or treatment center-based experience providing evaluation and instructional services. Seminars are conducted to discuss professional literature, teaching strategies, and curriculum organization and evaluation. Rpt. (PR: PET 6645 or C)

PET 6906 INDEPENDENT STUDY: PROFESSIONAL PHYSICAL EDUCATION (1-6) Independent study. Students must have a contract with an instructor. Rpt. S/U.

PET 6910L RESEARCH PROJECT IN PHYSICAL EDUCATION (1-4) In-depth research study of selected topics concerning human movement. Topics will vary according to needs and interests of student. Rpt.

PSYCHOLOGICAL AND SOCIAL FOUNDATIONS

Chairperson: J. Barnard; *Professors:* E.C. Anderson, J. Barnard, J.A. Battle, D.E. Bostow, W.W. Burley, J.C. Dickinson, J.C. Follman, O.G. Geiger, E.V. Johanningermeier, E.B. Kimmel, D.L. Lantz,

S.H. Silverman; *Professor Emeritus*: B.O. Smith, C. Weingartner; *Associate Professors*: G. Batsche, W.T. Bridges, D.L. Carroll, G.H. Kincaid, H.M. Knoff, R. Mumme; *Assistant Professor*: N. Greenman; *Courtesy Professor*: H.B. Clark.

EDF 5136 ADOLESCENCE (4) Study of the education, intellectual, personality, physical, social, and vocational factors in adolescence and their importance for school personnel.

EDF 5285 PROGRAMMED INSTRUCTION AND TEACHING MACHINES (3) Principles for programming in several academic subjects.

EDF 5672 AMERICAN DEMOCRACY AND PUBLIC EDUCATION (3) Interdependence of the public school and democracy in the United States and the responsibility of the school in fostering and strengthening basic democratic principles.

EDF 6120 CHILD DEVELOPMENT (4) Educational, emotional, hereditary, intellectual, social, and physical factors influencing child growth and development. (PR: EDF 6211 or CI)

EDF 6165 GROUP PROCESSES FOR EDUCATIONAL PERSONNEL (3) The application of group process research to the needs of professional educators and training officers. Techniques in interpersonal communication and influence, group processes, conflict management; the improvement of mutual social, psychological, and technical support systems in schools. (PR: CI)

EDF 6166 CONSULTING SKILLS FOR STAFF DEVELOPMENT (1-3) Knowledge and skill training for consulting with organizational clients to solve educational problems and design learning environments or programs. Covers workshop designs for training professional groups concerned with specific issues or sets of problems. (PR: CI)

EDF 6167 EXPERIENTIAL LEARNING: THEORY AND METHODS (3) Theory and methods of experiential learning in both formal and informal contexts. (PR: CI)

EDF 6211 PSYCHOLOGICAL FOUNDATIONS OF EDUCATION (3) Selected topics in psychology of human development and learning.

EDF 6213 BIOLOGICAL BASES FOR LEARNING BEHAVIOR (3) A study of human biological development and its influence upon learning and behavior. (PR: One course in Educational Psychology)

EDF 6215 LEARNING PRINCIPLES APPLIED TO INSTRUCTION (4) Study of learning principles and their application to classroom instruction. (PR: PSY 3013 or CI)

EDF 6217 BEHAVIOR THEORY AND CLASSROOM LEARNING (4) Theoretical and practical applications of behavior modification; introduction to experimental methods for behavior modification; operant methods in behavior and development; analysis and field work. (PR: EDF 6215 or CI)

EDF 6281 WORKSHOP AND CONFERENCE DESIGN (3) Covers the knowledge and skills required to design, conduct and/or administer, and evaluate both workshops and conferences to meet the educational and organizational goals. (PR: CI)

EDF 6288 INSTRUCTIONAL DESIGN I (3) Instructional design models/theories and their systematic application to instructional goals. (PR: EDF 6215 or CI)

EDF 6354 THEORIES OF PERSONALITY FOR SCHOOL PERSONNEL (4) Survey and analysis of major personality theories with emphasis on psycho-social and cognitive development throughout a person's life span. Application to relevant theoretical constructs to education and guidance.

EDG 6517 HISTORICAL FOUNDATIONS OF AMERICAN EDUCATION (4) A study of the history of the origins and development of American education, events, and movements that have shaped school policies and practices, and their relationship to contemporary developments and problems.

Education

- EDF 6520 EDUCATION IN WESTERN CIVILIZATION (4)** Study of educational ideas, institutions, practices and prominent theorists from the western tradition and their continuing influence on modern education. (PR: Basic course in western history or history of philosophy.)
- EDF 6544 PHILOSOPHICAL FOUNDATIONS OF AMERICAN EDUCATION (3)** Major philosophies of education relevant to an understanding of contemporary educational issues.
- EDF 6606 SOCIO-ECONOMIC FOUNDATIONS OF AMERICAN EDUCATION (4)** A study of socio-economic factors as they relate to the work of professional educators and the role of public education in American society.
- EDF 6705 WOMEN AND EDUCATION (3)** Course is designed to enable public school personnel, teachers, counselors, administrators, and other professionals to identify those aspects of public education that perpetuate sex role stereotyping. Emphasis will be placed on how the law and formal and informal affirmative action activities can be employed to correct sexism in schools.
- EDF 6736 EDUCATION, COMMUNICATION, AND CHANGE (3)** Implications for education of the developments in communication, emphasizing the role of innovations as a catalyst in the process of social change as it affects students, teachers, and traditional school arrangements. (PR: C)
- EDF 6765 SCHOOLS AND THE FUTURE (4)** Examination of estimates of future demands upon schools; critique of current paradigms, techniques, and literature.
- EDF 6810 COMPARATIVE EDUCATION (3)** A comparison of contemporary educational systems of selected countries with that of the United States.
- EDF 6812 SEMINAR IN COMPARATIVE EDUCATION (4)** Policies and practices in education in selected countries of the world. Methodology in Comparative Education.
- EDF 6906 INDEPENDENT STUDY: EDUCATIONAL FOUNDATIONS (1-6)** Independent study in which students must have a contract with an instructor. Rpt. S/U.
- EDG 6938 SELECTED TOPICS (1-4)** Exploration and demonstration of knowledge in an area of special interest to the student and/or in an area for which the student needs to demonstrate a higher level of competence. Designed to fit the needs of each student.
- EDF 6944 FIELD EXPERIENCE (1-4)** Demonstrate skills in the practice of the student's specialty. Objectives will be defined by the needs of the individual student. (PR: C)
- EDF 7143 MEASUREMENT OF COGNITIVE FUNCTIONING IN CHILDHOOD AND ADOLESCENCE (4)** Investigation of theories and measurement of cognitive functioning in childhood and adolescence. (PR: A course in measurement and C)
- EDF 7586 CLASSICS IN EDUCATIONAL RESEARCH (4)** An examination of the context, methodology, and impact of significant research studies in education. (PR: GS; EDF 6517, EDF 6544, EDF 6606, or C)
- EDF 7649 ANALYSIS OF EDUCATIONAL ISSUES (3)** Socio-cultural, historical, and axiological examination of selected issues in public education.
- EDF 7655 ORGANIZATION DEVELOPMENT IN EDUCATIONAL INSTITUTIONS (4)** Application of social and behavioral science theory to the organizational and developmental problems of schools and school systems. (PR: EDF 6517, EDF 6544, EDF 6606, or C)
- EDF 7682 EDUCATION IN METROPOLITAN AREAS (4)** Study of modern public education and its relationship to national development. (PR: EDF 6517, EDF 6544, EDF 6606, or C)
- EDF 7934 SEMINAR IN SOCIAL FOUNDATIONS OF EDUCATION (4)** An examination of significant research on socio-cultural issues in Education. (PR: GS; EDF 6517, EDF 6544, or EDF 6606, or C)
- SPS 6197, 6198 PSYCHOEDUCATIONAL DIAGNOSIS AND PRESCRIPTION I, II (4,4)** Content covers comprehensive diagnosis and prescription in school psychology, including

critical reviews of relevant research literatures, the professional-client relationship, interviewing, client histories, pluralistic psychoeducational assessment, assessment of educational environments, synthesis and dissemination of diagnostic data, and referral procedures. Appropriate field experiences will be provided. This course must be taken during two consecutive semesters, and the grade will be awarded at the end of the sequence. (PR: Acceptance to graduate program in School Psychology)

SPS 6700, 6701, 6702 PSYCHOEDUCATIONAL INTERVENTIONS WITH CHILDREN AND ADOLESCENTS I, II, III (4,4,4) Content covers psychoeducational interventions for school-referred children and adolescents specific to school psychological services. This is an integrated sequence of courses addressing educational and psychological (direct and indirect) interventions with topics also including consultative service delivery, the acceptability of classroom strategies, classroom and behavior management, and the synthesis of assessment data into effective interventions all within the referral context. Appropriate field experiences will be required for Intervention I and Intervention II; therefore, concurrent enrollment in the Intervention Practicum course for these two courses only is required. (PR: Acceptance to School Psychology Graduate Program or C)

SPS 6806 DEVELOPMENTAL BASES OF DIVERSE BEHAVIORS (4) This course covers the major developmental causes and effects of various diverse forms of human behavior. (PR: C)

SPS 6936 GRADUATE SEMINAR IN SCHOOL PSYCHOLOGY (1-3) Seminars to explore current matters of professional concern in school psychology, such as trends, problems, legal and ethical issues, and empirical bases of techniques. Rpt. up to 9 hours with different subject matter. (PR: C)

SPS 6940, 6941 PRACTICUM IN PSYCHOEDUCATIONAL INTERVENTIONS (1-4) Course provides practical experiences and implement skills discussed and acquired in the intervention courses within settings relevant to school psychology. Rpt. (PR: Concurrent enrollment in Psychoeducational Interventions with Children and Adolescents – I or II, or C)

SPS 6943, 6944 PRACTICUM IN PSYCHOEDUCATIONAL ASSESSMENT (1-4) Course will provide opportunities to implement skills acquired in assessment courses. Concurrently with Psychoeducational Assessment (SPS 6197-98) or with C. Rpt.

SECONDARY EDUCATION

Chairperson: R.E. Johnson; *Professors:* J.T. Bullock, R.E. Johnson, H.G. Karl, J.B. Kase-Polisini, B.K. Lichtenberg, D.R. Lichtenberg, R.L. Loveless, E.R. Phillips, D.J. Puglisi, H.E. Steiner, *Associate Professors:* P.V. Czyzewski, M.S. Holland, B.J. Kazanis, J.W. Levy, F.L. Prince, B. Spector; *Assistant Professors:* C. Feyten, J.F. Kaywell, M. Nelson.

ART EDUCATION

ARE 6262 MANAGEMENT DESIGN FOR ART INSTITUTIONS (3) Principles of administration and supervision of art programs in the school and art institutions.

ARE 6706 BASIS OF INQUIRY INTO ARTISTIC MIND (3) Literature and research in art education. An in-depth study of the current basis of inquiry into artistic mind including a multi-disciplined review of literature and an inquiry project. (PR: ARE 6844 or C)

ARE 6844 EXPERIENTIAL AND THEORETICAL BASIS OF ARTISTIC MIND (3) Past and contemporary philosophies and practices in art education.

ARE 6906 INDEPENDENT STUDY: ART EDUCATION (1-6) Independent study in which students must have a contract with an instructor. Rpt. S/U.

ARE 6944 FIELD WORK IN ART EDUCATION (1-4) For student with degree-seeking status. Supervised participation in activities related to art education in community centers, nonschool arts program, planned workshop and research.

ENGLISH EDUCATION

LAE 5932 SELECTED TOPICS IN THE TEACHING OF ENGLISH (3) Investigation of topics of special interest to the student and related to the teaching of English in the secondary school. Topics will be selected by the student in accordance with his particular goals and

Education

will be approved by the student's graduate adviser. (PR: Certification in English and/or Mass Communications and approval of graduate adviser)

LAE 6336 NEW PERSPECTIVES ON THE TEACHING OF LITERATURE IN SECONDARY SCHOOLS (3) Survey of recent investigation into adolescents' perception of and responses to literature and implications for organization and presentation of literature curricula. (PR: Certification in English or Mass Communications)

LAE 6345 TEACHING WRITTEN COMPOSITION (3) Techniques for motivating, guiding, correcting, and evaluating student writing.

LAE 6637 CURRENT TRENDS IN SECONDARY ENGLISH EDUCATION (3) Curricular patterns and instructional practices in secondary English. (PR: LAE 4335 or LAE 4642 or Certification in English or Mass Communications)

LAE 6644 CURRENT TEACHING OF THE ENGLISH LANGUAGE (3) Application of recent techniques of language study to classroom teaching of English, especially in relation to current textbooks. (PR: Certification in English or Mass Communications)

FOREIGN LANGUAGE EDUCATION

FLE 6665 CURRENT TRENDS IN SECONDARY FOREIGN LANGUAGE EDUCATION (3) Curricular patterns and instructional practices in the teaching of secondary foreign languages. (PR: Foreign language fluency and CI)

MATHEMATICS EDUCATION

MAE 6136 CURRENT TRENDS IN SECONDARY MATHEMATICS EDUCATION (3) Curricular patterns and instructional practices in secondary mathematics. (PR: MAE 4330 or CC)

MAE 6337 TOPICS IN TEACHING ALGEBRA (1-4) Topics in algebra, philosophy, new trends, and methods of teaching secondary school algebra. Rpt. up to 4 hours. (PR: Undergraduate degree in mathematics or certification in secondary school mathematics)

MAE 6338 TOPICS IN TEACHING GEOMETRY (1-4) Topics in geometry, philosophy, new trends, and methods of teaching secondary school geometry. Rpt. up to 4 hours. (PR: Undergraduate degree in mathematics or certification in secondary school mathematics)

MAE 6356 TEACHING OF PRE-SECONDARY SCHOOL MATHEMATICS (3) Development of strategies and materials for teaching mathematical concepts and skills appropriate to pre-secondary school years. Rpt. up to 9 hours. (PR: 12 hours of mathematics or CC)

MAE 6735 UNDERSTANDING MATHEMATICS, SCIENCE, AND TECHNOLOGY: HUMAN ENTERPRISES (3) Science, mathematics, and technology are presented as one multifaceted, dynamic, human-made enterprise responding to human beings' search for an understanding of the realities of the world. May be taken as SCE 6761. (PR: Advanced GS or CI)

MAE 6736 RESEARCH IMPLICATIONS FOR TEACHING PRE-COLLEGE MATHEMATICS AND SCIENCE (3) The conduct of research in mathematics, science, and technology is matched to appropriate research paradigms. May be taken as SCE 6736. (PR: Advanced GS or CI)

MAE 6737 TECHNOLOGY: SOLVING SOCIETAL PROBLEMS (3) Specific examples of mathematics/science/technology/society interaction are provided for integration into school-based mathematics and natural science courses. May be taken as SCE 6737. (PR: Advanced GS or CI)

MAE 6738 MATHEMATICS AND SCIENCE EDUCATION POLICY, CHANGE, AND SCHOOL IMPROVEMENT (3) Research into school improvement initiatives in precollege mathematics and science is investigated and original studies are conducted. May also be taken as SCE 6738. (PR: EDF 7655 and Advanced GS or CI)

SCIENCE EDUCATION

SCE 5937 SELECTED TOPICS IN SCIENCE EDUCATION (1-4) Rpt. when topics are not duplicated.

SCE 6634 CURRENT TRENDS IN SECONDARY SCIENCE EDUCATION (3) Curricular patterns and instructional practices in secondary science. (PR: Bachelor's degree with major in science area, and certification in secondary science, or CC)

SCE 6736 RESEARCH IMPLICATIONS FOR TEACHING PRE-COLLEGE MATHEMATICS AND SCIENCE (3) The conduct of research in mathematics, science, and technology is matched to appropriate research paradigms. May also be taken as MAE 6736. (PR: Advanced GS or CI)

SCE 6737 TECHNOLOGY: SOLVING SOCIETAL PROBLEMS (3) Specific examples of mathematics/science/technology/society interaction are provided for integration into school-based mathematics and natural science courses. May also be taken as MAE 6737. (PR: Advanced GS or CI)

SCE 6738 MATHEMATICS AND SCIENCE EDUCATION POLICY, CHANGE, AND SCHOOL IMPROVEMENT (3) Research into school improvement initiatives in precollege mathematics and science is investigated and original studies are conducted. May also be taken as MAE 6738. (PR: EDF 7655 and Advanced GS or CI)

SCE 6761 UNDERSTANDING MATHEMATICS, SCIENCE, AND TECHNOLOGY: HUMAN ENTERPRISES (3) Science, mathematics, and technology are presented as one multifaceted, dynamic, human-made enterprise responding to man's search for an understanding of the realities of the world. May also be taken as MAE 6735. (PR: Advanced GS or CI)

SCE 7641 PROGRAMS AND RESEARCH IN EARTH SCIENCE EDUCATION (3) A study of curricula, issues, and research in Earth Science Education, grades K-12. Also included are the study and application of: (1) skills for assisting pre- and in-service school personnel with Earth Science instruction and (2) skills for developing Earth Science curricula. (PR: Master's degree or equiv. in Science Education or CC)

SCE 7642 PROGRAMS AND RESEARCH IN LIFE SCIENCES EDUCATION (3) A study of curricula, issues, and research in Life Science Education, grades K-12. Also included are the study and application of: (1) skills for assisting pre- and in-service school personnel with Life Science instruction and (2) skills for developing Life Science curricula. (PR: Master's degree or equiv. in Science Education or CC)

SCE 7643 PROGRAMS AND RESEARCH IN PHYSICAL SCIENCE EDUCATION (3) A study of curricula, issues, and research in Physical Science Education, grades K-12. Also included are the study and application of: (1) skills for assisting pre- and in-service school personnel with Physical Science instruction and (2) skills for developing Physical Science curricula. (PR: Master's degree or equiv. in Science Education or CC)

SOCIAL SCIENCE EDUCATION

SSE 5644 ECONOMIC DECISION-MAKING FOR TEACHERS (3) Provides teachers (K-12) with content related to the operation of businesses in a market economy. Teachers analyze economic/business concepts from the perspective of individuals currently operating businesses in the Tampa Bay area. Focus of the instruction is on the application of content to K-12 instructional programs. (PR: Admission to College of Education or CC)

SSE 6445 EVALUATION AND IMPLEMENTATION OF MEDIA IN SOCIAL STUDIES (3) Techniques of evaluation and using various media in the Social Studies. (PR: CC)

SSE 6636 CURRENT TRENDS IN SECONDARY SOCIAL STUDIES (3) Curricular patterns and instructional practices in Secondary Social Studies. (PR: SSE 4333 or equiv. or CC)

SSE 6640 ECONOMIC EDUCATION FOR TEACHERS (3) This course is designed to provide teachers with content knowledge, curriculum development experience, and exposure to teaching strategies in economic education K-12.

THEATRE EDUCATION

EDG 6329 CREATIVE DRAMA IN A DEVELOPMENTAL CONTEXT (3) Theories and methods of teaching creative drama and related forms of improvised drama and playmaking with supervised teaching of creative dramatics in a school environment.

Education

- EDG 6456 METHODS OF DIRECTING THE HIGH SCHOOL PLAY (3)** Directing the high school play: script selection, audition, casting, and actor training in rehearsal performance.
- EDG 6457 CURRENT TRENDS IN SECONDARY THEATRE EDUCATION (3)** A study of curricular patterns and instructional practices in secondary theatre education, including methods of teaching theatre aesthetics through the study of great plays and their production.
- EDG 6458 SELECTED TOPICS IN THE TEACHING OF THEATRE (3)** Investigation of topics related to theatre teaching of special interest to the student. Topics will be selected by the student and approved by the graduate advisor. S/U. (PR: Open only to students who have completed all other graduate level Theatre Education courses)
- ESE 6906 INDEPENDENT STUDY: SECONDARY EDUCATION (1-6)** Independent study in which students must have a contract with an instructor. Rpt. S/U.

SPECIAL EDUCATION

Chairperson: J.L. Paul; *Professors:* L. Bowers, R.C. Dwyer, E. Guetzloe, S. Klesius, B. Lax, A.J. Mauser, J.L. Paul, S.P. Singh; *Associate Professors:* C.D. Lavelly, J.A. Merica, H.A. Sproles; *Assistant Professors:* B.C. Epanchin, D. Harris, D. Thomas; *Research Professor:* W.C. Rhodes; *Visiting Professors:* W.M. Cruickshank, W.C. Morse; *Visiting Associate Professor:* J. Platt; *Visiting Instructors:* A. Cranston-Gingras, H. Rosselli, J. Scott.

- EED 6201 THEORIES IN BEHAVIOR DISORDERS (3)** In-depth survey of mild, moderate and severe behavioral pathologies of children and youth. Includes such topics as autism, schizophrenia, neurotic and other psychotic disorders: social, cultural, and behavioral deviations, and the educational implications of each. (Fall Semester)
- EED 6211 EDUCATIONAL STRATEGIES FOR STUDENTS WITH BEHAVIOR DISORDERS (3)** Advanced methods and materials for planning, implementing, and evaluating educational interventions with disturbed students. (PR: EED 6201 or equivalent, or CI) (Spring Semester)
- EED 6221 MANAGEMENT METHODS AND TECHNIQUES WITH DISRUPTIVE AND DISTURBED STUDENTS (3)** Classroom management methods and techniques. Behavioral, psychodynamic, and ecological interventions. Includes behavior modification, precision teaching, reality therapy, and humanistic approaches. Available to non-majors. (PR: EED 6201, or equiv., or CI) (Spring Semester)
- EED 6246 EDUCATING THE AUTISTIC STUDENT (3)** Developing and managing appropriate and effective educational programs and techniques with autistic students. (PR: GS, introductory course in Educating Exceptional Students; Psycho-educational Assessment)
- EED 6943 SUPERVISED PRACTICUM IN BEHAVIOR DISORDERS (3)** Supervised graduate practicum experiences with emotionally disturbed children. Rpt. up to 12 hours. S/U. (PR: EED 6201 - may be taken concurrently - or equiv., or CI)
- EEX 6025 SURVEY OF TRENDS AND ISSUES IN SPECIAL EDUCATION (3)** Graduate survey of all exceptionalities including current trends and issues related to the field of special education. (Fall Semester)
- EEX 6222 PSYCHOEDUCATIONAL ASSESSMENT OF EXCEPTIONAL STUDENTS (3)** Advanced educational assessment and staffing procedures for individual exceptional students. Laboratory sessions required. (PR: GS introductory courses in exceptional student education and educational assessment) (Fall & Spring Semesters)
- EEX 6245 EDUCATIONAL STRATEGIES FOR THE ADOLESCENT EXCEPTIONAL STUDENT (3)** Procedures in implementing educational programs for the exceptional adolescent. Includes educational programming, alternative programs, community resource coordination, career/occupational education, and advocacy. (PR: GS, introductory course in educating exceptional students) (Spring Semester)
- EEX 6511 ADMINISTRATION OF EXCEPTIONAL STUDENT PROGRAMS (3)** Procedures that local, state, and national administrators may use to implement services for exceptional students. (PR: CI)

- EEX 6706 EDUCATION OF THE PRESCHOOL HANDICAPPED CHILD (3)** Education of children ages birth through five with special needs. Basic concepts, curricular intervention strategies, and organizational structures are covered. (PR: C1)
- EEX 6732 CONSULTATION WITH PROFESSIONALS AND PARENTS OF EXCEPTIONAL STUDENTS (3)** Knowledge and skills in developing home, school, and community professional partnerships in educating exceptional students. (PR: Introductory course in exceptional student education, GS) (Fall Semester)
- EEX 6906 INDEPENDENT STUDY: SPECIAL EDUCATION (1-6)** Independent study in which students must have a contract with an instructor. Rpt. S/U.
- EEX 6936 SEMINAR IN INTEGRATING EXCEPTIONAL STUDENTS IN REGULAR EDUCATIONAL ENVIRONMENTS (3)** Designed for non-special education graduate students. Surveys the characteristics of exceptional student populations, identification procedures, and systems for providing appropriate services for "mainstreamed" student in academic and non-academic settings.
- EEX 6939 ADVANCED SEMINAR IN SPECIAL EDUCATION (3)** An advanced graduate seminar stressing crosscategorical relationships. Topics include research and exceptional child education, clinical teaching, service delivery, and future directions. (PR: Completion of all required course work for master's degree) (Spring Semester)
- EEX 6943 PRACTICUM IN PRESCHOOL HANDICAPPED EDUCATION (1-4)** Supervised field work with handicapped children ages birth through five years. Rpt. up to 8 hours. S/U. (PR: Admission to Master's Degree Program in Preschool Handicapped and CI)
- EEX 7203 EDUCATIONAL IMPLICATIONS OF PSYCHOSOCIAL ASPECTS OF EXCEPTIONAL CHILDREN (1-5)** This course will be concerned with the identification of the psychosocial needs and characteristics of exceptional children; opportunity of analysis of the educational implications of these needs and characteristics. Rpt.up to 5 hours. (PR: C1)
- EEX 7301 SELECTED TOPICS IN EXCEPTIONAL STUDENT EDUCATION (1-8)** Identification and specifications of a research problem in special education. Opportunity will be provided for the student to gather and process data, culminating in a written report and/or oral presentation to fellow student researchers. Rpt. up to 8 hours. (PR: EEX 7341 or CI)
- EEX 7341 RESEARCH STUDIES AND THEIR IMPLICATIONS IN THE EDUCATION OF EXCEPTIONAL CHILDREN (3)** This course will involve a study of current research in exceptional child education. The transition from theory to practice will be made through the examination and discussion of implications in the field of special education that can be drawn from the research. (PR: EDF 6431, EDF 6481, or equiv., CI)
- EEX 7741 PHILOSOPHY AND PROCESS IN THE PREPARATION OF SPECIALISTS IN EXCEPTIONAL STUDENT EDUCATION (3)** In-depth exploration of the philosophy and theory in special education. A theoretical basis for the preparation of specialists in the field of exceptional child education. (PR: Admission in the Program for Ed.S. or Ph.D. in Education)
- EEX 7841 FIELDWORK WITH EXCEPTIONAL STUDENTS (1-5)** Practical field experience in curriculum development, classroom teaching, supervision, and/or administrative areas in special education. Rpt. up to 5 hours. (PR: C1)
- EGI 5051 NATURE AND NEEDS OF THE GIFTED (3)** Characteristics and educational needs of gifted children and youth. Emphasis is on five types of giftedness as defined by National Department of Education (1) intellectual giftedness, (2) specific academic aptitude, (3) visual and performing arts, (4) leadership, and (5) kinesthetic. (Fall Semester)
- EGI 5325 CREATIVE PROBLEM SOLVING FOR THE CHILD (3)** Exploration of the concept of creativity, its factors, measurement, and application to education. Opportunities are given to work with children in a laboratory setting and to prepare materials to be used with small groups of children.
- EGI 6232 EDUCATIONAL STRATEGIES FOR THE GIFTED (3)** Curriculum adjustments, methods and techniques, and classroom organizations necessary for teaching the gifted.

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Emphasis will be on the examination of various theoretical models and how these can be utilized to develop appropriate programs for the gifted. (PR: EGI 5051) (Spring Semester)

EGI 6416 CONSULTATION, COUNSELING, AND GUIDANCE SKILLS FOR GIFTED STUDENTS (3) Counseling techniques appropriate for the gifted and talented will be explored and experienced. Primary emphasis of the course will be to provide opportunities for classroom teachers to develop awareness, knowledge, and understanding of the unique guidance counseling needs of gifted and talented children and their parents. (PR: EGI 5051 or C)

EGI 6936 SEMINAR IN EDUCATION OF THE GIFTED: RECENT RESEARCH (3) A critical survey of the literature related to the psychological and educational problems of gifted children.

EGI 6943 SUPERVISED PRACTICUM FOR THE GIFTED (3) Planned supervised participation in activities related to specific areas of the gifted.

ELD 6015 THEORIES IN SPECIFIC LEARNING DISABILITIES (3) Various conceptual and/or theoretical models are reviewed; current trends and issues related to education of children with specific learning disabilities. (PR: Introductory course in exceptional child education, GS) (Fall Semester)

ELD 6235 EDUCATIONAL STRATEGIES FOR STUDENT WITH SPECIFIC LEARNING DISABILITIES (3) Advanced educational procedures and materials development for the student with specific learning disabilities. (PR: ELD 6015, EEX 6222) (Spring Semester)

ELD 6943 SUPERVISED PRACTICUM IN SPECIFIC LEARNING DISABILITIES (1-12) Supervised experiences with learning disabled students. S/U.

EMR 6052 THEORIES IN MENTAL RETARDATION (3) In-depth study of the complex social and biological aspects of mental retardation with particular reference to effects on education. (PR: GS; introductory course in exceptional student education) (Fall Semester)

EMR 6303 EDUCATIONAL STRATEGIES FOR THE MENTALLY RETARDED (3) In-depth study of the specific curriculum and methodological problems in teaching the retarded. (PR: EMR 4310 or EMR 4230, EEX 6222) (Spring Semester)

EMR 6943 GRADUATE SUPERVISED PRACTICUM IN MENTAL RETARDATION (1-12) Supervised graduate practicum encompassing teaching and supervising experiences in public school classes for the mentally retarded.

EPH 5051 ADVANCED THEORIES IN MOTOR AND PHYSICAL DISABILITIES (3) Biological and functional aspects of motor and physical health disabilities, including dysfunctions in central nervous system covering motor, sensory, language, and psychological disorders. (PR: EEX 3010 or C)

EPH 5321 EDUCATIONAL STRATEGIES FOR PHYSICALLY AND MULTI-HANDICAPPED STUDENTS (3) Educational management of student with cerebral palsy, motor disabilities, and multi-handicapped conditions, including rehabilitation and other community services. (PR: EPH 5051)

EPH 6944 SUPERVISED PRACTICUM IN MOTOR DISABILITIES (1-12) Supervised graduate practicum encompassing teaching and supervising experiences in public/private educational or vocational programs for physically handicapped in the classroom, hygiene, and educational implications. (PR: EEX 3010 or C)

College Of Engineering

BASIC AND INTERDISCIPLINARY ENGINEERING

EGN 5422 ENGINEERING ANALYSIS II (3) Power series solutions for ordinary differential equations, Sturm-Liouville theory, special functions. Vector methods with generalized coordinates. Separation of variables for partial differential equations. Green's functions. Calculus of variations. Numerical methods. (PR: MAP 4302 or CC)

EGN 5423 ENGINEERING ANALYSIS III (3) Advanced matrix algorithms: LU and QR factorizations, least-squares, pseudoinverses. Finite fields and coding applications. Probabilities of error detection and correction. (PR: CC or EGB EGN 4450 and MTH MAP 4302)

EGN 5424 ENGINEERING ANALYSIS IV (3) Analytic functions, conformal mapping, residue theory, Laurent series, transforms. Applications to various problems in engineering and physics. (PR: MAP 4302 or CC)

EGN 5425 ENGINEERING ANALYSIS V (3) Survey of theory and software for matrix computations: factorization methods, least squares and pseudoinverses, eigenvector algorithms. Special matrices and representations for control system and finite element applications. (PR: EGN 4450 and MAP 4302, or CC)

CHEMICAL ENGINEERING

Chairperson: C.A. Smith; *Professors:* J.C. Busot, J.A. Llewellyn, C.A. Smith; *Associate Professors:* L. Garcia-Rubio, R. Gilbert, A.K. Sunol; *Assistant Professors:* V. Bhethanabotla, S.W. Campbell, W.E. Lee; *Courtesy Appointments:* R.S. Braman, J.E. Fernandez, P.B. Hildebrand, K.B. Seifert.

ECH 5158C SEMINAR IN THE PHILOSOPHY OF THERMODYNAMICS (2) Philosophical and technical aspects of contemporary thermodynamics, including entropy, time, irreversible processes, complex structures, and analysis of biological systems. Includes topics in the philosophy of science. Open to non-majors.

ECH 5746 INTRODUCTION TO BIOMEDICAL ENGINEERING (3) Introduction to biomedical engineering, including transport phenomena in biomedical systems, biomaterials, biomedical instrumentation, prosthetic devices, and clinical engineering. Open to non-majors.

ECH 5748 SELECTED TOPICS IN BIOMEDICAL ENGINEERING (1-3) Selected topics in biomedical engineering, including biomedical engineering, biomedical materials, biodynamics of circulation, separation processes in biomedical systems, and artificial organ systems. May be taken by non-engineering students with Cl. Rpt. as subjects vary.

ECH 5930 SPECIAL TOPICS III (1-4) (PR: CC)

ECH 5931 SPECIAL TOPICS IV (1-4) (PR: CC)

ECH 6217 ADVANCED TRANSPORT PHENOMENA (3) Basic flow regimes in multiphase flow. Baker plots and methods of flow prediction, slip correlations, Martinelli-Nelson correlations and two phase corrections. Analysis of packed and fluidized beds. (PR: EMC 4118 or Cl)

ECH 6515 REACTING SYSTEMS (3) Economic factors in the design of chemical reactors. Simulation of complex reacting systems. (PR: ECH 4415 or Cl)

ECH 6616 COMPUTER-AIDED PROCESS ENGINEERING I (3) Plant and process design with emphasis on computer-aided design. (PR: ECH 4615)

ECH 6906 DIRECTED RESEARCH Var. Rpt. S/U. (PR: GR. ML)

ECH 6907 INDEPENDENT STUDY Var. Independent study in which students must have a contract with an instructor. Rpt. S/U. (PR: GR)

ECH 6930 SPECIAL PROBLEMS I (1-3) (PR: CC)

ECH 6931 SPECIAL PROBLEMS II (1-3) (PR: CC).

ECH 6938 GRADUATE INSTRUCTION METHODS (1-4) Special course to be used for training of graduate teaching assistants. Var. Rpt. to a total of 4 hours. S/U. (PR: CC)

ECH 6939 GRADUATE RESEARCH METHODS (1-4) Special course to be used for training of graduate research assistants. Var. Rpt. to a total of 4 hours. S/U. (PR:CC)

ECH 6971 THESIS: MASTER'S Var. S/U. (PR: CC)

ECH 7915 DIRECTED RESEARCH Var. GR Ph.D. level. Rpt. S/U. (PR: CC)

ECH 7980 DISSERTATION: DOCTORAL Var. S/U. (PR: Admission to Candidacy)

EMC 5115 PROCESS HEAT TRANSFER (3) Selection and sizing of common process heat transfer equipment. Single and multiple convection in shell and tube, flat plate and spiral plate exchangers. Combined heat and mass transfer in partial condensers, spray dryers and cooling towers. (PR: EMC 4118)

EMC 5510 MOTOR SELECTION AND CONTROL (3) Standard electrical voltages; power wiring in industrial plants; NEMA motor designs and their uses; techniques for estimating motor starting times and temperature rise; motor selection; starting and operating safety interlocks; conventional starting and control systems; programmable controllers; electrical code requirements for conductors and protective devices. (PR: ENG 3373, EGN 3433)

EMC 6105 ADVANCED THERMODYNAMICS (3) Selected topics in classical and irreversible thermodynamics. (PR: CC)

EMC 6120C NUMERICAL METHODS IN HEAT TRANSFER (3) Application of finite difference and finite element techniques to problems of conduction and convection. Cartesian, cylindrical and spherical systems. Steady and transient solutions. (PR: CI)

EMC 6121C ADVANCED CONDUCTION ANALYSIS (3) Multi-dimensional heat transfer. Emphasis on solution techniques, exact and numerical. (PR: EMC 4118, EMC 4411)

EMC 6122 RADIATION (3) Review of basic principles of radiation, grey bodies and real surfaces, calculation of shape factors, absorbing gases. (PR: EMC 4118)

EMC 6317 DIRECT DIGITAL CONTROL I (3) Application of digital computers to control of engineering processes. Includes study of digital filtering. Z-transforms, supervisory control, A/C and D/A conversion and advanced control strategies. (PR: ENC 4314, EMC 4411, or CI)

EMC 6318 DIRECT DIGITAL CONTROL II (3) A continuation of EMC 6317 with detailed study of special cases. Cases will vary from term to term. (PR: EMC 6317 or CI)

EMC 6412 PROCESSES ANALYSIS AND MODELING (3) Computer-controlled data acquisition and analysis aimed at development and evaluation of empirical and physical models of chemical and mechanical engineering processes. (PR: CI)

CIVIL ENGINEERING AND MECHANICS

Chairperson: W.F. Echelberger, Jr.; *Professors:* M.W. Anderson, R.P. Carnahan, W.C. Carpenter, W.F. Echelberger, Jr., J.E. Griffith, S.C. Kranc, L. Oline, B.E. Ross, N.C. Small; *Associate Professors:* R. Janardhanam, A.R. Kaub, R.J. Murphy, J. Ratliff, A. Sagues, R. Sen; *Assistant Professors:* J.F. Devine, J.T. Franques, R.I. Stessel, A. Zayed; *Visiting:* R.S. Engel, M.A. Ross; *Courtesy Appointments:* G.A. Burdick, C.I. Noss.

CEG 5115 FOUNDATION ENGINEERING (3) Design of shallow foundations, cantilevered and anchored retaining walls, piling, drilled piers and special foundations. Computer applications to geotechnical engineering are covered. (PR: CEG 4011 or CI)

CEG 5205 LABORATORY TESTING FOR GEOTECHNICAL ENGINEERS (3) Both routine and advanced forms of soil testing are covered. Emphasis is placed on procedures and application of results to design. (PR: CEG 4011 or CI)

CEG 6415 SEEPAGE AND SUBSURFACE DRAINAGE (3) Design of underdrains, wells, soil filters, fabric filters, and dewatering systems with special emphasis on case studies. (PR: CEG 4011 or CI)

CES 5104C ADVANCED MECHANICS OF MATERIALS I (3) Analytical study of the mechanical behavior of deformable solids. Basic concepts, stress and strain transformations, special topics in beams, introduction to theories of elasticity, and bending of thin plates. (PR: EGN 3331, MAP 4302)

CES 5209 STRUCTURAL DYNAMICS (3) Behavior of structural components and systems when subjected to periodic dynamic loads. (PR: CES 4001)

CES 5715C PRESTRESSED CONCRETE (3) Fundamental principles of prestressing; calculation of losses; stress analysis and design of simple beams for flexure and shear. Examples of prestress applications. (PR: CI)

- CES 6107C ADVANCED MECHANICS OF MATERIALS II (3)** Continuation of CES 5105C. Energy methods, membrane shell theory, introduction to theories of plasticity, limit analysis and design, elastic and plastic buckling of columns. (PR: CES 5105C)
- CES 6116 FINITE ELEMENT METHODS I (3)** Finite element methods in continuum mechanics with applications to solid and fluid mechanics problems. (PR: CI)
- CES 6117 FINITE ELEMENT METHODS II (3)** Finite element methods in continuum mechanics with applications to solid and fluid mechanics problems. Unified approach to statics, dynamics and stability. Computer solutions. (PR: CES 6116)
- CES 6218 STRUCTURAL STABILITY (3)** Elastic and inelastic stability of trusses and frames, local buckling of structural members and plates. (PR: CES 4141, CES 6209)
- CES 6608 ADVANCED STRUCTURAL DESIGN I (3)** A study of design of complicated structural systems such as curved bridges, orthotropic bridges, tall buildings, towers, suspension structures. (PR: CES 4141, CES 4605)
- CES 6726 ADVANCED STRUCTURAL DESIGN II (3)** A study of design of complicated structural systems such as curved bridges, orthotropic bridges, tall buildings, towers, suspension structures. (PR: CES 4702)
- CGN 5933 SPECIAL TOPICS IN CIVIL ENGINEERING AND MECHANICS (1-5)** New technical topics of interest to civil engineering students. Rpt. up to 6 hours. (PR: CI)
- CGN 6305 OPTIMIZATION TECHNIQUES IN CIVIL ENGINEERING (3)** Theory and application of optimization techniques to the planning, design and operation of civil engineering systems. (PR: CI)
- CGN 6405 NUMERICAL METHODS IN ENGINEERING ANALYSIS (3)** Application of computational and mathematical techniques and principles to advanced engineering problems. (PR: EGN 4420)
- CGN 6906 INDEPENDENT STUDY** Var. Independent study in which students must have a contract with an instructor. Rpt. S/U. (PR: CC)
- CGN 6915 DIRECTED RESEARCH** Var. Rpt. S/U. (PR: GR. M.L.)
- CGN 6933 SPECIAL TOPICS IN CIVIL ENGINEERING AND MECHANICS (1-4)** (PR: CC).
- CGN 6939 CIVIL ENGINEERING AND MECHANICS SEMINAR (1-4)** (PR: CC.)
- CGN 6941 GRADUATE INSTRUCTION METHODS (1-5)** Special course to be used primarily for the training of graduate research assistants. Var. Rpt. to a total of 5 credits. S/U.
- CGN 6945 GRADUATE RESEARCH METHODS (1-5)** Special course to be used primarily for the training of graduate research assistants. Var. Rpt. to a total of 5 credits. S/U.
- CGN 6971 THESIS: MASTER'S** Var. S/U.
- CGN 7980 DISSERTATION DOCTORAL** Var. S/U. (PR: Admission to Candidacy)
- CGN 7915 DIRECTED RESEARCH** Var. Rpt. S/U. (PR: GR. Ph.D. level)
- CWR 6235 FREE SURFACE FLOW (3)** Fundamental and applied aspects of free surface flow, including river hydraulics, canal flow, and open channel design. (PR: CWR 4202 or CI)
- CWR 6305 URBAN HYDROLOGY (3)** A study of the quantity and quality problems and solution techniques associated with urban runoff. (PR: CI)
- CWR 6535 HYDROLOGIC MODELS (3)** A study of the theoretical principles of hydrologic modeling and an examination of various numerical hydrologic models available. Students will be required to develop and apply computer models.
- CWR 6545 WATER RESOURCES SYSTEMS (3)** Planning, design, and operation of water resources by the use of systems analysis and operations research techniques. (PR: ENV 4622, CGN 6305)

- ECI 6206 COASTAL WAVES AND STRUCTURES (3)** Fundamentals of wave motion and the mutual interaction of waves and structures. A design project is included. (PR: C)
- ECI 6207 WAVES AND BEACH PROTECTION (3)** A study of the fundamentals of shoreline dynamics including distribution of wave energy, motion of beach sand, stable configurations and protective measures. (PR: ECI 6206)
- ECI 6208 COASTAL AND ESTUARY MODELING (3)** Digital modeling of coastal and estuary systems, currents, tide heights, sediment transport, erosion, data collection, temperature distribution, sources and sinks. Special emphasis on Florida regions. (PR: C)
- EES 5215 WATER QUALITY FOR ENGINEERS I (3)** An introduction to the form, structure, and chemical activities of the important processes essential to treatment of domestic and industrial wastewater. (PR: C)
- EES 6135 WATER QUALITY FOR ENGINEERS II (3)** Study of biochemical relations and processes in treatment of pollutants with emphasis on control of effluents for the protection of water quality.
- EGM 6611 CONTINUUM I (3)** Formulation of fundamental problems in solids and fluids from a unified viewpoint; application to ideal media; elastic, plastic, and fluids. (PR: C)
- EGM 6656 THEORY OF ELASTICITY (3)** Classical and contemporary elasticity theory with applications to engineering problems. (PR: CES 6116)
- EGM 6796 PLATES AND SHELLS (3)** Elastic behavior of thin plate and shell structures.
- EGM 6814 ADVANCED FLUID MECHANICS (3)** Formulation and analysis of problems in the flow of viscous and nonviscous fluids including Newtonian and non-Newtonian flows. Mathematical methods and techniques of solutions. (PR: CWR 4202)
- ENV 5105 AIR RESOURCE MANAGEMENT (3)** Air pollution source impacts on ambient air quality, modeling, regulatory approaches, source strategic controls and surveillance. (PR: C)
- ENV 5345 SOLID AND HAZARDOUS WASTE CONTROL (3)** Treatment practices and design of waste handling systems to include: land treatment, pretreatment, incineration, resource recovery, recycling, waste elimination. (PR: C)
- ENV 5438 URBAN WATER TREATMENT THEORY AND DESIGN (3)** A study of the theory of water treatment and the relation of theory to analysis and design practice. Emphasis is given to unit processes. The course is devoted to the design and analysis of specific water treatment facilities. (PR: ENV 4012 and C)
- ENV 5539 URBAN WASTEWATER TREATMENT THEORY AND DESIGN (3)** A study of the theory of wastewater and the relation of theory to analysis and design practice. Emphasis is given to unit processes. The course is devoted to the design and analysis of specific wastewater treatment works. (PR: ENV 4012, C)
- ENV 5614 ENVIRONMENTAL RISK ANALYSIS (3)** Study of comprehensive application of risk analysis techniques for environmental control and protection purposes. (PR: C)
- ENV 6347 SOLID AND HAZARDOUS WASTE PROCESSING AND TREATMENT (3)** Advanced management concepts including: thermal, chemical, and biological treatment, waste-to-energy, and resource recovery. (PR: ENV 5357 or C)
- ENV 6519 ADVANCED PHYSICAL/CHEMICAL PROCESSES (3)** Theory and design of processes used in advanced water and wastewater treatment, including membrane processes, absorption, electro dialysis, ozonation, irradiation. (PR: C)
- ENV 6558 INDUSTRIAL WASTEWATER TREATMENT (3)** Industrial waste surveys; contemporary industrial wastewater treatment and control methods; characteristics of industrial wastes and their effects on receiving streams. (PR: ENV 5539 or C)

COMPUTER SCIENCE AND ENGINEERING

Chairperson: M. Varanasi; *Professors:* H. Glass, M. Varanasi; *Associate Professors:* C. Naylor, R. Perez, D. Rundus; *Assistant Professors:* S. Al-Arian, K.W. Bowyer, D. Goldgof, L. Hall, P. Maurer, R. Mehrotra, L. Piegl, N. Ranganathan, A. Tokuta.

CAP 5400 DIGITAL IMAGE PROCESSING (3) Image formation, sources of image degradation, image enhancement techniques, edge detection operators and threshold selection, low-level processing algorithms for vision, image data compression. (PR: EEL 4851C or GS)

CAP 5600 INTRODUCTION TO ARTIFICIAL INTELLIGENCE (3) Basic concepts, tools, and techniques used to produce and study intelligent behavior. Organizing knowledge, exploiting constraints, searching spaces, understanding natural languages, and problem solving strategies. (PR: EEL 4851C)

CAP 5682 EXPERT AND INTELLIGENT SYSTEMS (3) Basic concepts, techniques and tools for the design and implementation of expert intelligent systems. Knowledge representation, inference methods, knowledge acquisition methods, and some advanced concepts. Tools to facilitate construction of expert and intelligent systems. (PR: EEL 4851C, CC or GS)

CAP 6410 COMPUTER VISION (3) Techniques for description and recognition of objects, use of stereo, texture, and motion information for scene segmentation and description, consistent labeling and matching, use of knowledge and planning in computer vision. (PR: CAP 5400)

CAP 5690 FUNCTIONAL PROGRAMMING LANGUAGES (3) Properties of functional and applicative languages; comparison with conventional languages, features, and examples of applicative languages, LISP, KRC and FORTH. Implications to computer architecture. (PR: COP 4020)

CAP 6672 ROBOT INTELLIGENCE AND COMPUTER VISION (3) An introduction to robotic systems with emphasis on the computational aspects of robot control. Topics for discussion: overview of the robotics field, analysis of robot arm kinematics and coordinate transformation, real-time computer control of robot arms, and computer vision. Practical experience in programming robotic systems will be included. (PR: COP 4400 or equiv.)

CDA 5400 MODELING COMPUTER SYSTEM PERFORMANCE I (3) Ability to program computers in a higher level language. Development of models based on queueing theory for evaluation of computer system performance. Analysis of open and closed networks of queues. Operational analysis. Asymptotic bounds analysis. (PR: Knowledge of basic calculus and probability theory)

CDA 5401 MODELING COMPUTER SYSTEM PERFORMANCE II (3) Continuation of Performance Modeling I. Practical limitations. Numerical accuracy and stability. Students will develop a practical modeling program and explore its use. (PR: CDA 5400)

CDA 6501 DISTRIBUTED COMPUTER SYSTEMS (3) Design, performance measurement, and evaluation of distributed systems including distributed system function, network operating systems, protocols and topologies, metering, queueing evaluations, and simulation. (PR: CDA 4100, CDA 4103)

CIS 6610 SOFTWARE ENGINEERING I: BASIC PRINCIPLES AND FORMAL METHODS (3) Basic principles and formal methods for systematic development of software systems. Software life cycle, formal specifications, design, verification, and reliability analysis. (PR: EEL 4851C, CR: COP 6621)

CIS 6611 SOFTWARE ENGINEERING II: TOOLS AND APPLIED TECHNIQUES (3) Tools and cost-effective techniques for requirements, specifications and analysis, module specification, design and integration, verification and validation, maintenance and project management. (PR: COP 6610)

CIS 6900 INDEPENDENT STUDY Var. Independent study in which students must have a contract with an instructor. Requires completed contract prior to enrollment. S/U.

CIS 6914 DIRECTED RESEARCH Var. Rpt. Requires completed contract prior to enrollment. S/U. (PR: GR. ML)

Engineering

CIS 6915 GRADUATE RESEARCH METHODS (1-4) Special course to train graduate research assistants. Var. Rpt. to a total of 4 credits. Requires completed contract prior to enrollment. S/U. (PR: GS)

CIS 6916 COMPUTER SCIENCE GRADUATE PROJECT (3) Computer science engineering project that may be taken by graduate students in place of Master's thesis. Requires completed contract prior to enrollment. S/U. (PR: CC)

CIS 6930 SPECIAL TOPICS - ADVANCED COMPUTER GRAPHICS (3) A project course offering more detailed treatment of topics selected from those covered in EEL 6773. Study of most recent developments in computer graphics. (PR: EEL 6773)

CIS 6930 SPECIAL TOPICS - THEORY OF ALGORITHMS (3) Analysis of algorithms, models of computation, algorithms for sorting and searching, numerical and matrix algorithms including FFT, theoretical limits of some families of algorithms, NP completeness, epsilon approximation algorithms for NP complete problems. (PR: GS)

CIS 6930 SPECIAL TOPICS - MEDICAL INFORMATICS (3) Relationships between computer applications and the practice of medicine. Application of artificial intelligence, imaging, robotics, computer assisted education, and office management systems in the medical practice. (PR: CC)

CIS 6930 SPECIAL TOPICS - THEORY OF COMPUTER SCIENCE (3) Modeling computation, tuning machines, limitations of computer science, reliable programs, formal semantics. (PR: CC)

CIS 6930 SPECIAL TOPICS - ARTIFICIAL INTEL. AND EXPERT SYSTEMS (3) Special course in designing, planning and building an expert system. Current research topics in expert systems will be covered. (PR: GS)

CIS 6930 SPECIAL TOPICS - GEOMETRIC MODELING FOR CAD/CAM AND GRAPHICS (3) Interdisciplinary course dealing with the efficient computer representation, design, and analysis of geometric information describing objects used in CAD/CAM. Graphics and other related fields such as Computer Vision.

CIS 6930 SPECIAL TOPICS - HUMAN/COMPUTER INTERACTION (3) Introduction to the design and evaluation of interface between a computer based application and a human user. (PR: CC)

CIS 6930 SPECIAL TOPICS - FUZZY SETS AND INTELLIGENT SYSTEMS (3) Introduction to theory of fuzzy sets, their definition, operation, extension of principle, relationships, theory, and fuzzy numbers. (PR: CC)

CIS 6930 SPECIAL TOPICS - NEURAL NETWORKS (3) Parallel distributed processing, basic mechanisms, formal analysis methods, psychological and biological models, physical and mathematical models, and electronic and optical implementations. (PR: CC)

CIS 6935 GRADUATE COMPUTER SCIENCE AND ENGINEERING SEMINAR (1-4) Seminar for students in computer science and engineering. Rpt. S/U. (PR: CC)

CIS 6940 GRADUATE INSTRUCTION METHODS (1-4) Special course to train graduate teaching assistants. Var. Rpt. to a total of 4 credits. S/U.

CIS 6971 THESIS: MASTER'S Var. Requires completed contract prior to enrollment.

CIS 7917 DIRECTED RESEARCH Var. Rpt. Requires completed contract prior to enrollment. S/U. (PR: GR. Ph.D. level)

CIS 7980 DISSERTATION: DOCTORAL Var. Rpt. Requires completed contract prior to enrollment. S/U. (PR: Admission to Doctoral Candidacy)

COP 5010 TOPICS IN COMPUTERS AND PROGRAMMING (4) Survey of topics in machine organization systems programming. (PR: CC)

- COP 6610 OPERATING SYSTEMS (3)** Operating systems functions and design, resource management, protection systems, process communication, and deadlocks. (PR: CC)
- COP 6621 PROGRAMMING LANGUAGES AND TRANSLATION (3)** Grammars and languages, symbols, strings, syntax, parsing, the design of a compiler, storage organization and symbol tables, translator writing systems. (PR: CC)
- EEL 5705 ADVANCED DIGITAL SYSTEMS (3)** Principles of combinational circuit analysis, duality, hazards, IC gates, circuit design. Analysis of fundamental mode sequential circuits, sequential circuit synthesis, design for testability, using MSI and standard cells. Register transfer design and hardware description languages. (PR: EEL 4705)
- EEL 5706 TESTING AND FAULT TOLERANCE IN DIGITAL SYSTEMS (3)** Test generation for combinational and sequential digital circuits, fault analysis and diagnosis. Methods for reliability improvement through fault tolerant and testable circuit design. Introduction to software reliability. (PR: COP 4400, CDA 4201 or CC)
- EEL 5771 INTRODUCTION TO COMPUTER GRAPHICS I (3)** An introduction to the evolution of computer graphics including point-plotting, line drawing, two-dimensional transformations and graphics software packages. (PR: CC)
- EEL 6522 INFORMATION THEORY (3)** Concepts of information, information channels, channel capacity, information sources and Shannon's fundamental theorem, and error correcting codes. (PR: CC)
- EEL 6764 PRINCIPLES OF COMPUTER ARCHITECTURE (3)** Arithmetic algorithms, CPU speedup techniques, memory hierarchies, virtual memory, input-output. Study of the number systems and the algorithms used for digital arithmetic computation with emphasis on their implementation, speed and reliability considerations. (PR: CDA 4100 or CC)
- EEL 6766 ADVANCED COMPUTER ARCHITECTURE (3)** Control unit and microprogramming, reduced instruction set computers (RISC), object oriented systems, multiprocessor systems, supercomputers. The macrostructure of computers is considered in this course, ranging from the orthodox von Neumann design to multiprocessors, stack processors, pipeline systems, and associative computers. (PR: EEL 6764 or CC)
- EEL 6773 RASTER GRAPHICS (3)** Advanced course covers the methods of representing of three dimensional objects in the plane of the graphics screen and the hardware and software required for their processing. (PR: EEL 5771 or CC)
- EEL 6840 AUTOMATA THEORY I (3)** Review of mathematical foundations, decomposition, and interconnection of digital machines, measurement and control of finite-state sequential circuits, machine identification, regular expressions, and finite-state machines. (PR: EEL 5760, COT 3100, GS)
- EEL 6841 AUTOMATA THEORY II (3)** Turing machines, recursive functions, computability. Artificial language phase-structure grammars, operations on languages, decision problems, discrete value random processes, Markov processes, probabilistic sequential machines, nondeterministic sequential machines. (PR: EEL 6840)
- EEL 6846 CODING THEORY (3)** Error-correcting codes, algebraic block codes, linear codes and feedback shift registers; BCH codes; convolutional codes; burst error codes; arithmetic codes; decoding methods. (PR: EEL 6522)

ELECTRICAL ENGINEERING

Chairperson: E.K. Stefanakos; *Professors:* J.C. Bowers, G.A. Burdick, C.T. Chen, Y.L. Chiou, S. Chu, T. Chu, M.R. Donaldson, S.J. Garrett, R.E. Henning, V.K. Jain, L. Jastrzebski, M.G. Kovac, G. Lachs, J.J. Lagowski, A.D. Snider, J. Stach, E.K. Stefanakos, T. E. Wade; *Associate Professors:* K. Buckle, A. Gondeck, D.C. Keezer, W.L. Ko, D. Landis, H.A. Nienhaus, P.H. Wiley; *Assistant Professors:* J.M. Ammons, J.G. Cottle, H.C. Gordon, Jr., A.F. Hoff, F.D. King, J.T. Lefew, R. Sankar, R.S. Vogelsong; *Instructors:* K.S. Freeman, C.E. McGinnis.

- EEL 5344 DIGITAL CMOS/VLSI DESIGN (3)** Design, layout, simulation, and test of custom digital CMOS/VLSI chips, using a CMOS cell library and state-of-the-art CAD tools. Digital

Engineering

CMOS static and dynamic gates, flip flops, CMOS array structures commonly used in digital systems. Top down design example of a bit slice processor. (PR: EEL 4705 or CC)

EEL 5356 INTEGRATED CIRCUIT PROCESSING (3) Physics and chemistry of integrated circuit and discrete device fabrication, materials limitations, processing schemes, failure and yield analysis. A laboratory is integral to the course. (PR: EEL 4351 or CI)

EEL 5357 ANALOG CMOS/VLSI DESIGN (3) Design of analog circuits for CMOS/VLSI design. Op amps, comparators, D to A and A to D converters. Switched capacitor filters. Analog simulation. (PR: EEL 4305)

EEL 5437 MICROWAVE ENGINEERING (3) Introduction to passive and active components, devices, and circuits (including transmission lines and wave guides) employed in microwave integrated circuits and systems. (PR: EEL 4411, 4102, or CC)

EEL 5462 ANTENNA THEORY (3) Antenna theory beginning with fundamental parameter definitions and continuing with mathematical concepts, elemental antennas, and arrays. (PR: EEL 4411 or CC)

EEL 5534 COMMUNICATION SYSTEMS I (3) Concepts of information transmission. Digital communication, sampling, SNR; PCM, DPCM, and delta modulation. Multiplexing and wave shaping. Modulation techniques OOK, FSK, PSK, detection. (PR: CC)

EEL 5631 DIGITAL CONTROL SYSTEMS (3) Sampled data and digital control processes. (PR: EEL 4657)

EEL 5705 ADVANCED LOGIC SYSTEMS (3) (PR: EEL 4705 or GS)

EEL 5711 DIGITAL COMPUTERS (3) Digital arithmetic; computer subsystems, arithmetic units; control units; memory units; general purpose computers. (PR: EEL 4705)

EEL 5754 MICROPROCESSOR BASED DIGITAL SIGNAL PROCESSING (3) Arithmetic systems, processing structures, efficient algorithms, DSP hardware, TI, NEC, and other DSP microprocessors; multi-processing hardware, software, and system development. Application to telecommunications. (PR: EEL 4705 or CC)

EEL 5820 IMAGE PROCESSING (3) Two-dimensional signals (including random), convolution and system functions. Fourier transform and FFT in two dimensions. Digitization of two-dimensional signals, quantization and aliasing errors. Filtering, restoration, and low bit-rate coding of images. Application to video-conferencing. (PR: EEL 6502 or CC)

EEL 5935, 5936, 5937 SPECIAL ELECTRICAL TOPICS I,II,III (3,3,3)

EEL 6141, 6142, NETWORKS SYNTHESIS I, II (3,3) Network functions; physical realizability, two terminal network synthesis methods, frequency transformation, potential analogy, approximation problems, insertion-loss and transfer function synthesis. (PR: CC)

EEL 6150, 6151 ADVANCED CIRCUIT THEORY I, II (3,3) Network fundamentals; network characterization, frequency analysis; superposition integrals; signal-flow techniques, stability problems; real and imaginary relations. (PR: CC)

EEL 6152 NONLINEAR CIRCUITS (3) Analytical and topological approaches to nonlinear circuits, nonlinear resonance; relaxation oscillations. (PR: CC)

EEL 6168 CADA: MODELING & SOFTWARE (3) Coverage includes all facets of solid-state modeling pertaining to CADA applications. Discrete and macro modeling techniques are explored for a wide range of devices. Software methods for CADA applications are discussed from several vantage points. Methodology and treatment required for large scale, general purpose programs are explored. Mathematical techniques used for modern integration routines are examined, with tradeoffs discussed. (PR: EEL 4163)

EEL 6174 OPTIMAL FILTERING AND IDENTIFICATION (3) Estimation theory and development of the Kalman-Wiener filter for continuous discrete-time systems. System identification through deterministic and stochastic approaches. Application to control and communication systems. (PR: CC or EEL 4657)

- EEL 6345 VLSI FOR SIGNAL PROCESSING (3)** VLSI applications in signal processing and telecommunications. General purpose DSP architectures. ASIS architectures: systolic arrays, data-flow multiprocessing, wavefront arrays. Case histories: modems, echo cancelers, digital PLL, etc. High-speed arithmetic and algorithms. (PR: EEL 5344 and EEL 5754 or CC)
- EEL 6353, 6354 SOLID STATE ELECTRONICS I, II (3,3)** Theory of operation and application of circuits and devices. (PR: CC)
- EEL 6386, 6389 PRINCIPLES OF SEMICONDUCTOR DEVICE MODELING I, II (3,3)** Course sequence emphasizes systematic methods for obtaining models that relate device physics to terminal behavior and that provide appropriate compromises between accuracy and simplicity. (PR: EEL 4102, EEL 4411, EEL 4351)
- EEL 6387 NOISE THEORY (3)** Electrical noise and signals through linear filters and electronic systems. (PR: CC)
- EEL 6432 PASSIVE MICROWAVE STRUCTURES (3)** Theory and design of passive microwave structures (directional couplers, transformers, phase shifters, junctions, resonators, etc.) for coaxial, waveguide, microstrip and integrated circuit applications. (PR: CC or EEL 5437)
- EEL 6434 ACTIVE MICROWAVE STRUCTURES AND DEVICES (3)** Theory and design of solid state low noise and high power amplifiers, solid state oscillators and high power tubes for waveguide, coax and integrated circuit applications. (PR: CC or EEL 6432)
- EEL 6447 OPTICAL ELECTRONICS (3)** Basic principles and operations of lasers and analyses of power output and frequency pulling in laser oscillators. (PR: EEL 3410, PHY 4604)
- EEL 6448 INTEGRATED OPTICS (3)** A study of integrated optical devices and guided wave optical systems. (PR: EEL 6447)
- EEL 6449 FOURIER OPTICS AND SYSTEMS (3)** A study of optical applications of linear systems and Fourier transforms. (PR: EEL 4102)
- EEL 6463 ADVANCED ANTENNA THEORY (3)** Electromagnetic radiating systems studied by analytical and numerical methods. (PR: EEL 4411 or CC)
- EEL 6481 NUMERICAL TECHNIQUES IN ELECTROMAGNETISM (3)** Review of Maxwell's equations. Finite differences, finite elements, boundary elements (method of moments). Introduction to geometric theory of optics and diffraction. (PR: EEL 5462, EEL 6486, or CC)
- EEL 6486 ELECTROMAGNETIC FIELD THEORY (3)** Time-harmonic electromagnetic fields emphasizing problems with exact solutions in the rectangular, cylindrical and spherical coordinate systems. Solutions by eigenfunction methods and Green's functions. (PR: EEL 4411 or CC)
- EEL 6487 ADVANCED ELECTROMAGNETIC FIELD THEORY (3)** Time harmonic electromagnetic fields emphasizing problems and solution methods which are approximate in nature. Geometrical optics, WKB method, wave scattering. (PR: EGN 5424 and EEL 6486 or CC)
- EEL 6502 DIGITAL SIGNAL PROCESSING I (3)** Digital signals and Fourier transforms. Z-transforms, digital filter networks; DFT, DCT, and fast transforms. Design of IIR and FIR filters; quantization effects. Multi-rate processing; interpolation and decimation. (PR: EEL 4102 or CC)
- EEL 6506 COMMUNICATION NETWORKS (3)** Objectives of networking, basic topologies and architectures, physical channel considerations. Circuit and packet switching; node design, link and flow control. Access schemes and protocols. Network performance for voice/videotext data. Intelligent networks and ISDN. (PR: EEL 5534 or CC)
- EEL 6507 SATELLITE COMMUNICATION (3)** Satellite characteristics, link calculations, earth station. Frequency management. Large and small (mobile) earth terminals. Digital communication for satellites: modulation coding and multiple-accesses techniques. Examples including the INTELSAT series. (PR: EEL 5534 or CC)

Engineering

- EEL 6519 ULTRA HIGH SPEED COMMUNICATIONS (3)** Ultra high-speed channels; radio, microwave, and lightwave. High-order constellations. Multiplexing, demultiplexing, and framing. Adaptive equalization for inter-symbol interference and multi-path fading. Switching (space and time) for UHS streams. (PR: EEL 6535 or CC)
- EEL 6522 INFORMATION THEORY (3)** Concepts of information, information channels, channel capacity, information source, Shannon's fundamental theorem and introduction to error correcting codes. (PR: CC)
- EEL 6531 TELECOMMUNICATIONS I (3)** Introduction to telecommunications. Telephone (voice and data), video and facsimile transmission. Intersymbol interference, adaptive equalizers, error correcting codes. (PR: CC)
- EEL 6532 TELECOMMUNICATIONS II (3)** Public and private telecommunication networks. Integrated services. (PR: EEL 5534 or CC)
- EEL 6535 COMMUNICATIONS SYSTEMS II (3)** Digital and analog communication; AM, DSB, SSB, and FM. Multisymbol communication, QAM, modems. Noise, bandwidth, error rate, SNR. Matched filters. M-ary signaling, orthogonal waveforms, channel capacity, introduction to coding. (PR: CC or EEL 5534)
- EEL 6537 ADVANCED DETECTION THEORY (3)** Fundamental principles of signal detection. Likelihood functions; threshold detection; parameter estimation; applications to radar, sonar and digital communication systems. (PR: EEL 6545 or CC)
- EEL 6545 RANDOM PROCESSES IN ELECTRICAL ENGINEERING (3)** Review of probability theory, functions of random variables; examples in electrical engineering. Sequences of random variables. Concepts in random processes, correlation functions, power spectrum, random inputs to linear systems. Spectral analysis. Applications to engineering systems.
- EEL 6563 OPTICAL FIBER COMMUNICATION (3)** A study of fiber-optic technology as applied to communications systems. (PR: EEL 6545)
- EEL 6585 SPEECH SIGNAL PROCESSING (3)** Speech models: acoustic tube, source-filter. Time and frequency domain properties. Linear prediction analysis of speech. Speech coding: APCM, DPCM, ADPCM, sub-band, VQ, etc. Speech synthesis and recognition. Speech processing hardware. (PR: EEL 6502 or CC)
- EEL 6613 MODERN CONTROL THEORY (3)** A study of modern control techniques including optimum and adaptive control. (PR: EEL 4657 or CC)
- EEL 6614 SYSTEMS AND CONTROL THEORY I (3)** Analysis of multi-variable linear systems (continuous and discrete time, state-space methodology and transfer functions description). Analysis and design of feedback control systems. Effects of plant and measurement noise. Optimal control. (PR: CC or EEL 4657)
- EEL 6615 SYSTEMS AND CONTROL THEORY II (3)** Continuation of EEL 6614. (PR: CC or EEL 6614)
- EEL 6620 NONLINEAR CONTROL SYSTEM (3)** Principles of state-variables, phase-plane and describing functions. (PR: EEL 4657)
- EEL 6640 RANDOM PROCESSES IN CONTROL SYSTEMS (3)** Analysis and design of control systems subject to random inputs and disturbances. (PR: EEL 4657)
- EEL 6752 DIGITAL SIGNAL PROCESSING II (3)** Fast algorithms, FFT, fast convolution; DCT, CZT. Random signals. Linear prediction, application to speed coding. Spectrum estimation. Quantization effects. Pencil-of-functions method. Adaptive filtering and equalization. (PR: CC or EEL 6502)
- EEL 6753 DIGITAL SIGNAL PROCESSING III (3)** Topics in digital signal processing, e.g., speech processing, radar signal processing, adaptive arrays, and noise cancellation. Rpt. (PR: CC or EEL 6752)

- EEL 6822 PATTERN RECOGNITION THEORY (2)** Theory of pattern recognition. Parametric and non-parametric methods, training theorems, unsupervised learning. Biomedical and other engineering applications. (PR: CC)
- EEL 6823 COMPUTER APPROACHES TO PATTERN RECOGNITION (2)** Computer implementation of pattern recognition problems. Feature reduction methods. CLAFIC and SELFIC techniques. Sequential methods. (PR: EEL 6822)
- EEL 6846 CODING THEORY (3)** Error-correcting codes, algebraic block codes, linear codes and feedback shift registers; BCH codes; convolutional codes; burst error correcting codes; arithmetic codes; decoding methods. (PR: EEL 6522 or CC)
- EEL 6908 INDEPENDENT STUDY** Var. Independent study in which students must have a contract with an instructor. Rpt. S/U.
- ELR 6910 DIRECTED RESEARCH** Var. Rpt. S/U. (PR: GR. ML)
- ELR 6911 GRADUATE RESEARCH METHODS (1-5)** Special course to be used primarily for the training of graduate research assistants. Var. to a total of 5 credits. S/U.
- EEL 6932 ADVANCED ENGINEERING SEMINAR (1-3)** PR: CC.
- EEL 6935 SELECTED ELECTRICAL TOPICS (1-3)** PR: CC.
- EEL 6936 SPECIAL ELECTRICAL PROBLEMS (1-3)** PR: CC.
- ELR 6940 GRADUATE INSTRUCTION METHODS (1-5)** Special course to be used primarily for the training of graduate teaching assistants. Var. Rpt. to a total of 5 credits. S/U.
- EEL 6971 THESIS: MASTER'S** Var. Rpt. S/U.
- EEL 7910 DIRECTED RESEARCH** Var. Rpt. S/U. (PR: GR. Ph.D. level)
- EEL 7931 SELECTED TOPICS IN COMMUNICATION (3)** Advanced topics in communications such as synchronization, spread-spectrum communications, fading channels, large constellation signaling schemes, mobile radio, statistical multiplexing, performance measurement, etc. (PR: EEL 6535)
- EEL 7980 DISSERTATION: DOCTORAL** Var. S/U. (PR: Admission to Candidacy)

INDUSTRIAL AND MANAGEMENT--SYSTEMS ENGINEERING

Chairperson: P.E. Givens; *Professors:* J.L. Brown, P.E. Givens, L.A. Weaver, R.J. Wimmert; *Associate Professors:* S.K. Khator, O.G. Okogbaa; *Visiting Associate Professor:* L.C. Leung; *Assistant Professors:* A.J.G. Babu, A.L. Callahan, D.V. Kunak, W.A. Miller.

- EIN 5245 WORK PHYSIOLOGY AND BIOMECHANICS (3)** Human physiological limitations encountered in the design, analysis and evaluation of man-machine systems. (PR: CC)
- EIN 5253 HUMAN PROBLEMS IN AUTOMATION (3)** The study of analysis of combined human operations, automated processes, and robotics in industrial environments.
- EIN 5301C INDUSTRIAL ENGINEERING CONCEPTS (3)** Survey of industrial and management engineering methodology. Work measurement, methods, production and inventory control, and facility design. (PR: CC)
- EIN 5322 PRINCIPLES OF ENGINEERING MANAGEMENT (3)** Introduction to the fundamentals of accounting, finance, management, and marketing as needed by engineers, scientists, and other professionals in managerial positions.
- EIN 5345 INVENTORY CONTROL (3)** Properties of inventory systems and fundamentals of deterministic and probabilistic inventory models. Principles and concepts of material requirements planning. (PR: EIN 4335 or equiv.)
- EIN 5357 ENGINEERING VALUE ANALYSIS (3)** Statistical models for analyzing engineering alternatives from an economic viewpoint. The use of advanced engineering economy concepts in solving industrial problems. (PR: EIN 4352 or equiv.)

Engineering

EIN 5386C PROBLEMS IN ENGINEERING MANAGEMENT (3) A study of problems encountered by managers in the planning, organizing, directing, and controlling of resources in technology-based organizations.

EIN 5388 TECHNOLOGICAL FORECASTING (3) Introduction to forecasting techniques used to plan and schedule production and inventory control functions. Smoothing and decomposition time-series methods, regression methods, and autoregressive/moving average methods. Integrating forecasting and planning into the engineering organization.

EIN 5914, 5915, 5916 SPECIAL INDUSTRIAL PROJECTS I, II, III (1-3 Each) (PR: CC).

EIN 6119 DECISION SUPPORT SYSTEMS IN ENGINEERING MANAGEMENT (3) Conceptual foundations of decision support systems with focus on the needs of engineering managers and effective decision making in technological and scientific organizations.

EIN 6121 TECHNOLOGY AND MARKETS (3) Marketing strategy and management of R&D programs, engineering projects and systems from the viewpoint of interaction between the technical enterprise and its industrial and government customers.

EIN 6204 ENGINEERING INFORMATION PROCESSING (3) A study of human information processing theories and measurement techniques as applied to engineering problems emphasizing perceptual, cognitive, and learning aspects of interpersonal and human-computer communication.

EIN 6246C HUMAN FACTORS RESEARCH METHODOLOGY (3) Detailed study of experimental methodology, choice of independent and dependent variables, data collection, analysis, and related theory used for evaluation of performance in human/machine systems. Emphasis on parametric analysis techniques, uncertainty theory and signal detection theory.

EIN 6249C SYSTEMS DESIGN AND TASK ANALYSIS (3) Task analysis for design of human/machine interface. Methodologies for collecting and evaluating task analysis information. Evolution of systems and application of human factors engineering methods in systems design.

EIN 6258 HUMAN/COMPUTER INTERACTION (3) Application of human factors in the design and operation of man/machine systems. Analysis of the use of microprocessors and computer-controlled devices in man/machine systems. (PR: EIN 5245)

EIN 6265 INDUSTRIAL MENTAL HEALTH (3) Theories and concepts of mental hygiene and positive mental health as applied to organizational settings. Review of research studies related to industrial mental health; stress management; strategies for improving mental health and employee performance.

EIN 6319 WORK DESIGN AND PRODUCTIVITY ENGINEERING (3) Foundations of motivated work performance, job satisfaction and organizational productivity. Analysis of job content and job context, comparison of different concepts for improving organizational effectiveness; suggestions for productivity improvements through effective work redesign.

EIN 6323 ENGINEERING MANAGEMENT POLICY AND STRATEGY (3) Strategic planning and policy formulation in technical and scientific organizations. General managers in the middle. Translation of strategic plans into action plans and implementation of the strategic change process. This is a capstone course in the EM program to be taken during the last semester of the student's program.

EIN 6324 TECHNICAL ENTREPRENEURSHIP (3) A comprehensive study of developing and starting an engineering venture. Student teams work out a complete business plan for a company to develop, manufacture, and distribute a technical product or service.

EIN 6336 PRODUCTION CONTROL SYSTEMS (3) Forecasting models, development of production plans, loading and scheduling models and basic inventory models. Use of MRP. Design and evaluation of production control systems. (PR: CC)

EIN 6605C ROBOTICS AND ASSEMBLY AUTOMATION (3) The use of robots in manufacturing assembly; coordinated use of robots, machine tools, feeders, holding devices, and material handling systems.

EIN 6933 ADVANCED ENGINEERING SEMINAR (1-3) (PR: CC)

EIN 6934, 6935, 6936 SPECIAL INDUSTRIAL TOPICS I, II, III (1-3 Each) (PR: CC)

EIN 6971 THESIS: MASTER'S Var. Rpt. S/U.

ESI 5216 ENGINEERING STATISTICS II (3) Application of non-parametric statistics, sequential analysis, orthogonal polynomials and other advanced statistical techniques to solving engineering problems. (PR: EGN 3443 or equiv.)

ESI 5219 STATISTICAL METHODS FOR ENGINEERING MANAGERS (3) Study of statistical methods applied to engineering management problems involving estimation and prediction under conditions of uncertainty. Not open to students who have had EGN 3443.

ESI 5233 RELIABILITY ENGINEERING (3) Fundamental concepts of reliability. Estimation of reliability of systems and components. Measures of availability, maintainability and reliability. (PR: EGN 3443 or equiv.)

ESI 5306 OPERATIONS RESEARCH FOR ENGINEERING MANAGEMENT (3) Linear programming, non-linear programming, queueing, inventory, network analysis. Not open to students who have had ESI 4315.

ESI 5470 MANUFACTURING SYSTEMS ANALYSIS (3) The study of systems of manufacturing entities such as machine tools, robots, and materials handlers. Emphasis is on mathematical description of integrated systems and system optimization. (PR: CC)

ESI 5522 COMPUTER SIMULATION (3) Design of discrete and continuous simulation models. Model validation and verification. Statistical analysis of simulation model output. (PR: ESI 4521 or equiv.)

ESI 6213 THEORY OF INDUSTRIAL STATISTICS (3) Study of the theory behind the statistical techniques applied to the solving of engineering problems. (PR: ESI 5219 or equiv.)

ESI 6222C ECONOMIC QUALITY CONTROL (3) The design of acceptance sampling systems and control charts for the economic point of view. Consideration of the effects of inspection error on sampling plan and control chart designs. (PR: EIN 5353, ESI 4221)

ESI 6225 QUALITY ASSURANCE PLANS (3) Advanced techniques in quality control systems. Includes study of articles in current journals. (PR: ESI 4221 or equiv.)

ESI 6247 STATISTICAL DESIGN MODELS (3) Design of experimental mathematical models. Application of advanced analysis of variance techniques as applied to industrial problems. (PR: ESI 5219 or equiv.)

ESI 6291 SPECIAL TOPICS IN STATISTICS (3) Special topics in statistics related to research in engineering. (PR: CC)

ESI 6336 QUEUEING THEORY (3) Introduction to queueing models. Poisson queues, non-Poisson queues, decision models, transient analysis and special queueing topics. (PR: ESI 4315)

ESI 6341 DYNAMIC PROBABILISTIC SYSTEMS (3) Theory and application of stochastic engineering problems. Emphasis on dynamic systems involving Markov processes, recurrent processes, normal processes, and counting processes. (PR: ESI 4215)

ESI 6405 NONLINEAR AND DYNAMIC PROGRAMMING (3) Optimization using nonlinear programming techniques. Techniques of solution using zero-one, integer, quadratic, geometric, and dynamic programming. Variational methods. (PR: ESI 6491 or equiv.)

ESI 6414 LINEAR PROGRAMMING AND NETWORKS MODELS (3) Linear models, the simplex method, duality theory, sensitivity analysis, transportation and assignment problems, integer programming, network models, large-scale systems. (PR: ESI 4314 or equiv.)

Engineering

- ESI 6491 MULTIVARIATE OPTIMIZATION (3)** Classical optimization theory. Direct and indirect methods for system optimization using theoretical and numerical methods. Penalty function and vector-space methods. Response surface methods. Computer implementation. (PR: CC)
- ESI 6550 INDUSTRIAL SYSTEMS DESIGN (3)** Design of integrated systems using statistical and operations research models. Digital simulation using several different systems. (PR: ESI 4521, ESI 4315 or equiv.)
- ESI 6552 EVALUATION OF SYSTEM PERFORMANCE (3)** Applications of probability and random processes to the design and evaluation of physical systems from the viewpoint of satisfying prescribed specifications. (PR: ESI 4215, ESI 4315 or equiv.)
- ESI 6555C TOPICS IN AUTOMATION (3)** Study of recent advances in automated systems, automation concepts, control methods, numerical control, adaptive control. (PR: CC)
- ESI 6906 INDEPENDENT STUDY** Var. Independent study in which students must have a contract with an instructor. Rpt. S/U.
- ESI 6911 DIRECTED RESEARCH** Var. Rpt. S/U. (PR: GR. ML)
- ESI 6991 GRADUATE RESEARCH METHODS (1-5)** Special course to be used primarily for the training of graduate research assistants. Var. Rpt. to a total of five credits. S/U.
- ESI 6992 GRADUATE INSTRUCTION METHODS (1-5)** Special course to be used primarily for the training of graduate research assistants. Var. Rpt. to a total of 5 credits. S/U.
- ESI 7911 DIRECTED RESEARCH** Var. Rpt. S/U. (PR: GR. Ph.D. level)
- ESI 7980 DISSERTATION: DOCTORAL** Var. S/U. (PR: Admission to Candidacy)

MECHANICAL ENGINEERING

Chairperson: W.A. Smith; *Professors:* R.A. Crane, L.A. Scott, W.A. Smith, S.J. Ying; *Associate Professor:* J. Porteiro; *Assistant Professors:* G.H. Besterfield, A. El-Shafei, G.T. Flowers, A. Kaw, S. Wilkinson.

- EGM 6656 THEORY OF ELASTICITY (3)** Classical and contemporary elasticity theory with applications to engineering problems. (PR: CES 6116)
- EGM 6675 THEORY OF PLASTICITY (3)** A study of the theory of plasticity including initial and subsequent yield surfaces, incremental and deformation theories. (PR: CI)
- EMC 5315 MACHINE CONTROL SYSTEMS (3)** Machine control system components and their effects on closed-loop system performance. Transfer characteristics of hydraulic, pneumatic and electrical elements and processes. (PR: EMC 4314 or CI)
- EMC 5325 MECHANICAL MANUFACTURING PROCESS (3)** Description of mechanical cutting, forming, and fabrication methods as used in modern industrial processes. (PR: CI)
- EMC 5510 MOTOR SELECTION AND CONTROL (3)** Standard electrical voltages; power wiring in industrial plants; NEMA motor designs and their industrial uses; techniques for estimating motor starting times and temperature rise; motor selection; starting and operating safety interlocks; conventional motor starting and control systems, direct digital (programmable) controls; electrical code requirements for conductors and protective devices. (PR: EGN 3373, EGN 3433)
- EMC 6105 ADVANCED THERMODYNAMICS (3)** Topics in classical and irreversible thermodynamics. (PR: CC)
- EMC 6120C NUMERICAL METHODS IN HEAT TRANSFER (3)** Application of finite difference and finite element techniques to problems of conduction and convection. Cartesian, cylindrical and spherical systems. Steady and transient solutions. (PR: CI)
- EMC 6121C ADVANCED CONDUCTION ANALYSIS (3)** Multi-dimensional heat transfer. Emphasis on solution techniques, exact and numerical. (PR: EMC 4118, EMC 4411)

- EMC 6122 RADIATION (3)** Review of basic principles of radiation, grey bodies and real surfaces, calculation of shape factors, absorbing gases. (PR: EMC 4118)
- EMC 6317 DIRECT DIGITAL CONTROL I (3)** Application of digital computers to control of engineering processes. Includes study of digital filtering Z-transforms, supervisory control, A/C and D/A conversion and advanced control strategies. (PR: ENC 4314, EMC 4411, or CI)
- EMC 6318 DIRECT DIGITAL CONTROL II (3)** A continuation of EMC 6317 with detailed study of special cases. Cases will vary from term to term. (PR: EMC 6317 or CI)
- EML 5225 ACOUSTICS AND NOISE CONTROL (2)** Fundamentals of sound propagation, sound power and intensity. Psychoacoustics, industrial noise sources and methods of attenuation. Noise ordinances and instruments for noise measurement. (PR: CC)
- EML 5509 PROJECT DESIGN III (2)** Correlation of previously acquired mechanical design experiences with a creative design project. Lec-lab. (PR: CC)
- EML 5930, 5931 SPECIAL TOPICS III, IV (1-4 each) (PR: CC)**
- EML 6223 SYNTHESIS OF VIBRATING SYSTEMS (3)** Advance topics in vibration. Random vibration in mechanical systems. Autocorrelation and power spectral density. Response of single and multidegree of freedom systems to random excitation. Frequency response function and coherency measurements. Contents variable. (PR: EML 4222)
- EML 6232 COMPOSITE LAMINATED MATERIALS (3)** Fundamental relationships for predicting the mechanical and thermal response of multi-layered materials and structures. Micromechanical and macromechanical relationships are developed for laminated materials with emphasis on continuous filament. Material, structural and strength optimization to design laminated composite materials using user-friendly software. (PR: EML 3500)
- EML 6235 APPLIED ENGINEERING ASPECTS OF FATIGUE (2)** Evaluation of strength of machine members under fatigue loadings. Stress concentrations, residual stress effects, surface coatings, environmental effects. Statistics in fatigue analysis. (PR: EML 5528 or CI)
- EML 6273 ADVANCED DYNAMICS OF MACHINERY (3)** Detailed study of velocities, accelerations and forces in machines with parts having rotating, reciprocating, and combined motion. (PR: EML 4265 or CI)
- EML 6336 MACHINERY DIAGNOSTICS (3)** Vibration transducers, sensors and measurement points. Data acquisition and analysis. Frequency analysis and instrumentation. Condition analysis and evaluation. Trend analysis. Diagnostics of bearings and gears. Cepstral analysis. Rotor balancing and rotor-bearing instabilities. (PR: EML 4222)
- EML 6528 ANALYSIS METHODS FOR MECHANICAL DESIGN (3)** Treatment of stress, strain, and strengths of machine design. Application of failure theories, residual stresses, and energy principles to machine elements. (PR: EML 4503, or CI)
- EML 6533 ADVANCED MECHANICAL DESIGN (2)** A technical application course involving the problem of developing machines to perform specified functions. Includes evaluation of kinematic performance and examination of parts from stress, strain, wear, and fabrication. (PR: CC)
- EML 6606 HVAC SYSTEMS (3)** Criteria for selection of systems types; performance, characteristics of single zone, multizone, double duct and variable volume systems; energy conservation in HVAC design; HVAC controls; computer models of HVAC systems; solar energy used in HVAC. (PR: EML 4601 or CI)
- EML 6715 ADVANCED FLUID MECHANICS AND HEAT TRANSFER (3)** Introduction to computational problem solutions in fluid mechanics and heat and mass transfer as applied to mechanical engineering. The emphasis is on the formulation and solution of computational engineering problems. (PR: CI)
- EML 6801 ROBOTIC SYSTEMS (3)** Overview of existing industrial and specialized robot types and operation; vision systems; tactile sensors; ranging and proximity techniques; actua-

Engineering

tion/transmission methods; power sources; autonomous vehicle mobility and navigation methods; and artificial intelligence. (PR: CI)

EML 6906 DIRECTED RESEARCH Var. Rpt. S/U. (PR: GR., ML)

EML 6907 INDEPENDENT STUDY Var. Independent study in which students must have a contract with an instructor. Rpt. S/U. (PR: GR)

EML 6930 DESIGN RELIABILITY (3) Treatment of uncertainties in the design of structural and machine elements. Optimization procedures for design and reliability. Calculations of second-moment statistics and probability of failure. Introduction to the probabilistic finite element method. (PR: EML 4503 and EML 4551 or CI)

EML 6930 SPECIAL PROBLEMS I (1-3) (PR: CC)

EML 6931 SPECIAL PROBLEMS II (1-3) (PR: CC)

EML 6938 GRADUATE INSTRUCTION METHODS (1-4) Special course to be used for training of graduate teaching assistants. Var. Rpt. to a total of 4 credits. S/U. (PR: CC)

EML 6971 THESIS: MASTER'S Var. S/U. (PR: CC)

EML 7915 DIRECTED RESEARCH Var. S/U. (PR: CC and GR. Ph.D. level)

EML 7980 DISSERTATION: DOCTORAL Var. S/U. (PR: Admission to Candidacy)

College of Fine Arts

ART

Chairperson: A. Eaker; *Distinguished Professor:* D.J. Saff; *Professors:* E.L. Cox, A.B. Eaker, C.J. Fager, A.L. Freundlich, R.W. Gelinias, J.M. Kronsoble, M.R. Larsen, C.P. Lyman, B.L. Marsh, M.A. Miller, G. Pappas; *Associate Professors:* T.E. McLaughlin, B.J. Nickels, D.R. Wright, T.F. Wujcik; *Assistant Professors:* S.L. Davis, V. Hirt, L.S. Marcus, B.A. Shanks; *Lecturers:* D.E. Elmeer; *Other Faculty:* D.L. Rosenzweig.

Admission to all 5000 level studio courses by Consent of Instructor.

ARH 5333 CULTURAL AND INTELLECTUAL HISTORY OF RENAISSANCE AND BAROQUE ART (4) A course in which Renaissance and Baroque theories of art are treated as part of general cultural and intellectual history.

ARH 5451 CULTURAL AND INTELLECTUAL HISTORY OF MODERN ART (4) A course in which theories of modern artists and of critics and historians of Modernism are treated as a part of general cultural and intellectual history.

ARH 5795 METHODS OF ART HISTORY (4) This course introduces students to various methods used by art historians to analyze the form and content of individual works of art, and to various modes of historical explanation. (Must be taken during the student's first two semesters in the program.)

ARH 5797 GALLERY AND MUSEUM INTERNSHIP (2-6) By working in Bay Area museums or galleries, students will become familiar with various museological operations. Internships vary owing to the work at hand in particular museums, but possible areas of work include registration, installation, conversation, writing of grants, or museum education. (Students are eligible after completing one semester in the program.) S/U only.

ARH 6055 ART HISTORY (4) Rpt. (PR: CI)

ARH 6332 CURRENT HISTORIOGRAPHY: RENAISSANCE (4) This course explores current perspectives on problems of Renaissance historiography. (PR: ARH 5333)

ARH 6335 CURRENT HISTORIOGRAPHY: BAROQUE-ROCOCO (4) This course explores current perspectives on problems of Baroque and Rococo historiography. (PR: 5333)

- ARH 6440 CURRENT HISTORIOGRAPHY: 19TH CENTURY (4)** This course explores current perspectives on problems in the historiography of 19th Century Art. (PR: ARH 5451)
- ARH 6465 CURRENT HISTORIOGRAPHY: 20TH CENTURY (4)** Cultural and intellectual history of Modern Art. (PR: 5451)
- ARH 6798 SEMINAR IN ART HISTORY (4)** Var. Specialized topics in art history. (PR: CI)
- ART 5125C CERAMICS (4)** Advanced problems in the various ceramic techniques, including throwing and glaze calculation. Rpt. (PR: ART 4111C)
- ART 5340C DRAWING (4)** Advanced problems in various drawing techniques. Emphasis on individual creative expression. Rpt. (PR: ART 4320C)
- ART 5422C LITHOGRAPHY (4)** Advanced problems in various lithographic techniques. Emphasis on individual creative expression. Rpt. (PR: ART 4421C)
- ART 5472C INTAGLIO (4)** Investigations into more complex intaglio processes including photoengraving and color printing procedures. Emphasis on personal conceptual development in graphic media. Rpt. (PR: ART 4471C)
- ART 5532C PAINTING (4)** Advanced problems in the various painting techniques. Emphasis on individual creative expression. Rpt. (PR: ART 4520C)
- ART 5730C SCULPTURE (4)** Advanced problems in the various techniques of sculpture. Emphasis on individual creative expression. Rpt. (PR: ART 4702C)
- ART 5910 RESEARCH (1-4)** Rpt. (PR: CC)
- ART 5936 STUDIO TECHNIQUES: SELECTED PROJECTS (2)** Concentration in specialized technical data and process. Rpt. for different topics only. (PR: Visual Concepts I, II and Introduction to Art, the topic-technique-related 3000-4000 level studio sequence and CI)
- ART 6126C CERAMICS (4)** Rpt. (PR: CI)
- ART 6341C DRAWING (4)** Rpt. (PR: CI)
- ART 6423C LITHOGRAPHY (4)** Rpt. (PR: CI)
- ART 6473C INTAGLIO (4)** Rpt. (PR: CI)
- ART 6580C PAINTING (4)** Rpt. (PR: CI)
- ART 6620C PHOTOGRAPHY (4)** Rpt. (PR: CI)
- ART 6731C SCULPTURE (4)** Rpt. (PR: CI)
- ART 6907 INDEPENDENT STUDY** Var. Independent study in which student must have a contract with an instructor. Rpt. S/U.
- ART 6911 DIRECTED RESEARCH** Var. Rpt. S/U. (PR: GR. ML)
- ART 6936 GRADUATE SEMINAR (2)** Advanced course in theoretical and conceptual foundations of the visual arts. The specific structure and content to be determined by the instructor. Must be repeated for a minimum of 4 hours. (PR: CI)
- ART 6937 GRADUATE INSTRUCTION METHODS (1-4)** Special course to be used primarily for the training of graduate teaching assistants. Var. Rpt. up to 4 credits. S/U.
- ART 6940 SELECTED TOPICS IN ART (1-4)** Variable credit depending upon the scope and magnitude of the work agreed to by the student and the responsible member of the faculty. Rpt. (PR: GS and CI)
- ART 6956 GRADUATE STUDIO THESIS DOCUMENTATION (2)** An advanced seminar focused on the problems of documenting in verbal form the development of a body of work in the visual arts. (PR: CI)
- ART 6971 THESIS: MASTER'S** Var. Rpt. S/U.
- PGY 5425C PHOTOGRAPHY (4)** Advanced work in photography and related media leading to development of personal/expressive statements. Rpt. (PR: CI)

Fine Arts

PGY 5530 CINEMATOGRAPHY (4) Advanced studio work using black and white, color and sound as technical and aesthetic factors in visual, artistic productions. Rpt. (PR: ART 4631C)

PGY 6540 CINEMATOGRAPHY (4) RPT. (PR: CI)

MUSIC

Chairperson: J. Heller; *Professors:* J. Abram, F.T. Borkowski, V.A. Bridges, L.R. Cullison, J. Heller, R.E. Helps, V.S. Jennings, J.E. Lewis, R.M. McCormick, W.D. Owen, E.C. Preodor, M.N. Rearick, J.L. Smith, R.J. Summer, A.J. Watkins, A.N. Woodbury; *Associate Professors:* C.P. Doane, R.O. Froelich, A.L. Hawkins, W.W. Jaworski, H.K. Jones, D.W. Kneeburg, A.Y. Monroe, C.R. Owen, J.M. Reynolds, J.O. Robison, A.V. Summer, M.B. Thompson, N.R. Warfield; *Assistant Professors:* E.H. Cumming, W.P. Hayden, K.C. Holm, J.K. Khorsandian, J.L. Moore, J.B. Moorhead, J.W. Richmond, W.S. Woodruff.

MUC 6251 COMPOSITION (4) Private instruction in original composition. Required of composition majors. Rpt. for three semesters. (PR: CI)

MUC 6444, 6445 ELECTRONIC MUSIC/ANALOG/DIGITAL SYSTEMS RESEARCH (3,3)
State-of-the-art compositional and performance applications; new concepts of electronic music synthesis; documentation and critical analysis of new repertoire. (PR: CI)

MUG 6307 BAND/WIND ENSEMBLE CONDUCTING (3) Combination of lecture, seminar, laboratory and individual instruction experiences designed to provide development of advanced conducting skills. Rpt. up to 12 hours.

MUG 6256, 6257, 6258 CHORAL LITERATURE AND CONDUCTING (4,4,4) Combination of seminar, classroom, and laboratory types of experience designed to provide depth in stylistic study of choral music literature and performance. (PR: CI)

MUL 6556 BAND/WIND ENSEMBLE LITERATURE SEMINAR (3) Seminar experience designed to provide in depth study and analysis of selected masterpieces of the band/wind ensemble repertoire. Rpt.

MUL 6375 TWENTIETH CENTURY MUSIC LITERATURE (3) A study of the literature, compositional techniques, and music philosophies of the major 20th century composers from Debussy to the present. (PR: CI)

MUL 6410, 6411 KEYBOARD REPERTORY (2,2) A study of style, history, and performance practice in keyboard repertoire including masterworks of all periods. (PR: CI)

MUL 6505 SYMPHONIC LITERATURE (2) A chronological study of the development of orchestral music; analysis and study of major works from a stylistic and biographical perspective. (PR: CI)

MUL 6555 BAND/WIND ENSEMBLE LITERATURE (3) Combination of seminar and classroom experiences designed to provide depth in historical study of band and wind ensemble literature. May not be repeated for credit.

MUL 6565 CHAMBER MUSIC LITERATURE (2) A survey and stylistic analysis of chamber music repertoire 1750 through the present day. (PR: CI)

MUL 6624, 6625 SONG LITERATURE (2,2) Solo song literature from the 17th century through the contemporary with emphasis on German lieder, French songs, and contemporary English and American songs; special emphasis on performance. (PR: CI)

MUL 6671 OPERA LITERATURE (2) A chronological study of the development of opera from 1600 to the present; emphasis on the technical, stylistic, and performance aspects of opera. (PR: CI)

MUL 6687 SOLO VOCAL LITERATURE IN ORATORIO (2) A survey of literature for the solo voice in cantatas and orchestral music. (PR: CI)

MAJOR ENSEMBLE PERFORMANCE COURSES (below) Open to all university students with the necessary proficiency in their performing media; study and performance of music for large combination of voices, string, woodwind, brass or percussion instruments. Rpt. (PR: CI)

- MUN 6125 UNIVERSITY BAND (1)
- MUN 6140 WIND ENSEMBLE (1)
- MUN 6215 UNIVERSITY ORCHESTRA (1)
- MUN 6316 UNIVERSITY SINGERS (1)
- MUN 6385 UNIVERSITY-COMMUNITY CHORUS (1)
- MUN 6455 PIANO ENSEMBLE (1)
- MUN 6716 JAZZ ENSEMBLE (1)
- MUO 6505 OPERA WORKSHOP (1)

CHAMBER MUSIC ENSEMBLES COURSES (below) Open to all university graduate students with the necessary proficiency in their performance media; study and performance of music for small combinations of voices, string, woodwind, brass or percussion instruments, and piano. Rpt. (PR: CI)

- MUN 6345 CHAMBER SINGERS (1)
- MUN 6416 STRING QUARTET (1)
- MUN 6425 GRADUATE SAXOPHONE ENSEMBLE (1)
- MUN 6426 FLUTE CHOIR (1)
- MUN 6428 CLARINET CHOIR (1)
- MUN 6429 WOODWIND QUINTET (1)
- MUN 6435 BRASS CHOIR (1)
- MUN 6436 BRASS QUINTET (1)
- MUN 6437 HORN QUARTET (1)
- MUN 6445 PERCUSSION ENSEMBLE (1)
- MUN 6447 MARIMBA ENSEMBLE (1)
- MUN 6475 COLLEGIUM MUSICUM (1)
- MUN 6495 NEW MUSIC ENSEMBLE (1)
- MUN 6498 CLASSICAL GUITAR ENSEMBLE (1)
- MUN 6715 JAZZ CHAMBER ENSEMBLE (1)

MUS 5905 DIRECTED STUDY (1-4) Independent studies in the various areas of music; course of study and credits must be assigned prior to registration. Rpt. (PR: CC)

MUSIC WORKSHOP COURSES (below) Intensive study in the specialized areas indicated below; open to teachers, University students, and secondary students; credit available to qualified students. (PR: CI)

MUS 6793 TECHNIQUES OF RESEARCH IN MUSIC AND MUSIC EDUCATION (3) A study of the methods of research and professional bibliography and with an individual, formal project as a terminal requirement. (PR: CC)

MUS 6906 INDEPENDENT STUDY Var. Independent study in which student must have a contract with an instructor. Rpt. S/U.

MUS 6910 DIRECTED RESEARCH Var. Rpt. S/U. (PR: GR. ML)

MUS 6971 THESIS: MASTER'S Var. Rpt. S/U.

MUS 6976 GRADUATE RECITAL (2) PR: CC.

MUS 6994 GRADUATE INSTRUCTION METHODS (1-4) Special course to be used primarily for the training of graduate teaching assistants. Var. Rpt. to a total of 4 credits per student. S/U.

MUT 5051 GRADUATE REVIEW OF MUSIC THEORY (2) A graduate level review of basic theoretical concepts with emphasis on the common practice period. The course serves to satisfy deficiencies in music theory and as such does not count toward the degree.

MUT 6545 CRITICAL ANALYSIS-THEORY (2) A study of analytical procedures and compositional practices from the common practice period. An emphasis on consistent practices that provide a theoretical basis for composition and/or performance. (PR: CI)

Fine Arts

MUT 6586 CRITICAL ANALYSIS-HISTORY (2) A study of historical developments of music in western civilization. Emphasis on a different historical period each semester, from the Middle Ages through the Romantic Period. Rpt. up to 6 hours. (PR: CI)

MUT 6629 ANALYTICAL SYSTEMS (2) May not be repeated. The investigation and practical application of various systems of musical analysis from traditional to the alternative systems of Schenker, Reti, Schoenberg, etc. (PR: CI)

MUT 6751 TEACHING OF MUSIC THEORY (3) Comparative study of teaching, techniques, procedures, and materials used in teaching visual and aural theory. (PR: CI)

MUT 6760 HISTORY OF MUSIC THEORY (2) Evolutionary history of the materials of western music including tuning systems, scales, models, tonality, rhythm, counterpoint and harmony; also the exploration of treatises and theorists contributing to the evolution. (PR: CI)

APPLIED MUSIC COURSES (below) Required of all applied music majors. Private and class instruction. Required concurrent registration in major performance ensemble. (PR: Necessary competency determined by faculty jury audition.)

MVB 6251 APPLIED TRUMPET, SECONDARY (2)

MVB 6252 APPLIED FRENCH HORN, SECONDARY (2)

MVB 6253 APPLIED TROMBONE, SECONDARY (2)

MVB 6254 APPLIED BARITONE, SECONDARY (2)

MVB 6255 APPLIED TUBA, SECONDARY (2)

MVB 6451 APPLIED TRUMPET (4)

MVB 6452 APPLIED FRENCH HORN (4)

MVB 6453 APPLIED TROMBONE (4)

MVB 6454 APPLIED BARITONE (4)

MVB 6455 APPLIED TUBA (4)

MVK 6251 APPLIED PIANO, SECONDARY (2)

MVK 6253 APPLIED ORGAN, SECONDARY (2)

MVK 6451 APPLIED PIANO (4)

MVK 6453 APPLIED ORGAN (4)

MVP 6251 APPLIED PERCUSSION, SECONDARY (2)

MVP 6451 APPLIED PERCUSSION (4)

MVS 6251 APPLIED VIOLIN, SECONDARY (2)

MVS 6252 APPLIED VIOLA, SECONDARY (2)

MVS 6253 APPLIED VIOLONCELLO, SECONDARY (2)

MVS 6254 APPLIED DOUBLE BASS, SECONDARY (2)

MVS 6255 APPLIED HARP, SECONDARY (2)

MVS 6256 APPLIED CLASSICAL GUITAR, SECONDARY (2)

MVS 6451 APPLIED VIOLIN (4)

MVS 6452 APPLIED VIOLA (4)

MVS 6453 APPLIED VIOLONCELLO (4)

MVS 6454 APPLIED DOUBLE BASS (4)

MVS 6455 APPLIED HARP (4)

MVS 6456 APPLIED CLASSICAL GUITAR (4)

MVV 6251 APPLIED VOICE, SECONDARY (2)

MVV 6451 APPLIED VOICE (4)

MVW 6251 APPLIED FLUTE, SECONDARY (2)

MVW 6252 APPLIED OBOE, SECONDARY (2)

MVW 6253 APPLIED CLARINET, SECONDARY (2)

MVW 6254 APPLIED BASSOON, SECONDARY (2)

MVW 6255 APPLIED SAXOPHONE, SECONDARY (2)

MVW 6451 APPLIED FLUTE (4)

MVW 6452 APPLIED OBOE (4)

MVW 6453 APPLIED CLARINET (4)

MVW 6454 APPLIED BASSOON (4)

MVW 6455 APPLIED SAXOPHONE (4)

MASTER COURSES (below) Study and performance of selected literature with special emphasis on style, form, and techniques; especially designed for teachers, piano majors, and talented secondary school students. (PR: CI)

MVK 5751 PIANO, MASTER CLASS (2)

MVS 5750 STRINGS, MASTER CLASS (2)

STUDIO TEACHING SEMINAR (below) Emphasis on techniques used in teaching the individual student in performance. (PR: GS in performance and CI)

MVK 6650 STUDIO TEACHING SEMINAR-CLASS PIANO (2)**MVK 6651 STUDIO TEACHING SEMINAR-PIANO (2)****MUSIC EDUCATION**

Director: C. Doane; *Professors:* V.A. Bridges, J. Heller; *Associate Professor:* C. Doane; *Assistant Professor:* J.W. Richmond.

MUE 6080 FOUNDATIONS AND PRINCIPLES OF MUSIC EDUCATION (3) Investigation of historical, philosophical, and psychological, foundations of music education. (PR: Acceptance into Music Education Graduate Program or CI)

MUE 6116 ADVANCED ELEMENTARY SCHOOL MUSIC (3) Study and appraisal of children's musical growth, curriculum plans, materials, and teaching techniques essential for the sequential development of musical learning. (PR: Acceptance in the Music Education Graduate Program or CI)

MUE 6145 MUSIC SUPERVISION AND ADMINISTRATION (3) The music curriculum in relation to the total school program; staff and budgetary needs.

MUE 6336 ADVANCED SECONDARY VOCAL MUSIC (3) Course provides for graduate students in music education the opportunity to examine current research related to the teaching of secondary school vocal music, evaluate curricula, music materials, and teaching methods that will enable them to develop a vocal music program that emphasizes musical sensitivity. (PR: Acceptance in the Music Education Graduate Program and CI)

MUE 6347 ADVANCED MATERIALS FOR INSTRUMENTAL MUSIC EDUCATION (3) Course designed to examine published and unpublished materials, develop curricula and resources, including media hardware, appropriate for use in school instrumental music programs. (PR: Acceptance in the Music Education Graduate Program and CI)

MUE 6496 CHORAL CONDUCTING IN THE SECONDARY SCHOOLS (3) Course designed to develop essential conducting competencies required of a choral music director in the secondary schools. (PR: Acceptance in the Music Education Graduate Program or CI)

MUE 6498 INSTRUMENTAL CONDUCTING IN THE SECONDARY SCHOOLS (3) Course designed to develop skills of analysis and interpretation needed by school instrumental music teachers. Class activities include laboratory settings and performance practices. (PR: Acceptance in the Music Education Graduate Program or CI)

MUE 6906 INDEPENDENT STUDY: MUSIC EDUCATION (1-6) Independent study in which students must have a contract with an instructor. Rpt. S/U.

MUE 7815 FOUNDATIONS OF MUSICAL LEARNING AND TEACHING (3) A critical examination of current findings regarding the phenomena of the psychology of musical behaviors, major problems and plausible solutions. Investigation of musical acoustics, the measurement of musical abilities, and a comparative study of theories of learning related to musical learning. (PR: Acceptance in the Music Education Graduate Program, a graduate level educational psychology course or its equivalent, or CI)

MUE 7835 AESTHETICS IN MUSIC EDUCATION (3) A course designed to investigate the nature of philosophical and psychological aesthetics as they relate to aesthetic and educational theories that influence programs in music education. (PR: Acceptance in the Music Education Graduate Program or CI)

THEATRE

Acting Chairperson: D.K. Williams; *Professors:* D.M. Calandra, N.B. Cole, W.A. Lorenzen, P. Massie, P.B. O'Sullivan; *Associate Professors:* J.W. Belt, B.W. Lee, A.G. Lillethun, C. Steele, D.K. Williams; *Affiliates:* L. Bray, G.B. Stephens; *Lecturer:* M.A. Bentley; *Other Faculty:* P.M. Finelli.

Fine Arts

- THE 5902 DIRECTED READING (1-4)** Readings in a topic of special interest to the student. Selection of topic and materials must be agreed upon and appropriate credit must be assigned prior to registration along with a contract with all necessary signatures. Rpt. for different topics only. (PR: CI and CC)
- THE 5909 DIRECTED STUDY (1-4)** Independent studies in the various areas of Theatre. Course of study and credits must be assigned prior to registration. (PR: CC)
- THE 5931 SELECTED TOPICS IN THEATRE (1-8)** The content of the course will be governed by student demand and instructor interest. May be lecture or class discussion or studio format. Rpt. for different topics only. (PR: CI)

College Of Medicine

ANATOMY

Chairperson: J.A.G. Rhodin; *Professors:* L.T. Chen, J.A.G. Rhodin, H.N. Schnitzlein; *Associate Professors:* H.K. Brown, D.F. Cameron, J. Dwornik, A.M. Gerdes, D.R. Hilbelink, M.F. Nolan, C.P. Phelps, S. Saporta, *Assistant Professor:* K. Muffly.

- GMS 6600 CORE COURSE IN HUMAN ANATOMY (5)** A survey course dealing with morphologic organization of the human body from a microscopic, macroscopic, and developmental perspective. (PR: Admission to Ph.D. Program in Medical Sciences)
- GMS 6601 METHODS OF ELECTRON MICROSCOPY IN MEDICAL RESEARCH (3)** This lecture and laboratory course deals with theoretical and technical issues regarding the use of the electron microscope in biomedical research. (PR: GMS 6600, GMS 6608 or CC)
- GMS 6602 NEURAL CORRELATES OF BEHAVIOR (3)** This course focuses on the organization and function of nervous system structures that control and regulate various aspects of somatic and visceral motor behavior. (PR: GMS 6600, or CC)
- GMS 6603 COMPARATIVE NEUROANATOMY (2)** This course deals with the structure of the central nervous system in selected mammalian and submammalian species. (PR: GMS 6600, or CC)
- GMS 6604 HUMAN EMBRYOLOGY (3)** This course deals with the structural and functional development of the human from conception to birth. (PR: GMS 6600, or CC)
- GMS 6608 ADVANCED MICROSCOPIC ANATOMY (3-6)** This lecture and laboratory course examines the human organism at the microscopic level, focusing on cellular morphology and the histological organization of tissues and organ systems. (PR: GMS 6600, or CC)
- GMS 6609 ADVANCED HUMAN GROSS ANATOMY (6-12)** This lecture and laboratory course focuses on the anatomical relationships between various structures that comprise the human body. (PR: GMS 6600, or CC)
- GMS 6610 ADVANCED NEUROANATOMY (3-6)** This lecture and laboratory course deals with the structure and function of the human nervous system. The course is organized using both regional and systemic approaches. (PR: Admission to Ph.D. Program in Medical Sciences and acceptance into Anatomy Dept.)
- GMS 6611 INTRODUCTION TO ANATOMICAL RESEARCH (2)** This course consists of scheduled rotations through the laboratory of each member of the anatomy department faculty. (PR: Admission to Ph.D. Program in Medical Sciences and Anatomy Dept.)
- GMS 6612 SUPERVISED TEACHING IN HUMAN ANATOMY (3)** This course deals with the philosophy and mechanics of teaching. The course also involves supervised practical experience in the various aspects of teaching in both the classroom and laboratory. (PR: GMS 6608, 6609, or 6610 and acceptance into the Anatomy Dept.)
- GMS 7418 DIRECTED RESEARCH** Var. Rpt. S/U. (PR: Gr. Ph.D. level)
- GMS 7930 SELECTED TOPICS (1-3)** (PR: Departmental Core Course or CC)

GMS 7939 GRADUATE SEMINAR (1) (PR: Departmental Core Course or CC)
GMS 7980 DISSERTATION: DOCTORAL Var. S/U. (PR: Admission to Candidacy)

BIOCHEMISTRY AND MOLECULAR BIOLOGY

Chairperson: L.P. Solomonson; *Professors:* W.L. Adair, D.C. Eichler, R.K. Keller, G.C. Ness, L.P. Solomonson; *Associate Professors:* M.J. Barber, J.D. Sandy, M.T. Williams; *Assistant Professors:* W.R. Gower, P.J. Neame, A.H.K. Plaas, J. Sasse; *Other Faculty:* R.V. Farese, R.A. Olsson, A.W. Root, J.C.M. Tsibris, L.A. Weber, E. Wickstrom.

GMS 6200C CORE COURSE IN MEDICAL BIOCHEMISTRY (5) A comprehensive introductory course in biochemistry with emphasis on intermediary metabolism and its regulation. (PR: Admission to Ph.D. Program in Medical Sciences or CC)

BCH 6255 MOLECULAR BIOLOGY AND MACROMOLECULAR METABOLISM (3) A discussion of experimental systems being used to investigate the organization and expression of genetic information in eukaryotic cells. Every other year. (PR: GMS 6200C or CC)

BCH 6275 BIOLOGICAL MEMBRANES—STRUCTURE AND FUNCTION (2) Current concepts in the structure and function of membranes. Every other year. (PR: GMS 6200C or CC)

BCH 6355 LIPID METABOLISM AND REGULATION (3) Current concepts in the metabolism of lipids in eukaryotic and prokaryotic cells. (PR: GMS 6200C or CC)

BCH 6415C METHODS IN MOLECULAR BIOLOGY (4) An introduction to modern molecular biological techniques and instrumentation. Lec.-Lab. (PR: BCH 6255 or CC)

BCH 6506 ADVANCES IN ENZYMOLOGY (3) A discussion of the theory and mechanism of enzymological reactions with emphasis on enzymological techniques. (PR: GMS 6200C, BCH 6067 or CC)

BCH 6627 METABOLIC BASIS OF DISEASE (3) A discussion of the metabolic basis of major inherited diseases. (PR: GMS 6200C or CC)

BCH 6746 PHYSICAL BIOCHEMISTRY (3) The theory and application of modern physical biochemical techniques. (PR: GMS 6200C, BCH 6067 or CC)

BCH 6806 BIOCHEMICAL ENDOCRINOLOGY (2) A study of the biochemical mechanisms of polypeptide, thyroid, and steroid hormones, including sites of action. Offered every other year. (PR: GMS 6200C or CC)

GMS 7418 DIRECTED RESEARCH Var. Rpt. S/U. (PR: Gr. Ph.D. level)

GMS 7930 SELECTED TOPICS (1-3) (PR: GMS 6200C or CC)

GMS 7939 GRADUATE SEMINAR (1) (PR: GMS 6200C or CC)

GMS 7980 DISSERTATION: DOCTORAL Var. S/U. (PR: Admitted to Candidacy)

MEDICAL MICROBIOLOGY AND IMMUNOLOGY

Chairperson: H. Friedman; *Professors:* N.K. Day, H. Friedman, R.A. Good, D.G. Halkias, M. Nonoyama; *Associate Professors:* J.Y. Djeu, R.J. Grasso, T.W. Klein, G.J. Lancz, L.J. Paradise, S. Spector; *Assistant Professors:* D.K. Blanchard, S.H. Pross, R.H. Widen, Y. Yamamoto.

GMS 6100C CORE COURSE IN MEDICAL MICROBIOLOGY (5) An in-depth survey of modern microbiology including studies of bacterial agents, parasitic and fungal organisms, viruses and immunology. (PR: Admission to Ph.D. Program in Medical Sciences)

GMS 6101 DIAGNOSTIC MICROBIOLOGY (3) This course consists primarily of conferences, reading assignments and laboratory training. The student is presented with the theoretical background in understanding the indigenous microflora of man, and he is guided in developing practical skills and familiarity with methodology in handling clinical specimens and in isolating, identifying, and reporting pathogenic microorganisms. (PR: GMS 6100C or CC)

GMS 6102 RESEARCH PLANNING AND METHODS (3) Topics presented in this course form the foundation of the research project selected by the student and aid in avoidance of problems associated with ill-conceived experimental design. (PR: GMS 6100C or CC)

Medicine

- GMS 6104 CELLULAR IMMUNOLOGY (3)** Current concepts of cellular interactions in the immune response. (PR: GMS 6100C or CC)
- GMS 6105 ADVANCES IN IMMUNOLOGY (2)** Detailed study of the cellular and biochemical events associated with the development and regulation of immunity and hypersensitivity. (PR: GMS 6100C or CC)
- GMS 6106 IMMUNOCHEMISTRY (3)** Advanced studies concerning the relationship between antigen and antibody molecules emphasizing chemical interactions. (PR: GMS 6100C or CC)
- GMS 6107 ADVANCES IN VIROLOGY (2)** The course covers molecular aspect of viral replication, the effects upon host macromolecular biosynthesis, and the molecular basis of viral oncogenic transformation. (PR: GMS 6100C or CC)
- GMS 6108 MICROBIAL PHYSIOLOGY AND GENETICS (2)** Microbial metabolic activities and genetic expression are discussed as they relate to the pathogenesis of infectious diseases. (PR: GMS 6100C or CC)
- GMS 6109 REGULATORY CONTROL MECHANISMS IN ANIMAL CELL SYSTEM (2)** Regulatory control mechanisms exhibited by procarovotic and eucarvotic systems are considered as they relate to cellular function. (PR: GMS 6100C or CC)
- GMS 6110 HOST-PARASITE INTERACTIONS (2)** Lectures and discussions concerned with properties of microorganisms that pertain to their virulence and with anatomic, physiologic, and biochemical alterations occurring in animal and human hosts in response to invasion by virulent microorganisms. (PR: GMS 6100C or CC)
- GMS 6417 ANIMAL RESEARCH METHODS (3)** Designed to inform student of human techniques, economics, housing of animals, aseptic surgical techniques, pre and post-operative care, selection of species, and legal responsibilities of investigator and institution involving federal laws governing use of animals in research. (PR: GMS 6100C or CC)
- GMS 6940 SUPERVISED TEACHING IN MEDICAL MICROBIOLOGY AND IMMUNOLOGY (1-3)** To instruct student in teaching methods that are employed in training of medical students; acquaint student with evaluation procedures used to measure academic progress of medical students. S/U. (PR: GMS 6100C or CC)
- GMS 7418 DIRECTED RESEARCH** Var. Rpt. S/U. (PR: Gr. Ph.D. level)
- GMS 7930 SELECTED TOPICS (1-3)** (PR: Departmental Core Course or CC)
- GMS 7939 GRADUATE SEMINAR (1)** (PR: Departmental Core Course or CC)
- GMS 7980 DISSERTATION: DOCTORAL** Var. S/U. (PR: Admission to Candidacy)

PATHOLOGY AND LABORATORY MEDICINE

Chairperson: D.T. Rowlands, Jr.; *Professors:* H.A. Azar, J.U. Balis, P. Byvoet, D.G. Halkias, S.V. Nicosia, D.T. Rowlands, Jr., P.J. Schmidt, J.V. Straumfjord, Jr.; *Associate Professors:* C.G. Espinoza, S.R. Saba, S.A. Shelley.

- GMS 6111 HUMAN SYSTEMIC PATHOLOGY (3)** Gross and microscopic study of specific disease states are covered. Lecture and reading assignments cover each organ system. (PR: GMS 6300C or CC)
- GMS 6112 BIOCHEMICAL PATHOLOGY (2)** Biochemical studies are conducted in attempts to correlate chemical alterations with morphologic changes in the pathogenesis of disease. (PR: GMS 6300C or CC)
- GMS 6113 IMMUNOPATHOLOGY (2)** Examination of tissues and the use of immunologic techniques in the diagnosis of disease are conducted. (PR: GMS 6300C or CC)
- GMS 6300C CORE COURSE IN PATHOLOGY (5)** The course covers fundamentals of general pathology. (PR: Admission to Ph.D. Program in Medical Sciences)
- GMS 6301 ADVANCED GROSS PATHOLOGY (2)** Daily examination of gross materials from autopsy and surgical specimens are conducted under supervision. (PR: GMS 6300C or CC)

GMS 6302 ADVANCED MICROSCOPIC PATHOLOGY (2) Daily examination of histologic materials from autopsy and surgical specimens are conducted under supervision. (PR: GMS 6300C or CC)

GMS 6303 ELECTRON MICROSCOPY OF DISEASE STATES (2) Techniques of electron microscopy are taught with an evaluation of normal tissues and organs as well as those in different diseases. (PR: GMS 6300C or CC)

PHARMACOLOGY AND THERAPEUTICS

Acting Chairperson: J.J. Krzanowski; *Professors:* J.J. Krzanowski, Jr., J.B. Polson, A. Szentivanyi; *Associate Professors:* R.G. Coffey, D.F. Fitzpatrick, J.F. Hackney, J.F. Williams.

GMS 6469 AUTONOMIC PHARMACOLOGY (2-4) Basic mechanisms relating to the organization and pharmacologic modification of normal and pathologic function of the autonomic nervous system (ANS). Original manuscripts which form the basis for a conceptual understanding of the ANS will be integrated with the current literature. Emphasis is placed on the adrenergic division. (PR: GMS 6400C, GMS 6200C, GMS 6500C or CC)

GMS 6500 CORE COURSE IN PHARMACOLOGY (5) A survey course designed to acquaint the student with some of the basic principles of pharmacology, major groups of drugs, and the effects of drugs on living systems. (PR: GMS 6200C, GMS 6400C or CC)

GMS 6501 THEORETICAL PHARMACOLOGY (3-6) An in-depth analysis of dose-response relationships, pharmacological receptor theory, molecular consequences of drug-receptor interactions, and pharmacological approaches to the characterization of receptor populations. (PR: GMS 6500C or CC)

GMS 6502 CLINICAL PHARMACOLOGY (3-6) Basic and clinical aspects of major pharmacologic agents with emphasis on analgesics, antibiotics, and cardiovascular drugs. (PR: GMS 6500C or CC)

GMS 6503 PHARMACOLOGY LABORATORY (1-3) This course is designed to familiarize students with selected research methods in pharmacology by participation in laboratory exercises designed and supervised by the faculty. (PR: GMS 6500C or CC)

GMS 6504 IMMUNOPHARMACOLOGY (2-4) A study of the physiology and pharmacology of cells of the immune system, including biochemistry of activation, immunotoxicology, and clinical applications of immunosuppression and immunostimulation. (PR: GMS 6500C, GMS 6500 or instructor's consent, or CC)

GMS 6505 PHARMACOLOGY OF BACTERIAL PRODUCTS (3-6) Study of Pharmacological mediators and the modulation of the non-specific and specific immune responses induced by bacterial products (exotoxins, endotoxins, peptidoglycans). (PR: GMS 6100C, GMS 6500C or CC)

GMS 6506 THE PHARMACOLOGY OF BIOLOGICAL MEMBRANES (3-6) An analysis of the effects of various agents on biological membranes, with special emphasis on substances which modify ion fluxes. (PR: GMS 6500C or CC)

GMS 6507 DRUG METABOLISM (2-4) The course is divided into two sections. The first section presents the basic theoretical and practical application of pharmacokinetics to drug research and therapy. The second section covers the phase I and phase II reactions involved in drug biotransformation. (PR: GMS 6500C or CC)

GMS 6508 DRUG ADDICTION, TOLERANCE AND PHYSICAL DEPENDENCE (2-3) Current concepts of biochemical and physiological mechanisms underlying tolerance and physical dependence will be emphasized for the various classes of compounds with addictive potential. Various methods of treating addiction will also be considered. (PR: GMS 6200C, GMS 6400C or CC)

GMS 6509 THE HISTORY OF PHARMACOLOGICAL THOUGHT (INVESTIGATION) (1-2) The development of the discipline of pharmacology from antiquity to the present will be explored. Contributions of key investigators and the history of the development of specific drug classes will be emphasized. (PR: GMS 6500C and CC)

Medicine

GMS 6510 TOXICOLOGY (3) Course material presents a survey of the area of toxicology. Principles of toxicological investigation, toxicology of the organ systems, and toxicology of various classes of intoxicants are presented. Laboratory work includes selected areas to demonstrate principles of toxicology. (PR: GMS 6500C and CC)

GMS 7418 DIRECTED RESEARCH Var. Rpt. S/U. (PR: Gr. Ph.D. level)

GMS 7930 SELECTED TOPICS (1-3) (PR: Departmental Core Course or CC)

GMS 7939 GRADUATE SEMINAR (1) (PR: Departmental Core Course or CC)

GMS 7980 DISSERTATION: DOCTORAL Var. S/U. (PR: Admission to Candidacy)

PHYSIOLOGY AND BIOPHYSICS

Chairperson: C.H. Baker; *Professors:* C.H. Baker, J.L. Brown, D.L. Davis, C. Edwards, B.G. Lindsey, D.G. Reynolds, R. Shannon, J. Sharp; *Associate Professors:* J.R. Dietz, S.J. Nazian, J.M. Price, P. Rao.

GMS 6400C CORE PHYSIOLOGY (5) A study of the physiologic principles and control mechanisms of the organ systems of the body. (PR: Admission to Ph.D. Program in Medical Sciences)

GMS 6401 KIDNEY, FLUIDS AND ELECTROLYTES (4) A study of the mechanisms controlling salt and water excretion, including both intrarenal and extrarenal factors regulating renal function. (PR: GMS 6400C or CC)

GMS 6402 RESPIRATION (4) Provides advanced graduate students insight into respiratory system function and includes an in-depth study of most areas of lung function and control. (PR: GMS 6400C or CC)

GMS 6403 ENDOCRINE MECHANISMS (4) An examination of current concepts of endocrine and neuroendocrine systems. Emphasis will be placed on control at the organismal and organ system levels. (PR: GMS 6400C or CC)

GMS 6404 SYSTEMS NEUROPHYSIOLOGY (4) Considers current topics in systems neurophysiology, including sensory processing, motor control, and learning. Literature in both invertebrate and vertebrate animal models and neural network simulations is considered. (PR: GMS 6400C or CC)

GMS 6407 SMOOTH AND SKELETAL MUSCLE (4) Covers mechanisms of contraction and their relationship of mechanical behavior in skeletal muscle and smooth muscle. New theories of contraction will be presented. Laboratory work on smooth muscle mechanics will be required. (PR: GMS 6400C or CC)

GMS 6409 PERIP/CIRCUL/HEMODY (4) A study of the hemodynamic principles controlling flow, capillary exchange, and control mechanisms at the small blood vessel level in different vascular beds. (PR: GMS 6400C or CC)

GMS 6410 CARDIOVASCULAR REGULATION (4) A study of the hemodynamic principles controlling cardiac output, pressure-flow relationships, and venous return in the pulmonary and systemic circulations. (PR: GMS 6400C or CC)

GMS 6413 PHYSIOL/BASES/CARDIO (4) A study of the factors involved in cardiac-output and its control. (PR: GMS 6400C or CC)

GMS 7418 DIRECTED RESEARCH Var. Rpt. S/U. (PR: Gr. Ph.D. level)

GMS 7930 SELECTED TOPICS (1-3) (PR: Departmental Core Course or CC)

GMS 7939 GRADUATE SEMINAR (1) (PR: Departmental Core Course or CC)

GMS 7980 DISSERTATION: DOCTORAL Var. S/U. (PR: Admission to Candidacy)

College Of Natural Sciences

ASTRONOMY

Director: C.A. Williams; *Professor:* C.A. Williams (Mathematics Department); *Visiting Professor:* G. Hammond (Mathematics Department).

AST 5506 INTRODUCTION TO CELESTIAL MECHANICS (3) The two-body problem, introduction to Hamiltonian systems and canonical variables, equilibrium solutions and stability, and elements of perturbation theory. (PR: MAC 3313 or MAC 3283 and some knowledge of differential equations or Cl)

AST 5932 SELECTED TOPICS IN ASTRONOMY (1-5) Intensive coverage of special topics to suit needs of advanced students. (PR: Senior or advanced junior standing or Cl)

BIOLOGY

Chairperson: M.R. Alvarez; *Professors:* M.R. Alvarez, B.C. Cowell, C.J. Dawes, F.E. Friedl, G.W. Hinsch, J.M. Lawrence, D.V. Lim, R.L. Mansell, J.T. Romeo, W.S. Silver, S.L. Swihart, G.E. Woolfenden; *Associate Professors:* G.W. Arendash, S.S. Bell, B.J. Cochrane, F.B. Essig, E.D. McCoy, H.R. Mushinsky, M.J. Saunders, D. TeStrake, R.P. Wunderlin; *Assistant Professors:* D. Dunigan, S. Edwards, P. Motta, G.J. Stewart; *Courtesy Faculty Professor:* J.N. Layne.

BSC 5931 SELECTED TOPICS IN BIOLOGY (1-3) Each topic is a course in directed study under supervision of faculty member.

BSC 6907 INDEPENDENT STUDY Var. Independent study in which student must have a contract with an instructor. Rpt. S/U. (PR: Cl and CC)

BSC 6910 DIRECTED RESEARCH Var. ML. Rpt. S/U.

BSC 6932 SELECTED TOPICS IN BIOLOGY (1-4) (PR: Cl and CC)

BSC 6935 GRADUATE SEMINAR IN BIOLOGY (1) S/U. (PR: Cl and CC)

BSC 6945 GRADUATE INSTRUCTION METHODS (1-3) Special course to be used primarily for the training of teaching assistants. Rpt. to a total of 4 credits per student. (S/U only). (PR: Cl and CC)

BSC 7912 DIRECTED RESEARCH Var. Ph.D. level. Rpt. S/U. (PR: Cl and CC)

BSC 7980 DISSERTATION: DOCTORAL Var. Admission to Candidacy. S/U. (PR: Cl and CC)

PCB 5115C CYTOGENETICS (3) Survey of the structure and function of cytoplasmic and nuclear components of plant and animal cells. Lec/Lab. (PR: PCB 4023C)

PCB 5235C PRINCIPLES OF IMMUNOLOGY (3) Course will emphasize the biological principles involved in the vertebrate immune response. It will present the homeostatic, defense, and detrimental aspects of the immune system in terms of basic cellular and molecular mechanisms. Techniques will be described to familiarize the student with the types of immunological tools available to the cellular and molecular biologist. (PR: MCB 3010C)

PCB 5415 BEHAVIORAL ECOLOGY (3) An emphasis on the evolutionary mechanisms that influence an organism's behavioral responses to environmental events. The theoretical framework is presented and analyzed. Intended for majors. (PR: ZOO 2010 and PCB 4043)

PCB 5525C MOLECULAR GENETICS (3) Detailed examination of DNA, RNA, and protein synthesis; the effects of mutations on proteins, cellular control; selected aspects of viral, bacterial, and fungal genetics. (PR: PCB 3063)

PCB 5615 EVOLUTIONARY GENETICS (3) Study of factors, such as mutation, natural selection, and genetic drift that modify the genetic structure of populations. (PR: PCB 3063)

PCB 5835C NEUROPHYSIOLOGY (3) A comparative analysis of the physiology and evolution of nervous systems and sensory mechanisms. (PR: PCB 4023C)

PCB 5845 PRINCIPLES OF NEUROSCIENCE (3) Study of the mammalian brain's structure and function, with an emphasis on the neuroanatomy, neuropharmacology, and neurophysiol-

Natural Science

ogy of the human brain. Topics include brain imaging, dementia, and mechanisms of learning/memory. Brain research techniques are also discussed, as are basic neuropathological processes that result in abnormal brain function. (PR: PCB 4743C and GS, or CI)

PCB 6176C ULTRASTRUCTURE TECHNIQUES IN ELECTRON MICROSCOPY (4) Discussion of theory and techniques in electron microscopy. Emphasis on preparation of biological microscope. Lec/Lab. (PR: PCB 4023C and CI and CC)

PCB 6405 CHEMICAL ECOLOGY (3) A broad introduction to the biochemistry of plant and animal interactions. Emphasis on the roles of secondary metabolites, such as alkaloids, flavonoids, and terpenes in the complex animal/animal, animal/plant, plant/plant, and plant/microorganism interactions occurring in natural and terrestrial and aquatic environments. (PR: PCB 4043 and CHM 3200)

PCB 6426C POPULATION BIOLOGY (3) Introduction to population dynamics with emphasis on the ecological components of growth, competition, and predation. (PR: PCB 4043C)

PCB 6456C BIOMETRY (3) An introduction to statistical procedures for research in biological sciences. Experimental design, analysis of data, and presentation of results are emphasized. Lec/Dis. (PR: MAC 2243 and MAC 2244)

PCB 6458 BIOMETRY II (3) Fundamental concepts in the design of experiments for biological research. Factorial experiments, multiple regression analyses, analyses of covariance and SAS computer programs are emphasized. Lec/Lab. (PR: PCB 6456C or CI)

BOTANY

BOT 5156 TAXONOMY OF FLORIDA VASCULAR PLANTS (3) Identification of native and naturalized vascular plants of Florida; species composition of major plant communities. Field trips emphasized. Lec/Lab. (PR: BOT 3143C, BOT 4713C, or CI)

BOT 5185C MARINE BOTANY (3) A field course in marine plants with emphasis on ecology and functional morphology. Field work will stress the ecological aspects of plants in a subtropical marine environment in Florida. Lec/Lab. (PR: BOT 2010C and PCB 4043C)

BOT 5605 PLANT ECOLOGY (3) An introduction to principles of Physiological Ecology, Population Biology, and Community Ecology as applied to plants. Field investigations of Florida plant communities. Lec/Field trip. (PR: BOT 2010C and PCB 4043C)

BOT 5725C EVOLUTION OF FLOWERING PLANTS (3) A phylogenetic study of Angiosperms; relationship of the principal orders and families, problems of nomenclature, identification of specimens, comparisons of recent systems of classification, and dissection of representative flower types. Field trips and lab work. Lec/Lab. (PR: BOT 4713C)

BOT 6716C BIOCHEMICAL SYSTEMATICS (4) Application of Cytology, Ecology, Genetics, Biochemistry, and Morphological Analysis to the study of evolution and classification of species of higher plants. Lec/Lab. (PR: BOT 3713C or equiv.)

BOT 6916 INDEPENDENT STUDY Var. Independent study in which students must have a contract with an instructor. Rpt. S/U. (PR: CI and CC)

BOT 6971 THESIS: MASTER'S Var. Rpt. S/U. (PR: CI and CC)

MICROBIOLOGY

APB 5575C MEDICAL MYCOLOGY (4) Survey of the yeasts, molds, and actinomycetes most likely to be encountered by the bacteriologist, with special emphasis on the forms pathogenic for man. (PR: MCB 3010C)

MCB 5206 PUBLIC HEALTH AND PATHOGENIC MICROBIOLOGY (3) A comprehensive survey of pathogenic microbes responsible for disease in man and animals and the impact of these infectious agents on the public health. These pathogens will be studied with respect to their morphology, cultivation, mechanisms of pathogenicity, laboratory diagnosis, and epidemiology. (PR: MCB 3010C)

MCB 5605 MICROBIAL ECOLOGY (4) A study of the theory and methodology of the quantification of microbial processes in natural habitats with special emphasis on aquatic and terrestrial systems. Lec/Lab. (PR: MCB 3010C)

MCB 5606 SYMBIOLOGY (3) Consideration of mutualistic and parasitic symbioses between microbes and various animal, plant, and microbic hosts from cellular, biochemical, evolutionary, and ecological perspectives. (PR: A course in Microbiology, Cell Biology, or Biochemistry, and advanced standing)

MCB 6459 ADVANCED TOPICS IN CHEMICAL MICROBIOLOGY (2) An in-depth study of metabolic and physiological phenomena associated with microorganisms, especially bacteria, including: growth, regulations, unique metabolic traits, morphogenesis, cell division, cell death, and survival mechanisms. (PR: MCB 4404, Biochemistry)

MCB 6919 INDEPENDENT STUDY Var. Independent study in which student must have a contract with an instructor. Rpt. S/U. (PR: CI and CC)

MCB 6971 THESIS: MASTER'S Var. Rpt. S/U. (PR: CI and CC)

PCB 6236 ADVANCED IMMUNOLOGY (4) Discussion of the basic immune reaction and nature of antigenicity; basic immunological techniques and their use in biological research and the medical sciences. Lec/Lab. (PR: CI)

ZOOLOGY

ENY 5505 AQUATIC ENTOMOLOGY (3) Taxonomy, development, and ecology of aquatic insects with emphasis on local forms. Lec/Lab. (PR: ENY 3004 or CI.)

PCB 5306C LIMNOLOGY (4) An introduction to the physical, chemical, and biological nature of fresh water environments. Lec/Lab. (PR: CI and CC)

PCB 6376C PHYSIOLOGICAL ECOLOGY (4) Effect of environmental factors on animal function at the cellular and organ system level with emphasis on control and mechanism. Lec/Lab. (PR: CI and CC)

ZOO 5235C PARASITOLOGY (4) Fundamentals of animal parasitology and parasitism, the biology of selected animal parasites, including those of major importance to man. Lec/Lab.

ZOO 5425C HERPETOLOGY (4) Major aspects of amphibian and reptilian biology emphasizing fossil history, evolutionary morphology, sensory physiology, life history, and reproductive behavior. Lec/Lab. Field trip. (PR: ZOO 3713C, CI, and CC)

ZOO 5475C ORNITHOLOGY (4) The biology of birds. Field trips emphasize local avifauna. Lec/Lab. (PR: ZOO 2010C)

ZOO 5555C MARINE ANIMAL ECOLOGY (4) Study of energy, flow, biogeochemical cycles, and community structure in marine environments. Lec/Lab. (PR: PCB 4043C, and ZOO 3203C)

ZOO 5815C BIOGEOGRAPHY (3) Principles and general patterns of terrestrial and marine animal and plant distributions. (PR: One year major in Biology)

ZOO 6907 INDEPENDENT STUDY Var. Independent study in which student must have a contract with an instructor. Rpt. S/U. (PR: CI and CC)

ZOO 6971 THESIS: MASTER'S Var. Rpt. S/U. (PR: CI and CC)

CHEMISTRY

Chairperson: S.W. Schneller; *Associate Chairpersons:* J.C. Davis, Jr. (Undergraduate), and D.F. Martin (Graduate); *Assistant Chairperson:* T.M. Oestreich; *Research Professor:* R.N. Castle, B. Stevens; *Professors:* J.S. Binford, Jr., R.S. Braman, J.C. Davis, Jr., J.E. Fernandez, G.R. Jurch, Jr., L. Mandell, D.F. Martin, P.C. Maybury, G.G. Meisels, G.R. Newkome, E.D. Olsen, T.C. Owen, D.J. Raber, S.W. Schneller, J.H. Worrell; *Associate Professors:* S.H. Grossman, M.D. Johnston, Jr., R.M. O'Malley, J.A. Stanko, J.E. Weinzierl, G.R. Wenzinger, E. Wickstrom; *Assistant Professors:* A.T. D'Agostino, R.L. Potter, T.B. Scheffler.

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- BCH 5045 BIOCHEMISTRY CORE COURSE (3)** A one-semester survey course in Biochemistry for graduate students in Chemistry, Biology, and other appropriate fields and for particularly well-qualified undergraduates. Lec. (PR: Either CHM 3211, CHM 3211L, and CHM 3400 or CHM 4410 or GS)
- BCH 6066 GENERAL BIOCHEMISTRY I (3)** First semester of a rigorous two-semester General Biochemistry course for Chemistry and Biology students whose primary interests are in this field. Lec. (PR: BCH 5045 or CI)
- BCH 6067 GENERAL BIOCHEMISTRY II (3)** Continuation of BCH 6066. Lec. (PR: BCH 6066)
- BCH 6706 ADVANCED BIOCHEMISTRY II: BIOORGANIC MECHANISMS (3)** A study of biochemical systems with emphasis on mechanisms of biological reaction. Lec. (PR: BCH 6067 or CI)
- CHM 5225 INTERMEDIATE ORGANIC CHEMISTRY (3)** This course will extend Organic Chemistry beyond the undergraduate level and will emphasize concepts of stereochemistry and reaction mechanisms. (PR: CHM 3211, CHM 3211L, or equiv.)
- CHM 5226 INTERMEDIATE ORGANIC CHEMISTRY II (3)** An introduction to synthetic organic chemistry for graduate and undergraduates. Lec. Semester II. (PR: CHM 5225 or CI)
- CHM 5425 APPLICATIONS IN PHYSICAL CHEMISTRY (3)** Applications of chemical theory to chemical systems. (PR: CHM 4412)
- CHM 5452 POLYMER CHEMISTRY (3)** Fundamentals of polymer synthesis, structure, properties, and characterization. (PR: Either CHM 3211, CHM 3211L, and CHM 3400 or CHM 4410 or GS)
- CHM 5621 PRINCIPLES OF INORGANIC CHEMISTRY (3)** Chemical forces, reactivity, periodicity, and literature in organic chemistry; basic core course. Lec. (PR: CHM 4411 or CI)
- CHM 5931 SELECTED TOPICS IN CHEMISTRY (1-3)** The following courses are representative of those that are taught under this title: Natural Products, Stereochemistry, Reactive Intermediates, Photochemistry, Instrumental Electronics, Advanced Lab Techniques, Heterocyclic Chemistry, etc. (PR: CI)
- CHM 6150 ADVANCED ANALYTICAL CHEMISTRY (3)** A study of complete analytical process, including sample handling, separations, the analysis step, and statistical interpretation of data. Emphasis placed on separations and statistics. Lec. (PR: CI)
- CHM 6153 ELECTROCHEMISTRY (3)** Introduction to the theory of ionic solutions and electrode processes. Theory, applications, and electrochemical measurements. Lec. (PR: CI)
- CHM 6250 ADVANCED ORGANIC CHEMISTRY I: SYNTHESIS (3)** Detailed consideration of modern synthetic methods. Lec. (PR: CHM 5225)
- CHM 6260 ADVANCED ORGANIC CHEMISTRY II: PHYSICAL-ORGANIC (3)** Organic reaction mechanisms emphasizing the interpretation of experimental data. Lec. (PR: CHM 5225)
- CHM 6280 ADVANCED ORGANIC CHEMISTRY III: NATURAL PRODUCTS (3)** A study of any of several of the following topics: terpenes, steroids, vitamins, alkaloids, porphyrins, purine, and antibiotics. (PR: CHM 5225 or CI)
- CHM 6440 CHEMICAL KINETICS (3)** Theory and methods for the study of reaction rates and the elucidation of reaction mechanisms. Lec. (PR: CI)
- CHM 6460 STATISTICAL THERMODYNAMICS (3)** Application of statistical mechanics to thermodynamics; relation of molecular structure to thermodynamic properties. Lec. (PR: CI)
- CHM 6480 QUANTUM CHEMISTRY (3)** Introduction to elementary quantum mechanism. Atomic structure and spectra. Lec. (PR: CI)
- CHM 6625 CHEMISTRY OF THE LESS FAMILIAR ELEMENTS (3)** An integrated treatment of the conceptual and factual aspects of the traditionally less familiar elements, including

noble gas elements, unfamiliar non-metals, alkali, and alkaline-earth metals and the transition elements. Lec. (PR: Cl)

CHM 6650 STRUCTURAL INORGANIC CHEMISTRY (3) Modern theories of bonding and structure of inorganic compounds, including coordination theory, stereo-chemistry, solution equilibria, kinetics, mechanisms of reactions, and use of physical and chemical methods. Lec. (PR: CHM 5621 or Cl)

CHM 6907 INDEPENDENT STUDY Var. Independent study in which students must have a contract with an instructor. Rpt. S/U.

CHM 6935 GRADUATE SEMINARS IN CHEMISTRY (1) Required every semester (when offered) for all students enrolled in Chemistry graduate program. Requires participation in and attendance at the weekly departmental seminar. Must be repeated. S/U. (PR: Admission to graduate program in Chemistry)

CHM 6936 CHEMISTRY COLLOQUIUM (1) Frequent (usually weekly) small-group analysis of current developments. Rpt to a total of 10 hours. S/U. (PR: Admission to graduate program in Chemistry)

CHM 6938 SELECTED TOPICS IN CHEMISTRY (1-3) Representative titles taught include: Symmetry and Group Theory, Photochemical Kinetics, Quantum Mechanical Calculations, Advanced Chemical Thermodynamics, Reaction Mechanisms, Advanced Instrumentation, Separations and Characterizations, Spectroscopy, etc. (PR: Cl)

CHM 6946 GRADUATE INSTRUCTION METHODS (1-4) Special course for the training of teaching assistants. Var. Rpt. to a total of 5 hours. S/U.

CHM 6971 THESIS: MASTER'S Var. Rpt. S/U. (PR: GR. ML)

CHM 6973 DIRECTED RESEARCH Var. Rpt. S/U. (PR: GR. ML)

CHM 7820 DIRECTED RESEARCH Var. Rpt. S/U. (PR: GR. Ph.D. level)

CHM 7980 DISSERTATION: DOCTORAL Var. S/U. (PR: Admission to Candidacy)

GEOLOGY

Chairperson: M.T. Stewart; *Graduate Research Professor:* R.A. Davis, Jr.; *Professors:* M.T. Stewart, S.B. Upchurch; *Associate Professors:* M.J. Defant, R.N. Strom, H.L. Vacher; *Assistant Professors:* W.D. Allmon, R.J. Hooper, B.W. Nocita, L.L. Robbins.

GLY 5241 GENERAL GEOCHEMISTRY (3) Age, formation, and evolution of the earth with the application of basic chemical concepts and processes that govern the distribution of elements in geologic environments. (PR: One year college Chemistry, GLY 4200, or Cl)

GLY 5245 ANALYTICAL TECHNIQUES IN GEOLOGY (4) Use and application of modern analytical methods including X-ray, atomic absorption, and other geochemical techniques. Interpretation and statistical analysis of data acquired. Lec/Lab. (PR: One year college Chemistry, GLY 4220, or Cl)

GLY 5310 IGNEOUS AND METAMORPHIC PETROLOGY (4) Systematic study of igneous and metamorphic rocks and complexes, including origin, composition, and classification. Use of the polarizing microscope for thin section analysis will be emphasized, and other modern methods of study will be employed. Lec/Lab. (PR: GLY 4220)

GLY 5450 PRINCIPLES OF APPLIED GEOPHYSICS (4) Elementary treatment of gravimetric, magnetic, electric, and seismic geophysical techniques as applied to site investigation and mineral deposits. Lec/Lab. Field trips. (PR: Senior standing, and one year of Physics or Cl)

GLY 5752 GEOLOGICAL FIELD EXCURSION (2) Lectures and 2-3 week field excursion to study regional geology, structure and lithogenesis of geologically complex terrain. Mapping and out-crop description techniques are emphasized. Destination of trip varies. Trip requires camping and vigorous physical activity. Lec. Field trip. (PR: GLY 3400, GLY 4550, and GLY 4750)

GLY 5825 ADVANCED HYDROGEOLOGY (4) Flow systems, analytical and numerical solutions to ground water flow problems. Emphasis on the theoretical aspects of ground water flow

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- systems and their interaction with the geologic framework. Lec/Lab. Field trips. (PR: GLY 4820, MAC 3282 or MAC 3412 or C)
- GLY 5890 STATISTICAL MODELS IN GEOLOGY (3)** Application of statistical methods to geological problems. Emphasis on sampling plans, nature of geologic distributions, and application of analyses of variance to solving geological problems. Lec. (PR: STA 3023 or equiv. or C)
- GLY 5932 SELECTED TOPICS IN GEOLOGY (1-4)** Each topic is a course in directed study under supervision of a faculty member. All areas of geology included. Departmental permission required prior to registration. (PR: Senior or advanced junior standing and CC)
- GLY 6250 CLAY MINERALOGY (3)** Composition, structures, origin, and diagenesis of clay minerals. Identification of clay minerals by X-ray diffraction techniques. (PR: GS or C)
- GLY 6290 SEDIMENTARY GEOCHEMISTRY (3)** Fundamentals of aqueous geochemistry in relation to chemical and biochemical precipitation of sedimentary materials. Geochemistry of fluids with emphasis on diagenesis. (PR: GLY 5241 or C)
- GLY 6345 SEDIMENTARY PETROGRAPHY (4)** Classification, petrographic description, and interpretation of sedimentary rocks, including depositional environments and diagenesis. Lec/Lab.
- GLY 6410 GEOLOGY OF NORTH AMERICA (2)** Regional structure, stratigraphy, and history of North America. (PR: GS or C)
- GLY 6420 GLOBAL TECTONICS (2)** Development of the global tectonic hypothesis, modern global tectonic theory, and application of the theory in selected regions of the earth. (PR: GS or C)
- GLY 6553 FACIES MODELS (3)** Characterization of facies models for stratigraphic sequences representing terrestrial, transitional, and marine sedimentary environments. Emphasis on textures, structures, and composition of strata and their environmental interpretation in the rock record. (PR: GLY 4550 or equiv.)
- GLY 6575 COASTAL SEDIMENTATION (3)** Study of modern coastal sedimentary environments with emphasis on beaches, inlets, deltas, estuaries, and marshes. Analysis of sedimentary process and resulting morphology of sediment bodies. Lec/Lab. Field trips. (PR: GLY 4555 or equiv.)
- GLY 6735 SELECTED TOPICS IN GEOLOGY (1-4)** Rpt. (PR: C)
- GLY 6828 GROUND-WATER GEOCHEMISTRY (3)** Chemical behavior of ground water. Includes interaction of water with aquifer materials, salt-water intrusion, chemical impacts of waste disposal, use of chemical tracers, and transport of hazardous chemicals. Methods of sampling and data interpretation are emphasized. Lec. (PR: One year of college Chemistry, GLY 4820, GLY 5241, or C)
- GLY 6905 INDEPENDENT STUDY** Var. Independent study in which student must have a contract with an instructor. Rpt. S/U.
- GLY 6910 DIRECTED RESEARCH** Var. Rpt. S/U. (PR: GR. ML)
- GLY 6931 GRADUATE SEMINAR (1)** Rpt. S/U. (PR: CC)
- GLY 6933 ADVANCED TOPICS IN GEOLOGY (2)** Current topics in Geology. Rpt. (PR: GS)
- GLY 6971 THESIS: MASTER'S** Var. Rpt. S/U.

MARINE SCIENCE

Chairperson: P.R. Betzer; *Professors:* P.R. Betzer, N.J. Blake, J.C. Briggs, R.H. Byrne, K.L. Carder, L.J. Doyle, K.A. Fanning, G.R. Gust, A.C. Hine, T.L. Hopkins, P.H. Muller, W.M. Sackett, E.S. Van Vleet, J.J. Walsh, R.H. Weisberg; *Associate Professors:* B. Galperin, J.H. Paul, J.J. Torres, G.A. Vargo; *Assistant Professors:* J.S. Compton, D.F. Naar, F.E. Muller-Karger, R.R. Wilson.

- OCB 5050 BIOLOGICAL OCEANOGRAPHY (3)** Study of life in the sea with reference to distribution, reproduction, adaptation, competition, and populations. Lec/Lab. (PR: GS, CI)
- OCB 6567 PHYTOPLANKTON ECOLOGY (3)** An introduction to the physiology and ecology of marine phytoplankton. Emphasis will be on those variables and interactions that regulate photosynthesis, production, nutrient kinetics, and regeneration, growth, spatial distribution, losses, and succession. (PR: B.S. in Biology, OCB 5050, or CI)
- OCB 6567L METHODS IN PHYTOPLANKTON ECOLOGY (3)** Laboratory and field procedures for identification, culture techniques, enumeration, growth and nutrient uptake rates, photosynthesis, biomass estimates, enzyme kinetics, etc. will be covered. Practical application of the techniques will be made in class-designed experiments and/or a 5-10 day research cruise. (PR: B.S. in Biology, OCB 5050, or CI)
- OCB 6646 MARINE ZOOGEOGRAPHY (3)** The geographical distribution of animals in the marine environments of the world, including the major habitats of the benthic and pelagic realms. Studies of the relationships between distributional and evolutionary patterns. (PR: B.S. in Biology, OCB 5050, or CI)
- OCB 6666 ECOLOGICAL PHYSIOLOGY (3)** The study of those physiological mechanisms that enable organisms to live in their environment, and deal with changes in the environment. Course work is focused on aquatic ectotherms. Topics include osmotic and ionic regulation nitrogen excretion, feeding and digestion, respiration, temperature, and energetics. Lab separate. (PR: B.S. in Biology, 1 year general and Organic Chemistry, OCB 5050, or C)
- OCB 6671 METHODS IN BIOLOGICAL OCEANOGRAPHY (1)** To acquaint students with field and laboratory equipment and techniques currently used in Biological Oceanography. Emphasis will be on field problems, especially those requiring research at sea. (PR: CI)
- OCB 6931 SPECIAL TOPICS IN ICHTHYOLOGY (1-3)** Presentation and discussion of ichthyological topics from the primary literature. The objectives of this course are: (1) to review and discuss the primary literature on ichthyological topics, both current and historical; (2) to provide a forum in which students can develop discussion skills; (3) to identify, through examination of the literature, areas of needed research; (4) to provide a means by which graduate students can receive formal course instruction in a non-lecture format. (S/U only) (PR: ZOO 5456C, GS or CI)
- OCC 5050 CHEMICAL OCEANOGRAPHY (3)** The ocean as a chemical system, including composition, physical-chemical aspects, role of nutrients, trace metals, interaction between bottom and overlying water, modern methods of analysis in routine use in oceanography. Lec/Lab. (PR: CHM 2046 and CI)
- OCC 5067 MARINE POLLUTION (3)** Marine pollutant sources, reservoirs, transport processes, and dynamics. Topics include heavy metals, chlorinated hydrocarbons, radioactivity, petroleum, pathogens, and thermal pollution, including functional and physiological responses of marine organisms. (PR: OCC 5050 or CI)
- OCC 6057 METHODS IN CHEMICAL OCEANOGRAPHY (1)** An intensive study of the use and limitations of field and laboratory equipment that is a standard part of chemical oceanographic research into the behavior of dissolved and particulate constituents in seawater. (PR: OCC 5050 or CI)
- OCC 6216 MARINE ORGANIC CHEMISTRY (3)** Distribution and biogeochemical cycling of organic matter in the oceans. Topics include carbohydrates, proteins, lipids, humics, pheromones, interaction with trace metals, isotopic fractionation, microbial alternations, and biochemical tracers. (PR: B.S. in Biology or Chemistry, Biochemistry, OCC 5050 or CI)
- OCE 6908 INDEPENDENT STUDY** Var. Independent study in which students must have a contract with an instructor. Rpt. S/U.
- OCE 6934 SELECTED TOPICS IN OCEANOGRAPHY (1-3)** Special topics in Biological, Chemical, Geological, and Physical Oceanography. (PR: CI)
- OCE 6939 GRADUATE SEMINAR IN OCEANOGRAPHY (1)** Rpt. S/U. (PR: GS)

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OCE 6942L FIELD STUDIES IN MARINE SCIENCE (3) Combination of classroom study with the collection, analysis, and interpretation of field data to attack specific problems in marine science both for deep sea and near shore environments. (PR: One of the following: OCE 5050, OCE 6671, OCC 5050, OCC 6057, OCG 6075, OCP 5051, OCP 6056, OR CI)

OCE 6971 THESIS: MASTER'S Var. Rpt. S/U.

OCE 6972 DIRECTED RESEARCH Var. Rpt. S/U. (PR: GR. ML)

OCE 7910 DIRECTED RESEARCH Var. Rpt. S/U. (PR: GR. Ph.D. level)

OCE 7980 DISSERTATION: DOCTORAL Var. S/U. (PR: Admission to Candidacy)

OCG 5050 GEOLOGICAL OCEANOGRAPHY (3) An introduction to the physical, historical sedimentary, and structural geology of the ocean basins and their borders. Lec/Lab. (PR: GS or CI)

OCG 5455 MARINE ISOTOPE GEOCHEMISTRY (3) Study of stable and radioactive isotope variations in the marine environment and the use of these variations as tracers and in determining ages, rates, and paleoclimatic conditions. (PR: Chemical Oceanography or CI)

OCG 6075 METHODS IN GEOLOGICAL OCEANOGRAPHY (1) Description and application of the modern techniques used to investigate Geology and Geophysics. (PR: OCG 5050 or CI)

OCG 6086 GEOLOGY OF CONTINENTAL MARGINS (3) Analysis of tectonic, structural and stratigraphic development and general geologic history of the major types of continental margins. Includes interpretation of seismic data. (PR: B.S. in Geology, OCG 5050, or CI)

OCG 6356C STRATIGRAPHIC INTERPRETATION OF SEISMIC DATA (3) Study of seismic reflection data for the purpose of determining structural and sedimentological development, facies distribution, and general geological history of stratigraphic packages. Course includes fundamentals of seismic reflection and depositional sequence/seismic facies analyses. (PR: B.S. in Geology, OCG 5050, or CI)

OCG 6551C SCANNING ELECTRON MICROSCOPY: THEORY AND TECHNIQUE (4) Theory and practical application of the scanning electron microscope and the energy dispersive X-ray analyzer. Emphasis is on independent operation of the instruments, preparation techniques for specimens, and interpretation of results. (PR: GS, one year Physics, or CI)

OCG 6656C MARINE MICROPALAEONTOLOGY (4) Introduction to the microscopic marine fauna and flora, found in the fossil sedimentary record. Emphasis is placed on the ecology, paleoecology, paleontology, and biostratigraphic record of calcareous and siliceous microfossils. (PR: B.S. in Geology or Biology, OCG 5050, or CI)

OCG 6660 MARINE PALEOECOLOGY (3) Interpretation of the relationships between ancient organisms and their environment with emphasis on the substrate. Applications of modern benthic marine environments and sediment-organism relationships to fossil record. (PR: Background in sedimentology, paleontology or marine ecology, or CI)

OCG 6664 PALEOCEANOGRAPHY (3) The study of the development of the ocean system through geologic history, including study of the tectonic framework, sea level history, paleoclimatology, paleocirculation within the ocean basins, and the evolution of marine biotas. Not Rpt. S/U. (PR: OCB 5050, OCC 5050, OCG 5050, and OCP 5051, or CI)

OCP 5051 PHYSICAL OCEANOGRAPHY (3) The world ocean including its morphology, physical properties, currents, waves, tides, heat budget, and related topics. Lec/Lab. (PR: GS, CI, PHY 3042)

OCP 6056 METHODS IN PHYSICAL OCEANOGRAPHY (1) Field and laboratory techniques for acquisition, reduction, display and discussion of physical oceanographic data (e.g., waves, tides, currents, dissolved, and suspended constituents). (PR: MAC 3413, OCC 5050 or OCP 5051, and CI)

PCB 6476 DYNAMICS OF MARINE BENTHIC COMMUNITIES (3) Theoretical approach to the study of benthic communities in fluctuating and constant environments. Methods of analysis of benthic data will be evaluated and discussed. Computer programs will be utilized for analysis wherever possible. Lec/Lab. (PR: EGN 2210, ZOO 5555C, or CI)

ZOO 5456C ICHTHYOLOGY (4) Evolution, stematics, and ecology of fishes. (PR: CI or Senior or GS; BSC 2010C, BSC 2012; PCB 4674 and ZOO 3713C suggested.)

ZOO 6256 ZOOPLANKTON BIOLOGY (4) The taxonomy and biology of marine zooplankton with emphasis on tropical-subtropical fauna. (PR: B.S. in Biology, OCB 5050, or CI)

MATHEMATICS

Chairperson: K.L. Pothoven; *Distinguished Service Professor:* A.W. Goodman; *Graduate Research Professor:* E.B. Saff; *Professors:* W.E. Clark, M.E.H. Ismail, A.G. Kartsatos, S.J. Lee, J.J. Liang, Y.F. Lin, M.N. Manougian, A. Mukherjee, A.N.V. Rao, J.S. Ratti, V. Totik, C.P. Tsokos; *Associate Professors:* R.W.R. Darling, S. Isaak, S.Y. Lin, M.M. McWaters, R.K. Nagle, M.E. Parrott, K.L. Pothoven, J.H. Reed, B. Shekhtman, W.R. Stark, E.A. Thieleker, C.A. Williams, F.J. Zerla; *Assistant Professors:* G.L. McColm, R.W. Oberste-Vorth, J.F. Pedersen, K.M. Ramachandran, W.E. Williams.

MAA 5306 REAL ANALYSIS I (3) Metric spaces, limits, continuity, differentiation, convergence, Riemann-Stieltjes integration, Lebesgue, measure and integration on the real line. (PR: MAA 4212)

MAA 5307 REAL ANALYSIS II (3) Continuation of MAA 5306. (PR: MAA 5306)

MAA 5405 APPLIED COMPLEX ANALYSIS (3) Complex numbers, analytic and harmonic functions. Series. Contour integrals, residue theory. Conformal mappings. (A survey course emphasizing techniques and applications.) (PR: CI)

MAA 5406 TOPICS IN COMPLEX ANALYSIS (3) Univalent and multivalent functions, entire functions, approximation theory in the plane. (PR: MAA 5405)

MAA 6406 COMPLEX ANALYSIS (3) Theoretical development of analytic functions, harmonic functions, conformal mapping, power series, contour integrations, and residue theory. (PR: MAA 5307 or CI)

MAA 6506 INTRODUCTION TO FUNCTIONAL ANALYSIS I (3) Linear topological spaces, normed linear spaces, Hahn-Banach Theorem, theorems on linear operators, and dual spaces. (PR: MAA 6616)

MAA 6507 INTRODUCTION TO FUNCTIONAL ANALYSIS II (3) Continuation of MAA 6506. (PR: MAA 6506)

MAA 6616 MEASURE AND INTEGRATION I (3) Abstract measure and integration in sigma rings, application to Euclidean spaces, Fubini's Theorem, Radon-Nikodym Theorem, and L_p spaces. (PR: MAA 5307)

MAA 6617 MEASURE AND INTEGRATION II (3) Continuation of MAA 6616. (PR: MAA 6616)

MAD 5101 LISP: PROGRAMMING WITH ALGEBRAIC APPLICATIONS (3) The algebraic language LISP is introduced. The course covers (1) programming in LISP, (2) functional languages, (3) foundations of the Lambda Calculus, and (4) algebraic applications in artificial intelligence (theorem proving and game playing.) (PR: Programming experience or CI)

MAD 5305 INTRODUCTION TO GRAPH THEORY (3) Brief introduction to classical graph theory (4-color theorem, etc.), directed graphs, connected digraphs, condensations, incidence matrices, Pólya's Theorem, and networks. (PR: CI)

MAD 6407 ANALYSIS OF NUMERICAL METHODS (4) Iterative solution of nonlinear equations. Approximation theory. Numerical differentiation and integration. Solution of ordinary and partial differential equations. Accuracy, convergence, and round-off error. (PR: MAA 4212, or MAA 5307, MAP 4302, MAS 3103; or CI)

MAD 6510 ANALYSIS OF ALGORITHMS (4) Mathematical theory associated with algorithms for computer information processing; expected time and space requirements of algorithms, comparison of algorithms, construction of optimal algorithms, and theory underlying particular algorithms. (PR: CI)

Natural Science

MAD 6616 ALGEBRAIC AUTOMATA THEORY (3) (PR: MAS 5312 or CI)

MAD 6617 ALGEBRAIC CODING THEORY (3) (n, k, d) codes over an arbitrary finite field. (PR: MAD 6616 or CI)

MAE 5875 ABSTRACT ALGEBRA FOR TEACHERS (3) Groups, fields, and vector spaces as they relate to high school algebra and geometry. (No credit for Mathematics majors.) (PR: MAS 3103 and MAS 4301 and Bachelor's degree or CI)

MAE 5877 MATHEMATICAL ANALYSIS I FOR TEACHERS (3) Advanced consideration of limits, continuity, derivatives, and differentials. (No credit for Mathematics majors.) (PR: MAC 3313 and Bachelor's degree, or CI)

MAP 5205 MATHEMATICAL OPTIMIZATION THEORY I (3) Content: Unconstrained and linearly constrained extrema, linear and nonlinear programming applied to matrices and quadratic forms, Lagrange multiplier rule for equality constraints. (PR: MAS 3103 and MAA 4211, or equiv.)

MAP 5316 ORDINARY DIFFERENTIAL EQUATIONS I (3) Existence and uniqueness theory, properties of solutions, linear systems, and stability theory. Sturm-Liouville theory. (PR: MAP 4302 and MAA 4211, or CI)

MAP 5317 ORDINARY DIFFERENTIAL EQUATIONS II (3) Topics selected from fixed point theory, comparison theory, oscillation theory, Poincaré-Bendixson theory, Lyapunov functions, eigen function expansions. (PR: MAP 5316 and MAA 5307, or CI)

MAP 5345 APPLIED PARTIAL DIFFERENTIAL EQUATIONS (3) Separation of variables, the heat equation, wave equation, Laplace's equation, classification, and Green's functions with emphasis on applications. (PR: MAP 5407, or CI)

MAP 5407 METHODS OF APPLIED MATHEMATICS (3) Sturm-Liouville theory, Fourier series, Green's functions, matrix methods for linear systems of ordinary differential equations and topics from calculus of variations, control theory, and numerical solutions of differential equations. (PR: MAP 4302)

MAP 6206 MATHEMATICAL OPTIMIZATION THEORY II (3) Minima relative to inequality constraints, normed spaces, Gateaux variation, Fréchet differential, extended Lagrange multiplier rule, augmentability, and application to elementary control theory. (PR: MAP 5205)

MAP 6336 THEORY OF ORDINARY DIFFERENTIAL EQUATIONS (4) Advanced topics selected from existence and uniqueness theory, singularity theory, asymptotics and stability, eigenfunctions, perturbations, topological methods, and spectral theory of differential operators. (PR: MAP 5317 or CI)

MAP 6356 PARTIAL DIFFERENTIAL EQUATIONS (4) Classification of second order equations, Cauchy problems, Dirichlet and Neumann problems, mixed problems, and properties of solutions. (PR: MAP 5345 and MAA 5307, or CI)

MAP 6375 NUMERICAL TECHNIQUES FOR PARTIAL DIFFERENTIAL EQUATIONS (3) Finite differences and finite element methods. Convergence, stability, accuracy. Variational techniques. Acceleration methods. Shocks. (PR: MAP 5345 and MAD 6407)

MAS 5107 ADVANCED LINEAR ALGEBRA (3) The study of finite dimensional vector spaces over arbitrary fields. Topics covered include: dual spaces, canonical forms for linear transformations, inner product spaces, orthogonal, unitary and self-adjoint operators, and quadratic forms. (PR: MAS 3103, MAS 4301 or MHF 3102, or CI; CR: MAS 5311)

MAS 5215 NUMBER THEORY (3) Congruences, quadratic residues, selected topics. (PR: CI)

MAS 5311 ALGEBRA I (3) An introduction to group theory. (PR: MAS 3103, MAS 4301)

MAS 5312 ALGEBRA II (3) An introduction to Galois theory. (PR: MAS 5311)

MAT 5932 SELECTED TOPICS (1-4) Each topic is a course of study. 01-History of Mathematics, 03-Logic and Foundations, 05-Number Theory, 07-Topics in Algebra, 09-Mathematics for Physics, 11-Topics in Probability and Statistics, 13-Topics in Analysis, and 15-Topics in Topology. (PR: Senior or Junior standing and CI)

- MAT 6908 INDEPENDENT STUDY** Var. Independent study in which student must have a contract with an instructor. Rpt. S/U.
- MAT 6911 DIRECTED RESEARCH** Var. Rpt. S/U. (PR: GR. ML)
- MAT 6932 SELECTED TOPICS (1-4)** 01-History of Mathematics, 03-Logic and Foundations, 05-Number Theory, 07-Topics in Algebra, 09-Mathematics for Physics, 11-Topics in Probability and Statistics, 13-Topics in Analysis, and 15-Topics in Topology. (PR: CI)
- MAT 6939 GRADUATE SEMINAR (1-2)** Direction of this seminar is by a faculty member. Students are required to present research papers from the literature. Seminars usually include: 01-Algebraic Coding Theory, 02-Approximation Theory, 03-Boundary Value Problems, 04-Control Theory, 05-Discrete Mathematics, 06-Nonlinear Analysis, 07-Probability, and 08-Univalent Functions. S/U.
- MAT 6971 THESIS: MASTER'S** Var. Rpt. S/U.
- MAT 7912 DIRECTED RESEARCH** Var. Rpt. S/U. (PR: Ph.D. level)
- MAT 7980 DISSERTATION: DOCTORAL** Var. S/U. (PR: Admission to Candidacy)
- MHF 5306 ELEMENTARY MATHEMATICAL LOGIC (3)** Truth tables, tautologies, quantifiers, rules of inference, and informal proofs in mathematics. (PR: CI)
- MHF 5405 HISTORY OF MATHEMATICS (3)** Traces the development of mathematical ideas through history. Special emphasis is placed on those concepts that led to the Calculus. This course is open to majors and non-majors alike. (PR: MAC 3313)
- MHF 6307 LOGIC AND FOUNDATIONS (4)** Propositional Calculus, Post's theorem, first order and equality calculi, models, completeness and consistency theorems. Godel's theorem and recursive functions. (PR: CI)
- MTG 5316 TOPOLOGY I (3)** Metric and topological spaces, continuity, homeomorphisms, connectedness, fundamental group, compact spaces, separation axioms, and product spaces. (PR: MAC 3313 and MAS 4301)
- MTG 5317 TOPOLOGY II (3)** Continuation of MTG 5316. (PR: MTG 5316)
- MTG 6326 ADVANCED TOPOLOGY (3)** Function spaces, compactifications, covering spaces, and other topics. (PR: MTG 5317 and CI)
- STA 5166 COMPUTATIONAL STATISTICS I (3)** Statistical analysis of data by means of statistics package programs. Regression, ANOVA, discriminant analysis, and analysis of categorical data. Emphasis is on interrelation between statistical theory, numerical methods, and analysis of real life data. (PR: STA 4321, CGS 3422, or CI)
- STA 5206 STOCHASTIC PROCESSES (4)** Stochastic processes in discrete time, including Markov chains on a countable state space, martingales, optional sampling, and ergodic theory of stationary processes; simple continuous-time Markov processes with a countable state space, such as Poisson processes and branching process. Renewal processes. (PR: STA 5446)
- STA 5326 MATHEMATICAL STATISTICS (4)** Sample distribution theory, point & interval estimation, optimality theory, statistical decision theory, and hypothesis testing. (PR: STA 5446)
- STA 5446 PROBABILITY THEORY I (3)** Axioms of probability, random variables in Euclidean spaces, moments and moment generating functions, modes of convergence, limit theory for sums of independent random variables. (PR: STA 4442 or MAA 5306)
- STA 5447 PROBABILITY THEORY II (3)** Proof of strong law of large numbers, characteristic functions, Lindeberg-Feller theorem, uniform integrability, martingale inequalities and convergence theorems, Birkhoff's ergodic theorem, subadditive ergodic theorem, and applications. (PR: STA 5446)
- STA 5526 NON-PARAMETRIC STATISTICS (4)** Theory and methods of non-parametric statistics, order statistics, tolerance regions, and their applications. (PR: STA 5326, CI)

Natural Science

STA 6167 COMPUTATIONAL STATISTICS II (3) Design of statistics programs, pivoting, and other technology used in stepwise regressions, algorithms in non-linear regression, balanced and unbalanced ANOVA. Iteration methods of numerical solutions of likelihood equations. (PR: STA 5166)

STA 6208 LINEAR STATISTICAL MODELS (3) Distribution theory for linear statistical models. Results applied to multiple regression, polynomial regression, balanced and unbalanced experimental designs, analysis of covariance. (PR: STA 6167 or STA 5326)

STA 6228 SAMPLING TECHNIQUES (3) Sampling versus total enumeration. Planning of a survey. Statistical sampling methods and their analysis; simple, stratified, systematic, cluster, and double and multistage sampling. Use of auxiliary information in sampling. Ratio and regression estimates. Case study. (PR: STA 4321 or CI)

STA 6746 APPLIED MULTIVARIATE ANALYSIS (3) Multivariate normal distribution; its properties and inference; matrix random variables; multiple and partial correlation; discriminant analysis, principal components and factor analysis; multivariate ANOVA; analysis of covariance; applications using computers. (PR: STA 5326)

STA 6876 TIME SERIES ANALYSIS (4) Theory and applications of discrete time series models illustrated with forecasting problems. Filtering, forecasting, modeling, and special analysis of time series. Control problems. Applications include the use of computers. (PR: STA 5326)

PHYSICS

Chairperson: S. Sundaram; *Professors:* S.C. Bloch, S.R. Deans, N.Djeu, R.W. Flynn, N.C. Halder, L. Jastrzebski, W.D. Jones, D.K. Killinger, J. Lagowski, N.L. Oleson, S. Sundaram; *Professor Emeritus:* Guy Forman; *Associate Professors:* J.L. Aubel, H.R. Brooker, R.S.F. Chang, R.W. Clapp, L. Clarke, W.H. Kruschwitz; *Assistant Professor:* P. Mukherjee; *Lecturer:* D. Spurgin.

PHY 5624 QUANTUM MECHANICS II (3) Symmetries, identical particles, scattering, approximation methods, Dirac equation, field quantization. Semester II. (PR: PHY 4604 or CI)

PHY 5720C ELECTRONICS (4) Vacuum and gas-discharge tubes, semiconductors, transistors, electronic circuit analysis, and laboratory. Spring Semester. (PR: PHY 3822L and PHY 4324)

PHY 5937 SELECTED TOPICS IN PHYSICS (1-4) Each topic is a course in directed study under the supervision of a faculty member. (PR: Senior or advanced standing and CC)

PHY 6246 CLASSICAL MECHANICS (3) Dynamics of particles and systems of particles, Lagrange's equation, central forces, and rigid body dynamics. Fall Semester. (PR: PHZ 5113 or CI)

PHY 6346 ELECTROMAGNETIC THEORY I (3) Electrostatics, magnetostatics, potential, and boundary value problems. Maxwell's equations. First semester of sequence PHY 6346, PHY 6347. Semester I. (PR: PHY 4325 or CI)

PHY 6347 ELECTROMAGNETIC THEORY II (3) Electromagnetic waves, wave guides and resonant cavities, diffraction, relativistic-particle kinematics and dynamics, plasmas, and magnetohydrodynamics. Semester II. (PR: PHY 6346 or CI)

PHY 6536 STATISTICAL MECHANICS (3) Kinetic theory, configuration and phase space. Boltzmann theorem, Liouville theorem, ensemble theory, and quantum statistics. Spring Semester. (PR: PHY 4626 or CI)

PHY 6846L MODERN LABORATORY TECHNIQUES (3) Modern laboratory techniques frequently required in experimental research. Includes use of lasers, electronic instruments, vacuum systems, computerized data acquisition, thin film deposition, and semi-conductor Hall experiments. Fall Semester, non-rpt. (PR: GS or CC)

PHY 6909 INDEPENDENT STUDY Var. Independent study in which student must have a contract with an instructor. Rpt. S/U.

PHY 6911 DIRECTED RESEARCH Var. (PR: GR. ML.) Rpt. S/U.

- PHY 6935 GRADUATE SEMINAR (1)** All Physics graduate students are expected to enroll in this course Semester I each year. S/U. Semesters: Fall, Spring, Summer.
- PHY 6938 SELECTED TOPICS IN PHYSICS (1-10)** Each topic is a course in directed study under the supervision of a faculty member. (PR: CC)
- PHY 6971 THESIS: MASTER'S** Var. Rpt. S/U.
- PHZ 5115 METHODS OF THEORETICAL PHYSICS I (3)** Applications of mathematical techniques to classical and modern physics. Vector spaces, including Hilbert space, orthogonal functions, generalized functions, Fourier analysis, transform calculus, and variational calculus. Fall Semester. (PR: MAP 4302 or C1)
- PHZ 5116 METHODS OF THEORETICAL PHYSICS II (3)** Applications of mathematical techniques to classical and modern physics. Selected topics in complex analysis, differential and integral equations, numerical methods, and probability theory. Spring Semester. (PR: MAP 4302 or C1)
- PHZ 5304 NUCLEAR PHYSICS (3)** Nuclear forces, nuclear models, nuclear structure, decay, nuclear reactions, and high energy physics. Spring Semester. (PR: PHY 4604 or C1)
- PHZ 5405 SOLID STATE PHYSICS I (3)** Crystal structure, x-ray and electron diffraction, mechanical and thermal properties of solids, electrical and magnetic properties of metals, band theory of metals, insulators, and semiconductors. First semester sequence: PHZ 5405 and PHZ 6426. Spring Semester. (PR: PHY 3123, MAP 4302)
- PHZ 5505 PLASMA PHYSICS I (3)** Introduction to Boltzmann, magnetohydrodynamic and orbit approaches to plasmas. Longitudinal and electromagnetic waves in plasmas. Collisions and radiation. Instabilities. Fall Semester. (PR: PHY 4324 or C1)
- PHZ 6136 PHYSICAL APPLICATIONS OF GROUP THEORY (3)** Matrices, symmetry elements and point groups, reducible and irreducible representations, molecular vibrations, selection rules, rotation groups and atomic levels, molecular orbitals and electronic energies, space groups and spectra of crystals, crystal field theory and symmetry. Offered alternate years. (PR: PHZ 5115 or C1)
- PHZ 6204 ATOMIC AND MOLECULAR SPECTRA I (3)** Hydrogen atom, one electron systems, central field and vector models, perturbations, Zeeman and Stark effect, hyperfine structure, atomic structure calculations; diatomic spectra, rotational and vibrational analysis, intensities, temperatures from spectra, and isotope effects. Fall Semester. (PR: PHY 4604 or C1)
- PHZ 6205 ATOMIC AND MOLECULAR SPECTRA II (3)** Electronic transitions in diatomic molecules, Hund's coupling schemes, electron configuration and valence, astrophysical applications, predissociation, normal modes of polyatomic molecules, Raman and IR spectra, rotation-vibration interaction, microwave spectra, thermodynamic properties, stellar atmospheres. Spring Semester. (PR: PHZ 6204 or C1)
- PHZ 6426 SOLID STATE PHYSICS II (3)** Optical, electrical and magnetic properties of insulators, superconductivity, imperfections in solids. Second semester of sequence: PHZ 5405 and PHZ 6426. Fall Semester. (PR: PHY 5405 or C1)
- PHZ 6525 PLASMA PHYSICS II (3)** An analytical study of the various types of wave phenomena in plasmas describable by the continuum. (PR: PHZ 5505 or C1)
- PHZ 6607 THEORY OF RELATIVITY (3)** The special and general theory of relativity, including the gravitational field equations, applications of the special theory, experimental tests of the general theory, and various topics of current research interest. Offered alternate years. (PR: PHZ 5513 or C1)

College Of Nursing

NURSING

Dean: J.A. Plawecki; *Professors:* S. Bishop, I. King, G.R. MacDonald, O. Riggan, V. Ross; *Associate Professors:* C. Burns, P. Byers, N. Entekin, J. Gregory, E. Gulitz, C. Lengacher, L. Lopez, S. McMillan, B. Redding; *Assistant Professors:* L. Gonzalez, P. Gorzka, D. Heinemann, C. Long, C. Selleck, M. Thurkettle, M. Tittle, M.L. VanCott; *Instructor:* A. McMahon.

NGR 5935 ETHICS IN HEALTH CARE (3) Theories and concepts of ethics as applied to health care are presented through lecture and discussion. Contemporary issues are analyzed in terms of their implications for health care providers. Majors and non-majors. (CI)

NGR 6030C ADULT HEALTH ASSESSMENT (3) Emphasizes advanced physical and psychological clinical assessment skills and includes a theoretical and practical approach based on nursing process. (PR: CI or Concurrent: NGR 6140)

NGR 6096 ONCOLOGY NURSING CONCEPTS (3) This course provides specialized oncology nursing content. Learning activities include lecture, discussion, audio-visuals, group presentations, and self-study. (CI)

NGR 6120 MANAGEMENT IN CLINICAL NURSING PRACTICE (2) Explores management concepts including a variety of theoretical and clinical approaches to nursing management. (CI)

NGR 6121 THEORY DEVELOPMENT OF NURSING (3) Focuses on theory development in nursing, including theory development, relationships of theoretical frameworks, and analysis of conceptual models as a basis for nursing diagnosis. (CI)

NGR 6124 CLINICAL AND COMMUNITY NUTRITION (3) Study of the science of nutrition throughout life, and its place in contemporary society. Focus will be on national/international status, issues and policies, and research in nutrition.

NGR 6140 ADVANCED PHYSIOLOGIC ASSESSMENT (4) Focus on cellular physiology and the feedback and control mechanism of bodily functions at the cellular, organ, and system level. (CI)

NGR 6141C ADULT HEALTH I (3) A conceptual approach that focuses on disease mechanisms to establish a sound scientific base for clinical assessment and management of common health problems of adult patients. (PR: NGR 6140 or CI)

NGR 6142 PATHOBIOLOGY OF NEOPLASIA (2) This course emphasizes basic concepts of cellular differentiation and the abnormal cytologic changes which occur in cancer. The learning activities include lecture, audio-visuals, discussion, group presentations, and self-study. (CI)

NGR 6155 FACTORS INFLUENCING HEALTH CARE (3) An interdisciplinary course that focuses on contemporary social, political, and economic issues related to health care and legal-ethical concepts applicable to the decision-making process in nursing practice, education, and research. (CI)

NGR 6190 PHARMACOLOGY FOR ADVANCED NURSE CLINICIANS (2) Synthesizes information relative to the pharmacological actions of selected classes of drugs with emphasis on mechanism, pharmacodynamics, and implications for nursing practice.

NGR 6210 ADULT HEALTH II (3) Advanced course in specialized nursing practice focuses on selected concepts applied to health, health promotion, maintenance, and disease prevention in a variety of settings. (PR: NGR 6121; NGR 6140, NGR 6705; CI)

NGR 6210L ADULT HEALTH PRACTICUM I (2-4) Clinical experience in functional role and selected area of specialization emphasizing health concepts applied to adults. (PR or concurrent: NGR 6121; NGR 6140, NGR 6705 and NGR 6210, CI)

NGR 6211 ADULT HEALTH III (3) Advanced course in specialized nursing practice focuses on selected concepts applied to health, restoration, and rehabilitation in a variety of settings. (PR or concurrent: NGR 6121; NGR 6140, NGR 6705, or CI)

NGR 6211L ADULT HEALTH PRACTICUM II (2-4) Clinical experience in functional role and selected area of specialization emphasizing health concepts applied to adults with significant health problems. (PR or concurrent: NGR 6121; NGR 6140; NGR 6705 and NGR 6211; CI)

NGR 6250 GERONTOLOGICAL NURSING I (3) This foundation course in gerontological nursing emphasizes the physiological aspect of nursing of the well-elderly, including functional assessment. (CI)

NGR 6251 GERONTOLOGICAL NURSING II (3) Theoretical and clinical experience that emphasizes the health maintenance and environmental interaction of the well-elderly. (CI)

NGR 6252 ISSUES IN GERONTOLOGY (2) A multidisciplinary focus on current developments in Gerontology in the fields of Biology, Psychology, Medicine, Nutrition, Economics, Adult Education, Sociology, and Nursing. (CI)

NGR 6253 GERONTOLOGICAL NURSING PRACTICUM I (3-4) Clinical practicum that emphasizes effective nursing intervention in acute and chronic illness in the elderly, including treatment of illness, prevention of complications, rehabilitation, and health education. (CI)

NGR 6254 GERONTOLOGICAL NURSING PRACTICUM II (3-4) Practicum experience emphasizes leadership/management principles that assist the gerontological nurse in health care delivery of the elderly. (CI)

NGR 6260 GERONTOLOGICAL NURSING III (3) This course provides specialized gerontological nursing content. Learning activities include lecture, discussion, audio-visuals, written group presentations, and self-study. (CI)

NGR 6280 SOCIAL AND ECONOMIC FACTORS IN GERONTOLOGICAL NURSING (3) Analyze and evaluate multilevel social and economic factors affecting the health care of the elderly by gerontological nurses. (CI)

NGR 6505 THEORETICAL FOUNDATIONS IN PSYCHIATRIC/MENTAL HEALTH NURSING (3) This course examines personality, communication, developmental, and nursing theories as the advanced theoretical knowledge foundation for advanced psychiatric mental health nursing practice. An emphasis is on an interpersonal theoretical orientation. (CI)

NGR 6506 CONCEPTUAL BASES FOR PSYCHIATRIC/MENTAL HEALTH NURSING (3) Multidimensional factors are studied which impact on the three levels of prevention related to mental health and psychiatric nursing care. The content focuses on the analysis of varied theories of psychopathology, research findings, and the major concepts which the conceptual basis for advanced psychiatric mental provide health nursing practice. (PR: NGR 6505, NGR 6506 or CI)

NGR 6507 THERAPIES IN PSYCHIATRIC/MENTAL HEALTH NURSING (2) Focuses on the evolution of psychiatric mental health nursing and mental health care and clinical specialist roles related to specialized practice, education, consultation, administration, and research. Theoretical and conceptual approaches, including crisis theory, and various therapeutic modalities are studied with emphasis on individual therapy. Multidisciplinary role functions, interdisciplinary treatment plans, legal, ethical, and professional issues are studied. (PR: NGR 6505, NGR 6506 or CI)

NGR 6508 GROUP THERAPY IN PSYCHIATRIC/MENTAL HEALTH NURSING (2) This course provides a theoretical and conceptual foundation for the advanced practice of psychiatric mental health nursing in group therapy. Theories and conceptual models are analyzed and evaluated for applicability to varied group therapy situations. Group and organizational theories, relevant leadership styles, strategies, and techniques are analyzed. Research on group therapy, social, cultural perspectives, and legal and ethical issues are examined. (PR: NGR 6505, NGR 6506, NGR 6507 or CI)

NGR 6509 FAMILY THERAPY IN PSYCHIATRIC/MENTAL HEALTH NURSING (2) Provides the theoretical basis for family therapy and focuses on the clinical specialist's approach to

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therapeutic interventions with families from diverse socio-economic/cultural backgrounds. Various family therapy models/interventions are examined. Research findings and implications for future research are stressed. (PR: NGR 6505, NGR 6506, NGR 6507, or CI)

NGR 6511 GEROPSYCHIATRIC NURSING (3) Theoretical implications and foundations for providing geropsychiatric nursing care for the elderly who have been diagnosed or have potential emotional/mental problems with emphasis of various therapies in a variety of clinical settings.

NGR 6539C PSYCHOSOCIAL ASPECTS OF CANCER (3) This course is designed to provide knowledge and skills to assist the specialist in cancer nursing to cope with the psychosocial ramifications of cancer of the client and family.

NGR 6566 PRACTICUM I: INDIVIDUAL PSYCHIATRIC/MENTAL HEALTH NURSING (2-4) Focuses on the application of theoretical and conceptual knowledge to one-to-one therapeutic relationships with clients experiencing acute and/or chronic mental health problems. Assessments based on psychosocial histories and mental status examinations contribute to the formulation of nursing diagnoses. The standard classification of mental disorders, nursing diagnoses, cultural influences, psychopharmacology, and research findings are used to develop nursing interventions. Weekly seminar and weekly individual supervision. (PR: NGR 6505, NGR 6506, NGR 6507, or CI)

NGR 6567 PRACTICUM II: GROUP THERAPY IN PSYCHIATRIC/MENTAL HEALTH NURSING (2) This course is the clinical practicum for students to practice the skills required in the advanced role of the psychiatric mental health clinical specialist specific to group therapy in varied psychotherapy and support group situations in various community settings. Practicum II has a scheduled weekly seminar with comparative learning experiences from varied therapy groups and weekly individual supervision. (PR: NGR 6505, NGR 6506, NGR 6507, NGR 6508, or CI)

NGR 6568 PRACTICUM III: FAMILY THERAPY IN PSYCHIATRIC/MENTAL HEALTH NURSING (2) Clinical Practicum emphasizing therapeutic nursing interventions with families. Primary focus will be family therapy with a systems approach. (PR: NGR 6505, 6506, 6507, 6508, 6565, or CI)

NGR 6602C STRATEGIES FOR COMMUNITY HEALTH NURSING (4) Examines the variables that influence and guide community health nursing practice, and the application of relevant nursing concepts and theories. (PR: NGR 6121 and/or concurrent NGR 6738 or CI)

NGR 6603L METHODS OF COMMUNITY HEALTH NURSING (1-6) Focuses on clinical application of community health nursing concepts in selected community settings. A minimum of 2 hours are required for MPH students in the nursing concentration. (PR or concurrent NGR 6602C or CI)

NGR 6609C MANAGEMENT OF PRACTICE IN FAMILY HEALTH NURSING (2) Focuses on the analysis and application of management/leadership techniques and on the role diversity of the Family Health Nurse Specialist, health care policy, the health care system, and delivery of health care services to families and children. Students examine strategies for influencing both nursing and health care policy relevant to family health. (PR or concurrent: NGR 6121 or CI)

NGR 6610C CONCEPTUAL BASIS OF FAMILY HEALTH NURSING (3) Analyzes selected family theories, related models, and concepts which provide the basis for Family Health Nursing. Family structure and function, family assessment techniques, methods of data analysis, and issues and factors which influence the health of families are explored. Didactic and clinical. (PR or Concurrent: NGR 6121)

NGR 6617L PRACTICUM IN FAMILY CENTERED NURSING (6) (A total of 6 SH is required; practicums may range from 1-6 SH per semester). This course focuses on the development of the clinical competencies of the Family Health Nurse Specialist within a delineated area of subspecialty. (PR or concurrent: NGR 6610C, NGR 6931, Advanced Assessment, NGR 6630, or NGR 6631)

NGR 6630C FAMILY CENTERED NURSING CARE (4) Focuses on the diagnosis and management of common health problems of families and individuals across the life span for

those students whose subspecialty is family health care. (PR or concurrent: NGR 6140, NGR 6610C, NGR 6931, Advanced Assessment)

NGR 6631C FAMILY CENTERED NURSING CARE OF CHILDREN (4) Focuses on the health and nursing care of children and their families in complex, interrelated health care service systems for those students whose subspecialty is child health care. Emphasis is placed on case management. (PR or Concurrent: NGR 6140, NGR 6610C, NGR 6931, Advanced Assessment)

NGR 6703 ADVANCED ROLE DEVELOPMENT (3) Combined lecture/seminar focusing on an exploration of role theory and its application to advanced nursing roles. (CI)

NGR 6705 CONCEPTUAL BASIS FOR SPECIALIZED NURSING PRACTICE (3) Exploration of selected concepts that are essential to all areas of specialized nursing practice. (PR or concurrent: NGR 6121)

NGR 6710 CURRICULUM AND INSTRUCTION IN NURSING EDUCATION (2) Trends and issues in curriculum development, faculty role, instructional strategies, internal and external factors influencing decisions in curriculum and instruction and implications for their utilization in nursing programs. (CI)

NGR 6712 NURSING EDUCATION IN INSTITUTIONS OF HIGHER EDUCATION (2) An examination of the historical development of nursing education within higher education, issues in higher education and their effect on nursing education, and the future role of nursing education in institutions of higher education. (CI)

NGR 6738 CONTEMPORARY PUBLIC/COMMUNITY HEALTH NURSING: ISSUES & TRENDS (2) Analyzes the relationship between public health issues and public/community health nursing practice. Identifies specialized nursing roles in public health practice and factors that influence these roles. (PR or Concurrent: NGR 6121 or CI)

NGR 6790 CONSULTATION/LIAISON IN PSYCHIATRIC/MENTAL HEALTH NURSING (3) Emphasizes evolution of the consultation/liaison role for advanced nurse practitioners with emphasis on the consultation process in a variety of clinical settings. (PR: Clinical and theoretical courses for clinical concentration, or CI)

NGR 6800 NURSING RESEARCH (3) Includes an overview of research in nursing. Identification of researchable problems, design and analysis of research proposals, and research methodologies and strategies applicable to nursing. (PR: NGR 6121)

NGR 6822 MEASUREMENT FOR NURSING EDUCATION AND RESEARCH (3) Course purposes are to increase skill in measurement of nursing variables as part of the research process, to enhance ability of nurse educators to identify or develop valid and reliable measurement instruments for evaluation of students, clients, and educational programs. (CI)

NGR 6905 INDEPENDENT STUDY (1-6) Specialized individualized study determined by students' needs and interests; requires an approved contract with a faculty member. S/U.

NGR 6931 SELECTED TOPICS (1-4) Seminars for the analysis and discussion of selected issues in nursing of topical concern to student and faculty.

NGR 6947 PRACTICUM IN NURSING EDUCATION (2-4) Instructional experiences that utilize educational concepts and instructional strategies in a variety of educational settings in nursing. (PR: NGR 6822, NGR 6710, and NGR 6712; CI)

NGR 6948 ONCOLOGY NURSING PRACTICUM I (3) This course provides immersion for oncology nursing specialists including practice in appropriate settings. Emphasis is on the nurse's role in appropriate settings and on the nurse's role in prevention, detection, treatment, and rehabilitation. Learning activities include clinical practice, case presentations, discussions, and independent study. (CI)

NGR 6949 ONCOLOGY NURSING PRACTICUM II (3) This practicum requires synthesis of all knowledge and skills acquired earlier in the program. Emphasis is on the roles of the oncology nurse specialist, including those of expert clinician, consultant, teacher, researcher, and administrator. (PR: NGR 6948)

College Of Public Health

GENERAL PUBLIC HEALTH COURSES

PHC 6907 INDEPENDENT STUDY: PUBLIC HEALTH (1-3) Independent study determined by the student's needs and interests. Rpt. if subjects vary. S/U. (PR: CI)

PHC 6930 PUBLIC HEALTH SEMINAR (1) Interaction of faculty, students and select health professionals in relation to public health issues and research. Rpt. to 3 hours. S/U. (PR: GS)

PHC 6934 SELECTED TOPICS IN PUBLIC HEALTH (1-6) The content of this course will be governed by student demand and instructor interest. Rpt.as topics differ. (PR: CI)

PHC 6945 SUPERVISED FIELD EXPERIENCE (1-12) Internship in a public health agency or setting. Application of administrative, program, and/or research models now employed in government and private public health organizations. S/U. (PR: CI)

PHC 6971 THESIS: MASTER OF SCIENCE IN PUBLIC HEALTH (1-19) Research-oriented study for students seeking the M.S. degree in Public Health. Rpt. S/U.

PHC 6977 SPECIAL PROJECT: MPH (3) Indepth study of a selected issue in public health. A topic will be selected according to student's needs and interests. S/U. (PR: CI)

PHC 7908 SPECIALIZED STUDY IN PUBLIC HEALTH (1-9) Demonstration of an indepth study in a specialized public health area. This study may be used to address areas where a student needs to demonstrate a higher level of competency. (PR: CI)

PHC 7910 DIRECTED RESEARCH (1-19) Advanced research design and application. Rpt. S/U. (PR: GS)

PHC 7935 SPECIAL TOPICS IN PUBLIC HEALTH (1-3) Content will include recent or current issues in public health. Rpt. as topics vary. (PR: CI)

PHC 7980 DISSERTATION: DOCTORATE (1-19) S/U. (PR: Admission to candidacy)

DEPARTMENT of COMMUNITY and FAMILY HEALTH

Chairperson: S.N. Graven; *Professor:* S.N. Graven; *Associate Professors:* R.G. Bruce, J. Coreil, R.J. McDermott, W. Ward; *Assistant Professors:* C. Bryant, M.L. Coulter, D. Taren; *Visiting Assistant Professor:* J. Meurer; *Other Faculty:* M. Cupoli, E. Gulitz, H. Jacobson, R. Knuppel, M. Lake, K. Liller, E. Lucker, F. Paris.

HSC 2100 CONTEMPORARY HEALTH SCIENCE (3) A comprehensive approach to health concerns and problems in contemporary society, including methods of assessing individual health needs.

HSC 4203 INTRODUCTION TO PUBLIC HEALTH (3) A survey of policies and programs in public/community health with emphasis on specific needs and problems of Florida.

PHC 6410 SOCIAL AND BEHAVIORAL SCIENCES APPLIED TO HEALTH (3) A review of the conceptual, empirical, and theoretical contributions of the Social and Behavioral Sciences as they contribute to an understanding of health and illness. (PR: CI)

PHC 7708 APPLIED RESEARCH METHODS IN COMMUNITY AND FAMILY HEALTH (3) A detailed study of philosophical questions and applied techniques of research in community and family health. A project oriented course to prepare students to conduct their own independent research. (PR: PHC 6050, PHC 6700, PHC 6707, or CI)

MATERNAL and CHILD HEALTH

PHC 6530 PRINCIPLES OF MATERNAL AND CHILD HEALTH (3) A study of the organization and delivery of programs in maternal and child health care. (PR: CI)

PHC 6531 HEALTH OF HANDICAPPED CHILDREN (3) A study of causative factors, characteristics, care needs, and programs for handicapped children with emphasis on health and health care issues. (PR: CI)

PHC 6532 WOMEN'S HEALTH ISSUES IN PUBLIC HEALTH (3) Women's health needs with their impact on society, family, and children will be presented with a public health orientation. (PR: CI)

PHC 6533 HEALTH PROGRAM DEVELOPMENT AND CHANGE PROCESS (3) A study of approaches to program development, implementation, and management of change process in maternal and child health. (PR: CI)

PHC 6534 CHILD HEALTH PROGRAMS IN CARE SETTINGS (3) Advanced analysis of factors contributing to impact on children of health and care settings such as foster care, hospital care, and day care. Focus includes epidemiology of child health problems, program evaluation, administration, and policy assessment. (PR: CI)

PHC 6535 INTERNATIONAL MATERNAL AND CHILD HEALTH (3) The course examines current priorities for improving the health of mothers and children in developing countries. The emphasis is on understanding MCH issues within the larger context of primary health care and sociocultural factors which influence behavior. (PR: CI)

PUBLIC and COMMUNITY HEALTH EDUCATION

HSC 4541 HUMAN STRUCTURE AND FUNCTION (3) Major concepts of the structure and function of the human body systems and methods by which these concepts may be taught. (PR: Fundamentals of Biology/Lab or CI)

HSC 4554 SURVEY OF HUMAN DISEASES (3) An overview of the nature, types, and mechanisms of diseases of the major body systems. (PR: Fund. of Biology with Lab or CI)

HSC 5319 HEALTH PROBLEMS OF SCHOOL AGE POPULATION (3) Study of health problems and needs of school age students, including a health status screening laboratory.

PHC 6500 FOUNDATIONS OF HEALTH EDUCATION (3) Study of the historical, social and cultural factors influencing health behavior and the practice of health education. (PR: CI)

PHC 6505 HEALTH EDUCATION PROGRAM PLANNING (3) Analysis of the planning and development process for health education programs. (PR: PHC 6500 or CI)

PHC 6506 COMMUNITY HEALTH EDUCATION (3) Analysis of major community health problems, their causes, the roles of individuals, community institutions, and government in effecting solutions. Emphasis is upon participation and organization for community health. Class and field work sessions. (PR: PHC 6500 or CI)

PHC 6707 EVALUATIVE APPROACHES TO COMMUNITY AND FAMILY HEALTH EDUCATION PROGRAMS (3) Examination of research and evaluation issues in health education. Includes methods for designing studies in schools and other educational settings in the community. (PR: PHC 6500 and PHC 6505 or PHC 6530 or CI)

PUBLIC HEALTH NUTRITION

PHC 6521 PUBLIC HEALTH NUTRITION An analysis of nutritional issues concerned with health and disease. Biological and social interactions are studied as they relate to the development, monitoring, and evaluation of community nutrition intervention programs. (PR: CI)

PHC 6522 THE BIOLOGICAL ROLE OF NUTRITION IN HEALTH (3) Advanced study of the biochemical and physiological roles of nutrition in health and disease. (PR: HUN 3201, ZOO 3713C, PCB 4743, BCH 3033, or CI)

PHC 6523 POLICIES AND PRACTICES IN MATERNAL AND CHILD NUTRITION (3) Study of nutrition policies and practices in maternal and child health from pregnancy through the pre-school years. Focus on issues concerned with risk identification, interventions, and outcome evaluations. (PR: CI)

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PHC 6524 PUBLIC HEALTH NUTRITION FOR THE ADULT AND AGING POPULATION (3)
Study of policies and practices of nutrition in health promotion and disease prevention in adults. Focus on issues concerned with risk identification, nutrition interventions, and outcome evaluations. (PR: CI)

PHC 6526 NUTRITION ASSESSMENT OF INDIVIDUALS AND COMMUNITIES (3)
Comparative study of anthropometric, biochemical, dietary, clinical, and socioeconomic indicators of nutritional status including the differential use of these indicators for individuals and communities. (PR: PHC 6521, PHC 6522, or CI)

DEPARTMENT of ENVIRONMENTAL and OCCUPATIONAL HEALTH

Chairperson: S.M. Brooks; *Professor:* S.M. Brooks; *Associate Professors:* T. Bernard, A. Kulkarni, C.I. Noss, A. Vickery; *Assistant Professors:* B. Kwa, I. Richards, J. Rose; *Visiting Associate Professor:* E. Szonntag; *Other Faculty:* F. Dukes-Dobos, R. Freeman, M. Montgomery, C.D. Riggs, D. Woodbridge, B. Yangco.

PHC 6301 ANALYSIS OF WATER AND WASTEWATER (3) A study of treatment systems for water and wastewater. Emphasis is given to problems encountered in current technologies, health effects, and environmental impact. (PR: CHM 3610C or CI)

PHC 6302 MUNICIPAL SANITATION (3) A study of environmental sanitation activities, programs, and issues of local government. (PR: PHC 6357 or CI)

PHC 6303 COMMUNITY AIR POLLUTION (3) A study of air pollutants. Emphasis is given to sources and control technologies, as well as health effects and environmental impact. (PR: CHM 3610C or CI)

PHC 6304 ENVIRONMENTAL HEALTH MICROBIOLOGY (3) Techniques for isolation and enumeration of microorganisms of health significance from food and aquatic sources. (PR: MCB 3010C or CI)

PHC 6305 CHEMICAL METHODS IN ENVIRONMENTAL HEALTH (3) Techniques quantitative and qualitative chemical analyses for determining water quality. (PR: CHM 3610C or CI)

PHC 6310 ENVIRONMENTAL OCCUPATIONAL TOXICOLOGY (3) A study of the nature of industrial and environmental toxins and toxic by-products, generated and distributed, leading to disease, disability, or death, and the control measures available, using lecture and appropriate laboratory methods. (PR: CI)

PHC 6355 OCCUPATIONAL HEALTH (3) The study of historical, epidemiologic, administrative, legal, and clinical aspects of worker's health and of the workplace. (PR: CI)

PHC 6356 INDUSTRIAL HYGIENE (3) A study of the recognition, evaluation, and control of the workplace affecting the health of employees. (PR: CI)

PHC 6357 ENVIRONMENTAL AND OCCUPATIONAL HEALTH (3) The study of major environmental and occupational factors that contribute to development of health problems in industrialized and developed countries. (PR: CI)

PHC 6358C INDUSTRIAL HYGIENE—PHYSICAL AGENTS (4) Recognition, evaluation, and control of physical agents in the workplace. Laboratory exercises and field surveys will be conducted in addition to class lectures. Lec/Lab. (PR: PHC 6356 and 1 year physics or CI)

PHC 6359 INDUSTRIAL HYGIENE—CHEMICAL AGENTS (4) Recognition, evaluation, and control of chemical agents in the workplace. Lec/Lab. (PR: PHC 6356 and 1 year college chemistry or CI)

PHC 6360 SAFETY MANAGEMENT PRINCIPLES AND PRACTICES (3) A study of safety management as it relates to hazard identification, accident investigation, and training, enabling the safety manager to reduce costs to business, industry, and government. (PR: CI)

PHC 6361 SYSTEMS SAFETY ANALYSIS (3) Systems logic and methodology for assessing the potential impact of work environments on the health and safety of workers; application of occupational ergonomics and human factors to the design and evaluation of complex work environments. (PR: PHC 6360 or CI)

PHC 6425 LEGAL AND REGULATORY ASPECTS OF ENVIRONMENTAL AND OCCUPATIONAL HEALTH (3) A study of pertinent federal and state statutes and regulations affecting health of the environment and workplace. (PR: PHC 6355 or CI)

PHC 6510 EXOTIC AND INFECTIOUS DISEASE (3) A study of human infectious disease with particular emphasis upon disease caused by parasites, viruses, bacteria, and fungi found in sub-tropical and tropical environments. (PR: CI)

PHC 6511 TROPICAL HEALTH IMMUNOLOGY (3) Immunology as applied to public health. Emphasis is upon application of immunology and immunological techniques used in surveillance, prevention, and control of public health problems. (PR: CI)

PHC 6512 VECTORS OF HUMAN DISEASE (3) Biology of the vectors of human disease: major groups include the arthropods, molluscs, and mammals. Emphasis on the ecology of the vectors and their transmission of pathogens as they relate to public health. (PR: CI)

PHC 6513 PUBLIC HEALTH PARASITOLOGY (3) Human diseases caused by parasite infection: with emphasis on diseases related to environmental exposure and of public health importance. Major groups include the protozoans, cestodes, trematodes, and nematodes of human diseases. (PR: CI)

PHC 6562 FUNCTIONS OF PUBLIC HEALTH LABORATORIES (3) Study of public health laboratory activities, investigations, administrative operations, and current techniques through laboratory and lecture experience. (PR: CI)

HSC 6556 PATHOBIOLOGY OF HUMAN DISEASE I (3) A basic study of broad pathobiological areas of biological injury, genetic and inborn errors of metabolism, and host-parasite relationships. In addition, the pathobiology of human disease is closely related to general biology in order to provide a strong foundation for the public health student. (PR: CI)

HSC 6557 PATHOBIOLOGY OF HUMAN DISEASE II (3) Overview of the distinct pathogenesis and etiology and selected acute and chronic diseases and their preventive aspects and impacts on the health care system. Provides basic knowledge of disease and illness patterns and their relationship to health planning. (PR: HSC 6556 and CI)

DEPARTMENT of EPIDEMIOLOGY and BIOSTATISTICS

Chairperson: P.E. Leaverton; *Professor:* P.E. Leaverton; *Associate Professors:* J.L. Cresanta, H.G. Stockwell; *Assistant Professors:* M. Bayona-Celis, N.A. Brandenburg, J.G. Morel; *Other Faculty:* G.H. Lyman, M. Magenheimer, M.H. Wilder, J.J. Witte.

PHC 6000 EPIDEMIOLOGY (3) Study of epidemiological methods to evaluate the patterns and determinants of health and diseases in populations. (PR: CI)

PHC 6006 EPIDEMIOLOGY OF INFECTIOUS AND NON-INFECTIOUS DISEASES (3) A study of the distribution and determinants of specific infectious and non-infectious human diseases of public health importance using epidemiological methods. (PR: PHC 6000, PHC 6050 and CI)

PHC 6007 CANCER EPIDEMIOLOGY (3) The course will consider the extent of the cancer problem, present the epidemiology of the major cancer sites, including those of the respiratory, digestive and reproductive systems, and evaluate the potential for primary and secondary preventive efforts. (PR: PHC 6000 or CI)

PHC 6008 CARDIOVASCULAR DISEASE EPIDEMIOLOGY (3) A review of the major issues in cardiovascular disease epidemiology, including trends, the extent of the disease nationally and internationally, implications of major epidemiologic studies, and strategies for prevention. (PR: PHC 6000 or CI)

PHC 6050 BIOSTATISTICS I (3) Concepts, principles, and methods of statistics applied to public health issues. (PR: CI)

PHC 6051 BIOSTATISTICS II (3) Intermediate level statistical methods appropriate for health and epidemiologic studies. Emphasis on 2 x 2 tables, analysis of variance, multiple linear

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regression, methods of survival analysis, logistic regression, and Cox regression. (PR: PHC 6000 and PHC 6050)

PHC 6542 PUBLIC MENTAL HEALTH EPIDEMIOLOGY (3) A study of the factors that determine the frequency and distribution of mental disorders in human populations. Mental health intervention strategies also will be explored. (PR: PHC 6540, PHC 6000, or CI)

PHC 6700 RESEARCH METHODS IN EPIDEMIOLOGY (3) Planning, execution, analysis, and intervention of epidemiological studies. (PR: PHC 6000, PHC 6050 and CI)

PHC 7015 EPIDEMIOLOGIC STUDY DESIGN AND PROTOCOL DEVELOPMENT (3) The course will provide the student with the opportunity to acquire knowledge and skill in formulating a research problem and developing an appropriate epidemiologic study design. A detailed proposal will be developed, presented, and defended. (PR: PHC 6000, PHC 6700, PHC 6051 and CI)

PHC 7017 DESIGN AND CONDUCT OF CLINICAL TRIALS (3) The course will familiarize students with the issues in the design and conduct of clinical trials. Factors involved in organizing a trial, randomizing subjects, implementation, and analyzing data from the study will be considered. (PR: PHC 6050, PHC 6000 and CI)

PHC 7018 ENVIRONMENTAL EPIDEMIOLOGY (3) This course will consider the relationship between environmental (non-occupational) factors and the occurrence of disease in human populations, including the chemical and physical extrinsic agents to which humans are exposed. (PR: PHC 6000 and CI)

PHC 7019 OCCUPATIONAL EPIDEMIOLOGY (3) Examines the existing epidemiologic data pertaining to the health effects of specific occupational exposures and the epidemiologic methods involved in the conduct of occupational studies. (PR: PHC 6000 and CI)

DEPARTMENT of HEALTH POLICY and MANAGEMENT

Acting Chairperson: J.Wolfson; *Professors:* S.N. Banoub, T.N. Chirikos, P.J. Levin; *Associate Professors:* A.M. Sear, W.E. Steslicke, J. Wolfson; *Assistant Professors:* D.D. Bradham, J.H. Skinner; *Other Faculty:* A. Koplín.

HSA 6197 MANAGEMENT OF PUBLIC HEALTH INFORMATION SYSTEMS (3) Introduction to concepts of management information systems applied to public health settings. Emphasis on practical application using computers. (PR: CI)

PHC 6101 HEALTH CARE ORGANIZATIONS (3) This course presents an overview of principles in the design and structure of health care organizations and their relationship to the regulatory environment at the federal, state, and local levels. (PR: PHC 6102 or CI)

PHC 6102 PUBLIC HEALTH ADMINISTRATION (3) General principles of planning, management, evaluation, and behavior of public and private health care organizations at the local, state, and national levels. (PR: CI)

PHC 6110 INTERNATIONAL HEALTH AND HEALTH CARE SYSTEMS (3) Study of global health problems and trends, translated to needs and demands; socioeconomic and political impact on health delivery; prevailing international systems compared to U.S. system; the role of international health agencies. (PR: CI)

PHC 6111 PRIMARY HEALTH CARE STRATEGIES (3) This course is designed to address the rationale, planning, and implementation of primary health care programs. Emphasis is given to establishing primary care as an integral part of the health care system and as an essential component of public health programs. (PR: PHC 6151, PHC 6180, PHC 6110, or CI)

PHC 6146 HEALTH SERVICES PLANNING AND EVALUATION (3) Study of health services planning concepts/methods, and evaluation, with an emphasis on facilities and manpower planning, providing an indepth orientation to information requirements for health planning, and methods to cover gaps of information. (PR: PHC 6050 or CI)

PHC 6150 HEALTH POLICY ANALYSIS (3) A detailed study of policies, policy making, and policy analysis in health services and their relationship to health planning, management, and health care delivery. (PR: PHC 6102 or CI)

- PHC 6151 HEALTH POLICY AND POLITICS (3)** This course will examine the role of federal, state, and local government in health care organization, delivery, and financing in the United States and other comparable industrial nations. (PR: PHC 6102 or CI)
- PHC 6160 HEALTH CARE FINANCIAL MANAGEMENT (3)** An introduction to the application of financial management practices in health care organizations, cost behavior analysis, working capital management, financial statement analysis, and capital decision making. (PR: One undergraduate course in Financial or Managerial Accounting and PHC 6102, or CI)
- PHC 6161 HEALTH CARE FINANCE APPLICATIONS (3)** A case method approach to the financial management of health care organizations. Quantitative decision analysis techniques, costing methods, and financial policy analysis skills are emphasized. (PR: PHC 6102 or CI)
- PHC 6162 SEMINAR ON INDUSTRY AND HEALTH (3)** A study of the role that business organizations play in the financing, provisioning, and consuming of health care services, and an examination of health care reimbursement methods, health benefit plan design, and cost containment methods. (PR: CI)
- PHC 6180 HEALTH SERVICES MANAGEMENT (3)** Advanced study of specific topics in health care organization management, including the managerial process, organizational theory, resource utilization and control, and human resource management. (PR: PHC 6102 and undergraduate accounting course or CI)
- PHC 6181 ORGANIZATIONAL BEHAVIOR IN HEALTH CARE MANAGEMENT (3)** The course is designed to prepare the student for executive management responsibilities in a health services organization. A seminar format is used for an in-depth examination of human factors/human relations issues in health services organizations. (PR: PHC 6180 or CI)
- PHC 6190 MANAGEMENT OF PUBLIC HEALTH PROGRAMS (3)** Application of principles and methods for organization and management of government and non-government public health programs. (PR: PHC 6102 and CI)
- PHC 6191 QUANTITATIVE ANALYSIS IN HEALTH CARE MANAGEMENT (3)** This course examines the use of quantitative modeling in the management of health care organizations. Emphasis is given to the application of standard modeling techniques to operational problems in health and medical care settings. (PR: PHC 6050 and PHC 6180, 6430, and 6151 or CI)
- PHC 6430 HEALTH ECONOMICS (3)** Microeconomic analysis of the structure of the health care industry and economic incentives facing physicians, patients, and hospitals. (PR: ECO 2023 or equiv. and CI)
- PHC 6540 PUBLIC MENTAL HEALTH (3)** Current state of community mental health, emphasizing history and future of the movement, and involvement of public agencies; methods, goals, evaluation of treatment, funding, and administration of programs. (PR: CI)
- PHC 6541 PUBLIC MENTAL HEALTH ADMINISTRATION (3)** General principles of management theory, methods, administrative processes, and organizational structure of public and private mental health organizations in hospital and ambulatory care settings. (PR: PHC 6540, PHC 6102 or CI)
- PHC 6760 HEALTH PROGRAM EVALUATION (3)** The course develops the skills needed to evaluate health and medical care programs. Emphasis is given to research design, determination of qualitative and quantitative criteria, measurement techniques, and interpretation of findings. (PR: PHC 6430, 6180, and 6151 or CI)

College Of Social And Behavioral Sciences

ANTHROPOLOGY

Chairperson: R.T. Grange; *Professors:* M.V. Angrosino, R.T. Grange, Jr., G. Kushner, A. Shiloh, J.R. Williams, A.W. Wolfe; *Associate Professors:* S. Greenbaum, J.J. Smith, P.P. Waterman, N.M. White; *L.M. Whiteford, C.W. Wienker; Assistant Professors:* R.D. Baer, S.B. Burkhalter, L.

Social and Behavioral Science

Madrigal; *Other Faculty*: C. Bryant, J. Coreil, J.N. Henderson, M.D. Vesperi.

ANT 5904 DIRECTED READING (1-4) Individual guidance in concentrated reading on a selected topic in Anthropology. Contract required prior to registration. S/U. (PR: CI)

ANT 5915 INDIVIDUAL RESEARCH (2-4) Individual guidance in selected research project. Contract required prior to registration. S/U. (PR: CI)

ANT 5937 SEMINAR IN ANTHROPOLOGY (2-4) Topics to be chosen by students and instructor. (PR: Senior or GS)

ANT 6186 SEMINAR IN ARCHAEOLOGY (3) One of four core courses required of all students. A critical survey of archaeology emphasizing contributions to applied anthropology. Open to non-majors. (PR: GS)

ANT 6196 METHODS IN PUBLIC ARCHAEOLOGY (3) Field techniques, methods of collection, analysis, and interpretation of data. Rpt. up to 6 hours as topics vary. Open to non-majors. Lec/Lab/Field trips. (PR: GS)

ANT 6197 SELECTED TOPICS IN PUBLIC ARCHAEOLOGY (3) Current topical issues in Public Archaeology. Rpt. to 6 hours as topics vary. Open to non-majors. (PR: GS)

ANT 6198 REGIONAL PROBLEMS IN PUBLIC ARCHAEOLOGY (3) Contemporary problems in Public Archaeology in the context of a specific region. Rpt. to 6 hours as topics vary. Open to non-majors. (PR: GS)

ANT 6447 SELECTED TOPICS IN URBAN ANTHROPOLOGY (3) Current topical issues in Urban Anthropology. Rpt. to 6 hours as topics vary. Open to non-majors. (PR: GS)

ANT 6448 REGIONAL PROBLEMS IN URBAN ANTHROPOLOGY (3) Contemporary problems in Urban Anthropology in the context of a specific region. Rpt. to 6 hours as topics vary. Open to non-majors. (PR: GS)

ANT 6463 REGIONAL PROBLEMS IN MEDICAL ANTHROPOLOGY (3) Contemporary problems in Urban Anthropology in the context of a specific region. Rpt. to 6 hours as topics vary. Open to non-majors. (PR: GS)

ANT 6469 SELECTED TOPICS IN MEDICAL ANTHROPOLOGY (3) Current topical issues in Medical Anthropology. Rpt. to 6 hours as topics vary. Open to non-majors. (PR: GS)

ANT 6490 SEMINAR IN CULTURAL ANTHROPOLOGY (3) One of four core courses required of all students. A critical survey of Cultural Anthropology emphasizing contributions to Applied Anthropology. Open to non-majors. (PR: GS)

ANT 6588 SEMINAR IN PHYSICAL ANTHROPOLOGY (3) One of four core courses required of all students. A critical survey of Physical Anthropology emphasizing contributions to Applied Anthropology. Open to non-majors. (PR: GS)

ANT 6676 SEMINAR IN ANTHROPOLOGICAL LINGUISTICS (3) One of four core courses required of all students. A critical survey of Anthropological Linguistics emphasizing contributions to Applied Anthropology. Open to non-majors. (PR: GS)

ANT 6706 CONTEMPORARY APPLIED ANTHROPOLOGY (3) A critical survey of Applied Anthropology as practiced today in the major branches of Anthropology, focusing on Applied, Medical, and Urban Anthropology. Open to non-majors. (PR: GS)

ANT 6766 RESEARCH METHODS IN APPLIED ANTHROPOLOGY (3) Research design, data collection, and data analysis for Applied Anthropologists with urban and medical interests. Emphasis will be on non-quantitative research methods. Open to non-majors. (PR: GS)

ANT 6908 INDEPENDENT STUDY Var. Independent study in which students must have a contract with an instructor. Rpt. S/U.

ANT 6915 DIRECTED RESEARCH (INTERNSHIP) Var. S/U. (PR: Gr. ML)

ANT 6971 THESIS: MASTER'S Var. Rpt. S/U.

ANT 7703 HISTORY AND THEORY OF APPLIED ANTHROPOLOGY (4) The history and theoretical development of Applied Anthropology, including cultural resources management are discussed in the context of the overall development of Anthropology as a discipline and profession. Open to non-majors. (PR: C)

ANT 7704 LEGAL AND ETHICAL ASPECTS OF APPLIED ANTHROPOLOGY (4) Development and nature of professional ethics in Applied Anthropology, including legal and quasi-legal regulations pertaining to human subjects research, cultural resources management, historic preservation, privacy, and freedom of information. Open to non-majors. (PR: C)

ANT 7760 RESEARCH METHODS IN APPLIED ANTHROPOLOGY (4) Critical review of specific approaches to the development, management, and analysis of sociocultural data. Emphasis on qualitative and quantitative applications of field oriented research designs. Rpt. as topics vary. Open to non-majors. (PR: C)

ANT 7902 DIRECTED INDIVIDUAL STUDY (1-15) An advanced reading program of selected topics in Applied Anthropology under the supervision of an anthropology faculty member. A written contract describing requirements must be signed by the student and faculty member prior to registration. Rpt. S/U. (PR: C)

ANT 7912 DIRECTED RESEARCH (1-4) An advanced directed research program in a selected topic of Applied Anthropology under the supervision of an anthropology faculty member. Rpt. S/U. (PR: C)

ANT 7932 SEMINAR IN APPLIED ANTHROPOLOGY (1-4) A critical examination of problems and issues relevant to contemporary Applied Anthropology, such as the professional practice of Applied Anthropology. Rpt. as topics vary. Open to non-majors. (PR: C)

ANT 7933 SELECTED TOPICS IN APPLIED ANTHROPOLOGY (4) An overview of Applied Anthropology in its relation to a major mode of public/private activity, e.g., planning, clinical practice, policy process, or advocacy. Rpt. as topics vary. Open to non-majors. (PR: C)

ANT 7934 THE CLIENTELE OF APPLIED ANTHROPOLOGY (4) Review of the literature and practice of Applied Anthropology focusing on a specific segment or interest group within contemporary society. Typical offerings include: ethnic minorities, age categories, communities, the poor, migrants, public/private organizations, and industry. Rpt. as topics vary. Open to non-majors. (PR: C)

ANT 7936 APPLIED ANTHROPOLOGY AND HUMAN PROBLEMS (4) Examination of specific problem areas of social significance and policy relevance. Typical offerings include: substance abuse, disease, mental health, international development, urban design, and education. Rpt. as topics vary. Open to non-majors. (PR: C)

ANT 7945 DOCTORAL INTERNSHIP IN APPLIED ANTHROPOLOGY (1-15) Supervised training in practicing Anthropology in a non-academic setting, focusing on the applications of Anthropology. A written contract describing requirements must be signed by the student, the faculty adviser, and the agency supervisor prior to registration. Rpt. S/U. (PR: Admission to Doctoral Candidacy, C)

ANT 7980 DISSERTATION: DOCTORAL (1-15) S/U. (PR: Admission to Candidacy)

DEPARTMENT of COMMUNICATION SCIENCES AND DISORDERS

Chairperson: E.R. Silliman; *Distinguished Professor:* S.O. Richardson; *Professors:* J. Davis, A.M. Guilford, S.W. Kinde, S.I. Ritterman, J.F. Scheuerle, D.C. Shepherd, E.R. Silliman, W. Strange; *Associate Professors:* J.B. Crittenden, N. Dies; *Assistant Professors:* T. Chisolm, B. Loeding; *Instructors:* R. Barnett, R.L. Carlson, W.T. Collins, C. Fernandez, N. Mahecha; *Lecturer:* E.A. Kasan; *Other Faculty:* J. Becker, K. Hollahan, J. Jenkins.

SPA 5132 AUDIOLOGY INSTRUMENTATION (4) Calibration, usage, and specific applications of specialized instruments available in dealing with the identification and measurement of hearing disorders. (PR: C)

Social and Behavioral Science

SPA 5150 ADVANCED SPEECH SCIENCE (3) Must be taken with SPA 5150L. Advanced study of the acoustics, production, and perception of normal and disordered speech. (PR: SPA 3117 or equiv.)

SPA 5150L SPEECH SCIENCE LABORATORY (1) Must be taken with SPA 5150. Laboratory exercises in the use of audio recording, acoustic analysis, and synthesis instrumentation. (PR: SPA 3117 or equiv.)

SPA 5303 AUDIOLOGY: HEARING SCIENCE (3) The study of the physiological acoustics of the auditory periphery; the neuroanatomy and electrophysiology of the central auditory system; and psychoacoustic principles as they relate to clinical audiology measurement paradigms.

SPA 5312 PERIPHERAL AND CENTRAL AUDITORY TESTS (4) The study of behavioral and electrophysiologic clinical tests designed to assess the functions of the peripheral and the central auditory system. Tests that incorporate nonspeech stimuli and those that utilize speech stimuli will be included. (PR: CI)

SPA 5403 COMMUNICATION DISORDERS: LANGUAGE (3) Examination of research and clinical literature presenting major theoretical orientations pertaining to the etiology, evaluations, and treatment of those factors that hinder or interrupt normal language acquisition or function. (PR: CI)

SPA 5506 SPEECH-LANGUAGE PATHOLOGY AND AUDIOLOGY PRACTICUM (1-8) Participation in Speech-Language Pathology and Audiology Practicum in the University clinical laboratory and selected field settings. (PR: CI)

SPA 5552 EVALUATION OF ORAL COMMUNICATION DISORDERS (4) The administration, evaluation, and reporting of diagnostic tests and procedures used in assessment of speech and language disorders. (PR: Admission to the program or CI)

SPA 5558 METHODS FOR ORAL COMMUNICATION DISORDERS (4) An in-depth analysis of classic and contemporary methods employed in the management of communicatively impaired individuals. (PR: CI)

SPA 6106 NEUROLOGICAL CORRELATES OF LANGUAGE (3) Review of the anatomy and physiology of the nervous system. Discuss neurological correlates of receptive and expressive language in verbal and non-verbal transmission and feedback. (PR: CC or delegate)

SPA 6232 CEREBRAL PALSY (3) A study of the medical, physical, occupational, speech, language, and hearing problems of the cerebral palsied. Therapy techniques are reviewed and evaluated. (PR: CI)

SPA 6245 CLEFT PALATE (3) An indepth study of speech, language, and hearing problems associated with cleft lip and cleft palate. Consideration is given to a multidisciplinary approach to therapy and rehabilitation. (PR: CI)

SPA 6305 CHILD AUDIOLOGY (3) Etiologies and manifestations of hearing loss within a pediatric population. Survey of procedures used in early identification and quantified measurement of hearing loss in young and non-communicative children. (PR: SPA 5312)

SPA 6322 TECHNIQUES OF AUDITORY TRAINING AND SPEECH READING (4) A careful analysis of the visual and auditory sense modalities as input systems used to facilitate communication in the hearing impaired. Methods employed in the habilitation of both modalities will be presented. (PR: CI)

SPA 6326 PROCEDURES AND MATERIALS FOR THE HEARING IMPAIRED (3) Curricular adaptation, methods and techniques, and organization necessary for teaching the hearing impaired. (PR: Major in Aural Rehabilitation or CI)

SPA 6329 READING FOR THE HEARING IMPAIRED (2) Techniques and materials for teaching reading to children with auditory disorders. Evaluation and analysis of contemporary programs and methods. (PR: RED 4310, RED 4515, major in Aural Rehabilitation, and CI)

SPA 6345 HEARING AIDS (3) Interpretation of hearing test data as it relates to the selection of hearing aids and the planning of rehabilitation programs for the hearing impaired.

- SPA 6354 HEARING CONSERVATION (3)** An investigation of the hazardous properties of noise and their effects upon the human auditory systems; hearing conservation programs in industry; and the extra-aural effects and control of community noises.
- SPA 6388 ADVANCED MANUAL COMMUNICATIONS AND BASIC INTERPRETING (2)** A continuation of basic courses that expands students signing skills and presents an exposition of sign systems aimed at signing in an English language context. (PR: SPA 4333 or equivalent and C)
- SPA 6401 PEDIATRIC LANGUAGE DISORDERS (3)** An examination of the pre-verbal and language skills of the infant and preschool child, and of the Speech-Language Pathologist's role in the diagnosis, treatment, and as parent-trainer for these children. (PR: C)
- SPA 6410 APHASIA (3)** A consideration of the neurological and psychological aspects of aphasia as they relate to communication disorders. Specific language therapy approaches are discussed and evaluated. (PR: C)
- SPA 6421 LANGUAGE FOR THE HEARING IMPAIRED (4)** Techniques and materials of teaching language to children with auditory disorders. Evaluation and analysis of contemporary methods. (PR: SPA 3020, SPA 3110, SPA 4363, or C)
- SPA 6422 SPEECH FOR THE HEARING IMPAIRED (4)** Application and evaluation of techniques for teaching symbolic functioning to children with hearing impairments. Consideration of developmental and remedial aspects of reading. (PR: SPA 3020, SPA 3110, SPA 4363)
- SPA 6505 PRACTICUM (1-8)** Participation in speech-language pathology and audiology practicum in the University clinical laboratory and selected field settings. (PR: C)
- SPA 6553 ADVANCED DIFFERENTIAL DIAGNOSIS AND TREATMENT PLANNING (3)** The interpretation of evaluation results and the integration of these data in order to make a differential diagnosis leading to an appropriate therapy plan. The administration, evaluation, and reporting of more advanced evaluation techniques not covered in SPA 5552. (PR: C)
- SPA 6905 RESEARCH PROCEDURES IN SPEECH-LANGUAGE PATHOLOGY AND AUDIOLOGY (3)** Advanced research and experimental design techniques employed in clinical and laboratory settings in speech-language pathology and audiology. (PR: C)
- SPA 6906 INDEPENDENT STUDY** Var. Independent study in which students must have a contract with an instructor. Rpt. S/U.
- SPA 6910 DIRECTED RESEARCH** Var. Rpt. S/U. (PR: GR. ML)
- SPA 6930 SELECTED TOPICS (3)** A reading program of topics in speech pathology and/or audiology conducted under the supervision of a faculty member. Rpt. 3 times. (PR: C)
- SPA 6971 THESIS: MASTER'S** Var. Rpt. S/U.
- SPA 7931 SEMINAR IN COMMUNICATION DISORDERS (1-4)** Addressing the central research and clinical issues related to the diagnosis and treatment of communication disorders. (PR: C)

CRIMINOLOGY

Chairperson: W.R. Blount; *Professors:* W.R. Blount, R. Dembo, I. Silverman, M. Silverman, L. Territo; *Associate Professors:* J. Halsted, K.M. Heide, J.T. Reilly, M. Vega; *Assistant Professors:* C. Greek, T. Mieczkowski, R.M. Stanford; *Academic Administrator:* M. Johnson.

- CCJ 6205 THE JUDICIAL PROCESS (3)** Designed to equip the student with an understanding of the evolution and current features that characterize the structure and operations of county, state, and federal courts. (PR: CCJ 6285 or C)
- CCJ 6285 LAW AND CRIMINAL JUSTICE (3)** An exposition of historical and contemporary legal principles, procedures, and issues as reflected in Constitutional provision, statutes, and case law.

CCJ 6305 THEORY, PRACTICE, AND RESEARCH IN CORRECTIONS (3) Examination of the interrelationships between theory and practice in corrections, as these are affected by empirical research and systematic program evaluation.

CCJ 6345 SUPERVISION AND TREATMENT STRATEGIES (3) Designed to acquaint the beginning graduate student with general conditions, skills, and techniques required to provide effective correctional treatment or intervention with adult and juvenile offenders.

CCJ 6405 LAW ENFORCEMENT ADMINISTRATION (3) Examination of the major elements of law enforcement administration and management. Special attention is given to the organization theory and scientific management of law enforcement agencies.

CCJ 6406 THEORY, PRACTICE, AND RESEARCH IN LAW ENFORCEMENT (3) This issue-oriented course explores the relationships among theory, practice, and research as these are reflected in the problems and challenges that confront law enforcement.

CCJ 6455 CORRECTIONAL ORGANIZATION AND ADMINISTRATION (3) A comprehensive overview of the state of the art of correctional organization and administration. This course blends together the most current information from the managerial and behavioral sciences.

CCJ 6605 THEORETICAL APPROACHES TO CRIMINAL BEHAVIOR (3) An introduction to, and comparison of, major historical and contemporary theories that seek to explain criminal behavior.

CCJ 6705 SYSTEMATIC INQUIRY IN CRIMINAL JUSTICE (3) Introduces the basic concepts, terminology, techniques, approaches, and issues in Criminal Justice research, with emphasis on the relationships among theory and research, legal bibliography, and the ethical issues involved in systematic inquiry.

CCJ 6707 RESEARCH AND EVALUATION IN CRIMINAL JUSTICE (4) Introduction to empirical research techniques and principles, statistics, data management, and management information procedures. (PR: CCJ 6705)

CCJ 6725 CORRECTIONAL PLANNING (3) Provides an in-depth examination of urban correctional planning processes, with emphasis on personnel development, budgeting, and facility plans and their implementation.

CCJ 6726 LAW ENFORCEMENT PLANNING (3) Examination of contemporary law enforcement planning which focuses on the techniques and skills required to forecast future needs of police agencies in rapidly expanding metropolitan areas.

CCJ 6910 DIRECTED RESEARCH Var. Rpt. to a maximum of 3 hours toward the M.A. degree. S/U. (PR: ML)

CCJ 6920 PRO SEMINAR IN CRIMINAL JUSTICE (1-2) Provides a forum for presentation and discussion of research ideas by faculty, students, and guests, with a view toward the development of thesis topics. One hour is required for all students and should be taken during first semester.

CCJ 6935 TOPICS IN CRIMINAL JUSTICE (3) Analysis and discussion of topics of major concern in criminal justice that are not covered in regular courses. Rpt.with different subject matter. (PR: GS in the Department)

CCJ 6971 THESIS: MASTER'S Var. Rpt. to 6 hours toward the M.A. S/U. (PR: CCJ 6705)

CCJ 6974 AREA PROJECT Var. Rpt. Required of students not using the thesis option. Maximum of 3 hours toward the Master's degree. S/U. Rpt. to 12. (PR: GS in the Department and CI)

GEOGRAPHY

Chairperson: R.T. Aangeenbrug; *Professors:* R.T. Aangeenbrug, D.M. Stowers; *Professor Emeritus:* H.H. Neuberger, R.H. Fuson, S.C. Rothwell; *Associate Professors:* J.W. Stafford, H.J. Schaleman.

- GEA 6195 SEMINAR IN ADVANCED REGIONAL GEOGRAPHY (3)** Analytic study of a selected region of the world. Rpt. once for credit, but region may not be repeated. (PR: GS in Geography)
- GEO 5058 GEOGRAPHIC LITERATURE AND HISTORY (3)** The origins and development of the discipline as revealed through an examination of the principal written sources. Special attention paid to leading personalities and modern periodicals. (PR: Senior or GS in Geography, or CI)
- GEO 6119 SEMINAR IN ADVANCED TECHNIQUES AND METHODOLOGY (3)** Analytic study of a technique or investigation into an aspect of methodology. Rpt. once for credit, but topic may not be repeated. (PR: GS in Geography)
- GEO 6209C SEMINAR IN ADVANCED PHYSICAL GEOGRAPHY (3)** Analytic study of a problem selected from urban, political, economic, population, or settlement aspects of the cultural landscape. Rpt. once. (PR: GS in Geography)
- GEO 6428 SEMINAR IN ADVANCED CULTURAL GEOGRAPHY (3)** Analytic study of a problem selected from aspects of the cultural landscape (urban, political, economic, population, settlement). Rpt. once. (PR: GS in Geography)
- GEO 6908 INDEPENDENT STUDY** Var. Independent study in which students must have a contract with an instructor. S/U.
- GEO 6918 DIRECTED RESEARCH** Var. Rpt. S/U. (PR: GR. ML)
- GEO 6944 INTERNSHIP IN GEOGRAPHY (3)** The internship in Geography is designed to provide students the opportunity to work in an appropriate governmental agency to gain practical field experience. S/U. (PR: GS in Geography)
- GEO 6945 ACADEMIC METHODOLOGY (3)** Current trends in college Geography, with the emphasis on the Junior College program. Not available to thesis students. (PR: GS in Geography)
- GEO 6947 DIRECTED TEACHING** Var.
- GEO 6971 THESIS: MASTER'S** Var. Rpt. S/U.

GERONTOLOGY

Chairperson: T.A. Rich; *Professors:* J.I. Kosberg, L.C. Mullins, T.A. Rich, S.V. Saxon, H. Shepherd; *Associate Professors:* J.L. Garcia, A.S. Gilmore, W.P. Mangum; *Assistant Professor:* K. Sohn; *Visiting Faculty (Professor):* W. Vasey; *Other Faculty:* H. Briggs, B. Burton, M.J. Etten, J.A. Giordano, J.N. Henderson, L. Leavengood.

- GEY 5620 SOCIOLOGICAL ASPECTS OF AGING (3)** Examines, within a sociological frame of reference, the interrelationships between the aged (or aging) and the structure and function of the social system and its major institutionalized subsystems. (PR: CI)
- GEY 5630 ECONOMICS AND AGING (3)** Examines basic economic systems as they impact the aged. Emphasis is on applied aspects of economic planning, pensions, insurance, social security and other support systems. (PR: CI)
- GEY 5642 PERSPECTIVES ON DEATH AND DYING (3)** Study of the various psychological, medical, legal, and religious problems caused by dying and death, and how individuals and groups have responded in the past and present. (PR: CI)
- GEY 6325 SOCIAL POLICY AND PLANNING FOR GERONTOLOGISTS I (3)** This course is designed to provide an empirical and analytical base for understanding the major issues and trends involved in existing and proposed programs and services in the field of aging at local, state, and federal levels. (PR: CI)
- GEY 6326 SOCIAL POLICY AND PLANNING FOR GERONTOLOGISTS II (3)** This course builds upon the historical and background content provided in Social Policy and Planning for Gerontologists I and provides the student with a specific focus on policy analysis and development. (PR: GEY 6325 or CI)

Social and Behavioral Science

- GEY 6450 GERONTOLOGICAL RESEARCH AND PLANNING (3)** Social research and planning methods in the field of Gerontology. Directed to the consumers of research findings - person whose positions call for the ability to interpret, evaluate, and apply the findings produced by others. (PR: CI)
- GEY 6455 GERONTOLOGICAL RESEARCH AND PLANNING II (3)** A continuation of GEY 6450. Centers on quantitative methodology as it applies to the field of Gerontology. Aimed at preparing the student for more advanced data analysis. (PR: CI)
- GEY 6475 NEEDS ASSESSMENT AND PROGRAM PLANNING (3)** Methods and techniques for assessing needs of older persons and evaluating programs designed to meet their needs. Not Rpt. (PR: GEY 6325, GEY 6450, or CI)
- GEY 6500 SEMINAR IN PRINCIPLES OF ADMINISTRATION I (3)** This course deals with management problems and practices in the administration of institutions in the field of aging. Consideration is given to federal and state legislation, the management of people, and fiscal management. (PR: CI)
- GEY 6501 SEMINAR IN PRINCIPLES OF ADMINISTRATION II (3)** Builds upon GEY 6500. Examines sophisticated administrative processes and methods of organizational change and development. Not Rpt. (PR: GEY 6500 or CI)
- GEY 6600 PHYSICAL AND PSYCHOLOGICAL ASPECTS OF AGING (3)** Study of normal functioning of major organ systems of the body and basic psychological processes as related to the aging process. Changes in functioning in perceptual, motor, and cognitive areas from the developmental perspective.
- GEY 6612 MENTAL HEALTH AND AGING (3)** Emphasizes knowledge and understanding of the basic concepts of mental health and aging and presents a positive approach to the mental well-being of older adults. (PR: CI)
- GEY 6613 PHYSICAL CHANGE, BEHAVIOR, AND AGING (3)** Common normal and pathological physical changes associated with aging will be discussed as they affect behavior. Aspects of physical and mental illness and pharmacology with gerontological relevance will be surveyed. (PR: CI)
- GEY 6614 PSYCHOPATHOLOGY AND AGING I (3)** Examination of the basic principles of abnormal psychopathology and basic concepts of psychopathology. Major theories about behavior and behavior change will be explored. Common gerontological mental health issues will be studied with particular focus upon adjustment to change and loss. (PR: CI)
- GEY 6615 PSYCHOPATHOLOGY AND AGING II (3)** A continuation of Psychopathology and Aging I. It familiarizes the student with the Psychopathology of aging. Major topics in the DSM-III will be covered. (PR: GEY 6614 or CI)
- GEY 6616 MENTAL HEALTH ASSESSMENT OF OLDER ADULTS (3)** Designed to provide the mental health counselor with a basic understanding of evaluation principles and the application of assessment approaches to older adults. (PR: CI)
- GEY 6617 GERONTOLOGICAL MENTAL HEALTH COUNSELING I (3)** Examination of mental health treatment modalities and approaches to counseling with older adults. Personality theories and their relationship to counseling will be included emphasizing the development of a treatment plan through the integration of assessment data. (PR: CI)
- GEY 6618 GERONTOLOGICAL MENTAL HEALTH COUNSELING II (3)** An advanced course directed at clinical practice with older adults. Appropriate techniques and skills will be integrated with models of psychotherapy, counseling, and personality development. Primary focus will be on intervention with groups, families, and couples. (PR: GEY 6617 and CI)
- GEY 6619 MENTAL HEALTH SYSTEMS (3)** An examination of community resources at local, state, and national levels. Methods of linking the mental health system to other systems will be explored. Issues of advocacy, competency, guardianship, ethics, and prevention will be addressed.

GEY 6901 DIRECTED READING (1-4) A reading program of selected topics under the supervision of a faculty member. Rpt. to 4 hours. S/U. (PR: C)

GEY 6910 DIRECTED RESEARCH (1-4) ML. Rpt. to 4 hours. S/U. (PR: C)

GEY 6934 SPECIAL TOPICS IN GERONTOLOGY (3) Courses on topics, such as pre-retirements, mental health, human services organization, and senior center administration. Rpt. with different subject matter to 6 hours. (PR: C)

GEY 6940 FIELD PLACEMENT (6) Internship in an agency or setting. An assignment to an agency or organization engaged in planning or administering programs for older people or in providing direct services to older people. S/U. (PR: C)

GEY 6941 FIELD PLACEMENT IN MENTAL HEALTH (6) A highly structured supervised counseling experience providing mental health services to older adults. S/U. (PR: C)

GEY 6971 THESIS: MASTER'S Var. Rpt. S/U. (PR: C)

HISTORY

Chairperson: Robert R. Ingalls; *Graduate Research Professor:* L.A. Perez, Jr.; *Professors:* J.B. Belohlavek, C.B. Currey, R.R. Ingalls, S.F. Lawson, G.H. Mayer, G.R. Mormino; *Associate Professors:* R.O. Arsenault, D.R. Carr, T.P. Dilkes, N.A. Hewitt, G.H. Kleine, W.M. Murray, K.A. Parker, E.M. Silbert, J.M. Swanson; *Assistant Professors:* G. Benadusi, G.K. Tipps, R.J. Van Neste.

HIS 5215 HISTORY WRITING (2) A course for graduates and advanced undergraduates to combine library, archival, and research skills with an examination of various writing styles. Analytic and synthetic skills are stressed in writing articles, reviews, and essays.

HIS 6085 INTERNSHIP IN HISTORY (1-4) Supervised field placement in a local agency involved in historical planning and preservation. Students will receive practical experience in the fields of archival management, architectural preservation, and state and local research. S/U. (PR: C)

HIS 6112 ANALYSIS OF HISTORICAL KNOWLEDGE (4) A study of history as a form of knowledge with emphasis on explanatory models and the relationships of social science theory to the problems of historical analysis. (PR: GS)

HIS 6908 INDEPENDENT STUDY Var. Independent study in which students must have a contract with an instructor. Rpt. S/U.

HIS 6914 DIRECTED RESEARCH Var. ML. Rpt. S/U. (PR: C)

HIS 6925 COLLOQUIUM IN HISTORY (4) Readings and discussions organized around an in-depth examination of selected topics within the fields. Emphasis of the course is on the review of historiographical, methodological, and interpretative advances as they affect the topics under study. Rpt. as topics vary. (PR: C)

HIS 6939 SEMINAR IN HISTORY (4) Research in selected topics within the fields selected by the instructor. Rpt. as topics vary. (PR: C)

HIS 6971 THESIS: MASTER'S Var. Rpt. S/U.

HUMAN SERVICES

Coordinator: T.A. Rich; *Professors:* J.I. Kosberg, T.J. Northcutt, Jr., S.V. Saxon; *Associate Professors:* J.L. Garcia, A.S. Gilmore, W.P. Mangum; *Visiting Faculty Professor:* W. Vasey; *Other Faculty:* B. Burton, J.A. Giordano.

HUS 5325 INTERVENTION TECHNIQUES (3) Attention will be given to techniques of intervention at individual, small group, and community levels. The need for crisis intervention programs in modern society. (PR: HUS 3001 or C)

POLITICAL SCIENCE

Chairperson: J.E. Benton; *Professors:* R.L. Bowman, R.A. Factor, S.A. MacManus, H.E. Vanden; *Associate Professors:* J.E. Benton, W.E. Hulbary, A.E. Kelley, A.B. Levy, D. Paulson, P.N. Rigos; *Assistant Professors:* M.T. Gibbons, R. Khator, M.M. Milani; *Other Faculty:* M. Amen, K. Glover, H. Nelsen, D. Slider, J.B. Snook, S. Stoudinger.

CPO 5934 SELECTED TOPICS IN COMPARATIVE POLITICS (3) Studies specific substantive areas in Comparative Politics, such as political economy or the politics of specific countries or regions. Rpt. as topics vary.

CPO 6036 POLITICS OF DEVELOPING AREAS (3) Advanced study of ideologies, politics, political institutions, and the socio-economic conditions that influence them in developing nations.

CPO 6091 SEMINAR IN COMPARATIVE POLITICS (3) Extensive examination of the major theories and approaches used in the study of Comparative Politics. Seminar format.

INR 5086 ISSUES IN INTERNATIONAL RELATIONS (3) Explores specific topics and provides the student with an opportunity for indepth study of historical and contemporary problems in international politics. Rpt. as topics vary.

INR 6007 SEMINAR IN INTERNATIONAL RELATIONS (3) Advanced study of international relations, including survey of basic literature, analysis of numerous theoretical and methodological approaches, and analysis of major issues.

INR 6036 SEMINAR IN INTERNATIONAL POLITICAL ECONOMY (3) Advanced study of the development and politics of the international economic system focusing on theoretical and empirical analysis of cooperation and conflict in trade, aid, and investment relationships. (PR: POS 5736 or CI)

INR 6107 AMERICAN FOREIGN POLICY (3) Objectives, formulation, and execution of foreign policy; critical issues and problems confronting the United States. Study of various conceptual, methodological, and theoretical approaches.

POS 5094 ISSUES IN AMERICAN NATIONAL AND STATE GOVERNMENT (3) Selected topics of study in American Government. Rpt. as topics vary.

POS 5155 ISSUES IN URBAN GOVERNMENT AND POLITICS (3) Selected issues and topics in Urban Government and Politics. Rpt. as topics vary.

POS 5736 POLITICAL RESEARCH METHODS (3) A graduate level, introductory survey of empirical research methodology, including statistics and computer data analysis. Topics include measurement, sampling, research design, and selected bivariate analysis techniques. (PR: POS 3713 or equiv.)

POS 6045 SEMINAR IN AMERICAN GOVERNMENT & POLITICS (3) Advanced study of selected topics of institutions and processes of American national government and politics.

POS 6095 SEMINAR IN INTERGOVERNMENTAL RELATIONS (3) Advanced study of selected topics of institutions, processes, and behavior of American state governments and Florida government. Rpt. as topics vary.

POS 6127 ISSUES IN STATE GOVERNMENT AND POLITICS (3) Advanced study of selected topics in institutions, processes, and behavior of American state governments and Florida government. Rpt. as topics vary.

POS 6157 SEMINAR IN URBAN GOVERNMENT AND POLITICS (3) Analysis of literature with emphasis on urban political behavior, development of various theories, and propositions regarding governmental structure and the formation and implementation of public policy.

POS 6247 ISSUES IN POLITICAL BEHAVIOR AND SOCIALIZATION (3) Advanced study of selected topics in political behavior and socialization, including participation and activism, voting, public opinion, and leadership. Rpt.as topics vary.

- POS 6415 THE AMERICAN PRESIDENCY (3)** Analysis of problems and powers of the Presidency with emphasis on crisis management, staffing, legislative leadership, and decision making.
- POS 6427 THE LEGISLATIVE PROCESS (3)** Analysis of formal and informal decision-making processes in legislative bodies, with emphasis on U.S. House of Representatives and U.S. Senate. Executive-legislative conflict and cooperation; input/output analysis.
- POS 6455 POLITICAL PARTIES AND INTEREST GROUPS (3)** Analysis of statutes, functions, and characteristics of political parties and interest groups, as well as their interactions with political processes, actors, and institutions.
- POS 6607 CONSTITUTIONAL LAW (3)** Advanced study of legal, political, philosophic, and methodological problems in constitutional law. (PR: GS or CI)
- POS 6698 SEMINAR IN LAW AND POLITICS (3)** Advanced study of institutions and processes in the field of law and politics. Rpt. as instructor and content vary. (PR: GS)
- POS 6706 SCOPE AND METHODS OF POLITICAL SCIENCE (3)** Introduction to advanced study; the major approaches and methodologies for acquiring political knowledge, intellectual foundations, and applications in various subfields.
- POS 6909 INDEPENDENT STUDY (1-3)** Specialized independent study determined by the student's needs and interests. Needs instructor's consent. S/U. (PR: 3.0 in Political Science)
- POS 6919 DIRECTED RESEARCH** Var. ML. Rpt. S/U. (PR: GR)
- POS 6933 SELECTED TOPICS IN POLITICAL SCIENCE (3)** Selected topics, issues, and problems in political science. Rpt. as topics vary.
- POS 6942 FIELD WORK IN POLITICAL SCIENCE (1-3)** Application of research models now employed in governmental agencies, including development of a structured research proposal. (PR: 3.0 in Political Science and CI)
- POS 6971 THESIS: MASTER'S** Var. Rpt. S/U.
- POT 5626 ISSUES IN POLITICAL PHILOSOPHY AND LAW (3)** Selected topics in political philosophy and law. Rpt. as topics vary. (PR: CI)
- POT 6007 SEMINAR IN POLITICAL THEORY (3)** Provides students who are capable of independent work with the opportunity to explore advanced problems of political theory. (PR: GS or CI)
- PUP 5607 PUBLIC POLICY AND HEALTH CARE (3)** The study of health care policy as it relates to the policy process in the American setting.
- PUP 6007 SEMINAR IN PUBLIC POLICY (3)** Examination of public policy from a theoretical and practical decision analysis will be presented in terms of their usefulness in designing policy.
- URP 6056 CITY AND REGIONAL PLANNING (3)** A review of goals, objectives, and interrelationships between regional and city planning; intergovernmental and policy issues. (Also offered under Public Administration.)

PSYCHOLOGY

Chairperson: L.A. Penner; *Graduate Research Professors:* J.J. Jenkins, H.D. Kimmel, C.D. Spielberger; *Professors:* J.M. Anker, J.L. Brown, R.L. Fowler, E.L. Gesten, M.S. Goldman, M.W. Hardy, B.N. Kinder, R.C. LaBarba, E.L. Levine, H.H. Meyer, C.E. Nelson, D.L. Nelson, L.A. Penner, R.W. Powell, W.A. Russell, J. Sandler, J.B. Sidowski, F. Sistrunk, P.E. Spector, D.E. Stenmark, P.N. Strong; *Associate Professors:* J.A. Becker, J.M. Clingman, M.A. Finkelstein, S.J. Garcia, D. McGuinness, W.P. Sacco, J.K. Thompson; *Assistant Professors:* M. Brannick, C. Cimino, M.D. Coovert, T. Sanocki, S. Schneider; *Other Faculty:* R. Friedman, E.B. Kimmel, T.A. Rich, J.H. Williams, L. Zheutlin, J. Zusman.

Social and Behavioral Science

- CLP 6166 PSYCHOPATHOLOGY (3)** Exploration of current approaches to the understanding of pathological behavior and implications for theories of personality. A survey of treatment methods is included. (PR: Admission to graduate program in Psychology or CI)
- CLP 6438 PSYCHOLOGICAL ASSESSMENT (3)** Courses cover theory, research, and applications of psychological assessment in areas, such as interviewing, intellectual and cognitive functioning, neuropsychodiagnostics, and personality testing. Rpt. with different subject matter. (PR: CI)
- CLP 6937 TOPICS IN CLINICAL PSYCHOLOGY (1-3)** Courses on topics, such as humanistic psychology, community psychology, and clinical neuropsychology. Rpt. with different subject matter. (PR: CI)
- CLP 7188 PSYCHOTHERAPY AND BEHAVIOR CHANGE (3)** Study of the theoretical, empirical, and applied foundations of the major systems of therapeutic intervention. Rpt. with different subject matter. (PR: CI)
- CLP 7379 GRADUATE SEMINAR IN CLINICAL-COMMUNITY PSYCHOLOGY (1-3)** Seminars on topics, such as psychopathology, community psychology, clinical issues, personality, and developmental psychology. Rpt. with different subject matter. (PR: CI)
- DEP 6058 DEVELOPMENTAL PSYCHOLOGY (2)** Basic survey of research and theory in human development with emphasis on early developmental processes. (PR: Admission to graduate program in Psychology or CI)
- DEP 6136 LANGUAGE DEVELOPMENT (3)** Explores the course of and processes underlying normal language development. Presents data and theory on phonological, semantic, syntactic, and pragmatic development, with emphasis on recent research. (PR: Admission to graduate program in Psychology or Communication or CI)
- EXP 6208 PERCEPTION (3)** Current data and theory of perceptual processes. Consideration of psychological variables in perception, and applications of information theory and signal detection theory. (PR: Admission to graduate program in Psychology or CI)
- EXP 6307 MOTIVATION AND EMOTION (3)** A detailed examination of human motivation and emotion from both the physiological and psychological viewpoints. (PR: CI)
- EXP 6406 LEARNING (2)** Survey of research theories, methods, and results in animal and human classical and instrumental (operant) conditioning. Core requirement for all graduate students in Psychology. (PR: Admission to graduate program in Psychology or CI)
- EXP 6526 HUMAN MEMORY (3)** Review of methods, findings, and theoretical interpretations associated with the acquisition and retention of information. (PR: Admission to graduate program in Psychology or CI)
- EXP 6608 COGNITIVE PSYCHOLOGY (2)** A survey of the research and theory dealing with higher mental processes. Core requirement for all graduate students in Psychology. (PR: Admission to graduate program in Psychology or CI)
- EXP 6930 TOPICS IN EXPERIMENTAL PSYCHOLOGY (3)** Electrophysiological methods and psychophysiology. Rpt. with different subject matter. (PR: CI)
- EXP 7099 GRADUATE SEMINAR IN EXPERIMENTAL PSYCHOLOGY (1-3)** Seminars on topics, such as learning, perception, memory, cognitive processes, and quantitative methods. Rpt. with different subject matter. (PR: CI)
- INP 6056 INDUSTRIAL PSYCHOLOGY (3)** An introduction to the major areas of Industrial-Organizational Psychology, including topics on selection and placement, training, criterion development and performance appraisal, job satisfaction and motivation, and organizational theory and structure. (PR: Admission to graduate program in Psychology or CI)
- INP 6935 TOPICS IN INDUSTRIAL-ORGANIZATIONAL PSYCHOLOGY (3)** Courses on topics such as industrial psychology, evaluation of performance in industry, and human factors. Rpt. with different subject matter. (PR: CI)

- INP 7097 GRADUATE SEMINAR IN INDUSTRIAL-ORGANIZATIONAL PSYCHOLOGY (1-3)** Seminars on topics, such as industrial psychology, evaluation of performance in industry, and human factors. Rpt. with different subject matter. (PR: CI)
- PPE 6058 PERSONALITY (2)** Survey of research and theories of personality, including its relationship to the development of normal and abnormal behavior. (PR: Admission to graduate program in Psychology or CI)
- PSB 6056 PHYSIOLOGICAL PSYCHOLOGY (2)** Introduction to data and research methods in Physiological Psychology. Topics include neurophysiology and neuroanatomy, sensory and motor systems, and internal regulation. Core requirement for all graduate students in Psychology. (PR: Admission to graduate program in Psychology or CI)
- PSY 6056 HISTORY AND SYSTEMS OF PSYCHOLOGY (2)** A review of the history of modern psychology with emphasis on the major systematic approaches that have influenced the current structure of psychology. Persisting polarities and common underlying issues are studied in various historical contexts.
- PSY 6217 RESEARCH METHODS AND MEASUREMENT (4)** Courses in research strategies, design and analysis, and measurement theory in psychological experimentation. Inferential statistics, anova correlation methods, and interpretation. Rpt. with different subject matter. (PR: CI)
- PSY 6218 GRADUATE RESEARCH METHODS (1-3)** Special course to be used primarily for the training of graduate research assistants. Var. Rpt. to a total of 5 credits. (S/U only.)
- PSY 6907 INDEPENDENT STUDY** Var. Independent study in which student must have a contract with an instructor. Rpt. S/U.
- PSY 6917 DIRECTED RESEARCH** Var. Rpt. S/U. (PR: GR. ML)
- PSY 6946 PRACTICUM AND INTERNSHIP IN CLINICAL PSYCHOLOGY (1-15)** Supervised training in community and university settings in the application of Psychology. Rpt. (PR: CI)
- PSY 6947 GRADUATE INSTRUCTION METHODS (1-3)** Special course to be used primarily for the training of teaching assistants. Var. Rpt. to a total of 5 credits. S/U.
- PSY 6971 THESIS: MASTER'S** Var. Rpt. S/U.
- PSY 7780 PROGRAM EVALUATION (3)** CLP 6348, SOP 6669 desirable. An overview of principles and practices of program evaluation, including historical background, purposes and methods, planning and implementation, political context, ethics, and utilization. (PR: PSY 6217 A & B or CI)
- PSY 7908 DIRECTED READINGS IN PSYCHOLOGY (1-15)** An advanced reading program of selected topics in Psychology under the supervision of a Psychology faculty member. The reading program is designed to meet the individual requirements and interest of graduate students in Psychology, with selected topics chosen by the student in close collaboration with a faculty member. Rpt. (PR: CI)
- PSY 7918 DIRECTED RESEARCH** Var. Rpt. S/U. (PR: GR. Ph.D. level)
- PSY 7931 SEMINAR IN ETHICS AND PROFESSIONAL PROBLEMS (2)** Ethical issues and professional problems in the practice of psychology. (PR: Second year in Ph.D. program in Psychology or CI)
- PSY 7980 DISSERTATION: DOCTORAL** Var. S/U. (PR: Admission to Candidacy)
- SOP 6059 SOCIAL PSYCHOLOGY (2)** Introduction to theory and research in social psychology. Topics include social recognition, social influence, attitudes, interpersonal interactions, and group behavior. Core requirement for all graduate students in Psychology. (PR: Admission to graduate program in Psychology or CI)

Social and Behavioral Science

SOP 6669 TOPICS IN SOCIAL-ORGANIZATIONAL PSYCHOLOGY (3) Courses on topics, such as experimental social psychology, organizational psychology, attitudes, and group process. Rpt. with different subject matter. (PR: CI)

SOP 7609 GRADUATE SEMINAR IN SOCIAL-ORGANIZATIONAL PSYCHOLOGY (1-3) Seminars on topics, such as social psychology, scientific communications, and decision making. Rpt. with different subject matter. (PR: CI)

PUBLIC ADMINISTRATION

Acting Director: E.M. Silbert; *Professors:* J.E. Jreleat, S.A. MacManus, D.C. Menzel; *Assistant Professor:* J.L. Daly; *Visiting Assistant Professor:* M.Y. Mongkuo.

PAD 5035 ISSUES IN PUBLIC ADMINISTRATION PUBLIC POLICY (3) Selected issues and topics in Public Administration and Public Policy. Rpt. as topics vary.

PAD 5333 CONCEPTS AND ISSUES IN PUBLIC PLANNING (3) Analysis of basic concepts, issues, and strategies of planning, policy determination, collection of information, and decision-making. (PR: URP 4050 or URP 6056)

PAD 5605 ADMINISTRATIVE LAW (3) An examination of the constitutional and statutory bases and limitations of the administrative process, administrative adjudication, rule making, and the judicial review of such actions.

PAD 5612 ADMINISTRATIVE REGULATION (3) Analysis of the regulatory functions and processes in the American political system: regulatory commissions, their functions, powers, management, reforms, and relationship with other branches of government.

PAD 5700 RESEARCH METHODS IN PUBLIC ADMINISTRATION (3) Provides the student with the fundamental skills and knowledge of how research is designed, implemented, analyzed, and utilized in public sector agencies. Available to majors and non-majors.

PAD 5807 ADMINISTRATION OF URBAN AFFAIRS (3) Analysis of the role of the administrator at the municipal level, the division of functions, policy formation, alternative governmental structures, effects on the administrative process.

PAD 5836 COMPARATIVE PUBLIC ADMINISTRATION (3) How organizations and managers perform within a particular environment, potential impact of innovation, and how service is accomplished in a variety of socio-economic environments.

PAD 6037 BUREAUCRACY AND PUBLIC POLICY (3) Analysis of the formal, informal, and societal characteristics of public bureaucracies. A study of the implementation of public policy by bureaucratic agencies.

PAD 6044 ENVIRONMENT OF PUBLIC ADMINISTRATION (3) Examination of the legal, political, and ethical environment in which public managers work.

PAD 6060 PUBLIC ADMINISTRATION THEORY (3) Examination of major theoretical and practical developments in Public Administration with focus on organization theory and current research trends in the field.

PAD 6101 PUBLIC ORGANIZATIONS (3) An indepth study of the nature of public organizations, with emphasis on the structure and process of modern bureaucracy. Topics include comparison of private and public organizations and sources of organizational change.

PAD 6105 PUBLIC ORGANIZATION CHANGE (3) Introduction to problems, diagnosis, strategies, and methodology of changing public organizations.

PAD 6207 PUBLIC FINANCIAL ADMINISTRATION (3) Examination of the fiscal organization of federal, state, and local governments. Current problems in budgeting, revenue, and indebtedness are considered.

PAD 6221 PUBLIC BUDGETING (3) Development, authorization, execution, and assessment of government budgets. Topics include current trends and issues in budget theory and practice, as well as reform efforts.

- PAD 6222 ISSUES IN FLORIDA—BUDGETING AND FINANCE (3)** Selected issues in public financial management and budgeting related to state agencies or local governments in Florida.
- PAD 6307 POLICY ANALYSIS (3)** An introduction to the systematic analysis of public problems, solutions, alternatives, and consequences. The role of the policy analyst/manager is also examined.
- PAD 6312 POLICY DESIGN (3)** The design of public policies and programs, including techniques to assess problems, alternatives, and consequences. Topics include problem analysis, needs assessment, goal setting, cost-effectiveness, and control/monitoring techniques.
- PAD 6327 PUBLIC PROGRAM EVALUATION (3)** Focus on program cycle-planning, development, implementation and evaluation, needs assignment, goal setting, designing alternative program structures, and grant writing.
- PAD 6365 POLICY AND PROGRAM IMPLEMENTATION (3)** The factors and conditions that explain why public policies are implemented in a more or less successful way. Attention is also given to how public managers can be effective implementors.
- PAD 6417 PUBLIC PERSONNEL MANAGEMENT (3)** A study of the major functions in public personnel, including recruiting, selection, testing, training, and development, and employee and human relations in the public service.
- PAD 6427 PUBLIC SECTOR LABOR RELATIONS (3)** A political-legal approach to understanding public sector collective bargaining in the United States. Topics include civil service reform, affirmative action, and equal employment opportunity.
- PAD 6703 QUANTITATIVE AIDS FOR PUBLIC MANAGERS (3)** Survey of techniques and models used in analyzing managerial/policy problems. Topics include microcomputer applications of statistical techniques, cost-benefit analysis, decision theory, linear programming, PERT, and Delphi. (PR: POL 5734, SOC 6526, or CI)
- PAD 6710 COMPUTER APPLICATIONS IN PUBLIC ADMINISTRATION (3)** Introduction to computers and information management systems in public sector organizations. Topics include microcomputers, data management, structured systems analysis, algorithm development, data base design concepts, and design support systems.
- PAD 6907 INDEPENDENT STUDY (1-3)** A flexible format for conceptual or theoretical studies in public administration. Rpt. to 4 hours. S/U. (PR: CI)
- PAD 6909 PROBLEM REPORT (3)** Analysis of a significant administrative or policy problem facing a public agency or manager. Majors only.
- PAD 6915 DIRECTED RESEARCH (1-3)** A flexible format for structured field research in Public Administration. Rpt. up to 6 hours. S/U. (PR: CI)
- PAD 6926 GRADUATE COLLOQUIUM (1)** Variable topics in public affairs and administration using guest lecturers and student-practitioner-faculty panels. Rpt. as topics vary. S/U.
- PAD 6934 SELECTED TOPICS IN PUBLIC ADMINISTRATION (1-4)** A flexible format to offer specialized courses not available within the regular curriculum. Rpt. as topics vary.
- PAD 6935 ADVANCED STUDY IN PUBLIC ADMINISTRATION (3)** A variable topics course intended for doctoral level students in related fields and master's level students who wish to pursue a Ph.D. in Public Administration. Rpt. as topics vary. (PR: Doctoral level standing or 6 credits in PAD)
- PAD 6946 INTERNSHIP IN PUBLIC ADMINISTRATION (4-6)** Structured learning and work experience in a public agency or non-profit organization. Majors only. Rpt. to 6 hours. S/U (PR: CI)
- POS 6159 URBAN POLICY ANALYSIS (3)** Examination of the organizational and administrative aspects of planning, program development, reporting, and evaluation at the local level by state, regional, and other agencies.

URP 5131 IMPLEMENTATION MEASURES IN URBAN/REGIONAL PLANNING (3) Basic legal concepts of land-use planning and implementation, with the use of legal reference materials and academic works; zoning, subdivision regulation, public uses, and environmental issues. Cross-listed with Political Science.

URP 6056 CITY AND REGIONAL PLANNING (3) A review of goals, objectives, and inter-relationships between regional and city planning; intergovernmental and policy issues. Cross-listed with Political Science.

REHABILITATION COUNSELING

Chairperson: C.M. Pinkard; *Professors:* J.F. Dickman, W.G. Emener, J.D. Rasch; *Associate Professors:* P. Gross, M.J. Landsman, C.M. Pinkard, T.J. Wright.

EGC 5065 FOUNDATIONS AND ETHICS (4) An overview of rehabilitation history and introduction to rehabilitation processes and ethical issues in the public and private sectors. Ethical, legal, and professional standards in mental health and rehabilitation counseling are emphasized.

EGC 5376 MEDICAL ASPECTS OF DISABILITY (4) A survey of medical conditions and disabilities encountered by rehabilitation and mental health counselors. Examines the relationship of client handicaps, physical and mental, to rehabilitation and mental health programming.

EGC 5493 SEMINAR I: HUMAN DEVELOPMENT THEORY IN COUNSELING (3) Human development theory as applied in psychotherapy and case management in mental health, addictions, and other rehabilitation settings. Must be taken concurrently with EGC 5850. S/U. (PR: EGC 5065, EGC 5725, CI)

EGC 5496 THEORETICAL ISSUES IN APPLIED ALCOHOL ABUSE IN REHABILITATION COUNSELING (4) An information approach to alcohol abuse. Explores the extent and rate of abuse in the United States, causes of alcoholism, biology of alcoholism, psychosocial aspects, legal aspects, and treatment. (PR: CI)

EGC 5725 INTERPERSONAL COUNSELING I: PERSONALITY THEORY (4) Focuses on the utilization of one's self in rehabilitation and mental health counseling relationships. Emphasis on the experiential exploration and development of interpersonal skills within the context of personality theories. (PR: CI)

EGC 5850 PRACTICUM I (1) Supervised experience and participation in counseling in a variety of rehabilitation settings for a minimum of 120 hours. Must be taken concurrently with EGC 5493. S/U. (PR: EGC 5065, EGC 5725, CI)

EGC 5905 DIRECTED STUDIES (1-4) Supervised rehabilitation studies relevant to student's professional development. Rpt. to 8 hours. (PR: CI)

EGC 6205 INDIVIDUAL EVALUATION AND ASSESSMENT (4) Examines assessment procedures utilized in rehabilitation and mental health counseling settings and critical issues in the evaluation of people who are mentally and physically disabled. (PR: CI)

EGC 6374 VOCATIONAL EVALUATION AND ADJUSTMENT SERVICES OF HANDICAPPED AND DISADVANTAGED PEOPLE (4) An introduction to various systems of vocational evaluation including samples, situation assessment, and on-the-job evaluation. Includes adjustment services.

EGC 6375 PLACEMENT METHODS AND PROCESSES (4) Examination of placement methods and processes with handicapped individuals. Includes a survey of work requirements in different occupations and how these relate to specific functional limitations. (PR: CI)

EGC 6468 PSYCHOSOCIAL AND SEXUAL ASPECTS OF DISABILITY (4) Psychosocial aspects of physical and mental disabilities in contemporary America society. Special emphasis on sexuality counseling for individuals with physical and mental disabilities. (PR: EGC 5065 or CI)

EGC 6470 PRACTICUM IN APPLIED ALCOHOL ABUSE IN REHABILITATION COUNSELING

(4) An extension of EGC 5496 with an emphasis on field work in alcoholism and alcoholism treatment. (PR: EGC 5496 and C)

EGC 6494 SEMINAR II: PSYCHOPATHOLOGY FOR MENTAL HEALTH AND REHABILITATION COUNSELORS

(3) Psychopathology as applied in psychotherapy and case management in mental health, addictions, and other rehabilitation settings. Must be taken concurrently with EGC 6851. S/U. (PR: EGC 5493 or C)

EGC 6497 THEORETICAL AND EXPERIENTIAL APPROACHES TO COUNSELING THE ALCOHOL ABUSER

(4) An extension of EGC 5496 with emphasis on experiential approaches to counseling the alcohol abuser. (PR: EGC 5496 and C)

EGC 6586 THEORY AND PRACTICE IN GROUP WORK

(4) Theoretical and empirical issues of group process are examined in the context of an ongoing group. Emphasis is on application to rehabilitation and mental health counseling. (PR: C)

EGC 6727 INTERPERSONAL COUNSELING II: COUNSELING THEORY

(4) An extension and intensification of rehabilitation and mental health counseling skills developed in EGC 5725. Emphasis is on the experiential exploration and development of interpersonal skills within the context of counseling theory. (PR: EGC 5065, EGC 5725, or C)

EGC 6767 RESEARCH IN REHABILITATION

(4) The evaluation and utilization of available research studies and the development of research skills. An individual research project is required. (PR: C)

EGC 6851 PRACTICUM II

(1) A continuation of the supervised experience and participation in counseling begun in EGC 5850. Must be taken concurrently with EGC 6494. S/U. (PR: EGC 5065, EGC 5850, or C)

EGC 6885 INTERNSHIP IN REHABILITATION

(8) Student placement in an approved intern setting for a minimum of 480 hours of supervised experience. S/U. (PR: Completion of all core courses or C)

EGC 6906 INDEPENDENT STUDY

Var. Independent study in which student must have a contract with an instructor. Rpt. S/U.

EGC 6915 DIRECTED RESEARCH

Var. Rpt. S/U. (PR: GR. ML)

EGC 6934 SEMINAR IN REHABILITATION COUNSELING

(1-4) Selected issues and problems in rehabilitation counseling with subject and scope to be determined by instructor. Rpt. with different content. (PR: C)

EGC 6971 THESIS: MASTER'S

Var. Rpt. S/U.

INTERDISCIPLINARY SOCIAL SERVICES

Director: M. Myerson; *Professors:* C.W. Arnade, L.L. McAlister, H.W. Nelsen, J. Ochshorn, F.U. Ohaegbulam, M.T. Orr, S.M.D. Stamps, Jr., J.H. Williams; *Associate Professors:* N.A. Allen, M.M. Amen, K.R. Glover, A. Hechiche, M. Myerson, D. Slider, J.B. Snook, S.M. Stoudinger; *Assistant Professor:* E.B. Breit.

ISS 5934 SELECTED TOPICS

(1-3) Interdisciplinary studies with course content dependent on student demand and instructor's interest. Rpt. as topics vary. (PR: C plus senior standing or GS)

ISS 6900 DIRECTED READING

(1-3) A supervised program of intensive reading of interdisciplinary materials of specific interest. Rpt. (PR: C and GS)

ISS 6910 DIRECTED RESEARCH

Var. Rpt. S/U. (PR: GR. ML)

SOCIAL WORK

Chairperson: B.Y. Yegidis; *Professor:* T.J. Northcutt, Jr.; *Associate Professors:* J.A. Giordano, T.U. Hancock, W.S. Hutchison, Jr., A.A. Smith, P.L. Smith, R.J. Wilk, B.L. Yegidis; *Assistant Professors:* E.B. Breit, P.A. d'Oronzio, C.S. Roberts, K. Sohn; *Visiting Faculty:* W. Vasey;

Social and Behavioral Science

Courtesy Faculty: Professor: J.I. Kosberg; Associate Professors; D. Boone, A.J. Floyd; Assistant Professors: M.L. Coulter, A.E. Thomas; Instructor: L. Middleton.

SOW 5930 SELECTED TOPICS IN SOCIAL WORK (1-4) Restricted to Social Work majors, both graduate and undergraduate; other by Department permission. Course is taken as an elective. Various title course will selectively expand specific social work content areas. Rpt. in varying topic areas.

SOW 6105 FOUNDATIONS IN HUMAN BEHAVIOR (3) Introduces a systems perspective on understanding the relationships inherent in human growth and development. Special emphasis is placed on issues involving minorities, women, the disabled, various family forms, and sexual preference. (PR: CC)

SOW 6114 INDIVIDUAL GROWTH AND DEVELOPMENT THEORY (2) This course presents various theoretical perspectives in individual growth and development commonly used in clinical practice with individuals, families, and groups. Ethnic, cultural, and lifestyle differences in normative development will be addressed, as will the influence of poverty, resource deprivation, sexual stereotyping, and illness/disability on social functioning. (PR: CC)

SOW 6120 THEORETICAL PERSPECTIVES ON PHYSICAL AND MENTAL DYSFUNCTIONING (5) Addresses the spectrum of psychosocial responses to disease, injury, developmental disabilities and stress of both acute and chronic nature; identifies major forms of psychopathology with focus on etiology, typical response patterns, and treatment implications. (PR: CC)

SOW 6126 DYNAMICS OF DYSFUNCTIONING IN CHILDREN AND YOUTH (2) Study of specific disease, injury, and stress states; etiology and typical response patterns. Parallels dysfunctional states addressed concurrently in treatment course. (PR: CC)

SOW 6129 DYNAMICS OF DYSFUNCTIONING IN THE ADULT AND ELDERLY (2) Study of specific dysfunctional states; etiology and typical response patterns. Parallels dysfunctional states addressed concurrently in treatment course. (PR: CC)

SOW 6234 FOUNDATIONS OF SOCIAL WELFARE POLICY (3) Examines historical antecedents of social welfare as an institution and current state of social welfare programs in America. Emphasis is placed on understanding social, economic, and political forces that shape policies and programs. (PR: CC)

SOW 6236 SOCIAL WELFARE POLICY ANALYSIS AND DESIGN (3) Presents various methods of policy analysis with emphasis on distinctions among legislative, administrative, and judicial policy. Examines roles and responsibilities of the professional practitioner in the policy process. (PR: CC)

SOW 6342 INDIVIDUAL, FAMILY AND GROUP TREATMENT I (3) Application of clinical practice to work with individuals. Psychosocial model is emphasized. Professional laboratory develops skills in practice. (PR: CC)

SOW 6346 FUNDAMENTALS OF SOCIAL WORK PRACTICE (3) Describes full range of social work interventions, from micro to macro. Historical development of practice methods and survey of current techniques. (PR: CC)

SOW 6348 THEORIES OF CLINICAL PRACTICE (2) Theories for clinical practice, with emphasis on the psychosocial model. Explores basic skills for clinical practice. (PR: CC)

SOW 6356 TREATMENT METHODS WITH CHILDREN AND YOUTH (2) Differential psychosocial treatment related to various dysfunctional states with children and youth. Parallels dysfunctional states addressed in concurrent behavior course. (PR: CC)

SOW 6359 TREATMENT METHODS WITH ADULTS AND THE ELDERLY (2) Differential psychosocial treatment related to various dysfunctional states encountered with adults and the elderly. Parallels dysfunctional states addressed in concurrent behavior course. (PR: CC)

SOW 6362 INDIVIDUAL, FAMILY AND GROUP TREATMENT III (3) Emphasizes selection of techniques in the psychosocial model of treatment. Primary focus on family, couple, and parent-child problems. Group treatment modalities are introduced. (PR: CC)

- SOW 6368 INDIVIDUAL, FAMILY AND GROUP TREATMENT II (3)** Focus on psychosocial model of group treatment. Comparison with individual and family modality. (PR: CC)
- SOW 6375 MACRO PRACTICE SEMINAR (3)** MSW students only; other by Department permission. Studies facets of organizational environment in which clinical practice takes place; develops skills in various macro practice functions of the agency, such as supervision, program operations, and interagency relations. (PR: SOW 6435, SOW 6368, SOW 6535)
- SOW 6405 FOUNDATIONS OF SOCIAL WORK RESEARCH AND STATISTICS (3)** This is the first of three research methods courses intended to introduce students to the various methods, designs, measurements, and statistical techniques in social work research. Emphasis will be on group designs and their application in social work practice. (PR: CC)
- SOW 6433 CLINICAL RESEARCH (2)** This is the second in a series of four required research courses. It focuses on the design and implementation of evaluation studies in social work.
- SOW 6435 FIELD RESEARCH I (1)** This is the third in a series of four research courses. It provides the structure for supervision of graduate research projects.
- SOW 6436 FIELD RESEARCH II (1)** This is the fourth and final research course. It provides the mechanism for supervision of the graduate research project.
- SOW 6534 FIELD INSTRUCTION I (4)** Supervised field instruction in a social service agency, consisting of 20 hours per week, plus a 2-hour practice seminar. S/U. (PR: CC)
- SOW 6535 FIELD INSTRUCTION II (6)** Supervised field instruction in a social service agency, consisting of 32 hours per week, plus a 2-hour practice seminar. S/U. (PR: CC)
- SOW 6536 FIELD INSTRUCTION III (4)** Supervised field instruction in a social service agency, consisting of 20 hours per week, plus a 2-hour practice seminar. S/U. (PR: CC)
- SOW 6900 DIRECTED READINGS (1-3)** A reading program in selected topics under supervision of a faculty member. A formal contract must be approved by departmental chair. (PR: Admission to MSW program)
- SOW 6931 SELECTED TOPICS IN SOCIAL WORK (1-4)** Restricted to MSW students; others by Department permission. Variable topic courses will selectively expand on the four sequence areas in the social work curriculum. (PR: C)

SOCIOLOGY

Chairperson: R.H. Wheeler; *Professors:* W.B. Cameron, R.G. Francis, E.G. Nesman, R.H. Wheeler; *Associate Professors:* G.A. Brandmeyer, C.S. Ellis, B.G. Gunter, R.A. Hansen, D.P. Johnson, D.L. Jorgensen, M.B. Kleiman, H.A. Moore; *Assistant Professor:* J. Friedman, C. Hinson, L.W. Kutcher, M. Orru.

- SYA 5949 SOCIOLOGICAL INTERNSHIP (1-6)** Supervised placement in community organization or agency for a minimum of 10 hours of volunteer work per week, and a weekly seminar on applying sociological skills and methods in the placement setting. Rpt. to 6 hours. S/U. (PR: Senior or GS in Sociology plus C)
- SYA 6126 CONTEMPORARY SOCIOLOGICAL THEORY (3)** Emphasizes logical and conceptual dimensions of theory and theory construction. (PR: Undergraduate course in sociological theory or C)
- SYA 6145 TRADITION, CUSTOM, AND MORALS (3)** An examination of the place of tradition, custom, and morals in social life, with special attention to politics, work, social structure, and the problems of the reproduction of social relations. (PR: GS)
- SYA 6175 THEORIES IN COMPARATIVE HISTORICAL SOCIOLOGY (3)** An introduction to theoretical ideas and classic texts in comparative historical sociology and closely related areas of discourse.
- SYA 6305 METHODS OF RESEARCH (3)** Logic and practice of research; problems of observation and data collection, data processing, and evaluation. (PR: Course in social investigation or C)

Social and Behavioral Science

- SYA 6315 QUALITATIVE RESEARCH METHODS (3)** Designed to introduce students to qualitative research methods, such as participant observation and intensive interviewing that require the researcher to get close to the social situation of interest. (PR: Undergraduate course in methods or CI)
- SYA 6348 SURVEY RESEARCH I (3)** The design and execution of a community social survey project. It is anticipated that the student will enroll in SYA 6349 (Survey Research II) the following semester to participate in analyzing the data collected in SYA 6348. (S/U only.)
- SYA 6349 SURVEY RESEARCH II (3)** Analysis of data and writing a research report using data collected in the course in Survey Research I. It is normally expected that the student will have taken SYA 6348 the previous term. S/U.
- SYA 6405 SOCIOLOGICAL STATISTICS (3)** Logic and application of parametric and nonparametric statistical analysis for sociological data. (PR: STA 3122 or CI)
- SYA 6475 COMMUNITY ANALYSIS (3)** Theories of community and community organization. Methods of community study; problems of urban areas. (PR: Course in urban sociology or CI)
- SYA 6505 THE COMMUNICATION OF SOCIOLOGY (1)** Designed to help student define and formalize more effective efforts at communicating sociology. Majors only. (PR: SYA 6305, SYA 6405, SYA 6126, or CI)
- SYA 6909 INDEPENDENT STUDY** Var. Independent study in which student must have a contract with an instructor. Rpt. S/U.
- SYA 6912 DIRECTED RESEARCH** Var. Rpt. S/U. (PR: GR. ML)
- SYA 6933 SPECIAL TOPICS-SOCIOLOGY (3)** Content varies according to interests of students and instructor. Rpt. (PR: CI)
- SYA 6971 THESIS: MASTER'S** Var. Rpt. S/U.
- SYO 5365 INDUSTRIAL SOCIOLOGY (3)** Interaction, communication, and authority in economic organization; the factory as a social system. (PR: SYG 2000 or CI)
- SYO 6125 FAMILY ANALYSIS (3)** Theory of interpersonal relations and interaction in the modern family. Analysis of functions and roles. (PR: Course in family or CI)
- SYO 6406 SOCIOLOGY OF HEALTH AND ILLNESS (3)** Survey of core concepts and current research in the sociology of health and illness: social correlates of disease, health care utilization, physician-patient relations, medical compliance, and illness behavior. Open to all graduate level students. Not offered on S/U basis.
- SYO 6545 COMPLEX ORGANIZATIONS (3)** Organizational theory, bureaucratic models, authority, power legitimation, and types of formal organization. (PR: Course in social organizations or CI)
- SYP 5035 SOCIOLOGY OF SMALL GROUPS (3)** Theory of small group structure, mechanics of interaction, observation of small groups. (PR: SYG 2000 or CI; upper division standing)
- SYP 5055 SOCIAL INTERACTION (3)** Interpersonal influence, complex behavior, role, conflict, and social situational factors. (PR: 3000 or CI; upper division standing)
- SYP 5405 SOCIAL CHANGE (3)** Major theories of social and cultural change, and mechanisms of change in various societies. (PR: 3000 or CI; upper division standing)
- SYP 6005 SOCIAL PSYCHOLOGY SEMINAR (3)** Stresses contemporary developments in social psychological theory and empirical research. (PR: Course in social psychology or CI)
- SYP 6575 DEVIANCE AND CONTROL (3)** Theories of control and deviance, with research application of problem areas. (PR: Course in criminology of juvenile delinquency or CI)

WOMEN'S STUDIES

Coordinator: J. Snook; *Professors:* L. L. McAlister, J. Ochshorn, J. Williams; *Associate Professors:* M. Myerson, J. Snook; *Assistant Professor:* E. Breit; *Courtesy Appointments:* R. Banes, L. Whiteford.

WST 5934 SELECTED TOPICS (1-4) Study of current research methods and scholarship on women from a multi-disciplinary perspective. Rpt. as topics vary. (CI)

WST 6900 DIRECTED READINGS (1-3) Supervised program of intensive readings of an interdisciplinary nature focusing on women. Student must have contract with instructor. Rpt. (PR: CI)

GRADUATE FACULTY

School of Architecture

Architecture

Glasser, David E., M.S.Arch., University of Pennsylvania, 1988
Moore, James A., Ph.D., University of Pennsylvania, 1986
Powers, Daniel S., M.A.Arch., University of Florida, 1974
Ratensky, Alexander, M.Arch., Princeton University, 1972
Weir, Paul R., M.Arch., University of Oregon, 1981

College of Arts and Letters

American Studies

Banes, Ruth A., Ph.D., University of New Mexico, 1978
Brewer, Prissilla J., Ph.D., Brown University, 1987
Harkness, Donald R., Ph.D., University of Minnesota, 1954
Moore, Jack B., Ph.D., University of North Carolina, 1963
Nye, Russel B., Ph.D., Visiting Professor
O'Hara, Robert C., M.A., University of Louisville, 1953
Snyder, Robert E., Ph.D., Syracuse University, 1979

Classics

Clark, John R., Ph.D., University of Michigan, 1965
Mandell, Sara P., Ph.D., New York University, 1969
Motto, Anna L., Ph.D., University of North Carolina, 1953
Murray, William H., Ph.D., University of Pennsylvania, 1982
Noonan, John D., Ph.D., Columbia University, 1973
Tipps, G. Kelly, Ph.D., University of Colorado, 1971

Communication

Bochner, Arthur P., Ph.D., Bowling Green State University, 1971
Cissna, Kenneth N., Ph.D., University of Denver, 1975
Downs, Bernard F., M.A., Northwestern University, 1970
Garko, M., Ph.D., Florida State University, 1988
Jablonski, Carol J., Ph.D., Purdue University, 1979
James, Navita C., Ph.D., Ohio State University, 1981
Newcombe, P.J., Ph.D., Northwestern University, 1963
Payne, D., Ph.D., University of Iowa, 1982
Pettegrew, Loyd S., Ph.D., University of Michigan, 1977
Schneider, Raymond J., Ph.D., University of Michigan, 1965
Smith, David H., Ph.D., Ohio State University, 1966
Vanderford, Marsha L., Ph.D., University of Minnesota, 1981

English

Baum, Rosalie M., Ph.D., University of Detroit, 1976
Broer, Lawrence R., Ph.D., Bowling Green State University, 1968
Bryant, Alma G., Ed.D., University of Florida, 1976
Chisnell, Robert E., Ph.D., Auburn University, 1971
Clark, John R., Ph.D., University of Michigan, 1965
Collins, Paschal J., Ph.D., University of Florida, 1978
Deats, Sara M., Ph.D., University of California at Los Angeles, 1970
Deer, Harriet A., M.A., University of Minnesota, 1964
Deer, Irving, Ph.D., University of Minnesota, 1956
Dietrich, Richard F., Ph.D., Florida State University, 1965
Fabry, Frank J., Ph.D., University of Texas, 1964
Figg, Robert M., III, Ph.D., University of North Carolina, 1965
Fiore, S.R., Ph.D., University of Pittsburgh, 1970
Garrett, William, Ph.D., University of Florida, 1958
Hall, Robert E., M.A., John Carroll University, 1958
Harmon, Maryhelen, C., Ph.D., Florida State University, 1981
Hatcher, John S., Ph.D., University of Georgia, 1968
Heim, William J., Ph.D., Indiana University, 1974
Henley, Elton F., Ph.D., Florida State University, 1962
Hewitt, Regina L., Ph.D., Columbia University, 1987
Hinz, John P., Ph.D., Columbia University, 1959
Hirshberg, Edgar W., Ph.D., Yale University, 1951
Iorio, John J., M.A., Columbia University, 1951
Kaufmann, Donald L., Ph.D., University of Iowa, 1966

Graduate Faculty

Kiefer, H.C., Ph.D., Columbia University, 1961
Mason, Frank T., Ph.D., Michigan State University, 1974
Metzger, Elizabeth A., Ph.D., State University of New York at Buffalo, 1977
Moore, Jack B., Ph.D., University of North Carolina, 1963
Morris, William E., Ph.D., University of North Carolina, 1957
Moxley, Joseph M., Ph.D., State University of New York at Buffalo, 1984
Ochshorn, Myron G., Ph.D., University of New Mexico, 1963
Olson, Gary A., Ph.D., Indiana University of Pennsylvania, 1980
Pawlowski, Robert S., Ph.D., University of Denver, 1968
Reader, Willie D., Ph.D., University of Florida, 1962
Rogers, J.W. Patrick, Ph.D., University of Cambridge, 1968
Rosa, William T., Ph.D., University of Virginia, 1970
Rubin, Steven J., Ph.D., University of Michigan, 1969
Ruffo-Fiore, S., Ph.D., University of Pittsburgh, 1970
Scheuerle, William H., Ph.D., Syracuse University, 1964
Sipiora, Phillip J., Ph.D., University of Texas at Austin, 1985
Smith, Elton E., Ph.D., Syracuse University, 1961
Tyson, Nancy J., Ph.D., Ohio State University, 1981
Walther, John D., Ph.D., Vanderbilt University, 1972
Wells, Daniel A., Ph.D., Duke University, 1972
Wyly, R. Donald, Jr., Ph.D., Ohio State University, 1964
Zbar, Flora J., M.A., Florida State University, 1962

Humanities

Cooper, Clara B., Ph.D., Florida State University, 1969
D'Emilio, James P., Ph.D., University of London, 1989
Gaggi, Silvio L., Ph.D., University of Ohio, 1972
Hoffman, Theodore B., Ph.D., University of the Pacific, 1959
Juergensen, Hans, Ph.D., Johns Hopkins University, 1951
Kashdin, Gladys S., Ph.D., Florida State University, 1965
Rutenberg, Daniel, Ph.D., University of Florida, 1967
Sparks, Amy J., Ph.D., Louisiana State University, 1964
Zylstra, Sape A., Ph.D., Emory University, 1969

Language

Cafilisch, Jacob C., Ph.D., Indiana University, 1974
Camp, John B., Ph.D., Florida State University, 1964
Cano, Carlos J., Ph.D., Indiana University, 1973
Capeas, Cleon W., Ph.D., University of New Mexico, 1964
Cargill, C., Ph.D., Georgetown University, 1974
Cherry, R. Adrian, Ph.D., University of Kentucky, 1960
Cole, Roger W., Ph.D., Auburn University, 1968
Esformes, Maria, Ph.D., University of Colorado, 1977
Grothmann, Wilhelm H., Ph.D., University of Kansas, 1968
Hampton, Warren R., Ph.D., Tulane University, 1968
Hechiche, Anaik J., Ph.D., University of Florida, 1980
Ierardo, Domenick, Ph.D., New York University, 1974
McLean, Edward J., Ph.D., Duke University, 1961
Neugaard, Edward J., Ph.D., University of North Carolina, 1964
O'Hara, Robert C., M.A., University of Louisville, 1953
Peppard, Victor E., Ph.D., University of Michigan, 1974
Preto-Rodas, R.A., Ph.D., University of Michigan, 1966
Probes, Christine M., Ph.D., Tulane University, 1968
Scruggs, C. Eugene, Ph.D., University of Kentucky, 1968
Stelzmann, Rainulf A., Ph.D., University of Freiburg, 1953
Tatum, James C., Ph.D., Tulane University, 1968

Mass Communication

Bagley, Dan S., III, Ph.D., University of Tennessee, 1977
Brown, Karen F., Ph.D., University of Tennessee, 1982
Counts, Tilden M., Ph.D., University of North Carolina, 1972
Dickerson, Donna L., Ph.D., Southern Illinois University, 1977
Fudge, William G., Ph.D., Florida State University, 1975
Garcia, Mario R., D.A., University of Miami, 1976
Katz, Elaine F., Ed.D., Vanderbilt University, 1982
Kerns, Robert L., M.A., Syracuse University, 1970
Leslie, Larry Z., Ph.D., University of Tennessee, 1986
Lucoff, Manny, Ph.D., University of Iowa, 1971

Sasser, Emery L., Ph.D., University of Illinois, 1967

Philosophy

Anton, John P., Ph.D., Columbia University, 1954
 Beil-Waugh, Joanne, Ph.D., University of Southern California, 1980
 Bell, James A., Ph.D., Boston University, 1969
 Gould, James A., Ph.D., University of Michigan, 1953
 McAlister, Linda L., Ph.D., Cornell University, 1969
 Myerson, Marilyn, Ph.D., State University of New York at Buffalo, 1976
 Shrader-Frechette, Kristin, Ph.D., Notre Dame, 1971
 Silver, Bruce S., Ph.D., University of Colorado, 1971
 Taylor, Richard, N., M.Phil., Yale University, 1969
 Truitt, Willis H., Ph.D., Boston University, 1968
 Turner, Stephen, Ph.D., University of Missouri, 1975
 Weatherford, Roy C., Ph.D., Harvard University, 1972
 Wiredu, Kwasi, Ph.D., Oxford University, 1960

Ancient Studies (See Religious Studies)

Fasching, Darrell J., Ph.D., Syracuse University, 1978
 Katz, Nathan, Ph.D., Temple University, 1978
 Mitchell, Mozella G., Ph.D., Emory University, 1980
 Shea, William M., Ph.D., Columbia University, 1974
 Smith, Elton E., Ph.D., Syracuse University, 1961
 Strange, James F., Ph.D., Drew University, 1970
 Tremmel, William C., Th.D., Iliff School of Theology, 1950

College of Business Administration

Accounting

Dennis, David M., Ph.D., University of Missouri, 1972
 Harris, Lebrone C., D.B.A., Florida State University, 1970
 Hooks, Karen L., Ph.D., Georgia State University, 1981
 Keith, Robert M., Ph.D., University of Alabama, 1969
 Martin, James R., Ph.D., University of Alabama, 1976
 Moon, James E., Ph.D., University of Alabama, 1970
 Smith, Jack L., Ph.D., University of Mississippi, 1969
 Stephens, William L., D.B.A., Florida State University, 1971
 West, Robert J., M.S., Florida State University, 1961

Economics

Bellante, Donald M., Ph.D., Florida State University, 1971
 Brunhild, Gordon, Ph.D., University of Southern California, 1957
 Curtis, Thomas D., Ph.D., Indiana University, 1965
 Cushman, David O., Ph.D., Vanderbilt University, 1980
 DeSalvo, Joseph S., Ph.D., Northwestern University, 1968
 Dye, Howard S., Ph.D., Cornell University, 1949
 Green, Carole A., Ph.D., University of Illinois, 1982
 Hanni, Eila A., Ph.D., Yale University, 1970
 Herander, Mark G., Ph.D., University of North Carolina, 1979
 Herman, W. James, Ph.D., University of Florida, 1965
 Kogut, Carl A., Ph.D., Texas A&M University, 1984
 Porter, Phillip K., Ph.D., Texas A&M University, 1978
 Rowe, John W., Jr., Ph.D., University of Illinois, 1966
 Shows, E. Warren, Ph.D., Georgia State University, 1968
 Spence, James G., Ph.D., University of Oklahoma, 1979
 Thomas, Christopher R., Ph.D., Texas A&M University, 1980
 Wilson, Robert M., Ph.D., Northwestern University, 1977

Finance

Beenhakker, Arie, Ph.D., Purdue University, 1964
 Besley, Scott, Ph.D., Florida State University, 1984
 Bolten, Steven F., Ph.D., New York University, 1969
 Bulmash, Samuel, Ph.D., Northwestern University, 1981
 Cox, Robert G., Ph.D., University of Pennsylvania, 1956
 Kapplin, Steven, Ph.D., Georgia State University, 1979
 Kares, Peter, Ph.D., Purdue University, 1968
 Meyer, Richard L., Ph.D., University of Wisconsin, 1971
 Pappas, James L., Ph.D., University of California at Los Angeles, 1968
 Rivard, Richard J., Ph.D., Texas A&M University, 1978
 Wieand, Kenneth F., Ph.D., Washington University, 1970

Graduate Faculty

Information Systems and Decision Sciences

Alexander, Mary B., Ph.D., Indiana University, 1988
Allen, Harold C., Ph.D., University of Florida, 1969
Birkin, Stanley J., Ph.D., University of Alabama, 1969
Blanton, James E., Ph.D., University of Georgia, 1983
Hodgson, John S., Ph.D., University of Virginia, 1971
Hufnagel, Ellen M., Ph.D., University of Pittsburgh, 1988
Johnson, Thomas E., Ph.D., University of Alabama, 1971
Sincich, Terry L., Ph.D., University of Florida, 1980
Waltz, Alfred J., Ph.D., Georgia State University, 1984
White, Michael J., Ph.D., University of Florida, 1972
Will, Richard P., Ph.D., University of Houston, 1988

Management

Balfour, Alan G., Ph.D., Michigan State University, 1975
Bartlett, Alton C., Ph.D., University of Wisconsin, 1964
Cohen, Cynthia F., Ph.D., Georgia State University, 1980
Dutton, Richard E., Ph.D., Louisiana State University, 1963
Jermier, John, Ph.D., Ohio State University, 1979
Knippen, Jay T., D.B.A., Florida State University, 1970
McIntosh, Nancy, Ph.D., University of Florida, 1984
Michaels, Charles E., Ph.D., University of South Florida, 1983
Nixon, Robert L., Ph.D., Cornell University, 1976
Schilit, W. Keith, Ph.D., University of Maryland, 1982
Schroder, Harold M., Ph.D., Ohio State University, 1954
Wheelen, Thomas L., D.B.A., George Washington University, 1969

Marketing

Anderson, Robert L., Ph.D., North Texas State University, 1971
Baumgarten, Steven A., Ph.D., Purdue University, 1971
DeBord, Warren A., Ph.D., University of Illinois, 1969
Duffus, Lee R., Ph.D., Purdue University, 1979
Hensel, James S., Ph.D., Ohio State University, 1970
Lagace, Rosemary R., Ph.D., University of Cincinnati, 1987
Lambert, Douglas M., Ph.D., Ohio State University, 1975
Ness, Thomas E., Ph.D., Purdue University, 1968
Ortinou, David J., Ph.D., Louisiana State University, 1979
Solomon, Paul J., Ph.D., Arizona State University, 1974
Stamps, Miriam B., Ph.D., Syracuse University, 1982
Stock, James R., Ph.D., Ohio State University, 1975
Towery, Henry H., D.B.A., Florida State University, 1968
Twible, Jacquelyn L., Ph.D., University of Massachusetts, 1989

College of Education

Adult and Vocational Education

James, Wayne B., Ed.D., University of Tennessee, 1976

Childhood/Language Arts/Reading Education

Anderson, Nancy, Ed.D., University of Southern Mississippi, 1982
Clarke, Barbara K., Ph.D., Florida State University, 1977
Forseth-Helton, Sonia, Ph.D., University of Minnesota, 1976
Goforth, Frances S., Ed.D., Indiana University, 1966
Greabell, Leon C., Ed.D., Syracuse University, 1969
Griffith, Priscilla, Ph.D., University of Texas, 1987
Hanley, Patricia, Ph.D., University of Florida, 1976
Homan, Susan P., Ph.D., University of Florida, 1978
Kasten, Wendy, Ph.D., University of Arizona, 1984
Klesius, Janell P., Ph.D., Florida State University, 1980
Lowe, Alvin J., Ed.D., University of Virginia, 1967
Mann, Marcia, Ph.D., University of Nebraska, 1970
Neville, Donald D., Ed.D., University of Florida, 1961
Searls, Evelyn F., Ed.D., University of Miami, 1971

Counselor Education

Drapela, Victor J., Ph.D., University of North Dakota, 1968
Panther, Edward E., Ed.D., State University of New York at Buffalo, 1969

Educational Leadership

Hunt, John L., Ed.D., Harvard University, 1968
Orlosky, Donald E., Ed.D., Indiana University, 1959
Peterson, Donovan D., Ph.D., University of Pittsburgh, 1970

Snyder, Karolyn J., Ed.D., Texas Tech University, 1977

Villeme, Melvin G., Ed.D., Nova University, 1975

Educational Measurement and Research

Carey, Lou M., Ph.D., Florida State University, 1976

Hall, Bruce W., Ed.D., Florida State University, 1969

Stone, Douglas E., Ph.D., University of Chicago, 1962

Instructional Computing

Troutman, Andria, Ed.D., University of Florida, 1971

Physical Education

Hoffman, Hubert A., P.E.D., Indiana University, 1969

Young, Jane F., Ph.D., Florida State University, 1986

Psychological and Social Foundations

Anderson, E. Christian, Ph.D., University of Michigan, 1964

Bostow, Darrell E., Ph.D., Southern Illinois University, 1970

Burley, W. Wade, Ph.D., University of North Carolina, 1970

Carroll, DeLos L., Ed.D., University of Florida, 1969

Follman, John C., Ph.D., Indiana University, 1968

Johanningmeier, Erwin V., Ph.D., University of Illinois, 1967

Kimmel, Ellen B., Ph.D., University of Florida, 1965

Knoff, Howard M., Ph.D., Syracuse University, 1980

School of Library and Information Science

Gregory, Vicki L., Ph.D., Rutgers University, 1987

Grover, Robert J., Ph.D., Indiana University, 1976

Pfister, Fred C., Ph.D., University of Michigan, 1970

Secondary Education

Karl, Herbert G., Ph.D., Florida State University, 1971

Kase-Polisini, Judith B., M.A., Case Western Reserve University, 1956

Kazanis, Barbara J., Ed.D., Pennsylvania State University, 1973

Nelson, Marie W., Ed.D., University of Georgia, 1981

Phillips, E. Ray, Ph.D., Purdue University, 1971

Puglisi, Dick J., Ph.D., Georgia State University, 1973

Spector, Barbara, Ph.D., Syracuse University, 1977

Special Education

Epanchin, Betty, Ed.D., Duke University, 1975

Guetzloe, Eleanor C., Ed.D., University of Florida, 1975

Mausser, August J., Ed.D., Indiana University, 1968

Paul, James, Ed.D., Syracuse University, 1967

College of Engineering

Chemical Engineering

Bhethanabolta, Venkat R., Ph.D., Pennsylvania State University, 1987

Busot, J. Carlos, Ph.D., University of Florida, 1970

Campbell, Scott W., Ph.D., Northwestern University, 1986

Garcia-Rubio, Luis, Ph.D., McMaster University, 1981

Gilbert, Richard, Ph.D., University of South Florida, 1981

Lee, William E., Ph.D., University of Cincinnati, 1984

Smith, Carlos A., Ph.D., Louisiana State University, 1972

Sunol, Aydin K., Ph.D., Virginia Polytechnic Institute, 1982

Civil Engineering and Mechanics

Anderson, Melvin W., Ph.D., Carnegie-Mellon University, 1967

Carnahan, Robert P., Ph.D., Clemson University, 1973

Carpenter, William, Ph.D., North Carolina State University, 1976

Echelberger, Jr., Wayne F., Ph.D., University of Michigan, 1964

Engel, Renata A., Ph.D., University of South Florida, 1988

Franques, John T., Ph.D., Louisiana State University, 1971

Janandhanam, Rajaram, Ph.D., Virginia Polytechnic Institute, 1981

Kranc, Stanley C., Ph.D., Northwestern University, 1968

Murphy, Robert J., Ph.D., University of Oklahoma, 1971

Oline, Larry W., Ph.D., Georgia Institute of Technology, 1968

Ross, Bernard E., Ph.D., University of Florida, 1964

Sagues, Alberto, Ph.D., Case Institute of Technology, 1972

Sen, Rajan, Ph.D., State University of New York at Buffalo, 1984

Stessel, Richard I., Ph.D., Duke University, 1983

Zayed, Abia M., Ph.D., North Carolina State University, 1986

Computer Science and Engineering

Al-Arian, Sami, Ph.D., North Carolina State University, 1986

Graduate Faculty

Bowyer, Kevin, W., Ph.D., Duke University, 1980
Glass, Harvey, D.Sc., Washington University, 1965
Hall, Lawrence O., Ph.D., Florida State University, 1986
Maurer, Peter, Ph.D., Iowa State University, 1982
Mehrotra, Rajiv, Ph.D., Wayne State University, 1986
Naylor, Clark, Ph.D., University of Wisconsin, 1971
Perez, Rafael, Ph.D., University of Pittsburgh, 1973
Ranganathan, N., Ph.D., University of Central Florida, 1988
Rundus, Dewey, Ph.D., Stanford University, 1970
Tokuta, Alade O., Ph.D., University of Florida, 1984
Varanasi, Murali, Ph.D., University of Maryland, 1973
Walford, Robert B., Ph.D., University of Southern California, 1967

Electrical Engineering

Ammons, James M., Ph.D., University of South Florida, 1980
Bowers, James C., Sc.D., Washington University, 1964
Buckle, Kenneth, Ph.D., University of Wisconsin, 1984
Burdick, Glenn A., Ph.D., Massachusetts Institute of Technology, 1961
Chen, Charles T.M., Ph.D., University of Minnesota, 1964
Chiou, Yun-Leei, Ph.D., Purdue University, 1969
Chu, Shirley, Ph.D., University of Pittsburgh, 1961
Chu, Ting, Ph.D., Washington University, 1952
Cottle, James G., Jr., Ph.D., University of South Florida, 1987
Donaldson, Merle, R., Ph.D., Georgia Institute of Technology, 1959
Garrett, Samuel J., Sc.D., University of Pittsburgh, 1963
Gondeck, Allan R., Ph.D., University of Florida, 1973
Henning, Rudolf E., Sc.D., Columbia University, 1954
Hoff, Andrew M., Ph.D., Pennsylvania State University, 1988
Jain, Vijay K., Ph.D., Michigan State University, 1964
King, Firman D., Ph.D., University of Florida, 1980
Ko, Wai Lee, Ph.D., University of Illinois, Urbana, 1976
Kovac, Michael G., Ph.D., Northwestern University, 1970
Lachs, Gerard, Ph.D., Syracuse University, 1964
Landis, David, Ph.D., Pennsylvania University, 1982
Leffew, James T., Ph.D., University of South Florida, 1985
Levinson, Deborah P., Ph.D., University of South Florida, 1988
McGinnis, Charles E., M.S.E.E., Massachusetts Institute of Technology, 1954
Nienhaus, Harry A., M.S., University of St. Louis, 1964
Sankar, Ravi, Ph.D., Pennsylvania State, 1985
Snider, David A., Ph.D., New York University, 1971
Stefanakos, Elias K., Ph.D., Washington State University, 1969
Vogelsohn, Ronald S., Ph.D., University of South Florida, 1985
Wade, Thomas E., Ph.D., University of Florida, 1974
Wiley, Paris H., Ph.D., Virginia Polytechnic Institute, 1973

Industrial and Management Systems Engineering

Babu, A.J.G., Ph.D., Southern Methodist University, 1980
Brown, John Lott, Ph.D., Columbia University, 1952
Callahan, Anita L., Ph.D., Leland Stanford Jr. University, 1989
Khator, Suresh K., Ph.D., Purdue University, 1975
Kunak, Denny V., Ph.D., University of Utah, 1983
Leung, Lawrence C., Ph.D., Virginia Polytechnic Institute & State University 1983
Miller, William A., Ph.D., Clemson University, 1987
Okogbaa, O. Geoffrey, Ph.D., University of Cincinnati, 1988
Weaver, Lee A., Ph.D., University of Florida, 1972

Mechanical Engineering

Besterfield, Glen H., Ph.D., Northwestern 1989
Crane, Roger A., Ph.D., Auburn University, 1973
El-Shafei, Aly, Ph.D., Massachusetts Institute of Technology, 1988
Flowers, George T., Ph.D., Georgia Institute of Technology, 1988
Kaw, Autar, Ph.D., Clemson University, 1987
Porteiro, Jose, Ph.D., Rutgers University, 1980
Scott, Linus A., Ph.D., Case Institute of Technology, 1960
Smith, William A., Ph.D., University of Florida, 1966
Wilkinson, Stuart, Ph.D., University of Southampton, England, 1984
Ying, Shuh-Jing, Ph.D., Harvard University, 1965

College of Fine Arts

Arts

Covington, Harrison W., M.F.A., University of Florida, 1953
 Cox, Ernest L., M.F.A., Cranbrook Academy of Art, 1961
 Davis, Sandra, M.F.A., San Francisco Art Institute, 1978
 Dietrich, Linnea M., Ph.D., University of Delaware, 1972
 Eaker, Alan, M.A., University of California at Berkeley, 1969
 Elmeer, Diane E., M.F.A., University of South Florida, 1976
 Fager, Charles J., M.F.A., University of Kansas, 1963
 Gelinias, Robert W., M.F.A., University of Alabama, 1958
 Hirt, Victoria, M.F.A., Rhode Island School of Design, 1986
 Houk, Claude W., M.F.A., University of Iowa, 1950
 Kronsoble, Jeffrey M., M.F.A., University of Michigan, 1963
 Larsen, Mernet R., M.F.A., Indiana University, 1965
 Lyman, Charles P., M.S., Illinois Institute of Technology, 1969
 Marcus, Louis S., M.F.A., University of Colorado, 1982
 Marsh, Bruce L., M.A., California State University, 1965
 McLaughlin, Thom E., M.F.A., Indiana University, 1978
 Miller, Margaret A., M.A., University of Hawaii, 1970
 Nickels, Bradley J., Ph.D., Indiana University, 1966
 Pappas, George, Ed.D., Pennsylvania State University, 1957
 Rosenzweig, Daphne L., Ph.D., Columbia University, 1973
 Saff, Donald J., Ed.D., Columbia University, 1964
 Wright, David R.E., Ph.D., Princeton University, 1976
 Wujcik, Theo F., Certificate, Society of Arts and Crafts, 1962

Dance

Berger, Lawrence, Diploma, The Juilliard School, 1963
 Hug, William, M.A., University of Illinois, 1960

Music

Abram, Jacques, Diploma, The Juilliard School, 1938
 Albers, Bradley G., D.M.A., University of Illinois, 1978
 Borkowski, Francis T., Ph.D., West Virginia University, 1967
 Bridges, Virginia, Ph.D., Pennsylvania, 1984
 Cullison, Larry R., M.F.A., University of Iowa, 1973
 Doane, Christopher P., Ph.D., Ohio State University, 1981
 Froelich, Ralph O., B.S., The Juilliard School, 1958
 Glazer, Esther, Artists Degree, The Juilliard School, 1950
 Hawkins, Anne L., M.A., University of South Florida, 1970
 Heller, Jack J., Ph.D., University of Iowa, 1962
 Helps, Robert E., Professor of Music, 1980
 Holm, Kathryn C., M.M., Cleveland Institute of Music, 1975
 Holzman, Adam, Ph.D., Florida State University, 1986
 Jaworski, Warren W., D.M., University of Michigan, 1961
 Jones, Hilton K., M.M., Eastman School of Music, 1968
 Khorsandian, Jan K., M.S., University of Illinois, 1970
 Kneeburg, Donald W., M.M., Indiana University, 1962
 Keesecker, Jeffrey, M.M., The Juilliard School, 1985
 Lewis, James E., M.M., University of Illinois, 1965
 McCormick, Robert M., M.A., San Jose State University, 1973
 Monroe, Annetta Y., B.M., Oberlin College, 1977
 Moorhead, J. Brian, M.M., Northwestern University School of Music, 1979
 Moses, Clifford D., M.M., Cleveland Institute of Music/Case Western Reserve, 1975
 Owen, Charles R., Jr., M.A., California State University, 1979
 Owen, William D., M.M., North Texas State University, 1960
 Preodor, Edward C., M.M., Eastman School of Music, 1937
 Rearick, Martha N., M.M., University of Michigan, 1961
 Reynolds, Jerald M., M.M., University of Oregon, 1963
 Richmond, John W., M.M., University of Missouri at Kansas City, 1980
 Robison, John O., D.M.A., Stanford University, 1975
 Smith, John L., D.M.A., University of Missouri, 1979
 Stevens, Noel S., D.M.A., Eastman School of Music, 1959
 Summer, Averill V., D.M.A., Indiana University, 1979
 Summer, Robert J., D.M.A., Indiana University, 1978
 Votta, Michael, D.M.A., Eastman School of Music, 1986

Graduate Faculty

Warfield, Nancy R., M.M., Temple University, 1984
Watkins, Armin J., D.M.A., Indiana University, 1957
Woodbury, Arthur N., M.M., University of Idaho, 1955
Woodruff, William S., M.M., Northwestern University, 1963

Music Education

Bridges, Virginia A., Ph.D., Ohio State University, 1965
Doane, Christopher, Ph.D., Ohio State University, 1981
Heller, Jack J., Ph.D., University of Iowa, 1962
Jennings, Vance, D.M.E., University of Oklahoma, 1972
Richmond, John W., M.M., University of Missouri at Kansas City, 1980

Theatre

Belt, Jack W., M.F.A., University of Florida, 1967
Bentley, Mary Ann M., B.A., University of South Florida, 1962
Bray, Lloyd, M.A., University of North Carolina, 1965
Calandra, Denis M., Ph.D., University of Nebraska, 1970
Cole, Nancy B., M.F.A., Iowa State University, 1964
Finelli, Patrick M., M.A., University of California at Berkeley, 1975
Lee, Barton W., M.A., West Virginia University, 1978
Lillethun, Abby G., M.F.A., Florida State University, 1980
Lorenzen, William A., M.F.A., Tulane University, 1966
Massie, Paul, P.D., Central School of Speech and Drama in London, 1954
O'Sullivan, Peter B., M.A., University of North Carolina, 1957
Steele, Christopher, M.F.A., Southern Methodist University, 1979
Stephens, Gerald B., M.A., Governors State University, 1972
Williams, David K., M.F.A., Florida State University, 1980

Theatre Education

Kase-Polisini, Judith B., M.A., Case Western Reserve University, 1956

Florida Mental Health Institute

Anderson, Carmen, M.A., University of Puerto Rico, 1981
Anderson, Kenneth, M.A., Duquesne University, 1982
Angrosino, Michael V., Ph.D., University of North Carolina, 1972
Bachrach, Leona L., Ph.D., University of Connecticut, 1960
Ball, Espy, Ph.D., Pennsylvania State University, 1967
Battane, Gary R., M.A., University of Detroit, 1977
Baum, Danielle, Ph.D., Ohio University, 1983
Bedlington, Martha M., Ph.D., University of Kansas, 1982
Blau, Theodore, Ph.D., Pennsylvania State University, 1951
Boyd, L. Adlai, Ph.D., Temple University, 1978
Bradenburg, Nancy A., Ph.D., University of Texas, 1984
Briscoe, Richard V., Ph.D., Florida State University, 1983
Burr, Diane W., M.A., University of South Florida, 1984
Bursten, Peter M., Ph.D., University of California, Davis, 1982
Clark, Hewitt B., Ph.D., University of Kansas, 1972
Cotter, Leo P., Ph.D., Florida State University, 1982
Dalen, Don V., Ph.D., Columbia Pacific University, 1981
Delgado, Lisa H., R.N., B.A., St. Leo College, 1982
Dembo, Richard, Ph.D., New York University, 1970
Dertke, Max C., Ph.D., University of Miami, 1968
Dow, Michael G., Ph.D., Pennsylvania State University, 1983
Doyle, James P., M.S., Cornell University, 1966
Drash, Philip W., Ph.D., Texas Technological University, 1963
Duchnowski, Albert J., Ph.D., Vanderbilt University, 1969
Dupree, Larry W., Ph.D., Memphis State University, 1980
Dwyer, Neal, M.A., University of South Florida, 1982
Friedman, Robert M., Ph.D., Florida State University, 1970
Gibertini, Michael, Ph.D., University of Houston, 1984
Giordano, Nan H., Ph.D., University of Georgia, 1982
Gonzalez, Eduardo O., M.D., University of Salamanca, Spain, 1966
Gonzalez, Joe V., M.D., University of Florida Medical School, 1961
Hussain, Sajjad F., M.D., University of Baroda, India, 1967
Ichinose, Craig K., Ph.D., University of Portland, 1973
Jacobson, Brian H., Ph.D., University of Kansas, 1973
Jenkins, Katura D., Ph.D., University of South Florida, 1984
Knox, Michael D., Ph.D., University of Michigan, 1974
Kutash, Krista, M.B.A., University of South Florida, 1984

Laws, D. Richard, Ph.D., Southern Illinois University, 1969
 Levin, Bruce L., D.P.H., University of Texas, 1983
 McEvoy, Cathy L., Ph.D., University of South Florida, 1982
 Moon, James R., Ph.D., Virginia Polytechnic Institute, 1982
 Naster, Barry, Ph.D., Southern Illinois University, 1969
 Nyberg, Terry C., M.A., West Virginia University, 1982
 Osborn, Candice, M.A., University of Southern Mississippi, 1974
 Osnes, Pamela, M.A., West Virginia University, 1981
 Panacek, Luanne J., M.A., University of South Florida, 1985
 Paris, Francis M., M.P.H., University of California, 1959
 Peters, Roger, Ph.D., Florida State University, 1986
 Powell, Diane, Ph.D., Florida State University, 1971
 Sanford, Barbara, M.D., University del Noreste, Mexico, 1982
 Schonfeld, Lawrence I., Ph.D., University of South Florida, 1981
 Silver, Starr E., Ph.D., University of Florida, 1983
 Smith, Linda G., M.A., University of South Florida, 1983
 Stokes, Trevor, Ph.D., University of Kansas, 1977
 Swanson, Richard M., Ph.D., J.D., University of Colorado, 1970
 Trehuba, Sharon, M.A., Nova University, 1981
 Ward, John C., Ph.D., University of South Florida, 1981
 Weinberg, Richard B., Ph.D., University of South Florida, 1983
 West, Helen, Ph.D., University of Pittsburgh, 1972
 Wilder, Bessie, R.N., Methodist Hospital School of Nursing, 1951
 Zusman, Jack, M.D., Albert Einstein College of Medicine, 1960

College of Medicine

Anatomy

Brown, H. Keith, Ph.D., Tulane University, 1974
 Cameron, Don F., Ph.D., Medical University of South Carolina, 1977
 Chen, Li-Tsun, Ph.D., University of Alberta, 1968
 Dwornik, Julian, Ph.D., University of Manitoba, 1969
 Gerdes, A. Martin, Ph.D., University of Texas, 1978
 Hilbellink, Don R., Ph.D., Medical College of Wisconsin, 1977
 Nolan, Michael F., Ph.D., Medical College of Wisconsin, 1975
 Ogden, John A., M.D., Yale University, 1968
 Phelps, Christopher P., Ph.D., Rutgers University, 1973
 Rhodin, Johannes A.G., M.D., Karolinska Institute, 1954
 Saporta, Samuel, Ph.D., University of Southern California, 1973
 Schnitzlein, Harold N., Ph.D., St. Louis University, 1954

Biochemistry and Molecular Biology

Adair, W. Lee, Ph.D., Georgetown University, 1972
 Barber, Michael J., D.Phil., University of Sussex, 1976
 Eichler, Duane C., Ph.D., University of California at Los Angeles, 1972
 Farese, Robert V., M.D., Georgetown University, 1958
 Keller, Ronald K., Ph.D., Vanderbilt University, 1973
 Ness, Gene C., Ph.D., University of North Dakota, 1971
 Plaas, Anna H.D., Ph.D., University College, Cardiff, 1981
 Sandy, John D., Ph.D., London University, 1973
 Sasse, Joachim, Ph.D., University of Munich, 1981
 Solomonson, Larry P., Ph.D., University of Chicago, 1969
 Williams, Marvin T., Ph.D., Cornell University, 1976

Medical Microbiology and Immunology

Pathology and Laboratory Medicine

Pharmacology and Therapeutics

Physiology and Biophysics

Baker, Carleton H., Ph.D., Princeton University, 1955
 Belsole, Robert J., M.D., New York Medical College, 1969
 Brown, John Lott, Ph.D., Columbia University, 1952
 Davis, Darrell L., Ph.D., St. Louis University, 1956
 Dietz, John R., Ph.D., University of Nebraska, 1979
 Edwards, Charles, Ph.D., Johns Hopkins University, 1953
 Lindsey, Bruce G., Ph.D., University of Pennsylvania, 1974
 Nazian, Stanley J., Ph.D., Marquette University, 1977
 Price, Joel M., Ph.D., University of California at San Diego, 1976
 Rao, Papineni, Ph.D., University of Missouri, 1965
 Reynolds, David G., Ph.D., University of Iowa, 1963

Graduate Faculty

Shannon, Roger, Ph.D., University of Kentucky, 1970

Sharp, John, M.D., University of Buffalo, 1949

College of Natural Sciences

Biology

Alvarez, Marvin R., Ph.D., University of Florida, 1964

Arendash, Gary W., Ph.D., University of California at San Francisco, 1978

Bell, Susan S., Ph.D., University of South Carolina, 1979

Cochrane, Bruce J., Ph.D., Indiana University, 1979

Cowell, Bruce C., Ph.D., Cornell University, 1963

Dawes, Clinton J., Ph.D., University of California at Los Angeles, 1961

Essig, Frederick B., Ph.D., Cornell University, 1975

Friedl, Frank E., Ph.D., University of Minnesota, 1958

Hickey, Eileen D., Ph.D., University of Berne, 1970

Hinsch, Gertrude W., Ph.D., Iowa State University, 1957

Lawrence, John M., Ph.D., Stanford University, 1966

Layne, James N., Ph.D., Cornell University, 1954

Lim, Daniel V., Ph.D., Texas A&M University, 1973

Mansell, Richard L., Ph.D., Indiana University, 1964

McCoy, Earl D., Ph.D., Florida State University, 1977

Meyerriecks, Andrew J., Ph.D., Harvard University, 1958

Michaels, Allan S., Ph.D., University of California at Santa Barbara, 1972

Motta, Phillip J., Ph.D., University of Hawaii, 1980

Mushinsky, Henry R., Ph.D., Clemson University, 1973

Nickerson, Deborah A., Ph.D., University of Tennessee, 1979

Romeo, John T., Ph.D., University of Texas at Austin, 1973

Saunders, Mary Jane, Ph.D., University of Massachusetts, 1982

Silver, Warren S., Ph.D., Johns Hopkins University, 1953

Simon, Joseph L., Ph.D., University of New Hampshire, 1963

Stewart, Gregory J., Ph.D., University of California at Davis, 1984

Swihart, Stewart L., Ph.D., Lehigh University, 1964

TeStrake, Diana T., Ph.D., Duke University, 1963

Weber, Lee A., Ph.D., University of Connecticut, 1975

Woolfenden, Glen E., Ph.D., University of Florida, 1960

Wunderlin, Richard P., Ph.D., St. Louis University, 1973

Chemistry

Binford, Jesse S., Jr., Ph.D., University of Utah, 1955

Braman, Robert S., Ph.D., Northwestern University, 1966

Castle, Raymond N., Ph.D., University of Colorado, 1944

D'Agostino, Alfred T., Ph.D., Utah State University, 1984

Davis, Jefferson C., Jr., Ph.D., University of California at Berkeley, 1959

Fernandez, Jack E., Ph.D., University of Florida, 1954

Grossman, Steve H., Ph.D., Purdue University, 1972

Johnston, Milton D., Jr., Ph.D., Princeton University, 1970

Jurch, G.R., Jr., Ph.D., University of California at San Diego, 1965

Mandell, Leon, Ph.D., Harvard University, 1951

Martin, Dean F., Ph.D., Pennsylvania State University, 1958

Maybury, P. Calvin, Ph.D., Johns Hopkins University, 1952

Meisels, Gerhard G., Ph.D., University of Notre Dame, 1956

Newkome, George R., Ph.D., Kent State University, 1966

Olsen, Eugene D., Ph.D., University of Wisconsin, 1960

O'Malley, Rebecca M., Ph.D., University of Sheffield, 1970

Owen, Terence C., Ph.D., University of Manchester, 1954

Potter, Robert L., Ph.D., University of California at San Diego, 1979

Raber, Douglas J., Ph.D., University of Michigan, 1968

Scheffler, Towner B., Ph.D., University of Mississippi, 1984

Schneller, Stewart W., Ph.D., Indiana University, 1968

Stanko, Joseph A., Ph.D., University of Illinois, 1966

Stevens, Brian, Ph.D., D.Sc., Oxford University, 1977

Weinzierl, Jon E., Ph.D., California Institute of Technology, 1968

Wenzinger, George R., Ph.D., University of Rochester, 1960

Wickstrom, Eric, Ph.D., University of California at Berkeley, 1972

Worrell, Jay H., Ph.D., Ohio State University, 1966

Geology

Allmon, Warren D., Ph.D., Harvard University, 1988

Davis, Richard A., Jr., Ph.D., University of Illinois, 1964

Defant, Marc J., Ph.D., Florida State University, 1985
 Hooper, Robert J., Ph.D., University of South Carolina, 1986
 Nocta, Bruce W., Ph.D., Louisiana State University, 1986
 Stewart, Mark T., Ph.D., University of Wisconsin, 1976
 Strom, Richard N., Ph.D., University of Delaware, 1976
 Upchurch, Sam B., Ph.D., Northwestern University, 1970
 Vacher, Henry L., Ph.D., Northwestern University, 1971

Marine Science

Betzer, Peter R., Ph.D., University of Rhode Island, 1971
 Blake, Norman J., Ph.D., University of Rhode Island, 1972
 Briggs, John C., Ph.D., Stanford University, 1952
 Byrne, Robert H., Ph.D., University of Rhode Island, 1974
 Carder, Kendall L., Ph.D., Oregon State University, 1970
 Compton, John S., Ph.D., Harvard University, 1986
 Doyle, Larry J., Ph.D., University of Southern California, 1973
 Fanning, Kent A., Ph.D., University of Rhode Island, 1973
 Gust, Giselher R., Ph.D., Christian-Albrecht Universitat, 1975
 Hine, Albert C., Ph.D., University of South Carolina, 1975
 Hopkins, Thomas L., Ph.D., Florida State University, 1964
 Muller, Pamela H., Ph.D., University of Hawaii, 1977
 Paul, John H., Ph.D., University of Miami, FL, 1980
 Sackett, William M., Ph.D., Washington University, 1958
 Torres, Joseph J., Ph.D., University of California at Santa Barbara, 1980
 Van Vleet, Edward S., Ph.D., University of Rhode Island, 1978
 Vargo, Gabriel A., Ph.D., University of Rhode Island, 1976
 Walsh, John J., Ph.D., University of Miami, 1969
 Weisberg, Robert H., Ph.D., University of Rhode Island, 1972
 Wilson, Robert R., Ph.D., University of California at San Diego, 1984

Mathematics

Clark, William E., Ph.D., Tulane University, 1964
 Darling, R.W.R., Ph.D., Warwick University, 1982
 Goodman, Adolph W., Ph.D., Columbia University, 1947
 Ismail, Mourad E.H., Ph.D., University of Alberta, 1974
 Kartsatos, Athanassios G., Ph.D., University of Athens, 1969
 Lee, Sung J., Ph.D., McMaster University, 1972
 Liang, Joseph J., Ph.D., Ohio State University, 1969
 Lin, Shwu-Yeng, Ph.D., University of Florida, 1965
 Lin, You-Feng, Ph.D., University of Florida, 1964
 Manougian, Manoug N., Ph.D., University of Texas, 1968
 McCollm, Gregory L., Ph.D., University of California, 1986
 McWaters, Marcus M., Ph.D., University of Florida, 1966
 Mukherjee, Arunava, Ph.D., Wayne State University, 1967
 Nagle, R. Kent, Ph.D., University of Michigan, 1975
 Oberste-Vorth, Ralph W., Ph.D., Cornell University, 1987
 Parrott, Mary E., Ph.D., Memphis State University, 1979
 Pothoven, Kenneth L., Ph.D., Western Michigan University, 1969
 Ramachandran, Kandethody M., Ph.D., Brown University, 1987
 Rao, A.N.V., Ph.D., University of Rhode Island, 1972
 Ratti, Jogindar S., Ph.D., Wayne State University, 1966
 Reed, James H., Ph.D., University of Maryland, 1969
 Saff, Edward B., Ph.D., University of Maryland, 1968
 Shekhtman, Boris, Ph.D., Kent State University, 1980
 Stark, William R., Ph.D., University of Wisconsin, 1975
 Thieleker, Ernest A., Ph.D., University of Chicago, 1968
 Totik, V., Dr. Math Sci., Hungarian Academy of Sciences, 1986
 Williams, Carol A., Ph.D., Yale University, 1967

Physics

Aubel, Joseph L., Ph.D., Michigan State University, 1964
 Bloch, Sylvan C., Ph.D., Florida State University, 1962
 Brooker, H. Ralph, Ph.D., University of Florida, 1962
 Chang, Robert S.F., Ph.D., Cornell University, 1976
 Clapp, Roger W., Jr., Ph.D., University of Virginia, 1954
 Deans, Stanley R., Ph.D., Vanderbilt University, 1967
 Djeu, Nicholas I., Ph.D., Cornell University, 1970
 Flynn, Robert W., Ph.D., Massachusetts Institute of Technology, 1968

Graduate Faculty

Halder, Narayan C., Ph.D., Indian Institute of Technology, 1963
Jones, William D., Ph.D., Vanderbilt University, 1963
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Kruschwitz, Walter H., Ph.D., University of Michigan, 1961
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Oleson, Norman L., Ph.D., University of Michigan, 1940
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College of Nursing

Nursing

Bishop, Sue Marquis, Ph.D., Indiana University, 1983
Burns, Candace M., Ph.D., University of Michigan, 1980
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Entrekin, Nina M., M.N., Emory University, 1969
Gonzalez, Lois I., Ph.D., University of South Florida, 1988
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Gregory, S. Joan, Ph.D., University of Florida, 1977
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Heinemann, Denise, D.P.H., Yale University, 1982
King, Imogene M., Ed.D., Columbia University, 1961
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Long, M. Charlene, Ph.D., University of South Florida, 1988
Lopez, Loretta C., Ed.D., Columbia University, 1980
MacDonald, Gwendoline R., Ed.D., Columbia University, 1963
McMahon, Anita, M.A., New York University, 1973
McMillan, Susan C., Ph.D., University of South Florida, 1983
Plawecki, Judith A., Ph.D., University of Iowa, 1974
Redding, Barbara A., Ed.D., University of Florida, 1982
Riggin, Ona Z., Ed.D., Memphis State University, 1976
Ross, Vivian M., Ed.D., Nova University, 1975
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Thurkettle, Mary Ann, Ph.D., Case Western Reserve University, 1987
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VanCott, Mary Lou, Ph.D., University of Florida, 1989

College of Public Health

Banoub, Samir N., M.D., D.P.H., Alexandria University, 1979
Bayona-Celis, Manuel, Ph.D., Johns Hopkins University, 1985
Bradham, Douglas D., D.P.H., University of North Carolina at Chapel Hill, 1981
Brandenburg, Nancy, Ph.D., University of Texas, 1984
Brooks, Stuart M., M.D., University of Cincinnati, 1962
Bryant, Carol, Ph.D., University of Kentucky, 1978
Byczkowski, Janusz Z., Ph.D., Academy of Medicine, Gdansk, Poland, 1975
Chirikos, Thomas, Ph.D., Ohio State University, 1967
Coulter, Martha L., D.P.H., University of North Carolina, 1984
Cresanta, James L., M.D., University of Pittsburgh, 1971
Dukes-Dobos, F., M.D., Eotvos Lorand University, Budapest, Hungary, 1951
Huang, Yueh-Guey Laura, D.P.H., University of North Carolina at Chapel Hill, 1986
Jacobson, Howard N., M.D., Northwestern University, 1950
Kulkarni, Arun P., Ph.D., Indian Agriculture Research Institute, New Delhi, 1969
Kwa, Boo H., Ph.D., University of Malaya, 1977
Leaverton, Paul, Ph.D., Iowa State University, 1963
Levin, Peter J., Sc.D., Johns Hopkins University, 1969
McDermott, Robert J., Ph.D., University of Wisconsin, 1981
Morel, Jorge G., Ph.D., Iowa State University, 1987
Noss, Charles I., Sc.D., Johns Hopkins University, 1983
Richards, Ira S., Ph.D., New York University, 1976
Sear, Alan M., Ph.D., Purdue University, 1971
Skinner, John H., Ed.D., Columbia University, 1974
Steslicke, William, Ph.D., University of Michigan, 1965
Stockwell, Heather G., Sc.D., Johns Hopkins University, 1983
Szonntag, Eugene L., Ph.D., Technical University of Budapest, 1975

Taren, Douglas L., Ph.D., Cornell University, 1986
 Vickery, Ann C., Ph.D., University of South Florida, 1980
 Ward, William B., D.P.H., University of California at Berkeley, 1978
 Wolfson, Jay, D.P.H., University of Texas, 1981
 Woodbridge, David D., Ph.D., Oregon State University, 1956

College of Social and Behavioral Sciences

Anthropology

Angrosino, M.V., Ph.D., University of North Carolina, 1972
 Baer, Roberta D., Ph.D., University of Arizona, 1984
 Bryant, Carol, Ph.D., University of Kentucky, 1978
 Burkhalter, S.B., Ph.D., Columbia University, 1982
 Coreil, J., Ph.D., University of Kentucky, 1979
 Grange, Roger T., Jr., Ph.D., University of Arizona, 1962
 Greenbaum, Susan, Ph.D., University of Kansas, 1980
 Henderson, J.D., Ph.D., University of Florida, 1979
 Kushner, Gilbert, Ph.D., University of Arizona, 1968
 Shiloh, Ailon, Ph.D., Dropsie University, 1959
 Smith, J. Jerome, Ph.D., University of Arizona, 1972
 Waterman, P. P., Ph.D., University of California at Berkeley, 1978
 White, Nancy M., Ph.D., Case Western Reserve University, 1982
 Whiteford, Linda M., Ph.D., University of Wisconsin, 1979
 Weinker, Curtis W., Ph.D., University of Arizona, 1975
 Williams, James R., Ph.D., University of Missouri, 1971
 Wolfe, Alvin W., Ph.D., Northwestern University, 1957

Communication Sciences and Disorders

Carlson, Rebekah L., M.S., University of South Florida, 1970
 Hnath-Chisolm, T., City University of New York, 1987
 Crittenden, Jerry B., Ph.D., Michigan State University, 1969
 Gordon, Pearl A., Ph.D., University of Tennessee, 1984
 Guilford, Arthur M., Ph.D., University of Michigan, 1970
 Hollahan, Kelmie, M.A., University of South Florida, 1969
 Kasan, E. Lee, M.S., University of Florida, 1956
 Kinde, Stewart W., Ph.D., Michigan State University, 1972
 Kuffel, Constance F., M.A., University of South Florida, 1968
 Richardson, Sylvia O., M.D., McGill University, 1948
 Ritterman, Stuart I., Ph.D., Case Western Reserve University, 1968
 Scheuerle, Jane F., Ed.D., Nova University, 1975
 Shepherd, David C., Ph.D., Syracuse University, 1962
 Silliman, Elaine R., Ph.D., Graduate School and University Center,
 City University of New York, 1976
 Strange, Winifred, Ph.D., University of Minnesota, 1972

Criminology

Blount, William W.R., Ph.D., George Peabody College, 1969
 Dembo, R., Ph.D., New York University, 1970
 Halsted, James, J.D., Southern Methodist University, 1973; Ph.D., Florida
 State University, 1981
 Heide, Kathleen M., Ph.D., State University of New York at Albany, 1978
 Reilly, John Tim, J.D., Stetson University, 1958
 Silverman, Ira J., Ph.D., Ohio State University, 1970
 Silverman Mitchell, Ph.D., Ohio State University, 1968
 Stanford, Rose Mary, Ph.D., Florida State University, 1984
 Territo, Leonard, Ed.D., Nova University, 1975
 Vega, Manuel, Ph.D., Florida State University, 1964
 Vetter, Harold J., Ph.D., State University of New York at Buffalo, 1955

Geography

Fuson, Robert H., Ph.D., Louisiana State University, 1958
 Schaleman, Harry J., Jr., M.A., University of Cincinnati, 1963
 Stafford, John W., Ph.D., Michigan State University, 1971
 Stowers, Dewey M., Ed.D., Duke University, 1961

Gerontology

Garcia, Juanita L., Ed.D., Nova University, 1975
 Gilmore, Alden S., M.A., Florida State University, 1957
 Kosberg, Jordan I., Ph.D., University of Chicago, 1971
 Mangum, Wiley P., Ph.D., University of Southern California, 1971
 Mullins, Larry C., Ph.D., Yale University, 1978

Graduate Faculty

Rich, Thomas A., Ph.D., University of Florida, 1957
Saxon, Sue V., Ph.D., Florida State University, 1963
Sheppard, Harold, Ph.D., University of Wisconsin, 1948
Sohn, Kisang, Ph.D., Brandeis University, 1988
Vasey, Wayne, M.A., University of Denver, 1936

History

Arsenault, Raymond O., Ph.D., Brandeis University, 1980
Belohlavek, John B., Ph.D., University of Nebraska, 1970
Carr, David R., Ph.D., University of Nebraska, 1971
Currey, Cecil B., Ph.D., University of Kansas, 1964
Dilkes, Thomas, P., Ph.D., University of Iowa, 1964
Hewitt, Nancy A., Ph.D., University of Pennsylvania, 1981
Ingalls, Robert R., Ph.D., Columbia University, 1973
Kleine, George H., Ph.D., University of Erlanger-Nurnberg, 1967
Lawson, Stephen F., Ph.D., Columbia University, 1974
Mayer, George H., Ph.D., University of Minnesota, 1948
Mormino, Gary R., Ph.D., University of North Carolina, 1977
Murray, William H., Ph.D., University of Pennsylvania, 1982
Parker, Keith A., Ph.D., University of Maryland, 1965
Perez, Louis A., Jr., Ph.D., University of New Mexico, 1970
Silbert, Edward M., Ph.D., University of Florida, 1966
Swanson, James M., Ph.D., Indiana University, 1968
Tipps, G. Kelly, Ph.D., University of Colorado, 1971
Van Neste, Roy J., Ph.D., University of Wisconsin, 1972

Political Science

Benton, J. Edwin, Ph.D., Florida State University, 1978
Bowman, Lewis R., Ph.D., University of North Carolina, 1964
Factor, Regis A., Ph.D., University of Notre Dame, 1974
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Hulbary, William E., Ph.D., University of Iowa, 1972
Kelley, Anne E., Ph.D., Florida State University, 1961
Khator, Renu, Ph.D., Purdue University, 1985
Levy, Arthur B., Ph.D., Harvard University, 1969
Milani, Mohsen M., Ph.D., University of Southern California, 1985
Paulson, Darryl, Ph.D., Florida State University, 1975
Rigos, Platon N., Ph.D., Michigan State University, 1974
Snook, Janice B., Ph.D., University of Maryland, 1969
Vanden, Harry E., Ph.D., The New School for Social Research, 1976

Psychology

Anker, James M., Ph.D., Catholic University of America, 1957
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Brannick, M.T., Ph.D., Bowling Green State University, 1986
Brown, John Lott, Ph.D., Columbia University, 1952
Clingman, Joy M., Ph.D., Florida State University, 1971
Coovert, M.D., Ph.D., Ohio State University, 1985
Filskov, Susan B., Ph.D., University of Vermont, 1975
Finkelstein, M.A., Ph.D., Columbia University, 1981
Fowler, Robert L., Ph.D., University of Tennessee, 1963
Garcia, Sandra J., Ph.D., University of Southern California, 1971
Gesten, Ellis L., Ph.D., University of Rochester, 1974
Goldman, Mark S., Ph.D., Rutgers University, 1972
Hardy, Miles W., Ph.D., Florida State University, 1960
Jenkins, James J., Ph.D., University of Minnesota, 1950
Kimmel, Herbert D., Ph.D., University of Southern California, 1958
Kinder, Billy N., Ph.D., University of South Carolina, 1975
LaBarba, Richard C., Ph.D., University of Tennessee, 1965
Levine, Edward L., Ph.D., New York University, 1970
McGuinness, Diane, Ph.D., University of London, 1974
Meyer, Herbert H., Ph.D., University of Michigan, 1949
Nelson, Carnot E., Ph.D., Columbia University, 1966
Nelson, Douglas L., Ph.D., University of Wisconsin, 1967
Penner, Louis A., Ph.D., Michigan State University, 1969
Powell, Robert W., Ph.D., Florida State University, 1966
Russell, Wallace A., Ph.D., University of Iowa, 1949
Sacco, William P., Ph.D., Florida State University, 1979

- Sandler, Jack, Ph.D., Florida State University, 1969
 Sanocki, Thomas A., Ph.D., University of Wisconsin, 1986
 Schneider, Sandra L., Ph.D., University of Wisconsin, 1988
 Sidowski, Joseph B., Ph.D., University of Wisconsin, 1956
 Sistrunk, Frank, Ph.D., University of Miami, 1963
 Spector, Paul E., Ph.D., University of South Florida, 1975
 Spielberger, Charles D., Ph.D., University of Iowa, 1954
 Stenmark, David E., Ph.D., University of Alabama, 1969
 Strong, Pascal N., Ph.D., University of Tennessee, 1955
 Thompson, J. Kevin, Ph.D., University of Georgia, 1982
- Public Administration**
 Daly, John L., Ph.D., Indiana University, 1987
 Jreisat, Jamil E., Ph.D., University of Pittsburgh, 1968
 MacManus, Susan A., Ph.D., Florida State University, 1975
 Menzel, Donald C., Ph.D., Pennsylvania State University, 1973
 Paluch, Peter T., Ph.D., Michigan State University, 1984
 Renick, James C., Ph.D., Florida State University, 1980
 Spindler, Charles J., Visiting Assistant Professor
 Swierczek, F.W., Ph.D., University of Pittsburgh, 1978
- Rehabilitation Counseling**
 Dickman, Fred J., Ed.D., University of Florida, 1967
 Emener, William G., Ph.D., University of Georgia, 1971
 Gross, Pincus, Ph.D., University of Florida, 1967
 Landeman, Murray J., Ph.D., University of Florida, 1964
 Pinkard, Calvin M., Ph.D., University of Florida, 1959
 Rasch, John D., Ph.D., University of Wisconsin, 1977
 Wright, Tennyson J., Ph.D., University of Georgia, 1976
- Interdisciplinary Social Services**
 Allen, Nola A., Ph.D., University of Notre Dame, 1979
 Amen, Michael M., Ph.D., University of Geneva, 1976
 Arnade, Charles W., Ph.D., University of Florida, 1955
 Breit, Etta B., Ph.D., University of Pennsylvania, 1984
 Glover, Kofi R., Ph.D., Indiana University, 1975
 Hechiche, Abdelwahab, D.E.S., Sorbonne, 1966
 McAlister, Linda L., Ph.D., Cornell University, 1969
 Myerson, Marilyn, Ph.D., State University of New York at Buffalo, 1976
 Nelsen, Harvey W., Ph.D., George Washington University, 1972
 Ochshorn, Judith, Ph.D., Union Graduate School, 1978
 Ohaegbulam, Festus U., Ph.D., University of Denver, 1967
 Orr, Mark T., Ph.D., University of North Carolina, 1954
 Sliker, Darrell, Ph.D., Yale University, 1981
 Snook, Janice B., Ph.D., University of Maryland, 1969
 Stamps, Spurgeon M. David, Jr., Ph.D., Washington State University, 1974
 Stoudinger, Susan M., Ph.D., Indiana University, 1970
 Williams, Juanita H., Ph.D., Temple University, 1963
- Social Work**
 Giordano, Jeffrey A., Ph.D., Georgia State University, 1983
 Hancock, Tina U., D.S.W., University of Alabama, 1981
 Hutchinson, William S., Jr., M.S.W., University of Georgia, 1968
 Northcutt, Travis J., Jr., Ph.D., Florida State University, 1958
 Smith, Aaron A., Ph.D., University of California, 1984
 Smith, Philip L., M.S.W., University of Georgia, 1968
 Sohn, Kisang, M.S.W., Florida State University, 1982
 Vasey, Wayne, M.A., University of Denver, 1936
 Wilk, Ruta J., D.S.W., University of California, 1981
 Yegidis, Bonnie L., Ph.D., University of South Florida, 1983
- Sociology**
 Brandmeyer, Gerard A., Ph.D., University of California at Los Angeles, 1962
 Cameron, William B., Ph.D., University of Wisconsin, 1952
 Ellis, Carolyn S., Ph.D., State University of New York at Stony Brook, 1981
 Francis, Roy G., Ph.D., University of Wisconsin, 1950
 Gunter, Billy G., Ph.D., University of Tennessee, 1964
 Hansen, R. A., Ph.D., University of California at Los Angeles, 1967
 Johnson, Doyle P., Ph.D., University of Illinois, 1969
 Jorgensen, Danny L., Ph.D., Ohio State University, 1979

Graduate Faculty

Kleiman, Michael B., Ph.D., Pennsylvania State University, 1979
Kutcher, Louis W., Ph.D., University of Minnesota, 1972
Moore, Harvey A., Ph.D., Case Western Reserve University, 1972
Nesman, Edgar G., Ph.D., University of Florida, 1969
Orru, Marco, Ph.D., University of California at Davis, 1984
Turner, Stephen P., Ph.D., University of Missouri, 1975
Wheeler, Raymond H., Ph.D., University of Michigan, 1962
Wiswell, Candace H., Ph.D., University of Texas, Austin, 1987

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